Texas Commission on Environmental Quality

Title V Existing

2221

Site Information (Regulated Entity)

What is the name of the permit area to be authorized?	SPECIALTY CHEMICALS 2
Does the site have a physical address?	No
Because there is no physical address, describe how to locate this site:	2301Brazosport Blvd
City	Freeport
State	TX
ZIP	77541
County	BRAZORIA
Latitude (N) (##.######)	28.9825
Longitude (W) (-###.######)	95.352777
Primary SIC Code	2869
Secondary SIC Code	
Primary NAICS Code	325199
Secondary NAICS Code	
Regulated Entity Site Information	
What is the Regulated Entity's Number (RN)?	RN100225945
What is the name of the Regulated Entity (RE)?	DOW TEXAS OPERATIONS FREEPORT
Does the RE site have a physical address?	Yes
Physical Address	
Number and Street	2301 N BRAZOSPORT BLVD
City	FREEPORT
State	TX
ZIP	77541
County	BRAZORIA
Latitude (N) (##.######)	28.9825
Longitude (W) (-###.######)	-95.352777
Facility NAICS Code	
What is the primary business of this entity?	INDUSTRIAL CHEMICAL MANUFACTURING PLANT

Customer (Applicant) Information

How is this applicant associated with this site?	Owner Operator
What is the applicant's Customer Number (CN)?	CN600356976
Type of Customer	Corporation
Full legal name of the applicant:	
Legal Name	The Dow Chemical Company
Texas SOS Filing Number	1216206
Federal Tax ID	381285128
State Franchise Tax ID	13812851288
State Sales Tax ID	

Local Tax ID	
DUNS Number	84970516
Number of Employees	251-500
Independently Owned and Operated?	

Responsible Official Contact

Person TCEQ should contact for questions about this application:	
Organization Name	THE DOW CHEMICAL COMPANY
Prefix	MR
First	JOHN
Middle	
Last	SAMPSON
Suffix	
Credentials	
Title	SENIOR VICE PRESIDENT
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	2301 N BRAZOSPORT BLVD
Routing (such as Mail Code, Dept., or Attn:)	
City	FREEPORT
State	TX
ZIP	77541
Phone (###-###-####)	9792389877
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	9792358116
E-mail	txles@dow.com

Duly Authorized Representative Contact

Person TCEQ should contact for questions about this application	
Select existing DAR contact or enter a new contact.	FRAN FALCON(THE DOW CHEMICA...)
Organization Name	THE DOW CHEMICAL COMPANY
Prefix	MS
First	FRAN
Middle	
Last	FALCON
Suffix	
Credentials	
Title	EH&S REGIONAL LEVERAGED DELIVERY DIRECTOR
Enter new address or copy one from list	
Mailing Address	
Address Type	Domestic

Mailing Address (include Suite or Bldg. here, if applicable)	2301 N BRAZOSPORT BLVD
Routing (such as Mail Code, Dept., or Attn:)	BLDG B-101
City	FREEPORT
State	TX
Zip	77541
Phone (###-###-####)	9792389764
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	9792380317
E-mail	FQFalcon@dow.com

Technical Contact

Person TCEQ should contact for questions about this application:	
Select existing TC contact or enter a new contact.	CRYSTAL SCHMIDT(THE DOW CHEMICA...)
Organization Name	THE DOW CHEMICAL COMPANY
Prefix	MRS
First	CRYSTAL
Middle	
Last	SCHMIDT
Suffix	
Credentials	
Title	AIR PERMIT MANAGER
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	332 HIGHWAY 332 E
Routing (such as Mail Code, Dept., or Attn:)	
City	LAKE JACKSON
State	TX
ZIP	77566
Phone (###-###-####)	9792381742
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	cschmidt6@dow.com

Title V General Information - Existing

1) Permit Type:	SOP
2) Permit Latitude Coordinate:	28 Deg 58 Min 57 Sec
3) Permit Longitude Coordinate:	95 Deg 21 Min 10 Sec
4) Is this submittal a new application or an update to an existing application?	Update
4.1. Select the permit/project number for which this update should be applied.	2221-38056
5) Who will electronically sign this Title V application?	Duly Authorized Representative

6) Does this application include Acid Rain Program or Cross-State Air Pollution Rule requirements?	No

Title V Attachments Existing

Attach OP-1 (Site Information Summary)

Attach OP-2 (Application for Permit Revision/Renewal)

Attach OP-ACPS (Application Compliance Plan and Schedule)

Attach OP-REQ1 (Application Area-Wide Applicability Determinations and General Information)

Attach OP-REQ2 (Negative Applicable Requirement Determinations)

Attach OP-REQ3 (Applicable Requirements Summary)

Attach OP-PBRSUP (Permits by Rule Supplemental Table)

Attach OP-SUMR (Individual Unit Summary for Revisions)

Attach OP-MON (Monitoring Requirements)

Attach OP-UA (Unit Attribute) Forms

If applicable, attach OP-AR1 (Acid Rain Permit Application)

Attach OP-CRO2 (Change of Responsible Official Information)

Attach OP-DEL (Delegation of Responsible Official)

Attach Void Request Form

Attach any other necessary information needed to complete the permit.

[File Properties]

File Name	2026-02-25_OP-CRO1_O2221.pdf
Hash	3030328883C5855FC11BBB0AD0A24E46BC3003FC84361A787AE45C4A32DB2062
MIME-Type	application/pdf

An additional space to attach any other necessary information needed to complete the permit.

Certification

I certify that I am the Duly Authorized Representative for this application and that, based on information and belief formed after reasonable inquiry, the statements and information on this form are true, accurate, and complete.

1. I am Fran Q Falcon, the owner of the STEERS account ER028176.
2. I have the authority to sign this data on behalf of the applicant named above.

3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcemer of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Title V Existing 2221.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEC

OWNER OPERATOR Signature: Fran Q Falcon OWNER OPERATOR

Account Number:	ER028176
Signature IP Address:	165.225.33.4
Signature Date:	2026-02-25
Signature Hash:	904A5F0A4D5A95FBAFB56538AD7D0F5DC653CA2914752A0CB5B775D787281687
Form Hash Code at time of Signature:	6C2EBB13A81FA5348E09BB9A7452401F6899955E22D45170E5A1476DFB7CAA92

Submission

Reference Number:	The application reference number is 900433
Submitted by:	The application was submitted by ER028176/Fran Q Falcon
Submitted Timestamp:	The application was submitted on 2026-02-25 at 16:07:39 CST
Submitted From:	The application was submitted from IP address 165.225.33.4
Confirmation Number:	The confirmation number is 748698
Steers Version:	The STEERS version is 6.94
Permit Number:	The permit number is 2221

Additional Information

Application Creator: This account was created by Crystal Schmidt

Form OP-CRO1
Certification by Responsible Official
Federal Operating Permit Program
Texas Commission on Environmental Quality

All initial issuance, revision, renewal, and reopening permit application submittals requiring certification must be addressed using this form. Updates to site operating permit (SOP) and temporary operating permit (TOP) applications, other than public notice verification materials, must be certified prior to authorization of public notice or start of public announcement. Updates to general operating permit (GOP) applications must be certified prior to receiving an authorization to operate under a GOP.

I. Identifying Information	
RN: **RN100225945**	
CN: **CN600356976**	
Account No.: **BL-0082-R**	
Permit No.: **O2221**	
Project No.: **38056**	
Area Name: **Specialty Chemicals 2**	
Company Name: **The Dow Chemical Company**	
II. Certification Type *(Please mark appropriate box)*	
☐ Responsible Official Representative	☒ Duly Authorized Representative
III. Submittal Type *(Please mark appropriate box) (Only one response can be accepted per form)*	
☐ SOP/TOP Initial Permit Application	☐ Permit Revision, Renewal, or Reopening
☐ GOP Initial Permit Application	☐ Update to Permit Application
☒ Other: **Working Draft Permit Certification**	

Form OP-CRO1
Certification by Responsible Official
Federal Operating Permit Program
Texas Commission on Environmental Quality

All initial issuance, revision, and renewal permit application submittals requiring certification must be accompanied by this form. Updates to acid rain or CSAPR (other than public notice verification materials) must be certified prior to authorization of public notice for the draft permit.

IV. Certification of Truth

This certification does not extend to information which is designated by TCEQ as information for reference only.

I, **Fran Falcon** certify that I am the **DAR**

(Certifier Name printed or typed) *(RO or DAR)*

and that, based on information and belief formed after reasonable inquiry, the statements and information dated during the time period or on the specific date(s) below, are true, accurate, and complete:
Note: Enter Either a Time Period or Specific Date(s) for each certification. This section must be completed. The certification is not valid without documentation date(s).

Time Period: From **November 1, 2025** to **February 25, 2026**

(Start Date) *(End Date)*

Specific Dates: _____ _____ _____ _____

(Date 1) *(Date 2)* *(Date 3)* *(Date 4)*

_____ _____

(Date 5) *(Date 6)*

Signature: _____ Signature Date: **February 25, 2026**

Title: **Texas Regional Environmental Leader**

From: Carolyn Maus
Sent: Tuesday, February 24, 2026 11:02 AM
To: Schmidt, Crystal (C)
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Hi Crystal,

Thanks for this information. This design evaluation will be fine to support the new deviation limit for B13SCPOLY.

That resolves our last item, so now I can prepare the file for public notice. All I need from you is certification for the various application updates. Based on my records, I believe there have been submittals on 08/13/2025, 11/20/2025, 02/03/2026, 02/09/2026, 02/12/2026, and 02/19/2026. Certification should cover all those dates – probably easiest to use the Time Period option on the OP-CRO1 but you could also use Specific Dates.

You may certify using one of the following options:

1) Submit Form OP-CRO1. You can use the Time Period option – just select a date range that covers all the updates submitted. You may either:
    a. Send me a scan of the signed form, with the wet ink original to follow in the mail, or
    b. Upload the form in STEERS and have the RO or DAR sign/submit the update.

OR

2) Upload your emails, attachments, and other forms from all submittal dates in STEERS and have the RO or DAR sign/submit the update.

Please provide certification by **Friday, February 27, 2026**.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



How are we doing? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Thursday, February 19, 2026 9:23 PM
To: Carolyn Maus
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: 2017-08-23 Updated NOCS PMPU.pdf; Attach 1 PGA B13PGSV3 ASPEN Design.doc

Carolyn,

An Aspen design evaluation was performed for the 40 CFR Part 63, Subpart PPP NOCS. I have attached the results from Aspen, as well as the entire NOCS. Please let me know if this is enough information. Thanks and have a great weekend!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Thursday, February 19, 2026 10:27 AM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

ATTACHMENT 1 FOR PGA MACT PPP NOCS
SCRUBBER DESIGN ANALYSIS

B13PGSV3 Design Analysis Results

Plant Name: Polyglycol Amines
Control Device ID: B13PGSV3
Control Device Name: SC-2 Kettle Scrubber

ASPEN Results

An ASPEN design analysis was completed for water scrubber B13PGSV3 on May 31, 2002. The results of this analysis show that at the following maximum lb/hr oxide vent rates this unit will still achieve > 99% removal efficiency for ethylene oxide and propylene oxide.

Oxide Name	Vent Rate (lb/hr) from ASPEN	Water Flow from ASPEN	Removal Efficiency (%)
Ethylene oxide	1.46	6553.8 lb/hr (13.1 gpm)	99.9 %
Propylene oxide	2.04	6553.8 lb/hr (13.1 gpm)	99.9 %

Worst-case Scenario's

Four kettle simulations were completed to depict the worst-case venting scenarios for this plant. The results are displayed below:

Product	Kettle	Oxide Feed Time (hours)	EO in Vent (total lbs)	EO Vent rate (lb/hr)	PO in Vent (total lbs)	PO Vent rate (lb/hr)
15-200	KR-8	15.3	7.7	0.50	5.2	0.34
PB-285	KR-5	7.5	No EO	No EO	5.9	0.79
PB-285	KR-7	7.3	No EO	No EO	3.4	0.47
EPB-5100	KR-5	12.7	7.4	0.58	9.5	0.75

From this summary, it can be determined that in each case the ethylene oxide and propylene oxide vent rates are well below the maximum vent rate of 1.46 lb/hr that was established in the ASPEN design analysis. The minimum water flow for this scrubber is 13.1 gpm.

The Dow Chemical Company
TXINN - APB
332 SH 332 E
Lake Jackson, TX 77566
USA

August 23, 2017

CERTIFIED MAIL 7016 3010 0000 5020 8560

Texas Commission on Environmental Quality
Office of Permitting, Remediation and Registration
Air Permits Division (MC 163)
PO Box 13087
Austin, Texas 78711-3087

DOW TEXAS OPERATIONS - FREEPORT RN 100225945
UPDATED NOTIFICATION OF COMPLIANCE STATUS FOR PMPU SUBJECT TO THE NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANT EMISSIONS FOR POLYETHER POLYOLS PRODUCTION (40 CFR 63 SUBPART PPP)

Federal regulations 40 CFR 63.1439(e)(5) require the submission of a updated supplemental Notification of Compliance Status (NOCS) for polyether polyol manufacturing process units (PMPU) subject to the National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production, 40 CFR 63 Subpart PPP.

A Supplemental NOCS report is being submitted for the Polyglycol Amines (PGA) and Industrial Polyglycols facilities. These supplemental NOCS submittals include the information for pressure relief devices required to be submitted under 40 CFR 63.1439(e)(5)(viii). Furthermore, for the Polyglycol Amines facility, this supplemental NOCS submittal will include the addition of Environmental Operations as an alternate control device for a Group 1 Process Vent from PGA.

If you have any questions, please contact Vanessa Smith, Environmental Manager, at (979) 238-2124.

Sincerely,

Fran Falcon
EH&S Leveraged Delivery Leader – Texas Operations
The Dow Chemical Company

Attachments

xc:

Texas Commission on Environmental Quality
Air Section Manager, Field Operation Region XII
5425 Polk Avenue, Suite H
Houston, TX 77023-1423

Ecopies:

Eric Roesch
Jason Ruhl
Vanessa Smith
Fran Falcon
Betsy Farkas
Christal Banks
Elaine Schroeder

Notification of Compliance Status (NOCS) Report

40 CFR 63 Subpart PPP:

National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production

Submittal Date: 8/23/2017

Certification

The certification requirements at 40 CFR 70.6(a)(3)(iii)(A) apply because this report is required by a Part 70 permit.

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete

Name of Responsible Official (Print or Type)	Title	Date (mm/dd/yy)
See Cover Letter		

Signature of Responsible Official

See Cover Letter for Signature

[§70.5(d), 70.6(a)(3)(iii)(A)]

Certification 1

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Section I. General Information

A. General Information

Print or type the following information for each facility for which you are making notification of compliance status:

Operating Permit Number (OPTIONAL)	Facility I.D. Number (OPTIONAL)
O2221	

Owner or Operator Name / Title (e.g. Responsible Official)	Phone or Fax number of Owner or Operator
Fran Falcon, EH&S Delivery Leader	979-238-9978

Street Address of Owner or Operator		
Texas Innovation Center, 332 SH 332 E		
City	**State**	**ZIP Code**
Lake Jackson	TX	77566

Facility Name		
The Dow Chemical Company (Industrial Polyglycols, B-4300)		
Facility Street Address (If different than Responsible Official's Street Address)		
2301 N Brazosport Blvd, Freeport, TX 77541		
Facility Local Contact Name (to whom inquiries should be addressed)	**Title**	**Phone**
Vanessa Smith	Environmental Manager	(979) 238-2124
City	**State**	**ZIP Code**
Lake Jackson	TX	77566

☒ **PMPU Report**

☐ **Control Device Only Report – Complete the certification section and Sections I.A, II.A, III.H, VI, XI, XIII, as applicable.**

Continued on next page

Section I. General Information, Continued

B. Flexible Operation Units – Initial Primary Product Determination

Section 63.1420(e)(1) requires an initial determination of the primary product for each process unit. Section 63.1420(e)(1)(iii) specifies the primary product determination procedure if a process unit is designed and operated as a flexible operation unit. The determination of applicability for flexible operation units must be included in the NOCS.

☒ Not applicable – This process unit is not operated as a flexible operation unit.

☐ Applicable – This process unit is operated as a flexible operation unit. See Attachment # ____ for the results of the determination of applicability for flexible operation units.

Note: The primary product of the flexible operation unit shall be determined based on the anticipated operations for the 5 years following September 4, 1997 for existing process units, or for the first year after the process unit begins production of any product for new process units.

Select which statement is applicable:

☐ The flexible operation unit will manufacture one product for the greatest operating time over the specified 5-year period for existing process units, or the specified 1-year period for new process units. That product shall represent the primary product of the flexible operation unit. *[§63.1420(e)(1)(iii)(A)]*

☐ The flexible operation unit will manufacture multiple products equally based on operating time. The product with the greatest expected production on a mass basis over the specified 5-year period for existing process units, or the specified 1-year period for new process unit shall represent the primary product of the flexible operation unit. *[§63.1420(e)(1)(iii)(B)]*

☐ Operations cannot be anticipated sufficiently to allow the determination of the primary product for the specified period. Applicability is determined in accordance with §63.1439(e)(2). *[§63.1420(e)(1)(iii)]*

Is the primary product of the process unit a polyether polyol? (Yes / No)

- If yes, then that process unit shall be designated as a PMPU. If the plant site is a major source, that PMPU and associated equipment, is either an affected source or part of an affected source comprised of one or more other PMPUs and associated equipment and subject to Subpart PPP.
- If no, then that process unit is not a PMPU.

[§63.1439(e)(5)(iii), 63.1420(e)(1)(iii)]

Section II. Regulatory Overlap

Introduction

This section provides information on regulatory overlap for emission points subject to Subpart PPP and to other standards where the provisions in Subpart PPP allow the owner or operator to choose which testing, monitoring, reporting and recordkeeping provisions will be followed. This section also provides information on whether the hierarchy option is used in 63.1424(b).

[§§63.1439(e)(5)(vi), 63.1424(b)]

A. Regulatory Overlap with 40 CFR parts 264 and 265, Subparts AA or CC (Control Devices)

Identify which compliance option has been chosen for any combustion device, recovery device or recapture device subject to Subpart PPP that is also subject to monitoring recordkeeping, and reporting requirements for hazardous waste, disposal, and treatment facilities in 40 CFR part 264/265:

- Subpart AA (Air Emission Standards for Process Vents) or
- Subpart CC (Air Emission Standards for Tanks, Surface Impoundment, and Containers).

If the owner or operator elects to comply with either 63.1422(j)(2) or (3), the owner or operator shall notify the Administrator of this choice in the Notification of Compliance Status.

☒ **Not applicable**
☐ **Applicable**

[§§ 63.1439(e)(5)(i), (vi) → 63.1422(j)]

List each combustion, recovery or recapture device using this overlap option.	Overlap Option Selected
	☐ 40 CFR 264 / 265 Subparts AA or CC are not applicable to any combustion device, recovery device or recapture device used to comply with Subpart PPP.
	☐ ***Option 1***: The owner or operator shall comply with the monitoring, recordkeeping and reporting requirements of Subpart PPP. *[§63.1422(j)(1)]*
	☐ ***Option 2***: The owner or operator shall comply with the monitoring, recordkeeping and reporting requirements in 40 CFR part 264, with the following exception. All excursions, as defined in §63.1438(f), shall be reported in the periodic report. Compliance with this option shall constitute compliance with the monitoring, recordkeeping and reporting requirements of Subpart PPP. *[§63.1422(j)(2)]*
	☐ ***Option 3***: The owner or operator shall comply with the monitoring and recordkeeping requirements of 40 CFR part 265, subpart AA or subpart CC, and the periodic reporting requirements under 40 CFR part 264, subpart AA or subpart CC, that would apply to the device if the facility had final-permitted status, with the following exception. All excursions, as defined in §63.1438(f), shall be reported in the periodic report. Compliance with this option shall constitute compliance with the monitoring, recordkeeping and reporting requirements of Subpart PPP. *[§63.1422(j)(3)]*

Section II. Regulatory Overlap, Continued

B. Hierarchy Approach

Select which option you are using below when emissions from different kinds of emission point types are combined (e.g., process vents subject to §63.1425 through §63.1430, storage vessels subject to §63.1432, process wastewater subject to §63.1433, and/or in-process equipment subject to §63.149). If applicable, you must comply with the requirements of either options 1 or 2 below:

☐ **Not applicable** – No emission points are subject to control.

☒ **Not applicable** – Emissions from different emission types are not combined.

☐ **Applicable - Option #1** - Comply with the applicable requirements of Subpart PPP for each kind of emission in the stream as specified in:

- §§63.1425 through 63.1430 for process vents;
- §63.1432 for storage vessels
- §63.1433 for wastewater or §63.149 for in-process equipment
- §63.1434 for equipment leaks
- § 63.1435 for heat exchangers

☐ **Applicable - Option #2** – Comply with the most stringent set of requirements that applies to any individual emission stream that is included in the combined stream, where either:

- that emission stream would be classified as requiring control in the absence of combination with other emission streams, or
- the owner chooses to consider that emission stream to require control for the purposes of this option.

Hierarchy	Emission Point Type
1	Section 63.1425 through 63.1430 for process vents;
2	Section 63.1432 for storage vessels
3	Section 63.1433 for wastewater or Section 63.149 for in-process equipment
4	Section 63.1434 for equipment leaks
5	Section 63.1435 for heat exchangers

If using Option #2, provide brief explanation of approach used:	

[63.1424(b)]

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides

Introduction

This section provides the results of any group determinations and applicability determinations for process vents from PMPU producing polyether polyols using epoxides.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Process Vents

Complete the following table listing all process vents and their corresponding control methods.

☐ Not Applicable

(1) Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) Is the process vent from a continuous unit operation or a batch unit operation?	(4) Existing or New Affected Source?	(5) Table 4 Epoxides Vented	(6) Which compliance option is chosen for Epoxide Emissions? (a)
B43IPRX1	KR-I Reactor system vents	Batch unit	Existing	Propylene Oxide / Ethylene Oxide	I (scrubber)
(a) See Appendix B for list of codes.					

(continued from table above)

(1) Process Vent ID	(7) For epoxide emissions, are you using extended cookout to comply with the 98% reduction option for existing sources or (99.9% for new sources) or the emission factor options? (Yes/No)	(8) To comply with the epoxide emission limits, list all control device IDs and types	(9) Are nonepoxide organic HAP used to make or modify the product? (Yes/No) If yes, list the nonepoxide OHAP.	(10) Are nonepoxide organic HAP used in catalyst extraction? (Yes/No) If yes, list the nonepoxide OHAP.
B43IPRX1	No	B43IPSV1 Scrubber	No	No

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

B. Summary of Exempt Process Vents

Complete the following table listing all exempt process vents from PMPU producing polyether polyols using epoxides.

☒ Not Applicable

(a) ***Process Vent Exemptions***:

A. The gas stream from a continuous unit operation contains less than or equal to 0.005 weight percent "total organic HAP" at the point of discharge to the atmosphere (or at the point of entry into a control device, if any).
B. The gas stream from a batch unit operation contains less than or equal to 225 kilograms per year (500 pounds per year) of organic HAP emissions.
C. The gas stream is a pressure relief valve discharge.
D. The gas stream is routed to a fuel gas system
E. The gas stream is from a leak from equipment regulated under the equipment leak provisions (63.1434)
F. The gas stream is exiting a control device that is complying with Subpart PPP
G. The gas stream contains no organic HAPs on Section 112(b) of the Clean Air Act HAP list.

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Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C. Nonepoxide OHAP Emissions from Making or Modifying the Product

This section applies to PMPU producing polyether polyols using epoxides and where nonepoxide OHAPs are used to make or modify the product.

☒ Not Applicable

C.1. Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Continuous Unit Operations

Complete the following table for nonepoxide OHAP emissions from making or modifying the product for process vents from continuous unit operations.

For each process vent from a continuous unit operation that is associated with the use of nonepoxide organic HAP to make or modify the product that is Group 2, submit records regarding the measurements and calculations performed to determine the TRE index value of each process vent stream.

Note: If you have Group 1 continuous process vents that are subject to the control requirements for Group 1 continuous process vents [§63.1425(c)(3)], then you are not required to submit these records. Complete columns (1) and (7)-(10) and mark the other columns as "N/A"

☒ Not Applicable

[63.1430(g)(3) → 63.1430(e)(2)]

Process Vents from Continuous Unit Operations

	[Mark N/A if vent is designated as Group 1]				
(1) Process Vent ID	(2) Flow Rate (scmm)	(3) OHAP Concentration (ppmv)	(4) Total Resource Effectiveness Index Value	(5) Indicate "measurement" or "engineering assessment used for TRE calculations	(6) TRE data (Attachment #) (a)

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C.1. Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Continuous Unit Operations (continued)

[continued from previous table]

Process Vents from Continuous Unit Operations				
(1) Process Vent ID	(7) Designated as Group 1 Continuous Process Vent? (Yes/No)	(8) Group 1 or Group 2 Continuous Process Vent?	(9) Control Option Selected for Continuous Process Vents	(10) To comply with the requirements for nonepoxide OHAP emissions from Group 1 continuous process vents, list all control device IDs and types (b)

Notes:

(a) For group determinations or determination that controls are needed, the Notification of Compliance Status shall include one complete test report, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required. *[§63.1439(e)(5)(i)(A)-(B)]*

- A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards (if the owner or operator prepares the standards), record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method to be in the test report.

(b) ***Control Options for Continuous Process Vents***

A. Reduce nonepoxide organic HAP emissions using a flare.
B. Reduce nonepoxide organic HAP emissions by 98 percent using a combustion, recovery, or recapture device.
C. Group 2 continuous process vent - Use a recovery or recapture device (absorber, condenser, carbon adsorber) to comply with the requirements for Group 2 continuous process vents with a TRE index value > 1.0 but ≤ 4.0
D. Group 2 continuous process vent - TRE index value > 4.0 - No control required

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C.2 Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Batch Unit Operations

Complete the following table for nonepoxide OHAP emissions from making or modifying the product for process vents from batch unit operations for each unique product class made in the PMPU.

- For each PMPU where the combination of process vents from batch unit operations that are associated with the use of nonepoxide OHAP to make or modify the product is Group 2, submit the information related to the group determination specified below.

- The records required to be maintained are limited to the information developed and used to make the group determination under the process vent requirements for processes using a nonepoxide OHAP to make or modify the product in §63.1428(a) through (e), as appropriate. If you did not need to develop certain information (e.g., annual average flow rate) to determine the group status, you are not required to develop additional information.

- You may elect Group 1 status for process vents without making a Group 1/Group 2 determination. In such event, none of the records specified columns (2)-(5) are required.

- If the total annual emissions from the combination of process vents from batch unit operations associated with the use of an organic HAP to make or modify the product are less than 11,800 kg per year, only the records in 63.1430(e)(1)(i) and (ii) are required *[Complete columns (1)-(3), and (7) in the tables below].*

☒ Not Applicable

[63.1430(g)(2) → 63.1430(e)(1)]

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Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C.2 Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Batch Unit Operations (continued)

Process Vents from Batch Unit Operations				
Product Class:				
(1) Batch Process Vent ID	(2) Attachment # for description of, and emission estimate for, each batch emission episode, and the total emissions associated with one batch cycle for each unique product class made in the PMPU	(3) Total annual uncontrolled TOC or nonepoxide OHAP emissions from combination of process vents from batch unit operations (kg/yr)	(4) Cutoff flow rate (standard cubic meters per minute - scmm)	(5) Annual average flow rate for combination of process vents from batch unit operations associated with use of OHAP to make/modify the product (standard cubic meters per minute - scmm)
Total Annual Emissions of TOC or nonepoxide OHAP (kg/yr):			Total annual average flow rates from individual process vents from batch unit operations in a PMPU (scmm):	

[continued from previous table]

Process Vents from Batch Unit Operations, (continued)				
Product Class:				
(1) Batch Process Vent ID	(6) Designated as a Group 1 combination of batch process vents? (Yes/No)	(7) Group 1 or Group 2 Batch Process Vents?	(8) Control Option Selected for Group 1 combination of batch process vents (a)	(9) To comply with the requirements for nonepoxide OHAP emissions from Group 1 combination of batch process vents, list all control device IDs and types

(a) Control Options for Group 1 Batch Process Vents:

A. Reduce nonepoxide organic HAP emissions using a flare
B. Reduce nonepoxide organic HAP emissions by 90 percent using a combustion, recovery, or recapture device.
C. Group 2 combination of batch process vents - no control required

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

D. Nonepoxide OHAP Emissions from Catalyst Extraction

Complete the following table nonepoxide OHAP emissions from catalyst extraction.

☒ Not Applicable

(1) Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) Nonepoxide OHAPs vented	(4) Control Option Selected for nonepoxide OHAP emissions from catalyst extraction (a)	(5) To comply with the requirements for nonepoxide OHAP emission limits from catalyst extraction, list all control device IDs and types

(a) Control Options for Catalyst Extraction:

A. Reduce emissions of nonepoxide organic HAP from all process vents associated with catalyst extraction using a flare
B. Reduce emissions of nonepoxide organic HAP from the sum total of all process vents associated with catalyst extraction by an aggregated 90 percent for each PMPU.

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

E. Processes Using Extended Cookout as an Epoxide Emission Reduction Technique

For processes using extended cookout as an epoxide emission reduction technique, provide the following information for each product class.

- Operating conditions of each product class
- A list of all products in the product class.
- The percent epoxide emission reduction, as determined in accordance with 63.1427(e).
- The parameter for each product class, as determined in accordance with 63.1427(i)(2).
- If epoxide emissions occur before the end of the ECO, a listing of the time and duration of all such emission episodes that occur during the initial demonstration of batch cycle efficiency.

Note: If a combustion, recovery or recapture device is used in addition to ECO to reduce emissions, the information specified in 63.1430(g)(1) is included in Sections XI.C and XI.D.

[63.1427(k)(2) → 63.1427(e), (i)(2), 63.1430(g)(1)]

(1) Product Class	(2) Operating Conditions of Product Class (Attachment #)	(3) List of All Products in Product Class (Attachment #)	(4) Percent Epoxide Emission Reduction	(5) Parameter for Product Class (a)	(6) Parameter Level Established (a)	(7) Do epoxide emissions occur before the end of ECO? (Yes/No)	(8) If yes to (7), list the time and duration of emission episodes that occur during the initial demonstration of batch cycle efficiency.

(a) During the determination of the percent epoxide emission reduction in 63.1427(b) through (e), establish, as a level that shall be maintained during periods of operation, one of the parameters in 63.1427(i)(2)(i) through (iii), or use the procedure in 63.1427(i)(2)(iv), for each product class.
(i) The time from the end of the epoxide feed to the end of the ECO;
(ii) The reactor epoxide partial pressure at the end of the ECO;
(iii) The epoxide concentration in the reactor liquid at the end of the ECO, when the reactor liquid is still in the reactor, or after the reactor liquid has been transferred to another vessel; or
(iv) An owner or operator may submit a request to the Administrator to monitor a parameter other than the parameters listed in paragraphs (i)(2)(i) through (iii) of this section, as described in §63.1439(f).

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

F. Compliance with Epoxide Emission Factor Limitation

Complete sections III.F.1 through III.F.3, as applicable, if complying with one of the epoxide emission factor limitations using:

- a combustion, recovery, or recapture device,
- extended cookout, or
- using extended cookout in conjunction with one or more combustion, recovery, and/or recapture devices.

Epoxide Emission Factor Limitations: [63.1425(b)(1)(iii), (b)(2)(iv)]

- ***Existing Affected Sources***: Maintain an emission factor of no greater than 1.69×10^{-2} kilogram epoxide emissions per megagram of product (1.69×10^{-2} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.
- ***New affected sources***: Maintain an emission factor of no greater than 4.43×10^{-3} kilogram epoxide emissions per megagram of product (4.43×10^{-3} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.

☒ Not Applicable

[§63.1431(c)(2), (d)(2), (e)(2), 63.1425(b)(1)(iii), (b)(2)(iv)]

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

F.1 Compliance with Epoxide Emission Factor Limitation Using Combustion / Recovery or Recapture Device

If complying with one of the epoxide emission factor limitations using a combustion, recovery, or recapture device, do the following:

Step	Action
1	Conduct a performance test in accordance with §63.1426(c) to determine the epoxide control efficiency of the combustion, recovery, or recapture device.
2	Recalculate the annual epoxide emissions after control using Equation 15, except that the control efficiency, R, shall be the measured control efficiency. $AE_{control} = (AE_{uncontrolled})\left[\left(1-\frac{R}{100}\right)\right]$ [Equation 15] Where: $AE_{control}$ = Annual epoxide emissions after control, kg/yr. $AE_{uncontrolled}$ = Annual uncontrolled epoxide emissions, determined in accordance with 63.1431(c)(1)(i), kg/yr. R = Expected control efficiency of the combustion, recovery, or recapture device, percent, as determined in §63.1426(c).
3	Submit this information as part of the Notification of Compliance Status.

See Attachment #____ for the above information.

☒ Not Applicable

[§63.1431(c)(2)]

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

F.2 Compliance with Emission Factor Limitation Using Extended Cookout

If complying with epoxide emission factor limitations using extended cookout, do the following:

Step	Action
1	Determine the annual epoxide emissions in accordance with §63.1427(d), based on anticipated production.
2	Submit this information as part of the Notification of Compliance Status.

See Attachment #____ for the above information.

☒ Not Applicable

[§63.1431(d)(2)]

F.3 Compliance with Emission Factor Limitation Using Extended Cookout in Conjunction with One or More Combustion, Recovery, and/or Recapture Devices

If complying with the epoxide emission factor limitation through the use of extended cookout in conjunction with one or more combustion, recovery, and/or recapture device, do the following:

Step	Action
1	Determine the annual epoxide emissions after control.
2	Submit this information as part of the Notification of Compliance Status.

See Attachment #____ for the above information.

☒ Not Applicable

[§63.1431(e)(2)]

Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF

Introduction

This section provides the results of any group determinations and applicability determinations for process vents from PMPU producing polyether polyols using tetrahydrofuran (THF).

[§63.1439(e)(5)(i)]

A. Applicable Process Vents

Complete the following table listing all process vents and their corresponding control methods.

☒ Not Applicable

[63.1439(e)(5)(i), 63.1425(f) → 63.117, 63.117(a)(2),(a)(8)→ 63.115(d)(2)(v)]

(1) Continuous Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) OHAPs Vented	(4) Designated as Group 1 Continuous Process Vent (Yes/No)	(5) Total Resource Effectiveness Index Value *[Mark N/A if vent is designated as Group 1]*	(6) Flow Rate (scmm) *[Mark N/A if vent is designated as Group 1]*	(7) OHAP Concentration (ppmv)	(8) Halogen Concentration in Vent Stream (ppmv)

(continued from table above)

(1) Continuous Process Vent ID	(9) Group 1 or Group 2 Continuous Process Vent?	(10) Control Option Selected for Group 1 Continuous Process Vents (a)	(11) To comply with the requirements for Group 1 continuous process vents, list all control device IDs and types	(12) Is vent stream from continuous process vent halogenated, and are you using a combustion control device to control organic HAP emissions?	(13) If halogenated vent and you are using a combustion device, which control option is selected for halogenated vent stream provisions? (b)

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Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF, Continued

A. Applicable Process Vents (continued)

Notes:

(a) Control Option Selected for Group 1 continuous process vents:

A. Reduce emissions of organic HAP using a flare.
B. Reduce emissions of total organic hazardous air pollutants by 98 weight-percent
C. Reduce emissions of total organic hazardous air pollutants to a concentration of 20 parts per million by volume
D. Achieve and maintain a TRE index value greater than 1.0 at the outlet of the final recovery device
E. Achieve and maintain a TRE index value greater than 1.0 prior to release of the vent stream to the atmosphere if no recovery device is present

(b) Control Option Selected for Halogenated Group 1 continuous process vents using a combustion control device:

A. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide an halogen HAP by >=99% by weight, or to < 0.45 kg/hr (< 1 lb/hr), whichever is less stringent
B. For scrubbers or halogen reduction devices installed prior to September 4, 1997, use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide an halogen HAP by >=95% by weight, or to < 0.45 kg/hr (< 1 lb/hr), whichever is less stringent
C. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to < 0.45 kg/hr (< 1 lb/hr), and thus make the vent stream nonhalogenated.
D. Not Applicable

B. Summary of Exempt Process Vents

Complete the following table listing all exempt process vents from PMPU producing polyether polyols using THF.

☒ Not Applicable

(1) Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) Is the process vent from a continuous unit operation or a batch unit operation?	(4) Exemption Reason (a)

(a) ***Process Vent Exemptions***:

A. The gas stream contains from a continuous unit operation less than or equal to 0.005 weight percent "total organic HAP" at the point of discharge to the atmosphere (or at the point of entry into a control device, if any).
B. The gas stream from a batch unit operation contains less than or equal to 225 kilograms per year (500 pounds per year) of organic HAP emissions.
C. The gas stream is a pressure relief valve discharge.
D. The gas stream is routed to a fuel gas system
E. The gas stream is from a leak from equipment regulated under the equipment leak provisions (63.1434)
F. The gas stream is exiting a control device that is complying with Subpart PPP
G. The gas stream contains no organic HAPs listed in Section 112(b) of the Clean Air Act.

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Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF, Continued

C. Group 2 Continuous Process Vents with TRE > 4.0

This section applies to Group 2 continuous process vents with a TRE > 4.0.

For Group 2 process vents with a TRE index greater than 4.0, submit measurements, engineering assessments, and calculations performed to determine the TRE index value of the vent stream. Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in §63.115(d)(1) of Subpart G.

☒ **Not Applicable**

[63.1425(f), (f)(3), 63.117(b) → 63.113(e) / 63.115(d)(1)]

(1) Group 2 process vent I.D.	(2) Indicate "measurement" or "engineering assessment used for TRE calculations	(3) TRE data (Attachment #)

D. Group 2 Continuous Process Vents – flowrate < 0.18 scfm or OHAP/TOC Concentration < 50 ppmv

Complete the following table for Group 2 continuous process vents with flowrate < 0.18 scfm (0.005 scmm) or OHAP or TOC concentration < 50 ppmv.

- If electing to demonstrate that a process vent is a Group 2 process vent based on a flow rate less than 0.005 standard cubic meter per minute, submit the flow rate measurement using methods and procedures specified in §63.115 (a) and (b) of Subpart G.
- If electing to demonstrate that a process vent is a Group 2 process vent based on organic HAP or TOC concentration less than 50 parts per million by volume, submit an organic HAP or TOC concentration measurement using the methods and procedures specified in §63.115 (a) and (c) of Subpart G.

☒ **Not Applicable**

[63.1425(f), (f)(3), 63.117(c)-(d)]

(1) Group 2 process vent I.D.	(2) < 0.18 scfm or < 50 ppmv?	(3) Measured flow rate or concentration	(4) Flow Rate or Concentration Measurement (Attachment #)

Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF, Continued

E. Transfer of Group 1 Process Vents to Disposal to Off-Site Control or On-Site control Not Owned/Operated by Source

If transferring a Group 1 process vent for disposal pursuant to § 63.113(i) to:

- an on-site control device (or other compliance equipment) not owned or operated by the owner or operator of the source generating the gas stream or
- to an off-site control device or other compliance equipment

then include in the Notification of Compliance Status the name and location of the transferee, and the identification of the Group 1 process vent.

☒ Not Applicable

☐ Applicable

[§63.1439(e)(5)(vii), 63.113(i)]

(1) Process Vent ID	(2) Name / Location of Transferee

Section V. Storage Vessels

Introduction

This section provides the results of any group determinations and applicability determinations for storage vessels.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Storage Vessels

Complete the following table listing all storage vessels and their corresponding control methods.

☒ Not Applicable

(1) Storage Vessel ID	(2) OHAPs Stored	(3) Actual Capacity (gallons)	(4) Actual Maximum True Vapor Pressure of Total OHAP at Storage Temperature (psia)	(5) Actual Maximum True Vapor Pressure of Total OHAP at Storage Temperature (kPa) - converted

(1) Storage Vessel / Vessel ID (contd:)	(6) Group 1 or Group 2 Storage Vessel?	(7) Control Option Selected for HAP Emissions (a)	(8) Control Device Type, if applicable	(9) Control Device ID, if applicable

(a) Storage Vessel Control Options:

A. No Control Required - Group 2 Storage Tank
B. Reduce total HAP emissions by >=95 percent by weight by venting through a CVS to a nonflare control device.
C. Reduce total HAP emissions by >=90 percent by weight by venting through a CVS to a nonflare control device if control device (or combination of control devices) was installed on the storage vessel on or before September 4, 1997 and the control device was designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 95 percent.
D. Reduce total organic HAP emissions by venting emissions through a CVS to a flare.
E. Reduce total HAP emissions by venting emissions to a fuel gas system or process
F. Install an internal floating roof.
G. Install an external floating roof.
H. Install an external floating roof converted to internal floating roof.
I. Vapor balancing alternative

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Section V. Storage Vessels, Continued

B. Summary of Exempt Storage Vessels

Complete the following table listing all exempt storage vessels.

☐ Not Applicable

(1) Tank / Vessel ID	(2) HAPs or non-HAPs Stored)	(3) Exemption Reason (a)
D-107	Finished Product	E
D-130	Finished Product	E
D-106	Finished Product	E
D-180	Finished Product	E
D-113	Finished Product	E
D-121	Scrubber Wastewater	F

(a) Storage Vessel Exemption Codes:

A. Vessel is permanently attached to a motor vehicle such as a truck, railcar, barge or ship.
B. Pressure vessel designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.
C. Vessel with a capacity smaller than 38 cubic meters (10,040 gallons)
D. Storage tank contains no organic HAPs.
E. Vessels storing organic liquids that contain organic HAPs only as impurities
F. Wastewater storage tank
G. Bottoms receiver
H. Surge Control Vessel
I. Predominant use of storage vessel is not associated with the PMPU.
J. Storage vessel assigned to another process unit regulated under another subpart of part 63 on June 1, 1999.
K. Storage vessel is located in a tank farm (including a marine tank farm) AND is used by a single process unit. There an intervening storage vessel used by the process unit such that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.
L. Storage vessel is located in a tank farm (including a marine tank farm) AND more than one process unit places material into, or receives material from the storage vessel in the tank farm. ALL of the process units have an intervening storage vessel such that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.
M. Predominant use varies from year to year. The storage vessel is not associated with the PMPU based on the utilization that occurred during the year preceding June 1, 1999.
N. Predominant use varies from year to year. The storage vessel is not associated with the PMPU based on the expected utilization for the 5 years following June 1, 1999 for existing affected sources or based on the expected utilization for the 5 years after initial start-up for new affected sources.

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Section V. Storage Vessels, Continued

C. Predominant Use Determination for Storage Vessels

For those storage vessels assigned to an affected source subject to Subpart PPP, include the results of the predominant use determination made under §63.1420(f)(1)-(f)(7). ***[§63.1420(f)(6), 63.1439(e)(5)(v)]***

☒ Not Applicable – The PMPU does not have any shared storage vessels.

Description	Supporting Documentation (Attachment #)
These storage vessels are already subject to another subpart of 40 CFR Part 63 on June 1, 1999 and are assigned to the process unit subject to the other subpart. None of the other provisions in Subpart PPP apply to these storage vessels. *[§63.14320(f)(1)]* ☐ Not Applicable	**Storage Vessel ID** / **Applicable Subpart**
These storage vessels are dedicated to a single process unit. The storage vessels are assigned to that process unit. *[§63.14320(f)(2)]* ☐ Not Applicable	**Storage Vessel ID** / **Process Unit to Which Storage Vessel is Assigned**
These storage vessels are shared among process units. The storage vessels are assigned to that process unit located on the same plant site as the storage vessel that has the greatest input into or output from the storage vessel (i.e., the process unit that has the predominant use.) *[§63.14320(f)(3)]* ☐ Not Applicable	**Storage Vessel ID** / **Process Unit with Predominant Use**
The predominant use cannot be determined for these storage vessels that are shared among process units. Since only one of those process units is a PMPU subject to Subpart PPP, the storage vessel(s) shall be assigned to that PMPU. *[§63.14320(f)(4)]* ☐ Not Applicable	**Storage Vessel ID** / **PMPU to Which Storage Vessel is Assigned**
The predominant use cannot be determined for these storage vessels that are shared among process units. More than one of the process units are PMPUs that have different primary products and that are subject to Subpart PPP. Therefore, the storage vessels are assigned to any one of the PMPUs sharing the storage vessel. *[§63.14320(f)(5)]* ☐ Not Applicable	**Storage Vessel ID** / **PMPU to Which Storage Vessel is Assigned**

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Section V. Storage Vessels, Continued

C. Predominant Use Determination for Storage Vessels (continued)

The predominant use of these storage vessels varies from year to year. Predominant use is determined based on:

- the utilization that occurred during the year preceding June 1, 1999 or
- based on the expected utilization for the 5 years following June 1, 1999 for existing affected sources, whichever is more representative of the expected operations for that storage vessel, and
- based on the expected utilization for the 5 years after initial start-up for new affected sources.

The determination of predominant use is reported in the Notification of Compliance Status, as required by §63.1439(e)(5)(v). *[§63.14320(f)(6)]*

☐ Not Applicable

Storage Vessel ID	Attachment # for Predominant Use Determination

One or more process units which place material into or receive material from these storage vessels, but the storage vessels is located in a tank farm (including a marine tank farm). The applicability of Subpart PPP is determined according to 63.1420 (f)(7)(i) through (iv) .

(i) The storage vessel may only be assigned to a process unit that utilizes the storage vessel and does not have an intervening storage vessel for that product (or raw materials, as appropriate).

- *With respect to any process unit, an intervening storage vessel means a storage vessel connected by hard-piping to both the process unit and the storage vessel in the tank farm so that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.*

(ii) If there is no process unit at the major source that meets the criteria of 63.1420(f)(7)(i) with respect to a storage vessel, Subpart PPP does not apply to the storage vessel.

(iii) If there is only one process unit at the major source that meets the criteria of 63.1420(f)(7)(i) with respect to a storage vessel, the storage vessel shall be assigned to that process unit.

(iv) If there are two or more process units at the major source that meet the criteria of 63.1420(f)(7)(i) with respect to a storage vessel, the storage vessel shall be assigned to one of those process units according to the provisions of paragraphs (f)(3) through (6) of this section. The predominant use shall be determined among only those process units that meet the criteria of paragraph (f)(7)(i) of this section. *[§63.14320(f)(7)]*

☐ Not Applicable

Storage Vessel ID	Process Unit to Which Storage Vessel is Assigned	Subject to Subpart PPP? (Yes/No)

Continued on next page

Section V. Storage Vessels, Continued

D. Group 1 Storage Vessels Using Vapor Balancing Option

If complying with the vapor balancing alternative for affected storage vessels (§63.119(g)) list the specific tanks following the vapor balancing alternative and check all that apply.

☒ **Not Applicable** – Not using the vapor balancing alternative in §63.119(g) for Group 1 storage vessels.

☐ **Applicable** – Using the vapor balancing alternative in §63.119(g) for Group 1 storage vessels.

[§63.1432(a), 63.119(g)]

Storage Vessel IDs	Check all that apply:
	☐ The pressure vent settings on the affected storage vessels are greater than or equal to 2.5 psig.
	☐ Electing to set a pressure relief device associated with these storage vessels to a value less than the 2.5 pounds per square inch gauge pressure (psig). The rationale explaining why the alternative value is sufficient to prevent breathing losses at all times is included in Attachment XX.
	☐ Using the vapor balancing alternative for Group 1 storage vessels. The reloading / cleaning facility uses: • A closed-vent system and control device that reduces inlet emissions of HAP by 95% wt or greater and complies with the HON, §§§63.119 through 63.123. Note: The reporting requirements on §§63.122 do not apply to the owner or operator of the offsite cleaning or reloading facility.
	☐ Using the vapor balancing alternative for Group 1 storage vessels. The reloading / cleaning facility uses: • A vapor balancing system designed and operated to collected OHAP vapor displaced from the tank truck, railcar or barge during reloading and routes the collected HAP vapor to the storage vessel from which the liquid being transferred originated.
	☐ Using vapor balancing alternative for Group 1 storage vessels AND an offsite reloading or cleaning facility. Records and reports will be maintained by the offsite reloading or cleaning facility under {40 CFR §63 Subpart XXXX} as alternative to complying with the monitoring, recordkeeping, and reporting provisions in the HON, §§§63.119 through §63.123as allowed by §§63119(g)(7)(iv).

Continued on next page

Section V. Storage Vessels, Continued

E. Monitoring Plan

For Group 1 storage vessels equipped with a closed vent system and control device (other than a flare), submit a Monitoring Plan, including the information specified in §§63.1432(i), (j), 63.120(d)(2), and 63.122(b).

☒ Not Applicable

☐ Applicable – See Section XI.C for the monitoring plan.

F. Group 1 Storage Vessels Routed to a Process

For Group 1 storage vessels routed to a process, provide the attachment number for the design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the ends specified below are being met:

- Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;
- Transformed by chemical reaction into materials that are not organic hazardous air pollutants;
- Incorporated into a product; and/or
- Recovered.

☒ Not Applicable

☐ Applicable – See attachment # XX for design evaluation.

[63.1432(a) → 63.120 → 63.120(f) → 63.119(f)(1, 63.122 → 63.122(c)(3))]

G. Group 1 Storage Vessels routed to Fuel Gas System

C. For Group 1 storage vessels routed to a fuel gas system, check the appropriate box below:

☐ The emission stream is connected to the fuel gas system and the conveyance system is subject to the leak inspection provisions for closed vent systems (63.148).

☒ Not Applicable

[63.1432(a) → 63.119 → 63.119(f)(2), 63.122 → 63.122(c)(3))]

Continued on next page

Section VI. Equipment Leaks – HON Subpart H

A. Component Count / Method of Compliance

The table below includes the number of each equipment type excluding equipment in vacuum service and the method of the compliance with the standard.

☐ Not Applicable

[§63.1434(a), (e), 63.182(a)(2), (c)(1)(ii)-(iii)]

Process Unit: B43IPG

Equipment Type	Number	Method of Compliance
Pumps in light liquid service:	0	§63.163(b) Monthly leak detection and repair
	1	§63.163(e) Dual mechanical seal system.
	0	§63.163(f) No externally actuated shaft.
	0	§63.163(g) Equipped with closed vent system.
	0	§63.163(h) Within boundary of an unmanned plant site.
	0	§63.163(j) Unsafe-to-monitor pumps. Monitor when safe.
TOTAL:	**1**	
Compressors:	0	§63.164(a) Equipped with required seal system.
	0	§63.164(h) Equipped with closed vent system.
	0	§63.164(i) Operate at <500 ppm above background.
TOTAL:	**0**	
Pressure relief devices in gas/vapor service:	0	§63.1434(c)(1), (c)(2)(i) Operate at <500 ppm above background – No rupture disk upstream – Monitor no later than 5 calendar days after pressure release
	2	§63.1434(c)(1), (c)(2)(ii) Operate at <500 ppm above background – Equipped with rupture disk upstream – Install replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release
	0	§63.1434(c)(4) Route all pressure releases through a closed vent system to a control device, process, or drain system.
TOTAL:	**2**	
Sampling connection systems:	0	§63.166(b)(1) Return purge to process line.
	0	§63.166(b)(2) Collect and recycle purge to a process.
	0	§63.166(b)(3) Capture and transport to control device.
	0	§63.166(b)(4)(i) Collect, store, transport to HON WMU
	0	§63.166(b)(4)(ii) Collect, store, transport to TSD facility
	0	§63.166(b)(4)(iii) Collect, store, transport to a non-hazardous waste facility
	0	§63.166(c) *In-situ* sampling system or without purge
TOTAL:	**0**	
Open-ended valves or lines:	0	§63.167(d) Part of emergency shutdown system.
	0	§63.167(e) Contains polymerizing, explosive or hazardous materials.
TOTAL:	**0**	**Note:** Open-ended valves are equipped with a cap, plug, blind flange, or 2nd valve.

Section VI. Equipment Leaks – HON Subpart H, Continued

Equipment Type	Number	Method of Compliance
Valves in gas/vapor or in light liquid service:	235	§63.168(a)(3) Annual leak detection and repair.
	0	§63.168(a)(3) Semi-annual leak detection and repair.
	0	§63.168(b) Quarterly leak detection and repair.
	0	§63.168(h) Unsafe-to-monitor.
	16	§63.168(i) Difficult-to-monitor.
TOTAL:	**251**	
Pumps in heavy liquid service: Valves in heavy liquid service: Connectors in heavy liquid service: Agitators in heavy liquid service:	NA	§63.169(a) Observe for leak by sensory methods; Monitor and/or repair. The work practice is to identify equipment in heavy liquid service by the use of facility's P&ID's.
Instrumentation systems:	0	§63.169(a) Observe for leak by sensory methods; Monitor and/or repair.
Pressure relief devices in liquid service:	0	§63.169(a) Observe for leak by sensory methods; Monitor and/or repair.
TOTAL:	**0**	
Surge control vessels or bottoms receivers:	0	§63.170 Returned to process.
	0	§63.170 Equipped with control device.
	0	§63.170 Follow EFR or IFR Storage Tank requirements
	0	§63.170 Not subject to control under based on capacity and/or maximum true vapor pressure of total OHAP
TOTAL:	**0**	
Closed vent systems and control devices:	1	§63.172(f)(1) Annual visual inspection (hard-piped).
	0	§63.172(f)(2) Annual monitoring (duct work).
	0	§63.172(k) Unsafe-to-inspect.
	0	§63.172(l) Difficult-to-inspect
TOTAL:	**1**	
Agitators in gas/vapor service or in light liquid service:	3	§63.173(a) Monthly leak detection and repair.
	0	§63.173(d) Equipped with dual mechanical seal system.
	0	§63.173(e) No externally actuated shaft.
	0	§63.173(f) Equipped with closed vent system
	0	§63.173(g) Within boundary of an unmanned plant site.
	0	§63.173(h) Difficult-to-monitor.
	0	§63.173(i) Obstructed.
	0	§63.173(j) Unsafe-to-monitor.
TOTAL:	**3**	
Connectors in gas/vapor service or in light liquid service:	0	§63.174(b) Annual leak detection and repair.
	0	§63.174(b)(4) Biennial leak detection and repair.
	542	§63.174(b)(4) Quadrennial leak detection and repair.
	0	§63.174(c)(2) Screwed connectors $\leq$ 2" installed prior to 12/31/92.
	0	§63.174(f) Unsafe-to-monitor.
	0	§63.174(g) Unsafe-to-repair.
TOTAL:	**542**	

Section VI. Equipment Leaks – HON Subpart H, Continued

B. Planned Schedule for Each Phase – Pumps and Valves

Enter the planned schedule for each phase of the requirements in §§63.163 (pumps) and §§63.168 (valves). [§63.182(c)(1)(iv)]

Phase	Planned Schedule for Implementation On or Before
Phase I – Beginning on the compliance date.	9/19/1999
Phase II – Beginning no later than 1 year after the compliance date.	8/31/2000
Phase III – Beginning no later than 2-1/2 years after the compliance date.	3/1/2002

C. Batch Process Pressure Testing Alternative §63.178(b)

Provide the batch products and batch product codes subject to the pressure testing alternative for batch processes and the planned schedule for pressure testing when the equipment is configured for production of products subject to HON. [§63.182(c)(2)]

☒ **Not Applicable** – Not using the pressure testing alternative for batch processes.

☐ **Applicable** – Will follow the pressure testing of batch product-process equipment to demonstrate compliance with Subpart H in lieu of complying with the monitoring provisions of §§63.163, 63.168 and §63.169, and 63.173 through 63.176 of Subpart H.

Batch Product or Product Code	Planned Schedule for Pressure Testing

D. Alternative for Enclosed-Vented Process Units §63.179

For those process units complying with the alternative means of emission limitation for enclosed-vented process units, provide a description of the system to create negative pressure in the enclosure and the control device used to comply with the requirements of §63.172 of Subpart H. [§63.182(c)(3)]

☒ **Not Applicable** – Not using the enclosed-vented process unit alternative in §63.179.

☐ **Applicable** – Complying with the enclosed-vented process unit alternative in lieu of the requirements in §63.163 through 63.171 and 63.173, 63.174.

Description of system used to create negative pressure in the enclosure:	
Description of control device used to comply with the requirements of §63.172 of Subpart H.	

Continued on next page

Section VI. Equipment Leaks – HON Subpart H, Continued

E. Control Devices for Equipment Leaks	☒ **Not Applicable** – No control devices handle equipment leaks from components subject to the provisions of Subpart H. ☐ **Applicable** – Using closed-vent systems and control devices to comply with the provisions of Subpart H. See information below on applicable control devices and the parameters monitored to ensure that they are operated and maintained in conformance with their design.

Applicable?	Description	Control Device ID	Parameter Monitored
☐	Recovery or Recapture Device (e.g. condensers and absorbers) designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with: • an efficiency of 95 percent or greater, or • to an exit concentration of 20 parts per million by volume, whichever is less stringent. *[§63.172(b)]*		
☐	Enclosed combustion devices designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with: • an efficiency of 95 percent or greater, or • to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or • to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. *[§63.172(c)]*		
☐	Flare in compliance with the requirements of §§63.11(b) of subpart A of this part. *[§63.172(d)]*		

F. Other Alternative Means of Emission Limitation (General) §63.177

☒ **Not Applicable** – Not using any alternative means of emission limitation under §63.177.

☐ **Applicable** – Permission was granted to use an alternative means of emission limitation under §63.177 and §63.6(g) of Subpart A.

Affected Equipment	Description of Alternative:

Section IV. Equipment Leaks – HON Subpart H, Continued

G. Pressure Relief Devices in OHAP Service – Type of Monitoring System

For pressure relief devices in organic HAP service, provide a description of the device or monitoring system to be implemented, including:

- the pressure relief devices and process parameters to be monitored (if applicable),
- a description of the alarms or other methods by which operators will be notified of a pressure release, and
- a description of how the owner or operator will determine the information to be recorded under 63.1439(d)(10)(v)(B)-(C) (i.e., the duration of the pressure release and the methodology and calculations for determining of the quantity of total HAP emitted during the pressure release).

☐ **Not Applicable** – No pressure relief devices in organic HAP service.

☐ **Not Applicable** – There are pressure relief devices in organic HAP service; however all of these PRDs are designed and operated to route all pressure releases through a closed vent system to a control device, process or drain system and are, therefore, exempt from the pressure release management requirements in 63.1434(c)(3). Both the closed vent system and control device (if applicable) must meet the requirements of 63.172 of Subpart H. The drain system (if applicable) must meet the requirements of 63.136 [HON Group 1 Process Wastewater Requirements for Individual Drain Systems].

☒ **Applicable** – The required information is provided in the table below.

[63.1439(e)(5), (e)(5)(viii), 63.1439(d)(10)(v)(B)-(C)]

Pressure Relief Device ID	Process Parameters to be Monitored	Description of Alarms or Other Methods by Which Operators will be Notified of a Pressure Release	Description of How Duration of Pressure Release will be Determined	Description of Methodology and Calculations for Determining Quantity of Total HAP Emitted During Pressure Release
KR-1 PRD with PSV	Continuous monitoring of pressure between Rupture Disc and PSV and continuous monitoring of reactor vessel pressure	Warning alarms are hard wired to pressure monitors in the reactor vessel and between PSV and PRD	In event of an alarm, a relief event will be determined by using reactor pressure against setpoint for the PSV. In the event of a relief event, the end will be when the device is confirmed reseated and vessel pressure reading are below PSV setpoint. The duration will be determined using pressure readings in the KR-1 reactor and between the PSV and rupture disc.	Engineering calculation and process knowledge.
KR-1 PRD	Continuous monitoring of reactor vessel pressure	Warning alarms are hard wired to pressure monitors in the reactor vessel	In the event of a relief event, this rupture disc will break, resulting in loss of reactor pressure until the disc is replaced. Duration will be determined by vessel pressure sensors and when the reactor is determined to be clear of all HAPs	Engineering calculation and process knowledge.

Section VII. Process Wastewater

Introduction

This section provides the results of any group determinations and applicability determinations for process wastewater.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Process Wastewater Streams

Complete the following table listing all applicable process wastewater streams.

☐ Not Applicable

[§63.1433(a), (a)(13), 63.146(b)(1), (b)(2), 63.1433(a)(2), (a)(13), Table 15 to Subpart G]

(1) Wastewater Stream Identification Code	(2) Description of Each Point of Determination (POD)	(3) Existing or New Affected Source?	(4) Table 4 (Subpart PPP) / Table 9 (Subpart G) OHAPs	(5) Table 4 (Subpart PPP) / Table 9 (Subpart G) OHAP Annual Average Concentration (ppmw) *[Mark N/A if stream is designated as Group 1]*
KR-1 Process wastewater	S-101 effluent	Existing	Ethylene Oxide / Propylene Oxide	<1000 ppm

(1) Wastewater Stream Identification Code, contd.	(6) Annual average flow rate (liter per minute) *[Mark N/A if stream is designated as Group 1]*	(7) Designated as a Group 1 Stream? (Yes/No)	(8) Group 1 or Group 2 Process Wasatewater Stream	(9) For Group 1 streams, list compliance approach (a)	(10) For Group 2 streams, method for determining Table 9 OHAP concentration and (Attachment # for supporting documentation) *See Appendix D for acceptable methods.*
KR-1 Process wastewater	44	No	Group 2.	N/A	C

Section VII. Process Wastewater, Continued

B. Summary of Exempt Process Wastewater Streams

Complete the following table listing all exempt process wastewater streams.

☒ Not Applicable

(1) Wastewater Stream Identification Code	(2) Description of Point of Determination / Evaluation	(3) Exemption Reason (a)

(a) Exemption codes for process wastewater:

A. Maintenance Wastewater stream
B. Chemicals are recovered from the stream for fuel value (i.e. net positive heating value, use, reuse, or for sale for one of those purposes)
C. Stream is not discarded from an PMPU
D. The stream originates as storm-water from segregated sewers.
E. The stream originates from fire-fighting and deluge systems, including testing of these systems.
F. The stream originates from spills.
G. The stream originates from equipment leaks
H. The stream originates from safety showers.
I. The stream contains no Table 4 compounds
J. The stream contains very little water (indicate % in comments field) - Nonwastewater waste stream (primarily organic)
K. The annual average concentration of Table 4 compounds is < 5 ppmw.
L. The annual average concentration of Table 4 compounds is >= 5 ppmw, but the annual average flow rate is < 0.02 liters per minute.

Continued on next page

Section VII. Process Wastewater, Continued

C. Waste Management Unit Information

For Group 1 Process Wastewater Streams Only:

☒ Not Applicable

Are any Group 1 wastewater streams transferred for treatment to an off-site treatment or on-site treatment not owned or operated by the source?

☐ Yes ☐ No

If yes, provide:

Name of the receiving party:	
Location:	

Indicate with an asterisk which streams below are transferred to an off-site treatment or on-site treatment not owned or operated by the source.

[§63.1433(a) → (a)(13), (a)(15), (a)(16), 63.138(a)(7)(i)(C), (a)(7)(ii)(B), (i)(3), 63.146(b)(2),(b)(5), (b)(7)(ii)(A), Tables 13, 15 and 18 of Subpart G, 63.1438, 63.1439(e)(5)(vii)]

(1) Wastewater Stream Identification Code	(2) Treatment Process ID	(3) Waste Mgt. Unit Identification (a)	(4) Description of Waste Mgt. Unit	(5) Intended Control Device / Technique (See Appendix A)	(6) Monitored Parameters for Control Device	(7) Proper Operating Level for Control Device	(8) Rationale for Chosen Operating Level for Control Device, (Attachment #)

(a) Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include: Wastewater tanks, surface impoundments, individual drain systems, and biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is used for recovery, then it is part of a PMPU and is not a waste management unit.

Continued on next page

Section VII. Process Wastewater, Continued

D. Treatment Process Information

For Group 1 Process Wastewater Streams Only:

☒ Not Applicable

Are any Group 1 wastewater streams transferred for treatment to an off-site treatment or on-site treatment not owned or operated by the source?

☐ Yes ☐ No

If yes, provide:

Name of the receiving party:	
Location:	

Indicate with an asterisk which streams below are transferred to an off-site treatment or on-site treatment not owned or operated by the source.

[§63.1433(a) → (a)(13), (a)(15), (a)(16), (a)(17), §63.138(a)(7)(i)(C), (a)(7)(ii)(B), 63.146(b)(4), (b)(8), (b)(9), (f), Table 12 and 17 of Subpart G, §63.7(g), 63.1438, 63.1439(e)(5)(vii)]

(1) Wastewater Stream Identification Code	(2) Description of Treatment Process *(see Appendix C)*	(3) Treatment Process ID	(4) Monitoring Parameters for the treatment process	(5) Designed Maximum or Minimum Level of Monitored Parameter	(6) Rationale for Level (Attachment #)	(7) Results of Initial Measurements and Supporting Calculations (Attachment #)	(8) Design Evaluation (DE) or Performance Test (PT) – (Attachment #)

Continued on next page

Section VII. Process Wastewater, Continued

E. Information on Residuals

For Group 1 Process Wastewater Streams Only:

☒ Not Applicable

Are any residuals removed from Group 1 wastewater streams transferred for treatment to an off-site treatment or on-site treatment not owned or operated by the source?

☐ Yes ☐ No

If yes, provide:

Name of the receiving party:	
Location:	

Indicate with an asterisk which streams below are transferred to an off-site treatment or on-site treatment not owned or operated by the source.

[§63.1433(a) → (a)(13), 63.146(b)(6),Table 19 of Subpart G, 63.1439(e)(5)(vii)]

(1) Residual ID Number (a)	(2) Residual description (b)	(3) Wastewater Stream Identification Code (c)	(4) Treatment process from which residual originates	(5) Fate (d)	(6) If Fate = D, Treatment Process Identification Used to Destroy Residual by 99% (e) *(Mark N/A if Fate does not = D)*	(7) If Fate = D - Treatment Process Efficiency Attachment # (f)	(8) Waste Management Unit ID(s)	(9) Intended Emission Control Technique

Continued on next page

Section VII. Process Wastewater, Continued

Notes:

(a) Name or identification code of residual removed from Group 1 wastewater stream.

(b) Description of residual (e.g., steam stripper A-13 overhead condensates).

(c) Identification of stream from which residual is removed.

(d) Fate - Indicate whether the residual is:
A. Recycled to a production process
B. Sold for the purpose of recycling.
C. Returned to the treatment process.
D. Treated to destroy the total combined mass flow rate of Table 9 compounds by 99 percent or more.
E. In compliance with the requirements for the RCRA treatment option.

(e) If the fate of the residual is such that the HAP mass is destroyed by 99 percent, give description of device used for HAP destruction. The types of treatment processes that are acceptable include nonbiological, noncombustion treatment processes and combustion treatment processes.

(f) If the fate of the residual is such that the HAP mass is destroyed by 99 percent, provide an estimate of control device efficiency and attach substantiation in accordance with the instructions for this section.

Continued on next page

Section VII. Process Wastewater, Continued

F. Fixed Roofs, Covers and Enclosures

For each fixed roof, cover, and enclosure on wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water / organic-water separators, provide the initial monitoring results: (Check one)

☒ **Not Applicable**	No process wastewater streams or only Group 2 process wastewater streams.
☐ **Not Applicable**	No fixed roofs, covers or enclosures on wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators
☐ **Not Applicable**	All fixed roofs and enclosures are operated under negative pressure.

☐ **Applicable**	No leaks detected during initial inspection – date of inspection: {Enter Date}
☐ **Applicable**	Leak detected during initial inspection – date of inspection: {Enter Date}. Required information is provided below.

[§63.1433(a) → 63.148, 63.148(b)(3), 63.1439(e)(5)(i)]

Complete the following table ONLY if leaks were detected during monitoring / inspection:

(1) Waste Management Unit I.D.	(2) Fixed Roof, Cover or Enclosure Inspection?	(3) Date Visual Leak Detected	(4) Date of First Attempt at Repair	(5) Date Leak Was Repaired OR "Delay of Repair" If Necessary

Complete the following table for components on Delay of Repair:

(1) Waste Management Unit I.D.	(6) Reason for Delay of Repair Code	(7) Name of Person who Made Delay of Repair Decision	(8) Expected Date of Repair (If not Already Repaired)	(9) Date(s) of shutdowns that occurred while the component was unrepaired	(10) Date of Successful Repair of the Leak

Reason for Delay of Repair Codes:
A. Repair is technically infeasible without a shutdown or
B. Emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair.

Section VIII. Maintenance Wastewater

Introduction

This section provides the results of any applicability determinations for maintenance wastewater.

[§63.1433(a), (b) → 63.105(a), 63.1439(e)(5)(i)]

A. Summary of Applicable Maintenance Wastewater Streams

Check appropriate box for each PMPU.

☐ Maintenance wastewater plan applies and is implemented per 63.1433(a), (b), 63.105

☒ Not applicable for this PMPU; no maintenance wastewater streams.

B. Summary of Exempt Maintenance Wastewater Streams

Complete the following table listing all exempt maintenance wastewater streams.

☒ Not Applicable

(1) Wastewater Stream ID or Activity	(2) Exemption Reason

Exemption Codes for Maintenance Wastewater:

A. Process Wastewater stream
B. Stream is not discarded from an PMPU
C. The stream originates as storm-water from segregated sewers.
D. The stream originates from fire-fighting and deluge systems, including testing of these systems.
E. The stream originates from spills.
F. The stream originates from equipment leaks
G. The stream originates from safety showers.
H. The stream contains no Table 4 compounds
I. The annual average concentration of Table 4 OHAP is < 5 ppmw.
J. The OHAP annual average concentration of Table 4 OHAP is >= 5 ppmw, but the annual average flow rate is < 0.02 liters per minute.
K. Wastewater is generated from routine rinsing or washing of equipment occurring as part of batch operations and is considered process wastewater.

Section IX. Liquid Streams in Open Systems

Introduction

This section provides the results of any applicability determinations for liquid streams in open systems.

[§63.1433(a) → 63.149, 63.1439(e)(5)(i)]

A. Summary of Equipment Handling Liquid Streams in Open Systems

Complete the following table listing all equipment subject to the provisions in §§63.149 (as referenced by 63.1433(a)) for liquids streams in open systems.

☒ Not Applicable

(1) Equipment ID	(2) Equipment Type	(3) Table 9 CHAP (Subpart G)	(4) Total Table 9 Annual Average Concentration (ppmw)	(5) Annual average flow rate (liter per minute)

Continuation of table above:

(1) Equipment ID, contd.	(6) Control Required? (Yes/No)	(7) Control Method Code (See Appendix E)	(8) Control Device ID(s)	(9) If using a control device, which standard does the control device meet?

Continued on next page

Section IX. Liquid Streams in Open Systems, Continued

B. Summary of Equipment Exempt from the Requirements for Liquid Stream in Open Systems

Complete the following table listing all equipment exempt from the provisions for liquid streams in open systems.

☒ Not Applicable

(1) Equipment ID	(2) Exemption Reason (a)

(a) ***Exemption Codes***:

A. The equipment is already controlled as stringently as Table 35.
B. The equipment is not a drain, drain hub, manhole, lift station, trench, pipe, oil-water separator / organic-water separator and/or tank*. *Note: Applies to tanks with capacities of 38 m3 (10,040 gallons) or greater.
C. The equipment is a tank. However the tank capacity is < 38 m3 (10,040 gallons).
D. The equipment does not contain organic hazardous air pollutants.
E. The equipment contains OHAP as impurities only.
F. The equipment handles only stormwater managed in segregated sewers.
G. The equipment handles only water from fire-fighting and deluge systems in segregated sewers.
H. The equipment handles only water from firefighting and/or deluge systems.
I. The equipment handles only spills.
J. The equipment handles only water from safety showers.
K. The equipment handles only water from testing of deluge systems.
L. The equipment handles only water from the testing of firefighting systems.
M. The equipment operates in OHAP service for less than 300 hours during the calendar year.
N. The equipment is not part of a PMPU subject to Subpart PPP.
O. The stream contains no Table 9 compounds (new or existing sources).
P. For tanks, the equipment is located at a PMPU subject to existing or new source requirements and does not contain water with:
-total annual average concentration of Table 9 compounds greater than or equal to 1,000 ppmw AND
an annual average flowrate greater than or equal to 10 lpm
Q. For Drains, Drain hubs, Manholes, Lift stations, Trenches, Pipes, Oil-Water separators - The equipment is located at a PMPU subject to existing or new source requirements and does not contain water with:
- total annual average concentration of Table 9 compounds greater than or equal to 10,000 ppmw at any flow rate
OR
- total annual average concentration of Table 9 compounds greater than or equal to 1,000 ppmw AND
- an annual average flowrate greater than or equal to 10 lpm

Section X. Heat Exchange Systems

Introduction

This section provides the results of any applicability determinations for heat exchange systems.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Heat Exchange Systems

Complete the following table listing all heat exchange systems subject to monitoring.

☒ Not Applicable

(1) Heat Exchange System ID	(2) Heat Exchanger Type (a)	(3) Monitoring Option Selected (b)	(4) What will be monitored? (c)

(a) ***Types***:
- Recirculating heat exchange system (cooling tower systems)
- Once-through heat exchange system

(b) ***Monitoring Options:***
- Option 1: Monitor the cooling water for one or more organic HAPs or other indicator chemical.
- Option 2: Monitor using a surrogate indicator that shows leaks in the system (e.g. Ion specific electrode monitoring, pH, conductivity, etc.)

(c) Choices:
- Total hazardous air pollutants
- Total volatile organic compounds
- Total organic carbon
- One or more speciated HAP compounds
- Other representative substances that would indicate the presence of a leak in the heat exchange system - Specify.
- Surrogate Indicator - specify

Continued on next page

Section X. Heat Exchange Systems, Continued

B. Summary of Exempt Heat Exchange Systems

Complete the following table listing all exempt heat exchange systems.

☒ Not Applicable

(1) Heat Exchange System ID	(2) Which exemption is being used? (a)	(3) List any supporting details for exemption documentation

(a) ***Heat Exchange System Exemption Codes:***

A. The heat exchange system is operated with the minimum pressure on the cooling water side at least 35 kilopascals (5.1 psia) greater than the maximum pressure on the process side.
B. An intervening cooling fluid containing less than 5% by weight of total HAPs listed in Table 4 is between the cooling water and the process fluids. This intervening fluid cannot go to the cooling tower or be discharged except for maintenance purposes.
C. Does not meet the definition of heat exchange system -e.g. it is not a cooling tower system or once-through cooling water system (e.g., river or pond water).
D. Heat exchange system not used to cool process equipment.
E. A once through heat exchange system is subject to a National Pollution Discharge Elimination System (NPDES) permit with an allowable discharge limit of either, (which ever is higher): 1 ppm or less above the incoming concentration or 10% or less above the incoming concentration.
F. A once through heat exchange system is subject to a NPDES permit that has all the following:
    (1) Requires monitoring of either a parameter or a condition to detect leaks of process fluids into the cooling water,
    (2) Specifies a normal range of the parameter or condition,
    (3) Specifies a normal range of the parameter or condition, AND
    (4) Requires reporting of leaks and that the system be repaired when leaks are found "
G. A recirculating heat exchange system is used to cool process fluids that contain less than 5% by weight of total HAPs listed in Table 4 of Subpart F (or no Table 4 (Subpart F) OHAP).
H. A once through heat exchange system is used to cool process fluids that contain less than 5% by weight of total HAPs listed in Table 9 of Subpart G (or no Table 9 HAP).

Section XI: Combustion, Recovery and Recapture Devices

Introduction

The purpose of this section is to include all information required to be reported by Subpart PPP and the referenced subparts for combustion, recovery and recapture devices.

☐ Not Applicable –This PMPU either has no emission points subject to control and/or no emission points are routed to a combustion, recovery or recapture device.

☐ Applicable – This PMPU uses a shared combustion, recovery or recapture device(s). See the NOCS for [Enter combustion / recovery / recapture device name(s)] for the information required to be reported. PMPUs which do not operate a combustion, recovery or recapture device should leave Section XI of the report blank.

☒ Applicable – Complete all of Section XI that is applicable if you are the operator of the combustion, recovery, or recapture device.

A. Definition of Operating Day

Define the source's operating day for purposes of determining daily average values of monitored parameters.

Note: Operating day refers to the 24-hour period defined by the owner or operator in the Notification of Compliance Status required by §63.1439(e)(5). That 24-hour period may be from midnight to midnight or another 24-hour period. The operating day is the 24-hour period for which daily average monitoring values are determined.

☐ Not Applicable – This section is not applicable because records of daily averages are not required.

[§§63.1423, 63.1429(d)(3), 63.1438(a)(2), 63.1439(d)(3)(ii), (e)(5)(ii)(C)]

Operating Day Begin Time:	12:00 AM
Operating Day End Time:	11:59 PM

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices,
Continued

B. Routing Emissions to a Flare

This section applies when using a flare to comply with the control requirements for process vents, storage vessels or wastewater.

☒ **Not Applicable**

[Process Vents - 63.1425(f), (f)(3) → 63.117, 63.117(a)(2), (a)(5)→ 63.116(a), 63.1427(k)(2)(iii) → 63.1430(g)(1); 63.1430(g)(1) → 63.1430(b)(1)→ 63.1437(c)]

[Storage Vessels - 63.1432(a) → 63.120 → 63.120(e), 63.122(a)(3), (c)→ (c)(2)]

[Wastewater – 63.1433(a), (a)(13), (b)(7)(i)]

[63.1439(e)(5)(i)]

(1) Flare ID	(2) Flare design (a)	(3) Flare Specification Determination Report (Attachment #) (b), (c)

Notes:
(a) Flare design – i.e. steam-assisted, air-assisted, or non-assisted.

(b) The Notification of Compliance Status shall include one complete test report, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required.

- A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards (if the owner or operator prepares the standards), record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method to be in the test report.

(c) For flare specification determinations, include:
- all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.116(a) and 63.120(e) of Subpart G and 63.1437(c); and
- all periods during the compliance determination when the pilot flame is absent.

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices,
Continued

C. Non-Flare Control Device Characterization

Characterize each non-flare combustion, recovery or recapture device used to control emissions from process vents, storage vessels and waste management units subject to the process wastewater provisions.

- Flares are characterized in Section XI.B.
- Recovery devices used to maintain a total resource effectiveness (TRE) value > 1.0 but ≤ 4.0 for continuous process vents are characterized in Section XI.D.

☐ **Not Applicable**

[Process Vents - 63.1425(f), (f)(3)→ 63.1439(e)(5), 63.1425(f)(6)→ 63.114(e) → 63.1438 / 63.1439(e)(5)(ii) / 63.1439(e)(8), 63.117(a)(2),(a)(4)(i),(ii),(iv), (f)

[Process Vents - 63.1427(k)(2)(iii) → 63.1430(g)(1); 63.1429(d)(2), 63.1430(g)(1) → 63.1430(b)(2)(i)-(ii), (iv)→ 63.1426, 63.1430(g)(1)→ 63.1430(c)]

[Storage Vessels – 63.1432(g)-(k), 63.122(b) → 63.120(d)(2)-(d)(3), 63.122(a)(3), (c)→ (c)(1)]

[Wastewater – 63.1433(a), (a)(17), 63.139(d)(1) - (d)(2), 63.146(b)(7)(ii), Table 13 of Subpart G, 63.1439(e)(5)(ii)]

[Subpart A - 63.7(g)]

[63.1439(e)(5)(i)-(ii), (iv)]

(1) Control Device I.D. (EPN)	(2) Control Device Type	(3) Monitored Parameters	(4) Monitoring Plan for Group 1 Storage Vessels (Attachment #) (a)	(5) Proper Operating Level (Maximum or Minimum)	(6) Rationale for Chosen Operating Level, if applicable (Attachment #) (b)
B43IPSV1	Absorber	Water Flow	N/A	6.9 gpm minimum	Design Evaluation

(continued from table above)

(1) Control Device I.D. (EPN)	(7) Design Evaluation (D) or Performance Test (P) (c)	(8) Design Evaluation / Performance Test (Attachment #) (d)	(9) Monitoring Data Collected During Performance Testing (Attachment #)	(10) Percent Reduction in OHAP / TOC Emissions or Exit Concentration (ppmv) Achieved by Control Device
B43IPSV1	D	See attachment #1	N/A	>98%

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices, Continued

C. Non-Flare Control Device Characterization (continued)

Notes:

(a) For Group 1 storage vessel routed through a closed vent system to a non-flare control device, submit as part of the Monitoring Plan the information specified below: *[63.1432(i), (j), 63.120(d)(2), 63.122(b)]*

1. Specify for which combustion, recovery, or recapture device the owner or operator has selected to follow the procedures for continuous monitoring specified in §63.1438.
2. For the combustion, recovery, or recapture device(s) for which the owner or operator has selected not to follow the procedures for continuous monitoring specified in §63.1438, the monitoring plan shall include:
    a. a description of the parameter(s) to be monitored to ensure that the combustion, recovery, or recapture device is being properly operated and maintained,
    b. an explanation of the criteria used for selection of that parameter(s), and
    c. the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised), as specified in §63.120(d)(2)(i).
3. The Monitoring Plan shall also include EITHER:
    a. The design evaluation documentation specified in 63.120(d)(1)(i), if electing to prepare a design evaluation; or
    b. The information specified below if electing to submit the results of a performance test.
        i. Identification of the storage vessel and control device for which the performance test will be submitted, and
        ii. Identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.

(b) Attach the rationale for the specific maximum or minimum level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates that the combustion, recovery, or recapture device is operated in a manner to ensure compliance with the provisions of Subpart PPP.

For flexible operation units, provide the basis on which these levels were selected, or a demonstration that these levels are appropriate at all times, as specified in §63.1420(e)(5)(ii)(A).

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices, Continued

C. Non-Flare Control Device Characterization (continued)

Notes (continued)

(c) For Group 1 process vents at PMPUs that produce polyether polyols using THF, a performance test is required for determining compliance with the reduction of total organic HAP emissions.

For PMPUs that produce polyether polyols using epoxides, a performance test is also required when a combustion, recovery or recapture device is used to comply with the following process vent provisions:

- the epoxide emission limits [63.1425(b)]
- the nonepoxide OHAP emission limits from making or modifying the product (new or existing sources) [63.1425(c)
- the nonepoxide OHAP emission limits from catalyst extraction. [63.1425(d)]

For Group 1 storage vessels equipped with a closed vent system and a non-flare control device, either prepare a design evaluation, which includes the information specified in 63.120(d)(1)(i), or submit the results of a performance test.

- If the combustion, recovery, or recapture device used to comply with §63.119(e) is also used to comply with any of the requirements found in §§63.1425 through 63.1431 *[process vent provisions]* and/or §63.1433 *[wastewater provisions]*, the performance test required in or accepted by §§63.1425 through 63.1431 and/or §63.1433 is acceptable for demonstrating compliance with the HON storage vessel requirements in §63.119(e), for the purposes of this subpart. The owner or operator will not be required to prepare a design evaluation for the combustion, recovery, or recapture device as described in §63.120(d)(1)(i), if the performance test meets the criteria specified in 63.1432(g)(1) and (2):.
  (1) The performance test demonstrates that the combustion, recovery, or recapture device achieves greater than or equal to the required control efficiency specified in the HON storage vessel requirements in §63.119(e)(1) or (2), as applicable; and
  (2) The performance test is submitted as part of the Notification of Compliance Status required by §63.1439(e)(5).

For waste management units that receive or manage a Group 1 process wastewater stream (e.g. wastewater tanks, surface impoundments, individual drain systems, oil-water separators, containers, treatment processes), **or wastewater treatment units**. a performance test or design evaluation documenting that the control device being used achieves the required control efficiency is required to be submitted as part of the Notification of Compliance Status.

Uncontrolled Emissions Less than 10 TPY Option - For combustion, recovery or recapture device (except for condensers) performance may be determined by using the design evaluation, provided that the combustion, recovery or recapture device receives less than 10 tons per year (9.1 megagrams per year) of uncontrolled organic HAP emissions from one or more PMPUs, determined in accordance with the Procedure for Determination of Uncontrolled Organic HAP Emissions.

Other performance test / design evaluation exemptions are provided in the rule.

(d) For performance tests, the Notification of Compliance Status shall include one complete test report, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required.

- A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards (if the owner or operator prepares the standards), record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method to be in the test report.

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Section XI: Combustion, Recovery and Recapture Devices.
Continued

D. Group 2 Continuous Process Vents with TRE > 1.0 but ≤ 4.0

This section applies to Group 2 continuous process vents that are routed to a final recovery device to maintain a TRE > 1.0 but ≤ 4.0.

Report the parameter monitoring results for absorbers, condensers, or carbon adsorbers, averaged over the same time period of the measurements of vent stream flow rate and concentration used in the TRE determination (both measured while the vent stream is normally routed and constituted), and the measurements and calculations performed to determine the TRE index value of the vent stream.

Subpart PPP Note: The requirements for absorbers, condensers, and carbon adsorbers used as final recovery devices to maintain a TRE index value above 1.0 only apply to continuous process vents within:

- PMPU producing polyether polyols using epoxides and where nonepoxides are used to make or modify the product or
- PMPU producing polyether polyols using THF.

☒ **Not Applicable**

[63.1425(f), (f)(3), 63.114(e), 63.117(a)(2), (a)(7), 63.1425(c)(3), 63.1430(g)(1)→ 63.1430(c)→ 63.1429(a) → (a)(4)-(a)(7), 63.1438(a)(2)]

(1) Process Vent ID	(2) Recovery Device ID	(3) Recovery Device Type (a)	(4) Parameter(s) To Be Monitored for Recovery Device	(5) Monitoring Parameter Operating Level	(6) Rationale for the Parameter Level (Attachment #) (b)	(7) TRE Index Value Determination (Attachment #)	(8) Continuous Monitoring Data Measured During TRE Determination (Attachment #)

(a) **Types of Recovery Devices:**

A. Absorber
B. Condenser
C. Carbon Adsorber
D. Alternative Recovery Device - specify

(b) Attach the rationale for the specific level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates proper operation of the recovery device.

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices, Continued

E. Scrubbers Used to Control Halogenated Vents

For each scrubber following a combustion device to control halogenated continuous process vents, indicate the percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens.

Subpart PPP Note: The requirements for halogen scrubbers and halogen reduction devices only apply to halogenated vent streams from Group 1 process vents from PMPU producing polyether polyols using THF.

☒ **Not Applicable**

(1) Control Device ID	(2) Percent Reduction of Total Hydrogen Halides or Halogens	(3) Scrubber Outlet Mass Emission Rate of Total Hydrogen Halides or Halogens	(4) pH of Scrubber Effluent	(5) Scrubber Liquid to Gas Ratio

[63.1425(f), (f)(3) -> 63.117, 63.117(a)(2), (a)(6)

F. Closed Vent System Inspections

For closed vent system or conveyance systems used to route emissions to fuel gas systems, recovery devices, and/or control devices, attach initial monitoring results: (Check one)

☐ Not applicable - no closed vent systems or conveyance systems
☐ Under vacuum, not applicable
☒ Applicable. Initial method 21 monitoring compliance is assumed as the facility was subject to TCEQ fugitive monitoring requirements under NSR permit 18561 at the time of initial PPP applicability (June 1, 2002)

[§63.1439(e)(5)(i)]

G. Boilers / Process Heaters

For any boilers or process heaters, provide a description of the location at which the vent stream is introduced into the boiler or process heater.

☒ **Not Applicable**

(1) Boiler/Process Heater I.D. (EPN)	(2) Description of location at which vent stream is introduced into boiler/process heater

[63.1425(f), (f)(3) → 63.117, 63.117(a)(4)(iii), 63.1430(g)(1) → 63.1430(b)(2)(iii)]

Section XI: Combustion, Recovery and Recapture Devices,
Continued

H. Reduced Recordkeeping Program

For any parameter with respect to any item of equipment, the owner or operator may implement the reduced recordkeeping requirements in §63.1439(h)(1) as an alternative to the continuous operating parameter monitoring and recordkeeping provisions that would otherwise apply under Subpart PPP. The owner or operator shall retain for a period of 5 years each record required by 63.1439(h)(1).

☒ Not applicable.

☐ The owner or operator has chosen to retain only the daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment. All of the requirements of 63.1439(h)(1)(i) through (iv) are met. **This Notification of Compliance Status serves as notification that the owner or operator has chosen to comply with the requirements in §63.1439(h)(1).**

Excursion Note - For the purposes of 63.1439(h), an excursion means that the daily average of monitoring data for a parameter is greater than the maximum, or less than the minimum established value.

[§63.1439(h)(1)]

Section XII. Revision Log

Revision Log

The following table contains a list of revisions to Notification of Compliance Status.

Section	Revision Date	Description ofChange
V.B IV.G XI.C	8/17/17	• Added exempt storage vessels • Updated for applicable pressure relief devices • Updated scrubber minimum flow rate to 6.9 gpm based on design evaluation.

Appendix A. Method of Control Codes

Use the following list of codes for sections I.J, VI.A

Code	Description
A	Thermal incinerator.
B	Catalytic incinerator.
C	Steam-assisted flare.
D	Air-assisted flare.
E	Nonassisted flare.
F	Boiler / process heater of ≥ 44 megawatts design heat input capacity.
G	Boiler / process heater of < 44 megawatts design heat input capacity.
H	Boiler / process heater of < 44 megawatts design heat input capacity where vent stream is introduced with or used as the primary fuel.
I	Absorber (i.e. scrubber)
J	**For process vents from PMPU producing polyether polyols using THF:** Absorber (i.e. scrubber) for halogenated vent streams installed prior to September 4, 1997.
K	**For process vents from PMPU producing polyether polyols using THF:** Absorber (i.e. scrubber) for halogenated vent streams installed after September 4, 1997.
L	Condenser
M	Carbon adsorber.
N	Emissions routed to a process. (applies to storage vessels)
O	Emissions routed to a fuel gas system. (applies to storage vessels)
P	Storage Vessel or Wastewater Tank - Fixed roof equipped with an internal floating roof having a liquid-mounted seal.
Q	Storage Vessel or Wastewater Tank - Fixed roof equipped with an internal floating roof having a metallic shoe seal.
R	Storage Vessel or Wastewater Tank - Fixed roof storage equipped with an internal floating roof having two continuous seals (lower seal may be vapor mounted).
S	Storage Vessel or Wastewater Tank - Fixed roof equipped with an internal floating roof having a vapor-mounted seal as of September 4, 1997. The seal options in P, Q, or R will not apply until (whichever date is earlier): • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.
T	Storage Vessel or Wastewater Tank - External floating roof equipped with two seals, one above the other. The lower or primary seal is a metallic shoe seal.
U	Storage Vessel or Wastewater Tank - External floating roof equipped with two seals, one above the other. The lower or primary seal is a liquid-mounted seal.
V	Storage Vessel or Wastewater Tank - External floating roof equipped with a liquid-mounted or metallic shoe primary seal as of September 4, 1997, but no secondary seal. The requirement for a secondary seal does not apply until the earlier of the following dates: • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.

Continued on next page

Appendix A. Method of Control Codes, Continued

Code	Description
W	Storage Vessel or Wastewater Tank - External floating roof equipped with a vapor-mounted primary seal and a secondary seal as of September 4, 1997. The requirement for a liquid-mounted or metallic shoe primary seal does not apply until the earlier of the following dates: • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.
X	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with a liquid-mounted seal.
Y	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with a metallic shoe seal.
Z	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with two continuous seals mounted one above the other. The lower seal may be vapor-mounted.
AA	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with a vapor-mounted seal as of September 4, 1997. The requirement for one of the above seal options does not apply until (whichever date is earlier): • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.
BB	Storage Vessels and Wastewater Tanks - Fixed roof vented to a control device. Specify the control device code.
CC	Wastewater Tank - Fixed Roof; The tank is not sparged and is not used for heating wastewater or treating by means of an exothermic reaction.
DD	Surface Impoundment with a cover (e.g., air-supported structure or rigid cover) and a closed-vent system that routes OHAP vapors vented from the surface impoundment to a control device. Specify the control device code.
EE	Surface Impoundment with a floating flexible membrane cover fabricated from a synthetic membrane material.
FF	Covered Container (> 0.42 m^3) used to **handle, transfer or store** a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. The cover and all openings (e.g., bungs, hatches, sampling ports, and pressure relief devices) are maintained in accordance with the Fixed Roofs, Covers and Enclosures – Leak Inspection Provisions
GG	Covered Container ($\leq$ 0.42 m^3) used to **handle, transfer or store** a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. Container meets existing Department of Transportation specifications and testing requirements of 49 CFR part 178.
HH	Covered Container ($\leq$ 0.42 m^3) used to **handle, transfer or store** a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. The cover and all openings (e.g., bungs, hatches, sampling ports, and pressure relief devices) are maintained in accordance with the Fixed Roofs, Covers and Enclosures – Leak Inspection Provisions
II	Container used to **treat** a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Container is located within an enclosure that is vented to a control device. Specify the control device code.
JJ	Individual drain system that receives or manages a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Each opening in the individual drain system has a cover and if vented, the vapors are routed to a process or through a closed vent system to a control device. Specify the control device code.

Continued on next page

Appendix A. Method of Control Codes, Continued

Code	Description
KK	Individual drain system that receives or manages a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. 1. Each drain is equipped with water seal controls or a tightly fitting cap or plug. 2. Each junction box is equipped with a tightly fitting solid cover. The junction box is either vented to a process or through a closed vents system to a control device (specify the control device code) or meets the criteria for venting to the atmosphere (see the Option 2 Requirements on the Process Wastewater – Individual Drain system page). 3. Each sewer line is covered or enclosed so as to have no visible gaps or cracks in joints, seals, or other emission interfaces.
LL	Oil-Water Separator that receives, manages, or treats a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Oil-water separator is equipped with a fixed roof and a closed vent system that routes OHAP vapors vented from the oil-water separator to a control device. Specify the control device code.
MM	Oil-Water Separator that receives, manages, or treats a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Oil-Water Separator is equipped with floating roof meeting the requirements of 40 CFR 60, Subpart QQQ (see Oil-Water Separator Equipped with a Floating Roof- control option 2). Specify the control device code in this case.
NN	Equivalent Means of Emission Limitation approved by the Administrator. (describe on attachment)
OO	Extended Cookout Option (ECO)

Appendix B. Process Vents – Epoxide Emission Limits

Epoxide Emission Limits

Use the following codes for Section III.A, Column 6.

Code	Type of Affected Source	Description
A	New	Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 99.9 percent
B	New	Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture, or recovery device of 20 ppmv or less;
C	New	Maintain an emission factor of no greater than 4.43×10^{-3} kilogram epoxide emissions per megagram of product (4.43×10^{-3} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.
D	New	Comply with a combination of the following options: (1) Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 99.9 percent and (2) Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture, or recovery device of 20 ppmv or less; ***Note***: If choosing this option, each process vent not controlled in accordance with (2) shall be part of the group of applicable process vents that shall then comply with (1)."
E	Existing	Reduce the total epoxide emissions from each process vent using a flare;
F	Existing	Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 98 percent;
G	Existing	Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture or recovery devices of 20 ppmv or less;
H	Existing	Maintain an emission factor of no greater than 1.69×10^{-2} kilogram epoxide emissions per megagram of product (1.69×10^{-2} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.
I	Existing	Comply with a combination of the following options: (2) Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 98 percent; (3) Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture or recovery devices of 20 ppmv or less; ***Note***: If complying with this option, each process vent that is not controlled in accordance with (3) shall be part of the group of applicable process vents that shall then comply with (2)."
J	Existing	Comply with a combination of the following options: (1) Reduce the total epoxide emissions from each process vent using a flare; (2) Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture or recovery devices of 20 ppmv or less;

Appendix C: Treatment Unit Description Codes

Physical Treatment Processes			
1-A	Absorption	1-E	Solvent Extraction
1-B	Distillation	1-F	Steam Stripping
1-C	Mixing	1-G	Thin Film Evaporation
1-D	Reverse Osmosis (Hyperfiltration)	1-H	Other Physical Treatment Process – Provide a description
Chemical Treatment Processes			
2-A	Carbon Adsorption	2-D	Ion Exchange
2-B	Chemical Oxidation	2-E	Reduction
2-C	Chemical Precipitation	2-F	Other Chemical Treatment Process – Provide a description
Biological Treatment Processes			
3-A	Activated Sludge	3-D	Stabilization Ponds
3-B	Anaerobic Treatment	3-E	Trickling Filtration
3-C	Nitrification – Denitrification	3-F	Other Biological Treatment Process – Provide a description
Other Processes			
4-A	Underground injection	4-B	Other Process not listed – Provide a description

Appendix D: Methods for Determining Wastewater Concentrations

Select a code from the list below. Methods for determining concentration of Table 9 HAP in process wastewater streams. Also see the Procedure for Determining Wastewater Average Concentration.

Attached documentation providing sufficient information showing that the annual average concentration for wastewater streams was determined to be a Group 2 wastewater stream. This column is not required for **Group 1 streams** or Group 2 wastewater stream that are used to comply with 40 CFR 6.138(g).

Code	*Type*
A	*Knowledge of the wastewater using material balances.*
B	Knowledge of the wastewater using records of chemical purchases.
C	Knowledge of the wastewater using process stoichiometry.
D	Knowledge of the wastewater using previous test results. If test data are used, the owner or operator shall provide documentation describing the testing protocol and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the determination.
E	Bench-scale or pilot-scale test data. Where bench-scale or pilot-scale test data are used to determine the annual average concentration, the owner or operator shall provide sufficient information to document that the data are representative of the actual annual average concentration, or are reliably indicative of another relevant characteristic of the wastewater stream that could be used to predict the annual average concentration. Also provide documentation describing the testing protocol, and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the de-termination of annual average concentration.
F	Method 25D. Use procedures specified in Method 25D of 40 CFR part 60, appendix A.
G	Method 305. Use procedures specified in Method 305 of 40 CFR part 63, appendix A.
H	Methods 624 and 625. Use procedures specified in Methods 624 and 625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved com-pounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed. For Method 625, make corrections to the compounds for which the analysis is being conducted based on the accuracy as recovery factors in Table 7 of the method.
I	Method 1624 and Method 1625. Use procedures specified in Method 1624 and Method 1625 of 40 CFR part 136, appendix A and comply with the requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed.
J	Other EPA method(s). Use procedures specified in the method and comply with the requirements specified in 63.144(b)(5)(ii) and either 63.144(b)(5)(iii)(A) or (b)(5)(iii)(B).
K	Method(s) other than EPA method. Use procedures specified in the method and comply with requirements specified in 63.144(b)(5)(ii) and (b)(5)(iii)(A).

Appendix E. Control Method Codes for Liquid Streams in Open Systems (Table 35 of Subpart G)

A.	Drain or drain hub - Tightly fitting solid cover (TFSC)
B.	Drain or drain hub - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements
C.	Drain or drain hub - Water seal with submerged discharge or barrier to protect discharge from wind.
D.	Manhole - TFSC
E.	Manhole - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements
F.	Manhole - If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
G.	Lift Station - TFSC and the lift station shall be level controlled to minimize changes in the liquid level.
H.	Lift Station - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements and the lift station shall be level controlled to minimize changes in the liquid level.
I.	Lift Station - If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in collection system. The vent shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.
J.	Trench - TFSC
K.	Trench - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements
L.	Trench - If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
M.	Pipe - Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
N.	Oil/ Water Separator or Organic / Water Separator - Equip with a fixed roof and route vapors to a process or to a fuel gas system. Note - A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.
O.	Oil/ Water Separator or Organic / Water Separator - Equip with a closed vent system that routes vapors to a control device meeting the HAP Removal Efficiency Requirements
P.	Oil/ Water Separator or Organic / Water Separator - Equip with a floating roof that meets the equipment specifications of Alternative Standards for Oil/Water Separators (Sec. 60.693-2 in Subpart QQQ).
Q.	Tank with capacity $\geq$ 38 cubic meters - Maintain a fixed roof
R.	Tank with capacity $\geq$ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to other process equipment
S.	Tank with capacity $\geq$ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to a fuel gas system.
T.	Tank with capacity $\geq$ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to a control device that reduces inlet emissions of the total OHAP by 95% or greater (if the control device was installed after September 4, 1997.)
U.	Tank with capacity $\geq$ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to a control device that reduces inlet emissions of the total OHAP by 90% or greater (if the control device was installed before September 4, 1997).

Attachment 1
B43IPSV1 Design Analysis Results

Plant Name: Industrial Polyglycol
Control Device ID: B43IPSV1
Control Device Name: S-101 Water Scrubber

ASPEN Results

An ASPEN design analysis was completed for water scrubber B43IPSV1 in August 2017. The results of this analysis show that, under a worst case scenario, Ethylene Oxide will vent from KR-1 to the scrubber with the following characteristics:

Oxide Name	Oxide concentration in Reactor Vapor space	Vent Rate (lb/hr) from ASPEN	Water Flow from ASPEN	Removal Efficiency (%)	Outlet concentration from Scrubber
Ethylene oxide	100 ppm (mol)	.0412	6.9 gpm	99 %	< 20 ppm

The minimum scrubber water flow is therefore determined to be 6.9 gallons per minute to achieve a 99% removal efficiency. This flow rate meets both the standards for MACT PPP control requirements for process vents as well as the required control efficiency required by NSR permit 18561.

Notification of Compliance Status (NOCS) Report

40 CFR 63 Subpart PPP:

National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production

Submittal Date: 8/23/2017

Certification

The certification requirements at 40 CFR 70.6(a)(3)(iii)(A) apply because this report is required by a Part 70 permit.

Based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete

Name of Responsible Official (Print or Type)	Title	Date (mm/dd/yy)
See Cover Letter		

Signature of Responsible Official

See Cover Letter for Signature

[§70.5(d), 70.6(a)(3)(iii)(A)]

Certification 1

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Section I. General Information

A. General Information

Print or type the following information for each facility for which you are making notification of compliance status:

Operating Permit Number (OPTIONAL)	Facility I.D. Number (OPTIONAL)
O2221	

Owner or Operator Name / Title (e.g. Responsible Official)	Phone or Fax number of Owner or Operator
Fran Falcon, EH&S Delivery Leader	979-238-9978

Street Address of Owner or Operator		
Texas Innovation Center, 332 SH 332 E		
City	**State**	**ZIP Code**
Lake Jackson	TX	77566

Facility Name
The Dow Chemical Company (Polyglycol-Amines, B-1300)

Facility Street Address (If different than Responsible Official's Street Address)
2301 N Brazosport Blvd, Freeport, TX 77541

Facility Local Contact Name (to whom inquiries should be addressed)	Title	Phone
Vanessa Smith	Environmental Manager	(979) 238-2124

City	State	ZIP Code
Lake Jackson	TX	77566

☒ **PMPU Report**

☐ **Control Device Only Report – Complete the certification section and Sections I.A, II.A, III.H, VI, XI, XIII, as applicable.**

Continued on next page

Section I. General Information, Continued

B. Flexible Operation Units – Initial Primary Product Determination

Section 63.1420(e)(1) requires an initial determination of the primary product for each process unit. Section 63.1420(e)(1)(iii) specifies the primary product determination procedure if a process unit is designed and operated as a flexible operation unit. The determination of applicability for flexible operation units must be included in the NOCS.

☒ Not applicable – This process unit is not operated as a flexible operation unit.

☐ Applicable – This process unit is operated as a flexible operation unit. See Attachment # ____ for the results of the determination of applicability for flexible operation units.

Note: The primary product of the flexible operation unit shall be determined based on the anticipated operations for the 5 years following September 4, 1997 for existing process units, or for the first year after the process unit begins production of any product for new process units.

Select which statement is applicable:

☐ The flexible operation unit will manufacture one product for the greatest operating time over the specified 5-year period for existing process units, or the specified 1-year period for new process units. That product shall represent the primary product of the flexible operation unit. *[§63.1420(e)(1)(iii)(A)]*

☐ The flexible operation unit will manufacture multiple products equally based on operating time. The product with the greatest expected production on a mass basis over the specified 5-year period for existing process units, or the specified 1-year period for new process unit shall represent the primary product of the flexible operation unit. *[§63.1420(e)(1)(iii)(B)]*

☐ Operations cannot be anticipated sufficiently to allow the determination of the primary product for the specified period. Applicability is determined in accordance with §63.1439(e)(2). *[§63.1420(e)(1)(iii)]*

Is the primary product of the process unit a polyether polyol? (Yes / No)

- If yes, then that process unit shall be designated as a PMPU. If the plant site is a major source, that PMPU and associated equipment, is either an affected source or part of an affected source comprised of one or more other PMPUs and associated equipment and subject to Subpart PPP.
- If no, then that process unit is not a PMPU.

[§63.1439(e)(5)(iii), 63.1420(e)(1)(iii)]

Section II. Regulatory Overlap

Introduction

This section provides information on regulatory overlap for emission points subject to Subpart PPP and to other standards where the provisions in Subpart PPP allow the owner or operator to choose which testing, monitoring, reporting and recordkeeping provisions will be followed. This section also provides information on whether the hierarchy option is used in 63.1424(b).

[§§63.1439(e)(5)(vi), 63.1424(b)]

A. Regulatory Overlap with 40 CFR parts 264 and 265, Subparts AA or CC (Control Devices)

Identify which compliance option has been chosen for any combustion device, recovery device or recapture device subject to Subpart PPP that is also subject to monitoring recordkeeping, and reporting requirements for hazardous waste, disposal, and treatment facilities in 40 CFR part 264/265:

- Subpart AA (Air Emission Standards for Process Vents) or
- Subpart CC (Air Emission Standards for Tanks, Surface Impoundment, and Containers).

If the owner or operator elects to comply with either 63.1422(j)(2) or (3), the owner or operator shall notify the Administrator of this choice in the Notification of Compliance Status.

☐ **Not applicable**
☒ **Applicable**

[§§ 63.1439(e)(5)(i), (vi) → 63.1422(j)]

List each combustion, recovery or recapture device using this overlap option.	Overlap Option Selected
	☐ 40 CFR 264 / 265 Subparts AA or CC are not applicable to any combustion device, recovery device or recapture device used to comply with Subpart PPP.
B33S1 B19S2	☒ ***Option 1***: The owner or operator shall comply with the monitoring, recordkeeping and reporting requirements of Subpart PPP. *[§63.1422(j)(1)]*
	☐ ***Option 2***: The owner or operator shall comply with the monitoring, recordkeeping and reporting requirements in 40 CFR part 264, with the following exception. All excursions, as defined in §63.1438(f), shall be reported in the periodic report. Compliance with this option shall constitute compliance with the monitoring, recordkeeping and reporting requirements of Subpart PPP. *[§63.1422(j)(2)]*
	☐ ***Option 3***: The owner or operator shall comply with the monitoring and recordkeeping requirements of 40 CFR part 265, subpart AA or subpart CC, and the periodic reporting requirements under 40 CFR part 264, subpart AA or subpart CC, that would apply to the device if the facility had final-permitted status, with the following exception. All excursions, as defined in §63.1438(f), shall be reported in the periodic report. Compliance with this option shall constitute compliance with the monitoring, recordkeeping and reporting requirements of Subpart PPP. *[§63.1422(j)(3)]*

Section II. Regulatory Overlap, Continued

B. Hierarchy Approach

Select which option you are using below when emissions from different kinds of emission point types are combined (e.g., process vents subject to §63.1425 through §63.1430, storage vessels subject to §63.1432, process wastewater subject to §63.1433, and/or in-process equipment subject to §63.149). If applicable, you must comply with the requirements of either options 1 or 2 below:

☐ **Not applicable** – No emission points are subject to control.

☒ **Not applicable** – Emissions from different emission types are not combined.

☐ **Applicable - Option #1** - Comply with the applicable requirements of Subpart PPP for each kind of emission in the stream as specified in:

- §§63.1425 through 63.1430 for process vents;
- §63.1432 for storage vessels
- §63.1433 for wastewater or §63.149 for in-process equipment
- §63.1434 for equipment leaks
- § 63.1435 for heat exchangers

☐ **Applicable - Option #2** – Comply with the most stringent set of requirements that applies to any individual emission stream that is included in the combined stream, where either:

- that emission stream would be classified as requiring control in the absence of combination with other emission streams, or
- the owner chooses to consider that emission stream to require control for the purposes of this option.

Hierarchy	Emission Point Type
1	Section 63.1425 through 63.1430 for process vents;
2	Section 63.1432 for storage vessels
3	Section 63.1433 for wastewater or Section 63.149 for in-process equipment
4	Section 63.1434 for equipment leaks
5	Section 63.1435 for heat exchangers

If using Option #2, provide brief explanation of approach used:	

[63.1424(b)]

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides

Introduction

This section provides the results of any group determinations and applicability determinations for process vents from PMPU producing polyether polyols using epoxides.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Process Vents

Complete the following table listing all process vents and their corresponding control methods.

☐ Not Applicable

(1) Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) Is the process vent from a continuous unit operation or a batch unit operation?	(4) Existing or New Affected Source?	(5) Table 4 Epoxides Vented	(6) Which compliance option is chosen for Epoxide Emissions? (a)
B13PGR2	KR-2 Reactor system	Batch	Existing	Propylene Oxide, 1,3 Butadiene	A, I
B13PGR5	KR-5 Reactor system	Batch	Existing	Propylene Oxide, Ethylene Oxide	A, I
B13PGR9	KR-9 Reactor system	Batch	Existing	Propylene Oxide	A, I

(a) See Appendix B for list of codes.

(continued from table above)

(1) Process Vent ID	(7) For epoxide emissions, are you using extended cookout to comply with the 98% reduction option for existing sources or (99.9% for new sources) or the emission factor options? (Yes/No)	(8) To comply with the epoxide emission limits, list all control device IDs and types	(9) Are nonepoxide organic HAP used to make or modify the product? (Yes/No) If yes, list the nonepoxide OHAP.	(10) Are nonepoxide organic HAP used in catalyst extraction? (Yes/No) If yes, list the nonepoxide OHAP.
B13PGR2	No	B19S2 Thermal Incinerator, B13PGSV3 Absorber , B34S1400 Flameless Thermal Oxidizer, B33S1 Kiln	No	No
B13PGR5	No	B19S2 Thermal Incinerator, B13PGSV3 Absorber , B34S1400 Flameless Thermal Oxidizer, B33S1 Kiln	No	No
B13PGR9	No	B19S2 Thermal Incinerator, B13PGSV3 Absorber , B34S1400 Flameless Thermal Oxidizer, B33S1 Kiln	No	No

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

B. Summary of Exempt Process Vents

Complete the following table listing all exempt process vents from PMPU producing polyether polyols using epoxides.

☒ Not Applicable

(a) ***Process Vent Exemptions***:

A. The gas stream from a continuous unit operation contains less than or equal to 0.005 weight percent "total organic HAP" at the point of discharge to the atmosphere (or at the point of entry into a control device, if any).
B. The gas stream from a batch unit operation contains less than or equal to 225 kilograms per year (500 pounds per year) of organic HAP emissions.
C. The gas stream is a pressure relief valve discharge.
D. The gas stream is routed to a fuel gas system
E. The gas stream is from a leak from equipment regulated under the equipment leak provisions (63.1434)
F. The gas stream is exiting a control device that is complying with Subpart PPP
G. The gas stream contains no organic HAPs on Section 112(b) of the Clean Air Act HAP list.

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C. Nonepoxide OHAP Emissions from Making or Modifying the Product

This section applies to PMPU producing polyether polyols using epoxides and where nonepoxide OHAPs are used to make or modify the product.

☒ Not Applicable

C.1. Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Continuous Unit Operations

Complete the following table for nonepoxide OHAP emissions from making or modifying the product for process vents from continuous unit operations.

For each process vent from a continuous unit operation that is associated with the use of nonepoxide organic HAP to make or modify the product that is Group 2, submit records regarding the measurements and calculations performed to determine the TRE index value of each process vent stream.

Note: If you have Group 1 continuous process vents that are subject to the control requirements for Group 1 continuous process vents [§63.1425(c)(3)], then you are not required to submit these records. Complete columns (1) and (7)-(10) and mark the other columns as "N/A"

☒ Not Applicable

[63.1430(g)(3) → 63.1430(e)(2)]

Process Vents from Continuous Unit Operations					
	[Mark N/A if vent is designated as Group 1]				
(1) Process Vent ID	(2) Flow Rate (scmm)	(3) OHAP Concentration (ppmv)	(4) Total Resource Effectiveness Index Value	(5) Indicate "measurement" or "engineering assessment used for TRE calculations	(6) TRE data (Attachment #) (a)

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C.1. Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Continuous Unit Operations (continued)

[continued from previous table]

Process Vents from Continuous Unit Operations				
(1) Process Vent ID	(7) Designated as Group 1 Continuous Process Vent? (Yes/No)	(8) Group 1 or Group 2 Continuous Process Vent?	(9) Control Option Selected for Continuous Process Vents	(10) To comply with the requirements for nonepoxide OHAP emissions from Group 1 continuous process vents, list all control device IDs and types (b)

Notes:

(a) For group determinations or determination that controls are needed, the Notification of Compliance Status shall include one complete test report, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required. *[§63.1439(e)(5)(i)(A)-(B)]*

- A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards (if the owner or operator prepares the standards), record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method to be in the test report.

(b) ***Control Options for Continuous Process Vents***

A. Reduce nonepoxide organic HAP emissions using a flare.
B. Reduce nonepoxide organic HAP emissions by 98 percent using a combustion, recovery, or recapture device.
C. Group 2 continuous process vent - Use a recovery or recapture device (absorber, condenser, carbon adsorber) to comply with the requirements for Group 2 continuous process vents with a TRE index value > 1.0 but ≤ 4.0
D. Group 2 continuous process vent - TRE index value > 4.0 - No control required

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C.2 Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Batch Unit Operations

Complete the following table for nonepoxide OHAP emissions from making or modifying the product for process vents from batch unit operations for each unique product class made in the PMPU.

- For each PMPU where the combination of process vents from batch unit operations that are associated with the use of nonepoxide OHAP to make or modify the product is Group 2, submit the information related to the group determination specified below.
- The records required to be maintained are limited to the information developed and used to make the group determination under the process vent requirements for processes using a nonepoxide OHAP to make or modify the product in §63.1428(a) through (e), as appropriate. If you did not need to develop certain information (e.g., annual average flow rate) to determine the group status, you are not required to develop additional information.
- You may elect Group 1 status for process vents without making a Group 1/Group 2 determination. In such event, none of the records specified columns (2)-(5) are required.
- If the total annual emissions from the combination of process vents from batch unit operations associated with the use of an organic HAP to make or modify the product are less than 11,800 kg per year, only the records in 63.1430(e)(1)(i) and (ii) are required *[Complete columns (1)-(3), and (7) in the tables below].*

☒ Not Applicable

[63.1430(g)(2) → 63.1430(e)(1)]

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

C.2 Nonepoxide OHAP Emissions from Making or Modifying the Product – Process Vents from Batch Unit Operations (continued)

Process Vents from Batch Unit Operations				
Product Class:				
(1) Batch Process Vent ID	(2) Attachment # for description of, and emission estimate for, each batch emission episode, and the total emissions associated with one batch cycle for each unique product class made in the PMPU	(3) Total annual uncontrolled TOC or nonepoxide OHAP emissions from combination of process vents from batch unit operations (kg/yr)	(4) Cutoff flow rate (standard cubic meters per minute - scmm)	(5) Annual average flow rate for combination of process vents from batch unit operations associated with use of OHAP to make/modify the product (standard cubic meters per minute - scmm)
Total Annual Emissions of TOC or nonepoxide OHAP (kg/yr):			Total annual average flow rates from individual process vents from batch unit operations in a PMPU (scmm):	

[continued from previous table]

Process Vents from Batch Unit Operations, (continued)				
Product Class:				
(1) Batch Process Vent ID	(6) Designated as a Group 1 combination of batch process vents? (Yes/No)	(7) Group 1 or Group 2 Batch Process Vents?	(8) Control Option Selected for Group 1 combination of batch process vents (a)	(9) To comply with the requirements for nonepoxide OHAP emissions from Group 1 combination of batch process vents, list all control device IDs and types

(a) Control Options for Group 1 Batch Process Vents:

A. Reduce nonepoxide organic HAP emissions using a flare
B. Reduce nonepoxide organic HAP emissions by 90 percent using a combustion, recovery, or recapture device.
C. Group 2 combination of batch process vents - no control required

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

D. Nonepoxide OHAP Emissions from Catalyst Extraction

Complete the following table nonepoxide OHAP emissions from catalyst extraction.

☒ Not Applicable

(1) Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) Nonepoxide OHAPs vented	(4) Control Option Selected for nonepoxide OHAP emissions from catalyst extraction (a)	(5) To comply with the requirements for nonepoxide OHAP emission limits from catalyst extraction, list all control device IDs and types

(a) Control Options for Catalyst Extraction:

A. Reduce emissions of nonepoxide organic HAP from all process vents associated with catalyst extraction using a flare
B. Reduce emissions of nonepoxide organic HAP from the sum total of all process vents associated with catalyst extraction by an aggregated 90 percent for each PMPU.

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

E. Processes Using Extended Cookout as an Epoxide Emission Reduction Technique

For processes using extended cookout as an epoxide emission reduction technique, provide the following information for each product class.

- Operating conditions of each product class
- A list of all products in the product class.
- The percent epoxide emission reduction, as determined in accordance with 63.1427(e).
- The parameter for each product class, as determined in accordance with 63.1427(i)(2).
- If epoxide emissions occur before the end of the ECO, a listing of the time and duration of all such emission episodes that occur during the initial demonstration of batch cycle efficiency.

Note: If a combustion, recovery or recapture device is used in addition to ECO to reduce emissions, the information specified in 63.1430(g)(1) is included in Sections XI.C and XI.D.

[63.1427(k)(2) → 63.1427(e), (i)(2), 63.1430(g)(1)]

(1) Product Class	(2) Operating Conditions of Product Class (Attachment #)	(3) List of All Products in Product Class (Attachment #)	(4) Percent Epoxide Emission Reduction	(5) Parameter for Product Class (a)	(6) Parameter Level Established (a)	(7) Do epoxide emissions occur before the end of ECO? (Yes/No)	(8) If yes to (7), list the time and duration of emission episodes that occur during the initial demonstration of batch cycle efficiency.

(a) During the determination of the percent epoxide emission reduction in 63.1427(b) through (e), establish, as a level that shall be maintained during periods of operation, one of the parameters in 63.1427(i)(2)(i) through (iii), or use the procedure in 63.1427(i)(2)(iv), for each product class.
(i) The time from the end of the epoxide feed to the end of the ECO;
(ii) The reactor epoxide partial pressure at the end of the ECO;
(iii) The epoxide concentration in the reactor liquid at the end of the ECO, when the reactor liquid is still in the reactor, or after the reactor liquid has been transferred to another vessel; or
(iv) An owner or operator may submit a request to the Administrator to monitor a parameter other than the parameters listed in paragraphs (i)(2)(i) through (iii) of this section, as described in §63.1439(f).

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

F. Compliance with Epoxide Emission Factor Limitation

Complete sections III.F.1 through III.F.3, as applicable, if complying with one of the epoxide emission factor limitations using:

- a combustion, recovery, or recapture device,
- extended cookout, or
- using extended cookout in conjunction with one or more combustion, recovery, and/or recapture devices.

Epoxide Emission Factor Limitations: [63.1425(b)(1)(iii), (b)(2)(iv)]

- ***Existing Affected Sources***: Maintain an emission factor of no greater than 1.69×10^{-2} kilogram epoxide emissions per megagram of product (1.69×10^{-2} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.
- ***New affected sources***: Maintain an emission factor of no greater than 4.43×10^{-3} kilogram epoxide emissions per megagram of product (4.43×10^{-3} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.

☒ Not Applicable

[§63.1431(c)(2), (d)(2), (e)(2), 63.1425(b)(1)(iii), (b)(2)(iv)]

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

F.1 Compliance with Epoxide Emission Factor Limitation Using Combustion / Recovery or Recapture Device

If complying with one of the epoxide emission factor limitations using a combustion, recovery, or recapture device, do the following:

Step	Action
1	Conduct a performance test in accordance with §63.1426(c) to determine the epoxide control efficiency of the combustion, recovery, or recapture device.
2	Recalculate the annual epoxide emissions after control using Equation 15, except that the control efficiency, R, shall be the measured control efficiency. $AE_{control} = (AE_{uncontrolled})\left[\left(1-\frac{R}{100}\right)\right]$ [Equation 15] Where: $AE_{control}$ = Annual epoxide emissions after control, kg/yr. $AE_{uncontrolled}$ = Annual uncontrolled epoxide emissions, determined in accordance with 63.1431(c)(1)(i), kg/yr. R = Expected control efficiency of the combustion, recovery, or recapture device, percent, as determined in §63.1426(c).
3	Submit this information as part of the Notification of Compliance Status.

See Attachment #____ for the above information.

☒ Not Applicable

[§63.1431(c)(2)]

Continued on next page

Section III. Process Vents from PMPU Producing Polyether Polyols Using Epoxides, Continued

F.2 Compliance with Emission Factor Limitation Using Extended Cookout

If complying with epoxide emission factor limitations using extended cookout, do the following:

Step	Action
1	Determine the annual epoxide emissions in accordance with §63.1427(d), based on anticipated production.
2	Submit this information as part of the Notification of Compliance Status.

See Attachment #____ for the above information.

☒ Not Applicable

[§63.1431(d)(2)]

F.3 Compliance with Emission Factor Limitation Using Extended Cookout in Conjunction with One or More Combustion, Recovery, and/or Recapture Devices

If complying with the epoxide emission factor limitation through the use of extended cookout in conjunction with one or more combustion, recovery, and/or recapture device, do the following:

Step	Action
1	Determine the annual epoxide emissions after control.
2	Submit this information as part of the Notification of Compliance Status.

See Attachment #____ for the above information.

☒ Not Applicable

[§63.1431(e)(2)]

Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF

Introduction

This section provides the results of any group determinations and applicability determinations for process vents from PMPU producing polyether polyols using tetrahydrofuran (THF).

[§63.1439(e)(5)(i)]

A. Applicable Process Vents

Complete the following table listing all process vents and their corresponding control methods.

☒ Not Applicable

[63.1439(e)(5)(i), 63.1425(f) → 63.117, 63.117(a)(2),(a)(8)→ 63.115(d)(2)(v)]

(1) Continuous Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) OHAPs Vented	(4) Designated as Group 1 Continuous Process Vent (Yes/No)	(5) Total Resource Effectiveness Index Value *[Mark N/A if vent is designated as Group 1]*	(6) Flow Rate (scmm) *[Mark N/A if vent is designated as Group 1]*	(7) OHAP Concentration (ppmv)	(8) Halogen Concentration In Vent Stream (ppmv)

(continued from table above)

(1) Continuous Process Vent ID	(9) Group 1 or Group 2 Continuous Process Vent?	(10) Control Option Selected for Group 1 Continuous Process Vents (a)	(11) To comply with the requirements for Group 1 continuous process vents, list all control device IDs and types	(12) Is vent stream from continuous process vent halogenated, and are you using a combustion control device to control organic HAP emissions?	(13) If halogenated vent and you are using a combustion device, which control option is selected for halogenated vent stream provisions? (b)

Continued on next page

Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF, Continued

A. Applicable Process Vents (continued)

Notes:
(a) Control Option Selected for Group 1 continuous process vents:
A. Reduce emissions of organic HAP using a flare.
B. Reduce emissions of total organic hazardous air pollutants by 98 weight-percent
C. Reduce emissions of total organic hazardous air pollutants to a concentration of 20 parts per million by volume
D. Achieve and maintain a TRE index value greater than 1.0 at the outlet of the final recovery device
E. Achieve and maintain a TRE index value greater than 1.0 prior to release of the vent stream to the atmosphere if no recovery device is present

(b) Control Option Selected for Halogenated Group 1 continuous process vents using a combustion control device:
A. Use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide an halogen HAP by >=99% by weight, or to < 0.45 kg/hr (< 1 lb/hr), whichever is less stringent
B. For scrubbers or halogen reduction devices installed prior to September 4, 1997, use a halogen reduction device after the combustion device to reduce emissions of hydrogen halide an halogen HAP by >=95% by weight, or to < 0.45 kg/hr (< 1 lb/hr), whichever is less stringent
C. Use a halogen reduction device before the combustion device to reduce the halogen atom mass emission rate to < 0.45 kg/hr (< 1 lb/hr), and thus make the vent stream nonhalogenated.
D. Not Applicable

B. Summary of Exempt Process Vents

Complete the following table listing all exempt process vents from PMPU producing polyether polyols using THF.

☒ Not Applicable

(1) Process Vent ID	(2) Process Vent Description (From where does the process vent originate?)	(3) Is the process vent from a continuous unit operation or a batch unit operation?	(4) Exemption Reason (a)

(a) ***Process Vent Exemptions***:
A. The gas stream contains from a continuous unit operation less than or equal to 0.005 weight percent "total organic HAP" at the point of discharge to the atmosphere (or at the point of entry into a control device, if any).
B. The gas stream from a batch unit operation contains less than or equal to 225 kilograms per year (500 pounds per year) of organic HAP emissions.
C. The gas stream is a pressure relief valve discharge.
D. The gas stream is routed to a fuel gas system
E. The gas stream is from a leak from equipment regulated under the equipment leak provisions (63.1434)
F. The gas stream is exiting a control device that is complying with Subpart PPP
G. The gas stream contains no organic HAPs listed in Section 112(b) of the Clean Air Act.

Continued on next page

Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF, Continued

C. Group 2 Continuous Process Vents with TRE > 4.0

This section applies to Group 2 continuous process vents with a TRE > 4.0.

For Group 2 process vents with a TRE index greater than 4.0, submit measurements, engineering assessments, and calculations performed to determine the TRE index value of the vent stream. Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in §63.115(d)(1) of Subpart G.

☒ **Not Applicable**

[63.1425(f), (f)(3), 63.117(b) → 63.113(e) / 63.115(d)(1)]

(1) Group 2 process vent I.D.	(2) Indicate "measurement" or "engineering assessment used for TRE calculations	(3) TRE data (Attachment #)

D. Group 2 Continuous Process Vents -- flowrate < 0.18 scfm or OHAP/TOC Concentration < 50 ppmv

Complete the following table for Group 2 continuous process vents with flowrate < 0.18 scfm (0.005 scmm) or OHAP or TOC concentration < 50 ppmv.

- If electing to demonstrate that a process vent is a Group 2 process vent based on a flow rate less than 0.005 standard cubic meter per minute, submit the flow rate measurement using methods and procedures specified in §63.115 (a) and (b) of Subpart G.
- If electing to demonstrate that a process vent is a Group 2 process vent based on organic HAP or TOC concentration less than 50 parts per million by volume, submit an organic HAP or TOC concentration measurement using the methods and procedures specified in §63.115 (a) and (c) of Subpart G.

☒ **Not Applicable**

[63.1425(f), (f)(3), 63.117(c)-(d)]

(1) Group 2 process vent I.D.	(2) < 0.18 scfm or < 50 ppmv?	(3) Measured flow rate or concentration	(4) Flow Rate or Concentration Measurement (Attachment #)

Section IV. Process Vents from PMPU Producing Polyether Polyols Using THF, Continued

E. Transfer of Group 1 Process Vents to Disposal to Off-Site Control or On-Site control Not Owned/Operated by Source

If transferring a Group 1 process vent for disposal pursuant to § 63.113(i) to:

- an on-site control device (or other compliance equipment) not owned or operated by the owner or operator of the source generating the gas stream or
- to an off-site control device or other compliance equipment

then include in the Notification of Compliance Status the name and location of the transferee, and the identification of the Group 1 process vent.

☒ Not Applicable

☐ Applicable

[§63.1439(e)(5)(vii), 63.113(i)]

(1) Process Vent ID	(2) Name / Location of Transferee

Section V. Storage Vessels

Introduction

This section provides the results of any group determinations and applicability determinations for storage vessels.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Storage Vessels

Complete the following table listing all storage vessels and their corresponding control methods.

☒ Not Applicable

(1) Storage Vessel ID	(2) OHAPs Stored	(3) Actual Capacity (gallons)	(4) Actual Maximum True Vapor Pressure of Total OHAP at Storage Temperature (psia)	(5) Actual Maximum True Vapor Pressure of Total OHAP at Storage Temperature (kPa) - converted

(1) Storage Vessel / Vessel ID (contd.)	(6) Group 1 or Group 2 Storage Vessel?	(7) Control Option Selected for HAP Emissions (a)	(8) Control Device Type, if applicable	(9) Control Device ID, if applicable

(a) Storage Vessel Control Options:

A. No Control Required - Group 2 Storage Tank
B. Reduce total HAP emissions by >=95 percent by weight by venting through a CVS to a nonflare control device.
C. Reduce total HAP emissions by >=90 percent by weight by venting through a CVS to a nonflare control device if control device (or combination of control devices) was installed on the storage vessel on or before September 4, 1997 and the control device was designed to reduce inlet emissions of total organic HAP by greater than or equal to 90 percent but less than 95 percent.
D. Reduce total organic HAP emissions by venting emissions through a CVS to a flare.
E. Reduce total HAP emissions by venting emissions to a fuel gas system or process
F. Install an internal floating roof.
G. Install an external floating roof.
H. Install an external floating roof converted to internal floating roof.
I. Vapor balancing alternative

Continued on next page

Section V. Storage Vessels, Continued

B. Summary of Exempt Storage Vessels

Complete the following table listing all exempt storage vessels.

☒ Not Applicable

(1) Tank / Vessel ID	(2) HAPs or non-HAPs Stored)	(3) Exemption Beason (a)

(a) Storage Vessel Exemption Codes:

A. Vessel is permanently attached to a motor vehicle such as a truck, railcar, barge or ship.
B. Pressure vessel designed to operate in excess of 204.9 kilopascals and without emissions to the atmosphere.
C. Vessel with a capacity smaller than 38 cubic meters (10,040 gallons)
D. Storage tank contains no organic HAPs.
E. Vessels storing organic liquids that contain organic HAPs only as impurities
F. Wastewater storage tank
G. Bottoms receiver
H. Surge Control Vessel
I. Predominant use of storage vessel is not associated with the PMPU.
J. Storage vessel assigned to another process unit regulated under another subpart of part 63 on June 1, 1999.
K. Storage vessel is located in a tank farm (including a marine tank farm) AND is used by a single process unit. There an intervening storage vessel used by the process unit such that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.
L. Storage vessel is located in a tank farm (including a marine tank farm) AND more than one process unit places material into, or receives material from the storage vessel in the tank farm. ALL of the process units have an intervening storage vessel such that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.
M. Predominant use varies from year to year. The storage vessel is not associated with the PMPU based on the utilization that occurred during the year preceding June 1, 1999.
N. Predominant use varies from year to year. The storage vessel is not associated with the PMPU based on the expected utilization for the 5 years following June 1, 1999 for existing affected sources or based on the expected utilization for the 5 years after initial start-up for new affected sources.

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Section V. Storage Vessels, Continued

C. Predominant Use Determination for Storage Vessels

For those storage vessels assigned to an affected source subject to Subpart PPP, include the results of the predominant use determination made under §63.1420(f)(1)-(f)(7). ***[§63.1420(f)(6), 63.1439(e)(5)(v)]***

☒ Not Applicable – The PMPU does not have any shared storage vessels.

Description	Supporting Documentation (Attachment #)	
These storage vessels are already subject to another subpart of 40 CFR Part 63 on June 1, 1999 and are assigned to the process unit subject to the other subpart. None of the other provisions in Subpart PPP apply to these storage vessels. *[§63.14320(f)(1)]* ☐ Not Applicable	**Storage Vessel ID**	**Applicable Subpart**
These storage vessels are dedicated to a single process unit. The storage vessels are assigned to that process unit. *[§63.14320(f)(2)]* ☐ Not Applicable	**Storage Vessel ID**	**Process Unit to Which Storage Vessel is Assigned**
These storage vessels are shared among process units. The storage vessels are assigned to that process unit located on the same plant site as the storage vessel that has the greatest input into or output from the storage vessel (i.e., the process unit that has the predominant use.) *[§63.14320(f)(3)]* ☐ Not Applicable	**Storage Vessel ID**	**Process Unit with Predominant Use**
The predominant use cannot be determined for these storage vessels that are shared among process units. Since only one of those process units is a PMPU subject to Subpart PPP, the storage vessel(s) shall be assigned to that PMPU. *[§63.14320(f)(4)]* ☐ Not Applicable	**Storage Vessel ID**	**PMPU to Which Storage Vessel is Assigned**
The predominant use cannot be determined for these storage vessels that are shared among process units. More than one of the process units are PMPUs that have different primary products and that are subject to Subpart PPP. Therefore, the storage vessels are assigned to any one of the PMPUs sharing the storage vessel. *[§63.14320(f)(5)]* ☐ Not Applicable	**Storage Vessel ID**	**PMPU to Which Storage Vessel is Assigned**

Continued on next page

Section V. Storage Vessels, Continued

C. Predominant Use Determination for Storage Vessels (continued)

The predominant use of these storage vessels varies from year to year. Predominant use is determined based on:

- the utilization that occurred during the year preceding June 1, 1999 or
- based on the expected utilization for the 5 years following June 1, 1999 for existing affected sources, whichever is more representative of the expected operations for that storage vessel, and
- based on the expected utilization for the 5 years after initial start-up for new affected sources.

The determination of predominant use is reported in the Notification of Compliance Status, as required by §63.1439(e)(5)(v). *[§63.14320(f)(6)]*

☐ Not Applicable

Storage Vessel ID	Attachment # for Predominant Use Determination

One or more process units which place material into or receive material from these storage vessels, but the storage vessels is located in a tank farm (including a marine tank farm). The applicability of Subpart PPP is determined according to 63.1420 (f)(7)(i) through (iv) .

(i) The storage vessel may only be assigned to a process unit that utilizes the storage vessel and does not have an intervening storage vessel for that product (or raw materials, as appropriate).

- *With respect to any process unit, an intervening storage vessel means a storage vessel connected by hard-piping to both the process unit and the storage vessel in the tank farm so that product or raw material entering or leaving the process unit flows into (or from) the intervening storage vessel and does not flow directly into (or from) the storage vessel in the tank farm.*

(ii) If there is no process unit at the major source that meets the criteria of 63.1420(f)(7)(i) with respect to a storage vessel, Subpart PPP does not apply to the storage vessel.

(iii) If there is only one process unit at the major source that meets the criteria of 63.1420(f)(7)(i) with respect to a storage vessel, the storage vessel shall be assigned to that process unit.

(iv) If there are two or more process units at the major source that meet the criteria of 63.1420(f)(7)(i) with respect to a storage vessel, the storage vessel shall be assigned to one of those process units according to the provisions of paragraphs (f)(3) through (6) of this section. The predominant use shall be determined among only those process units that meet the criteria of paragraph (f)(7)(i) of this section. *[§63.14320(f)(7)]*

☐ Not Applicable

Storage Vessel ID	Process Unit to Which Storage Vessel is Assigned	Subject to Subpart PPP? (Yes/No)

Continued on next page

Section V. Storage Vessels, Continued

D. Group 1 Storage Vessels Using Vapor Balancing Option

If complying with the vapor balancing alternative for affected storage vessels (§63.119(g)) list the specific tanks following the vapor balancing alternative and check all that apply.

☒ **Not Applicable** – Not using the vapor balancing alternative in §63.119(g) for Group 1 storage vessels.

☐ **Applicable** – Using the vapor balancing alternative in §63.119(g) for Group 1 storage vessels.

[§63.1432(a), 63.119(g)]

Storage Vessel IDs	Check all that apply:
	☐ The pressure vent settings on the affected storage vessels are greater than or equal to 2.5 psig.
	☐ Electing to set a pressure relief device associated with these storage vessels to a value less than the 2.5 pounds per square inch gauge pressure (psig). The rationale explaining why the alternative value is sufficient to prevent breathing losses at all times is included in Attachment XX.
	☐ Using the vapor balancing alternative for Group 1 storage vessels. The reloading / cleaning facility uses: • A closed-vent system and control device that reduces inlet emissions of HAP by 95% wt or greater and complies with the HON, §§§63.119 through 63.123. Note: The reporting requirements on §§63.122 do not apply to the owner or operator of the offsite cleaning or reloading facility.
	☐ Using the vapor balancing alternative for Group 1 storage vessels. The reloading / cleaning facility uses: • A vapor balancing system designed and operated to collected OHAP vapor displaced from the tank truck, railcar or barge during reloading and routes the collected HAP vapor to the storage vessel from which the liquid being transferred originated.
	☐ Using vapor balancing alternative for Group 1 storage vessels AND an offsite reloading or cleaning facility. Records and reports will be maintained by the offsite reloading or cleaning facility under {40 CFR §63 Subpart XXXX} as alternative to complying with the monitoring, recordkeeping, and reporting provisions in the HON, §§§63.119 through §63.123as allowed by §§63119(g)(7)(iv).

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Section V. Storage Vessels, Continued

E. Monitoring Plan

For Group 1 storage vessels equipped with a closed vent system and control device (other than a flare), submit a Monitoring Plan, including the information specified in §§63.1432(i), (j), 63.120(d)(2), and 63.122(b).

☒ Not Applicable

☐ Applicable – See Section XI.C for the monitoring plan.

F. Group 1 Storage Vessels Routed to a Process

For Group 1 storage vessels routed to a process, provide the attachment number for the design evaluation (or engineering assessment) that demonstrates the extent to which one or more of the ends specified below are being met:

- Recycled and/or consumed in the same manner as a material that fulfills the same function in that process;
- Transformed by chemical reaction into materials that are not organic hazardous air pollutants;
- Incorporated into a product; and/or
- Recovered.

☒ Not Applicable

☐ Applicable – See attachment # XX for design evaluation.

[63.1432(a) → 63.120 → 63.120(f) → 63.119(f)(1, 63.122 → 63.122(c)(3))]

G. Group 1 Storage Vessels routed to Fuel Gas System

C. For Group 1 storage vessels routed to a fuel gas system, check the appropriate box below:

☐ The emission stream is connected to the fuel gas system and the conveyance system is subject to the leak inspection provisions for closed vent systems (63.148).

☒ Not Applicable

[63.1432(a) → 63.119 → 63.119(f)(2), 63.122 → 63.122(c)(3))]

Continued on next page

Section VI. Equipment Leaks – HON Subpart H

A. Component Count / Method of Compliance

The table below includes the number of each equipment type excluding equipment in vacuum service and the method of the compliance with the standard.

☐ Not Applicable

[§63.1434(a), (e), 63.182(a)(2), (c)(1)(ii)-(iii)]

Process Unit: B13 PGA

Equipment Type	Number	Method of Compliance
Pumps in light liquid service:	2	§63.163(b) Monthly leak detection and repair
	17	§63.163(e) Dual mechanical seal system.
	0	§63.163(f) No externally actuated shaft.
	0	§63.163(g) Equipped with closed vent system.
	0	§63.163(h) Within boundary of an unmanned plant site.
	0	§63.163(j) Unsafe-to-monitor pumps. Monitor when safe.
TOTAL:	**19**	
Compressors:	0	§63.164(a) Equipped with required seal system.
	0	§63.164(h) Equipped with closed vent system.
	0	§63.164(i) Operate at <500 ppm above background.
TOTAL:	**0**	
Pressure relief devices in gas/vapor service:	0	§63.1434(c)(1), (c)(2)(i) Operate at <500 ppm above background – No rupture disk upstream – Monitor no later than 5 calendar days after pressure release
	4	§63.1434(c)(1), (c)(2)(ii) Operate at <500 ppm above background – Equipped with rupture disk upstream – Install replacement disk as soon as practicable after a pressure release, but no later than 5 calendar days after the pressure release
	2	§63.1434(c)(4) Route all pressure releases through a closed vent system to a control device, process, or drain system.
TOTAL:	**6**	
Sampling connection systems:	0	§63.166(b)(1) Return purge to process line.
	0	§63.166(b)(2) Collect and recycle purge to a process.
	0	§63.166(b)(3) Capture and transport to control device.
	0	§63.166(b)(4)(i) Collect, store, transport to HON WMU
	0	§63.166(b)(4)(ii) Collect, store, transport to TSD facility
	0	§63.166(b)(4)(iii) Collect, store, transport to a non-hazardous waste facility
	0	§63.166(c) *In-situ* sampling system or without purge
TOTAL:	**0**	
Open-ended valves or lines:	0	§63.167(d) Part of emergency shutdown system.
	0	§63.167(e) Contains polymerizing, explosive or hazardous materials.
TOTAL:	**0**	**Note:** Open-ended valves are equipped with a cap, plug, blind flange, or 2nd valve.

Section VI. Equipment Leaks – HON Subpart H, Continued

Equipment Type	Number	Method of Compliance
Valves in gas/vapor or in light liquid service:	1478	§63.168(a)(3) Annual leak detection and repair.
	0	§63.168(a)(3) Semi-annual leak detection and repair.
	0	§63.168(b) Quarterly leak detection and repair.
	0	§63.168(h) Unsafe-to-monitor.
	0	§63.168(i) Difficult-to-monitor.
TOTAL:	**1478**	
Pumps in heavy liquid service: Valves in heavy liquid service: Connectors in heavy liquid service: Agitators in heavy liquid service:	NA	§63.169(a) Observe for leak by sensory methods; Monitor and/or repair. The work practice is to identify equipment in heavy liquid service by the use of facility's P&ID's.
Instrumentation systems:	0	§63.169(a) Observe for leak by sensory methods; Monitor and/or repair.
Pressure relief devices in liquid service:	0	§63.169(a) Observe for leak by sensory methods; Monitor and/or repair.
TOTAL:	**0**	
Surge control vessels or bottoms receivers:	0	§63.170 Returned to process.
	0	§63.170 Equipped with control device.
	0	§63.170 Follow EFR or IFR Storage Tank requirements
	0	§63.170 Not subject to control under based on capacity and/or maximum true vapor pressure of total OHAP
TOTAL:	**0**	
Closed vent systems and control devices:	4	§63.172(f)(1) Annual visual inspection (hard-piped).
	0	§63.172(f)(2) Annual monitoring (duct work).
	0	§63.172(k) Unsafe-to-inspect.
	0	§63.172(l) Difficult-to-inspect
TOTAL:	**4**	
Agitators in gas/vapor service or in light liquid service:	6	§63.173(a) Monthly leak detection and repair.
	0	§63.173(d) Equipped with dual mechanical seal system.
	0	§63.173(e) No externally actuated shaft.
	0	§63.173(f) Equipped with closed vent system
	0	§63.173(g) Within boundary of an unmanned plant site.
	0	§63.173(h) Difficult-to-monitor.
	0	§63.173(i) Obstructed.
	0	§63.173(j) Unsafe-to-monitor.
TOTAL:	**6**	
Connectors in gas/vapor service or in light liquid service:	0	§63.174(b) Annual leak detection and repair.
	1041	§63.174(b)(4) Biennial leak detection and repair.
	2757	§63.174(b)(4) Quadrennial leak detection and repair.
	0	§63.174(c)(2) Screwed connectors ≤ 2" installed prior to 12/31/92.
	323	§63.174(f) Unsafe-to-monitor.
	0	§63.174(g) Unsafe-to-repair.
TOTAL:	**4121**	

Section VI. Equipment Leaks – HON Subpart H, Continued

B. Planned Schedule for Each Phase – Pumps and Valves

Enter the planned schedule for each phase of the requirements in §§63.163 (pumps) and §§63.168 (valves). [§63.182(c)(1)(iv)]

Phase	Planned Schedule for Implementation On or Before
Phase I – Beginning on the compliance date.	9/19/1999
Phase II – Beginning no later than 1 year after the compliance date.	8/31/2000
Phase III – Beginning no later than 2-1/2 years after the compliance date.	3/1/2002

C. Batch Process Pressure Testing Alternative §63.178(b)

Provide the batch products and batch product codes subject to the pressure testing alternative for batch processes and the planned schedule for pressure testing when the equipment is configured for production of products subject to HON. [§63.182(c)(2)]

☒ **Not Applicable** – Not using the pressure testing alternative for batch processes.

☐ **Applicable** – Will follow the pressure testing of batch product-process equipment to demonstrate compliance with Subpart H in lieu of complying with the monitoring provisions of §§63.163, 63.168 and §63.169, and 63.173 through 63.176 of Subpart H.

Batch Product or Product Code	Planned Schedule for Pressure Testing

D. Alternative for Enclosed-Vented Process Units §63.179

For those process units complying with the alternative means of emission limitation for enclosed-vented process units, provide a description of the system to create negative pressure in the enclosure and the control device used to comply with the requirements of §63.172 of Subpart H. [§63.182(c)(3)]

☒ **Not Applicable** – Not using the enclosed-vented process unit alternative in §63.179.

☐ **Applicable** – Complying with the enclosed-vented process unit alternative in lieu of the requirements in §63.163 through 63.171 and 63.173, 63.174.

Description of system used to create negative pressure in the enclosure:	
Description of control device used to comply with the requirements of §63.172 of Subpart H.	

Continued on next page

Section VI. Equipment Leaks – HON Subpart H, Continued

E. Control Devices for Equipment Leaks	☐ **Not Applicable** – No control devices handle equipment leaks from components subject to the provisions of Subpart H. ☒ **Applicable** – Using closed-vent systems and control devices to comply with the provisions of Subpart H. See information below on applicable control devices and the parameters monitored to ensure that they are operated and maintained in conformance with their design.

Applicable?	Description	Control Device ID	Parameter Monitored
☒	Recovery or Recapture Device (e.g. condensers and absorbers) designed and operated to recover the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with: • an efficiency of 95 percent or greater, or • to an exit concentration of 20 parts per million by volume, whichever is less stringent. *[§63.172(b)]*	B13SV2	Water Flow
☒	Enclosed combustion devices designed and operated to reduce the organic hazardous air pollutant emissions or volatile organic compounds emissions vented to them with: • an efficiency of 95 percent or greater, or • to an exit concentration of 20 parts per million by volume, on a dry basis, corrected to 3 percent oxygen, whichever is less stringent, or • to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. *[§63.172(c)]*	B19S2	Combustion zone temperature
☐	Flare in compliance with the requirements of §§63.11(b) of subpart A of this part. *[§63.172(d)]*		

F. Other Alternative Means of Emission Limitation (General) §63.177	☒ **Not Applicable** – Not using any alternative means of emission limitation under §63.177. ☐ **Applicable** – Permission was granted to use an alternative means of emission limitation under §63.177 and §63.6(g) of Subpart A.

Affected Equipment	Description of Alternative:

Section IV. Equipment Leaks – HON Subpart H, Continued

G. Pressure Relief Devices in OHAP Service – Type of Monitoring System

For pressure relief devices in organic HAP service, provide a description of the device or monitoring system to be implemented, including:

- the pressure relief devices and process parameters to be monitored (if applicable),
- a description of the alarms or other methods by which operators will be notified of a pressure release, and
- a description of how the owner or operator will determine the information to be recorded under 63.1439(d)(10)(v)(B)-(C) (i.e., the duration of the pressure release and the methodology and calculations for determining of the quantity of total HAP emitted during the pressure release).

☐ **Not Applicable** – No pressure relief devices in organic HAP service.

☐ **Not Applicable** – There are pressure relief devices in organic HAP service; however all of these PRDs are designed and operated to route all pressure releases through a closed vent system to a control device, process or drain system and are, therefore, exempt from the pressure release management requirements in 63.1434(c)(3). Both the closed vent system and control device (if applicable) must meet the requirements of 63.172 of Subpart H. The drain system (if applicable) must meet the requirements of 63.136 [HON Group 1 Process Wastewater Requirements for Individual Drain Systems].

☒ **Applicable** – The required information is provided in the table below.

[63.1439(e)(5), (e)(5)(viii), 63.1439(d)(10)(v)(B)-(C)]

Pressure Relief Device ID	Process Parameters to be Monitored	Description of Alarms or Other Methods by Which Operators will be Notified of a Pressure Release	Description of How Duration of Pressure Release will be Determined	Description of Methodology and Calculations for Determining Quantity of Total HAP Emitted During Pressure Release
KR-2 PSV/RD	Continuous monitoring of pressure between Rupture Disc and PSV	A warning alarm is hard wired to the pressure monitor and activated at 2 psig (PSV setpoint is 100 psig)	In event of an alarm, a relief event will be determined by using reactor pressure against setpoint for the PSV. In the event of a relief event, the end will be when the device is confirmed reseated. The duration will be determined using pressure readings in the reactor and between the PSV and rupture disc.	Engineering calculation and process knowledge.
KR-2 Rupture disc	Continuous monitoring of reactor vessel pressure	Warning alarms are hard wired to pressure monitors in the reactor vessel	In the event of a relief event, this rupture disc will break, resulting in loss of reactor pressure until the disc is replaced. Duration will be determined by vessel pressure sensors and when the reactor is determined to be clear of all HAPs	Engineering calculation and process knowledge.
KR-5 PSV/RD	Continuous monitoring of pressure between Rupture Disc and PSV	A warning alarm is hard wired to the pressure monitor and activated at 2 psig (PSV setpoint is 100 psig)	In event of an alarm, a relief event will be determined by using reactor pressure against setpoint for the PSV. In the event of a relief event, the end will be when the device is confirmed reseated. The duration will be determined using pressure readings in the reactor and between the PSV and rupture disc.	Engineering calculation and process knowledge.

KR-9 PSV/RD	Continuous monitoring of pressure between Rupture Disc and PSV	A warning alarm is hard wired to the pressure monitor and activated at 2 psig (PSV setpoint is 90 psig)	In event of an alarm, a relief event will be determined by using reactor pressure against setpoint for the PSV. In the event of a relief event, the end will be when the device is confirmed reseated. The duration will be determined using pressure readings in the reactor and between the PSV and rupture disc.	PRD specifications, engineering calculation and process knowledge.

Section VII. Process Wastewater

Introduction

This section provides the results of any group determinations and applicability determinations for process wastewater.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Process Wastewater Streams

Complete the following table listing all applicable process wastewater streams.

☐ Not Applicable

[§63.1433(a), (a)(13), 63.146(b)(1), (b)(2), 63.1433(a)(2), (a)(13), Table 15 to Subpart G]

(1) Wastewater Stream Identification Code	(2) Description of Each Point of Determination (POD)	(3) Existing or New Affected Source?	(4) Table 4 (Subpart PPP) / Table 9 (Subpart G) OHAPs	(5) Table 4 (Subpart PPP) / Table 9 (Subpart G) OHAP Annual Average Concentration (ppmw)
SC-2 effluent	Scrubber for control of KR-2, KR-5, KR-9 Vents	Existing	Propylene Oxide, Ethylene Oxide	<1000
KO-6 Knockout Pot	Knockout pot from KR-2, KR-5, KR-9 reactor vents	Existing	Propylene Oxide, Ethylene Oxide	<1000
KO-9 Knockout Pot	Knockout pot from KR-2, KR-5, KR-9 reactor vents	Existing	Propylene Oxide, Ethylene Oxide	<1000
POBA Jets	KR-2, KR-5, KR-9 Vents	Existing	Propylene Oxide, 1,3 Butadiene, Ethylene Oxide	<1000
Vacuum Jets	KR-2, KR-5, KR-9 vents	Existing	Propylene Oxide, Ethylene Oxide	<1000

(1) Wastewater Stream Identification Code, contd.	(6) Annual average flow rate (liter per minute) *[Mark N/A if stream is designated as Group 1]*	(7) Designated as a Group 1 Stream? (Yes/No)	(8) Group 1 or Group 2 Process Wastewater Stream	(9) For Group 1 streams, list compliance approach (a)	(10) For Group 2 streams, method for determining Table 9 OHAP concentration and (Attachment # for supporting documentation) *See Appendix D for acceptable methods.*
SC-2 effluent	37.85	No	Group 2	N/A	Knowledge of the wastewater using material balances.
KO-6 Knockout Pot	<10	No	Group 2	N/A	Knowledge of the wastewater using material balances.
KO-9 Knockout Pot	<10	No	Group 2	N/A	Knowledge of the wastewater using material balances.

POBA Jets	<10	No	Group 2	N/A	Knowledge of the wastewater using material balances.
Vacuum Jets	<10	No	Group 2	N/A	Knowledge of the wastewater using material balances.

Section VII. Process Wastewater, Continued

B. Summary of Exempt Process Wastewater Streams

Complete the following table listing all exempt process wastewater streams.

☒ Not Applicable

(1) Wastewater Stream Identification Code	(2) Description of Point of Determination / Evaluation	(3) Exemption Reason (a)

(a) Exemption codes for process wastewater:

A. Maintenance Wastewater stream
B. Chemicals are recovered from the stream for fuel value (i.e. net positive heating value, use, reuse, or for sale for one of those purposes)
C. Stream is not discarded from an PMPU
D. The stream originates as storm-water from segregated sewers.
E. The stream originates from fire-fighting and deluge systems, including testing of these systems.
F. The stream originates from spills.
G. The stream originates from equipment leaks
H. The stream originates from safety showers.
I. The stream contains no Table 4 compounds
J. The stream contains very little water (indicate % in comments field) - Nonwastewater waste stream (primarily organic)
K. The annual average concentration of Table 4 compounds is < 5 ppmw.
L. The annual average concentration of Table 4 compounds is >= 5 ppmw, but the annual average flow rate is < 0.02 liters per minute.

Continued on next page

Section VII. Process Wastewater, Continued

C. Waste Management Unit Information

For Group 1 Process Wastewater Streams Only:

☒ Not Applicable

Are any Group 1 wastewater streams transferred for treatment to an off-site treatment or on-site treatment not owned or operated by the source?

☐ Yes ☐ No

If yes, provide:

Name of the receiving party:	
Location:	

Indicate with an asterisk which streams below are transferred to an off-site treatment or on-site treatment not owned or operated by the source.

[§63.1433(a) → (a)(13), (a)(15), (a)(16), 63.138(a)(7)(i)(C), (a)(7)(ii)(B), (i)(3), 63.146(b)(2),(b)(5), (b)(7)(ii)(A), Tables 13, 15 and 18 of Subpart G, 63.1438, 63.1439(e)(5)(vii)]

(1) Wastewater Stream Identification Code	(2) Treatment Process ID	(3) Waste Mgt. Unit Identification (a)	(4) Description of Waste Mgt. Unit	(5) Intended Control Device / Technique (See Appendix A)	(6) Monitored Parameters for Control Device	(7) Proper Operating Level for Control Device	(8) Rationale for Chosen Operating Level for Control Device, (Attachment #)

(a) Waste management unit means the equipment, structure(s), and/or device(s) used to convey, store, treat, or dispose of wastewater streams or residuals. Examples of waste management units include: Wastewater tanks, surface impoundments, individual drain systems, and biological wastewater treatment units. Examples of equipment that may be waste management units include containers, air flotation units, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units. If such equipment is used for recovery, then it is part of a PMPU and is not a waste management unit.

Continued on next page

Section VII. Process Wastewater, Continued

D. Treatment Process Information

For Group 1 Process Wastewater Streams Only:

☒ Not Applicable

Are any Group 1 wastewater streams transferred for treatment to an off-site treatment or on-site treatment not owned or operated by the source?

☐ Yes ☐ No

If yes, provide:

Name of the receiving party:	
Location:	

Indicate with an asterisk which streams below are transferred to an off-site treatment or on-site treatment not owned or operated by the source.

[§63.1433(a) → (a)(13), (a)(15), (a)(16), (a)(17), §63.138(a)(7)(i)(C), (a)(7)(ii)(B), 63.146(b)(4), (b)(8), (b)(9), (f), Table 12 and 17 of Subpart G, §63.7(g), 63.1438, 63.1439(e)(5)(vii)]

(1) Wastewater Stream Identification Code	(2) Description of Treatment Process *(see Appendix G)*	(3) Treatment Process ID	(4) Monitoring Parameters for the treatment process	(5) Designed Maximum or Minimum Level of Monitored Parameter	(6) Rationale for Level (Attachment #)	(7) Results of Initial Measurements and Supporting Calculations (Attachment #)	(8) Design Evaluation (DE) or Performance Test (PT) – (Attachment #)

Continued on next page

Section VII. Process Wastewater, Continued

E. Information on Residuals

For Group 1 Process Wastewater Streams Only:

☒ Not Applicable

Are any residuals removed from Group 1 wastewater streams transferred for treatment to an off-site treatment or on-site treatment not owned or operated by the source?

☐ Yes ☐ No

If yes, provide:

Name of the receiving party:	
Location:	

Indicate with an asterisk which streams below are transferred to an off-site treatment or on-site treatment not owned or operated by the source.

[§63.1433(a) → (a)(13), 63.146(b)(6), Table 19 of Subpart G, 63.1439(e)(5)(vii)]

(1) Residual ID Number (a)	(2) Residual description (b)	(3) Wastewater Stream Identification Code (c)	(4) Treatment process from which residual originates	(5) Fate (d)	(6) If Fate = D, Treatment Process Identification Used to Destroy Residual by 99% (e) *(Mark N/A if Fate does not = D)*	(7) If Fate = D - Treatment Process Efficiency Attachment # (f)	(8) Waste Management Unit ID(a)	(9) Intended Emission Control Technique

Continued on next page

Section VII. Process Wastewater, Continued

Notes:

(a) Name or identification code of residual removed from Group 1 wastewater stream.

(b) Description of residual (e.g., steam stripper A-13 overhead condensates).

(c) Identification of stream from which residual is removed.

(d) Fate - Indicate whether the residual is:
A. Recycled to a production process
B. Sold for the purpose of recycling.
C. Returned to the treatment process.
D. Treated to destroy the total combined mass flow rate of Table 9 compounds by 99 percent or more.
E. In compliance with the requirements for the RCRA treatment option.

(e) If the fate of the residual is such that the HAP mass is destroyed by 99 percent, give description of device used for HAP destruction. The types of treatment processes that are acceptable include nonbiological, noncombustion treatment processes and combustion treatment processes.

(f) If the fate of the residual is such that the HAP mass is destroyed by 99 percent, provide an estimate of control device efficiency and attach substantiation in accordance with the instructions for this section.

Continued on next page

Section VII. Process Wastewater, Continued

F. Fixed Roofs, Covers and Enclosures

For each fixed roof, cover, and enclosure on wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water / organic-water separators, provide the initial monitoring results: (Check one)

☒ **Not Applicable**	No process wastewater streams or only Group 2 process wastewater streams.
☐ **Not Applicable**	No fixed roofs, covers or enclosures on wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators
☐ **Not Applicable**	All fixed roofs and enclosures are operated under negative pressure.

☐ **Applicable**	No leaks detected during initial inspection – date of inspection: {Enter Date}
☐ **Applicable**	Leak detected during initial inspection – date of inspection: {Enter Date}. Required information is provided below.

[§63.1433(a) → 63.148, 63.148(b)(3), 63.1439(e)(5)(i)]

Complete the following table ONLY if leaks were detected during monitoring / inspection:

(1) Waste Management Unit I.D.	(2) Fixed Roof, Cover or Enclosure Inspection?	(3) Date Visual Leak Detected	(4) Date of First Attempt at Repair	(5) Date Leak Was Repaired OR "Delay of Repair" if Necessary

Complete the following table for components on Delay of Repair:

(1) Waste Management Unit I.D.	(6) Reason for Delay of Repair Code	(7) Name of Person who Made Delay of Repair Decision	(8) Expected Date of Repair (if not Already Repaired)	(9) Date(s) of shutdowns that occurred while the component was unrepaired	(10) Date of Successful Repair of the Leak

Reason for Delay of Repair Codes:
A. Repair is technically infeasible without a shutdown or
B. Emissions resulting from immediate repair would be greater than the fugitive emissions likely to result from delay of repair.

Section VIII. Maintenance Wastewater

Introduction

This section provides the results of any applicability determinations for maintenance wastewater.

[§63.1433(a), (b) → 63.105(a), 63.1439(e)(5)(i)]

A. Summary of Applicable Maintenance Wastewater Streams

Check appropriate box for each PMPU.

☐ Maintenance wastewater plan applies and is implemented per 63.1433(a), (b), 63.105

☒ Not applicable for this PMPU; no maintenance wastewater streams.

B. Summary of Exempt Maintenance Wastewater Streams

Complete the following table listing all exempt maintenance wastewater streams.

☒ Not Applicable

(1) Wastewater Stream ID or Activity	(2) Exemption Reason

Exemption Codes for Maintenance Wastewater:

A. Process Wastewater stream
B. Stream is not discarded from an PMPU
C. The stream originates as storm-water from segregated sewers.
D. The stream originates from fire-fighting and deluge systems, including testing of these systems.
E. The stream originates from spills.
F. The stream originates from equipment leaks
G. The stream originates from safety showers.
H. The stream contains no Table 4 compounds
I. The annual average concentration of Table 4 OHAP is < 5 ppmw.
J. The OHAP annual average concentration of Table 4 OHAP is >= 5 ppmw, but the annual average flow rate is < 0.02 liters per minute.
K. Wastewater is generated from routine rinsing or washing of equipment occurring as part of batch operations and is considered process wastewater.

Section IX. Liquid Streams in Open Systems

Introduction

This section provides the results of any applicability determinations for liquid streams in open systems.

[§63.1433(a) → 63.149, 63.1439(e)(5)(i)]

A. Summary of Equipment Handling Liquid Streams in Open Systems

Complete the following table listing all equipment subject to the provisions in §§63.149 (as referenced by 63.1433(a)) for liquids streams in open systems.

☒ Not Applicable

(1) Equipment ID	(2) Equipment Type	(3) Table 9 OHAP (Subpart G)	(4) Total Table 9 Annual Average Concentration (ppmw)	(5) Annual average flow rate (liter per minute)

Continuation of table above:

(1) Equipment ID, contd.	(6) Control Required? (Yes/No)	(7) Control Method Code (See Appendix E)	(8) Control Device ID(s)	(9) If using a control device, which standard does the control device meet?

Continued on next page

Section IX. Liquid Streams in Open Systems, Continued

B. Summary of Equipment Exempt from the Requirements for Liquid Stream in Open Systems

Complete the following table listing all equipment exempt from the provisions for liquid streams in open systems.

☒ Not Applicable

(1) Equipment ID	(2) Exemption Reason (a)

(a) ***Exemption Codes***:

A. The equipment is already controlled as stringently as Table 35.
B. The equipment is not a drain, drain hub, manhole, lift station, trench, pipe, oil-water separator / organic-water separator and/or tank*. *Note: Applies to tanks with capacities of 38 m3 (10,040 gallons) or greater.
C. The equipment is a tank. However the tank capacity is < 38 m3 (10,040 gallons).
D. The equipment does not contain organic hazardous air pollutants.
E. The equipment contains OHAP as impurities only.
F. The equipment handles only stormwater managed in segregated sewers.
G. The equipment handles only water from fire-fighting and deluge systems in segregated sewers.
H. The equipment handles only water from firefighting and/or deluge systems.
I. The equipment handles only spills.
J. The equipment handles only water from safety showers.
K. The equipment handles only water from testing of deluge systems.
L. The equipment handles only water from the testing of firefighting systems.
M. The equipment operates in OHAP service for less than 300 hours during the calendar year.
N. The equipment is not part of a PMPU subject to Subpart PPP.
O. The stream contains no Table 9 compounds (new or existing sources).
P. For tanks, the equipment is located at a PMPU subject to existing or new source requirements and does not contain water with:
-total annual average concentration of Table 9 compounds greater than or equal to 1,000 ppmw AND
an annual average flowrate greater than or equal to 10 lpm
Q. For Drains, Drain hubs, Manholes, Lift stations, Trenches, Pipes, Oil-Water separators - The equipment is located at a PMPU subject to existing or new source requirements and does not contain water with:
- total annual average concentration of Table 9 compounds greater than or equal to 10,000 ppmw at any flow rate
OR
- total annual average concentration of Table 9 compounds greater than or equal to 1,000 ppmw AND
- an annual average flowrate greater than or equal to 10 lpm

Section X. Heat Exchange Systems

Introduction

This section provides the results of any applicability determinations for heat exchange systems.

[§63.1439(e)(5)(i)]

A. Summary of Applicable Heat Exchange Systems

Complete the following table listing all heat exchange systems subject to monitoring.

☐ Not Applicable

(1) Heat Exchange System ID	(2) Heat Exchanger Type (a)	(3) Monitoring Option Selected (b)	(4) What will be monitored? (c)
E-101 (EO recycle)	Once-through heat exchange system	Monitor the cooling water for one or more organic HAPs or other indicator chemical.	Total organic carbon
E-102 (PO Recycle)	Once-through heat exchange system	Monitor the cooling water for one or more organic HAPs or other indicator chemical.	Total organic carbon

(a) ***Types***:
- Recirculating heat exchange system (cooling tower systems)
- Once-through heat exchange system

(b) ***Monitoring Options:***
- Option 1: Monitor the cooling water for one or more organic HAPs or other indicator chemical.
- Option 2: Monitor using a surrogate indicator that shows leaks in the system (e.g. Ion specific electrode monitoring, pH, conductivity, etc.)

(c) Choices:
- Total hazardous air pollutants
- Total volatile organic compounds
- Total organic carbon
- One or more speciated HAP compounds
- Other representative substances that would indicate the presence of a leak in the heat exchange system - Specify.
- Surrogate Indicator - specify

Continued on next page

Section X. Heat Exchange Systems, Continued

B. Summary of Exempt Heat Exchange Systems

Complete the following table listing all exempt heat exchange systems.

☒ Not Applicable

(1) Heat Exchange System ID	(2) Which exemption is being used? (a)	(3) List any supporting details for exemption documentation

(a) ***Heat Exchange System Exemption Codes:***

A. The heat exchange system is operated with the minimum pressure on the cooling water side at least 35 kilopascals (5.1 psia) greater than the maximum pressure on the process side.
B. An intervening cooling fluid containing less than 5% by weight of total HAPs listed in Table 4 is between the cooling water and the process fluids. This intervening fluid cannot go to the cooling tower or be discharged except for maintenance purposes.
C. Does not meet the definition of heat exchange system -e.g. it is not a cooling tower system or once-through cooling water system (e.g., river or pond water).
D. Heat exchange system not used to cool process equipment.
E. A once through heat exchange system is subject to a National Pollution Discharge Elimination System (NPDES) permit with an allowable discharge limit of either, (which ever is higher): 1 ppm or less above the incoming concentration or 10% or less above the incoming concentration.
F. A once through heat exchange system is subject to a NPDES permit that has all the following:
    (1) Requires monitoring of either a parameter or a condition to detect leaks of process fluids into the cooling water,
    (2) Specifies a normal range of the parameter or condition,
    (3) Specifies a normal range of the parameter or condition, AND
    (4) Requires reporting of leaks and that the system be repaired when leaks are found "
G. A recirculating heat exchange system is used to cool process fluids that contain less than 5% by weight of total HAPs listed in Table 4 of Subpart F (or no Table 4 (Subpart F) OHAP).
H. A once through heat exchange system is used to cool process fluids that contain less than 5% by weight of total HAPs listed in Table 9 of Subpart G (or no Table 9 HAP).

Section XI: Combustion, Recovery and Recapture Devices

Introduction

The purpose of this section is to include all information required to be reported by Subpart PPP and the referenced subparts for combustion, recovery and recapture devices.

☐ Not Applicable –This PMPU either has no emission points subject to control and/or no emission points are routed to a combustion, recovery or recapture device.

☒ Applicable – This PMPU uses a shared combustion, recovery or recapture device(s). PMPUs which do not operate a combustion, recovery or recapture device should leave Section XI of the report blank.

☒ Applicable – Complete all of Section XI that is applicable if you are the operator of the combustion, recovery, or recapture device.

A. Definition of Operating Day

Define the source's operating day for purposes of determining daily average values of monitored parameters.

Note: Operating day refers to the 24-hour period defined by the owner or operator in the Notification of Compliance Status required by §63.1439(e)(5). That 24-hour period may be from midnight to midnight or another 24-hour period. The operating day is the 24-hour period for which daily average monitoring values are determined.

☐ Not Applicable – This section is not applicable because records of daily averages are not required.

[§§63.1423, 63.1429(d)(3), 63.1438(a)(2), 63.1439(d)(3)(ii), (e)(5)(ii)(C)]

Operating Day Begin Time:	Midnight
Operating Day End Time:	Midnight

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Section XI: Combustion, Recovery and Recapture Devices.
Continued

B. Routing Emissions to a Flare

This section applies when using a flare to comply with the control requirements for process vents, storage vessels or wastewater.

☒ **Not Applicable**

[Process Vents - 63.1425(f), (f)(3) → 63.117, 63.117(a)(2), (a)(5)→ 63.116(a), 63.1427(k)(2)(iii) → 63.1430(g)(1); 63.1430(g)(1) → 63.1430(b)(1)→ 63.1437(c)]

[Storage Vessels - 63.1432(a) → 63.120 → 63.120(e), 63.122(a)(3), (c)→ (c)(2)]

[Wastewater – 63.1433(a), (a)(13), (b)(7)(i)]

[63.1439(e)(5)(i)]

(1) Flare ID	(2) Flare design (a)	(3) Flare Specification Determination Report (Attachment #) (b), (c)

Notes:
(a) Flare design – i.e. steam-assisted, air-assisted, or non-assisted.

(b) The Notification of Compliance Status shall include one complete test report, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required.

- A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards (if the owner or operator prepares the standards), record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method to be in the test report.

(c) For flare specification determinations, include:
- all visible emission readings, heat content determinations, flow rate measurements, and exit velocity determinations made during the compliance determination required by §63.116(a) and 63.120(e) of Subpart G and 63.1437(c); and
- all periods during the compliance determination when the pilot flame is absent.

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices.
Continued

C. Non-Flare Control Device Characterization

Characterize each non-flare combustion, recovery or recapture device used to control emissions from process vents, storage vessels and waste management units subject to the process wastewater provisions.

- Flares are characterized in Section XI.B.
- Recovery devices used to maintain a total resource effectiveness (TRE) value > 1.0 but ≤ 4.0 for continuous process vents are characterized in Section XI.D.

☐ **Not Applicable**

[Process Vents - 63.1425(f), (f)(3)→ 63.1439(e)(5), 63.1425(f)(6)→ 63.114(e) → 63.1438 / 63.1439(e)(5)(ii) / 63.1439(e)(8), 63.117(a)(2),(a)(4)(i),(ii),(iv), (f)

[Process Vents - 63.1427(k)(2)(iii) → 63.1430(g)(1); 63.1429(d)(2), 63.1430(g)(1) → 63.1430(b)(2)(i)-(ii), (iv)→ 63.1426, 63.1430(g)(1)→ 63.1430(c)]

[Storage Vessels – 63.1432(g)-(k), 63.122(b) → 63.120(d)(2)-(d)(3), 63.122(a)(3), (c)→ (c)(1)]

[Wastewater – 63.1433(a), (a)(17), 63.139(d)(1) - (d)(2), 63.146(b)(7)(ii), Table 13 of Subpart G, 63.1439(e)(5)(ii)]

[Subpart A - 63.7(g)]

[63.1439(e)(5)(i)-(ii), (iv)]

(1) Control Device I.D. (EPN)	(2) Control Device Type	(3) Monitored Parameters	(4) Monitoring Plan for Group 1 Storage Vessels (Attachment #) (a)	(5) Proper Operating Level (Maximum or Minimum)	(6) Rationale for Chosen Operating Level, if applicable (Attachment #) (b)
B13PGSV3	Absorber	Water flow rate	N/A	13.1 gallons per minute minimum flow rate	Design Evaluation (see attachment #1)
B19S2	Thermal Incinerator	Firebox temperature	N/A	1074°C Minimum	N/A
B34S1400	Flameless Thermal Oxidizer	FTO Outlet temperature	N/A	Chamber A: 938°C Minimum Chamber B: 957 °C Minimum	Design Evaluation (see Attachment #2)
B33S1	Thermal Incinerator	Firebox temperature	N/A	871°C Minimum	N/A

(continued from table above)

(1) Control Device I.D. (EPN)	(7) Design Evaluation (D) or Performance Test (P) (c)	(8) Design Evaluation / Performance Test (Attachment #) (d)	(9) Monitoring Data Collected During Performance Testing (Attachment #)	(10) Percent Reduction in OHAP / TOC Emissions or Exit Concentration (ppmv) Achieved by Control Device
SC-2 Scrubber (B13PGSV3)	Design Evaluation	Attachment 1	N/A	>98%
THROX B19S2	Exempt per 63.1426(b)(4)(ii)	Exempt per 63.1426(b)(4)(ii)	Exempt per 63.1426(b)(4)(ii)	>98%
FTO B34S1400	Design Evaluation	Attachment 2	N/A	>98%
KILN B33S1	Exempt per 63.1426(b)(4)(i)	Exempt per 63.1426(b)(4)(i)	Exempt per 63.1426(b)(4)(i)	>98%

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices, Continued

C. Non-Flare Control Device Characterization (continued)

Notes:

(a) For Group 1 storage vessel routed through a closed vent system to a non-flare control device, submit as part of the Monitoring Plan the information specified below: *[63.1432(i), (j), 63.120(d)(2), 63.122(b)]*

1. Specify for which combustion, recovery, or recapture device the owner or operator has selected to follow the procedures for continuous monitoring specified in §63.1438.
2. For the combustion, recovery, or recapture device(s) for which the owner or operator has selected not to follow the procedures for continuous monitoring specified in §63.1438, the monitoring plan shall include:
    a. a description of the parameter(s) to be monitored to ensure that the combustion, recovery, or recapture device is being properly operated and maintained,
    b. an explanation of the criteria used for selection of that parameter(s), and
    c. the frequency with which monitoring will be performed (e.g., when the liquid level in the storage vessel is being raised), as specified in §63.120(d)(2)(i).
3. The Monitoring Plan shall also include EITHER:
    a. The design evaluation documentation specified in 63.120(d)(1)(i), if electing to prepare a design evaluation; or
    b. The information specified below if electing to submit the results of a performance test.
        i. Identification of the storage vessel and control device for which the performance test will be submitted, and
        ii. Identification of the emission point(s) that share the control device with the storage vessel and for which the performance test will be conducted.

(b) Attach the rationale for the specific maximum or minimum level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates that the combustion, recovery, or recapture device is operated in a manner to ensure compliance with the provisions of Subpart PPP.

For flexible operation units, provide the basis on which these levels were selected, or a demonstration that these levels are appropriate at all times, as specified in §63.1420(e)(5)(ii)(A).

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices, Continued

C. Non-Flare Control Device Characterization (continued)

Notes (continued)

(c) For Group 1 process vents at PMPUs that produce polyether polyols using THF, a performance test is required for determining compliance with the reduction of total organic HAP emissions.

For PMPUs that produce polyether polyols using epoxides, a performance test is also required when a combustion, recovery or recapture device is used to comply with the following process vent provisions:

- the epoxide emission limits [63.1425(b)]
- the nonepoxide OHAP emission limits from making or modifying the product (new or existing sources) [63.1425(c)
- the nonepoxide OHAP emission limits from catalyst extraction. [63.1425(d)]

For Group 1 storage vessels equipped with a closed vent system and a non-flare control device, either prepare a design evaluation, which includes the information specified in 63.120(d)(1)(i), or submit the results of a performance test.

- If the combustion, recovery, or recapture device used to comply with §63.119(e) is also used to comply with any of the requirements found in §§63.1425 through 63.1431 *[process vent provisions]* and/or §63.1433 *[wastewater provisions]*, the performance test required in or accepted by §§63.1425 through 63.1431 and/or §63.1433 is acceptable for demonstrating compliance with the HON storage vessel requirements in §63.119(e), for the purposes of this subpart. The owner or operator will not be required to prepare a design evaluation for the combustion, recovery, or recapture device as described in §63.120(d)(1)(i), if the performance test meets the criteria specified in 63.1432(g)(1) and (2):.
  (1) The performance test demonstrates that the combustion, recovery, or recapture device achieves greater than or equal to the required control efficiency specified in the HON storage vessel requirements in §63.119(e)(1) or (2), as applicable; and
  (2) The performance test is submitted as part of the Notification of Compliance Status required by §63.1439(e)(5).

For waste management units that receive or manage a Group 1 process wastewater stream (e.g. wastewater tanks, surface impoundments, individual drain systems, oil-water separators, containers, treatment processes), **or wastewater treatment units**. a performance test or design evaluation documenting that the control device being used achieves the required control efficiency is required to be submitted as part of the Notification of Compliance Status.

Uncontrolled Emissions Less than 10 TPY Option - For combustion, recovery or recapture device (except for condensers) performance may be determined by using the design evaluation, provided that the combustion, recovery or recapture device receives less than 10 tons per year (9.1 megagrams per year) of uncontrolled organic HAP emissions from one or more PMPUs, determined in accordance with the Procedure for Determination of Uncontrolled Organic HAP Emissions.

Other performance test / design evaluation exemptions are provided in the rule.

(d) For performance tests, the Notification of Compliance Status shall include one complete test report, for each test method used for a particular kind of emission point. For additional tests performed for the same kind of emission point using the same method, the results and any other information required by the test method to be in the test report shall be submitted, but a complete test report is not required.

- A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards (if the owner or operator prepares the standards), record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method to be in the test report.

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices.
Continued

D. Group 2 Continuous Process Vents with TRE > 1.0 but ≤ 4.0

This section applies to Group 2 continuous process vents that are routed to a final recovery device to maintain a TRE > 1.0 but ≤ 4.0.

Report the parameter monitoring results for absorbers, condensers, or carbon adsorbers, averaged over the same time period of the measurements of vent stream flow rate and concentration used in the TRE determination (both measured while the vent stream is normally routed and constituted), and the measurements and calculations performed to determine the TRE index value of the vent stream.

Subpart PPP Note: The requirements for absorbers, condensers, and carbon adsorbers used as final recovery devices to maintain a TRE index value above 1.0 only apply to continuous process vents within:

- PMPU producing polyether polyols using epoxides and where nonepoxides are used to make or modify the product or
- PMPU producing polyether polyols using THF.

☒ **Not Applicable**

[63.1425(f), (f)(3), 63.114(e), 63.117(a)(2), (a)(7), 63.1425(c)(3), 63.1430(g)(1)→ 63.1430(c)→ 63.1429(a) → (a)(4)-(a)(7), 63.1438(a)(2)]

(1) Process Vent ID	(2) Recovery Device ID	(3) Recovery Device Type (a)	(4) Parameter(s) To Be Monitored for Recovery Device	(5) Monitoring Parameter Operating Level	(6) Rationale for the Parameter Level (Attachment #) (b)	(7) TRE Index Value Determination (Attachment #)	(8) Continuous Monitoring Data Measured During TRE Determination (Attachment #)

(a) **Types of Recovery Devices:**

A. Absorber
B. Condenser
C. Carbon Adsorber
D. Alternative Recovery Device - specify

(b) Attach the rationale for the specific level for each parameter for each emission point, including any data and calculations used to develop the level and a description of why the level indicates proper operation of the recovery device.

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices
Continued

E. Scrubbers Used to Control Halogenated Vents

For each scrubber following a combustion device to control halogenated continuous process vents, indicate the percent reduction or scrubber outlet mass emission rate of total hydrogen halides and halogens.

Subpart PPP Note: The requirements for halogen scrubbers and halogen reduction devices only apply to halogenated vent streams from Group 1 process vents from PMPU producing polyether polyols using THF.

☒ **Not Applicable**

(1) Control Device ID	(2) Percent Reduction of Total Hydrogen Halides or Halogens	(3) Scrubber Outlet Mass Emission Rate of Total Hydrogen Halides or Halogens	(4) pH of Scrubber Effluent	(5) Scrubber Liquid to Gas Ratio

[63.1425(f), (f)(3) -> 63.117, 63.117(a)(2), (a)(6)

F. Closed Vent System Inspections

For closed vent system or conveyance systems used to route emissions to fuel gas systems, recovery devices, and/or control devices, attach initial monitoring results: (Check one)

☐ Not applicable - no closed vent systems or conveyance systems

☐ Under vacuum, not applicable

☒ Applicable. Initial method 21 monitoring compliance is assumed for control devices B13SV1 and B19S2 as the facility was subject to TCEQ fugitive monitoring requirements under NSR permit 18561 at the time of initial PPP applicability (June 1, 2002)

Initial monitoring for closed Vent systems to control devices B33S1 and B34S1400 is also assumed as the components are monitored for compliance with TCEQ regulations at the time of initial applicability (4/21/2017)

[§63.1439(e)(5)(i)]

G. Boilers / Process Heaters

For any boilers or process heaters, provide a description of the location at which the vent stream is introduced into the boiler or process heater.

☒ **Not Applicable**

(1) Boiler/Process Heater I.D. (EPN)	(2) Description of location at which vent stream is introduced into boiler/process heater

[63.1425(f), (f)(3) → 63.117, 63.117(a)(4)(iii), 63.1430(g)(1) → 63.1430(b)(2)(iii)]

Continued on next page

Section XI: Combustion, Recovery and Recapture Devices,
Continued

H. Reduced Recordkeeping Program

For any parameter with respect to any item of equipment, the owner or operator may implement the reduced recordkeeping requirements in §63.1439(h)(1) as an alternative to the continuous operating parameter monitoring and recordkeeping provisions that would otherwise apply under Subpart PPP. The owner or operator shall retain for a period of 5 years each record required by 63.1439(h)(1).

☒ Not applicable.

☐ The owner or operator has chosen to retain only the daily average value, and is not required to retain more frequent monitored operating parameter values, for a monitored parameter with respect to an item of equipment. All of the requirements of 63.1439(h)(1)(i) through (iv) are met. **This Notification of Compliance Status serves as notification that the owner or operator has chosen to comply with the requirements in §63.1439(h)(1).**

Excursion Note - For the purposes of 63.1439(h), an excursion means that the daily average of monitoring data for a parameter is greater than the maximum, or less than the minimum established value.

[§63.1439(h)(1)]

Section XII. Revision Log

Revision Log

The following table contains a list of revisions to Notification of Compliance Status.

Section	Revision Date	Description of Change
II, III, VI, XI	8/17/17	Added regulatory overlap for new control device, removed references to removed process vents (KR-7,8), updated equipment leak component counts, added PRD management section, added new control devices (KTO/Kiln) and additional Closed vent system language

Appendix A. Method of Control Codes

Use the following list of codes for sections I.J, VI.A

Code	Description
A	Thermal incinerator.
B	Catalytic incinerator.
C	Steam-assisted flare.
D	Air-assisted flare.
E	Nonassisted flare.
F	Boiler / process heater of ≥ 44 megawatts design heat input capacity.
G	Boiler / process heater of < 44 megawatts design heat input capacity.
H	Boiler / process heater of < 44 megawatts design heat input capacity where vent stream is introduced with or used as the primary fuel.
I	Absorber (i.e. scrubber)
J	**For process vents from PMPU producing polyether polyols using THF**: Absorber (i.e. scrubber) for halogenated vent streams installed prior to September 4, 1997.
K	**For process vents from PMPU producing polyether polyols using THF**: Absorber (i.e. scrubber) for halogenated vent streams installed after September 4, 1997.
L	Condenser
M	Carbon adsorber.
N	Emissions routed to a process. (applies to storage vessels)
O	Emissions routed to a fuel gas system. (applies to storage vessels)
P	Storage Vessel or Wastewater Tank - Fixed roof equipped with an internal floating roof having a liquid-mounted seal.
Q	Storage Vessel or Wastewater Tank - Fixed roof equipped with an internal floating roof having a metallic shoe seal.
R	Storage Vessel or Wastewater Tank - Fixed roof storage equipped with an internal floating roof having two continuous seals (lower seal may be vapor mounted).
S	Storage Vessel or Wastewater Tank - Fixed roof equipped with an internal floating roof having a vapor-mounted seal as of September 4, 1997. The seal options in P, Q, or R will not apply until (whichever date is earlier): • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.
T	Storage Vessel or Wastewater Tank - External floating roof equipped with two seals, one above the other. The lower or primary seal is a metallic shoe seal.
U	Storage Vessel or Wastewater Tank - External floating roof equipped with two seals, one above the other. The lower or primary seal is a liquid-mounted seal.
V	Storage Vessel or Wastewater Tank - External floating roof equipped with a liquid-mounted or metallic shoe primary seal as of September 4, 1997, but no secondary seal. The requirement for a secondary seal does not apply until the earlier of the following dates: • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.

Continued on next page

Appendix A. Method of Control Codes, Continued

Code	Description
W	Storage Vessel or Wastewater Tank - External floating roof equipped with a vapor-mounted primary seal and a secondary seal as of September 4, 1997. The requirement for a liquid-mounted or metallic shoe primary seal does not apply until the earlier of the following dates: • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.
X	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with a liquid-mounted seal.
Y	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with a metallic shoe seal.
Z	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with two continuous seals mounted one above the other. The lower seal may be vapor-mounted.
AA	Storage Vessel - External floating roof converted to an internal floating roof. Internal floating roof equipped with a vapor-mounted seal as of September 4, 1997. The requirement for one of the above seal options does not apply until (whichever date is earlier): • The next time the storage vessel is emptied and degassed. • No later than June 1, 2009.
BB	Storage Vessels and Wastewater Tanks - Fixed roof vented to a control device. Specify the control device code.
CC	Wastewater Tank - Fixed Roof; The tank is not sparged and is not used for heating wastewater or treating by means of an exothermic reaction.
DD	Surface Impoundment with a cover (e.g., air-supported structure or rigid cover) and a closed-vent system that routes OHAP vapors vented from the surface impoundment to a control device. Specify the control device code.
EE	Surface Impoundment with a floating flexible membrane cover fabricated from a synthetic membrane material.
FF	Covered Container (> 0.42 m^3) used to **handle, transfer or store** a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. The cover and all openings (e.g., bungs, hatches, sampling ports, and pressure relief devices) are maintained in accordance with the Fixed Roofs, Covers and Enclosures – Leak Inspection Provisions
GG	Covered Container ($\leq$ 0.42 m^3) used to **handle, transfer or store** a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. Container meets existing Department of Transportation specifications and testing requirements of 49 CFR part 178.
HH	Covered Container ($\leq$ 0.42 m^3) used to **handle, transfer or store** a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. The cover and all openings (e.g., bungs, hatches, sampling ports, and pressure relief devices) are maintained in accordance with the Fixed Roofs, Covers and Enclosures – Leak Inspection Provisions
II	Container used to **treat** a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Container is located within an enclosure that is vented to a control device. Specify the control device code.
JJ	Individual drain system that receives or manages a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Each opening in the individual drain system has a cover and if vented, the vapors are routed to a process or through a closed vent system to a control device. Specify the control device code.

Continued on next page

Appendix A. Method of Control Codes, Continued

Code	Description
KK	Individual drain system that receives or manages a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. 1. Each drain is equipped with water seal controls or a tightly fitting cap or plug. 2. Each junction box is equipped with a tightly fitting solid cover. The junction box is either vented to a process or through a closed vents system to a control device (specify the control device code) or meets the criteria for venting to the atmosphere (see the Option 2 Requirements on the Process Wastewater – Individual Drain system page). 3. Each sewer line is covered or enclosed so as to have no visible gaps or cracks in joints, seals, or other emission interfaces.
LL	Oil-Water Separator that receives, manages, or treats a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Oil-water separator is equipped with a fixed roof and a closed vent system that routes OHAP vapors vented from the oil-water separator to a control device. Specify the control device code.
MM	Oil-Water Separator that receives, manages, or treats a Group 1 wastewater stream or a residual from a Group 1 wastewater stream. Oil-Water Separator is equipped with floating roof meeting the requirements of 40 CFR 60, Subpart QQQ (see Oil-Water Separator Equipped with a Floating Roof- control option 2). Specify the control device code in this case.
NN	Equivalent Means of Emission Limitation approved by the Administrator. (describe on attachment)
OO	Extended Cookout Option (ECO)

Appendix B. Process Vents – Epoxide Emission Limits

Epoxide Emission Limits

Use the following codes for Section III.A, Column 6.

Code	Type of Affected Source	Description
A	New	Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 99.9 percent
B	New	Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture, or recovery device of 20 ppmv or less;
C	New	Maintain an emission factor of no greater than 4.43×10^{-3} kilogram epoxide emissions per megagram of product (4.43×10^{-3} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.
D	New	Comply with a combination of the following options: (1) Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 99.9 percent and (2) Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture, or recovery device of 20 ppmv or less; ***Note***: If choosing this option, each process vent not controlled in accordance with (2) shall be part of the group of applicable process vents that shall then comply with (1)."
E	Existing	Reduce the total epoxide emissions from each process vent using a flare;
F	Existing	Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 98 percent;
G	Existing	Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture or recovery devices of 20 ppmv or less;
H	Existing	Maintain an emission factor of no greater than 1.69×10^{-2} kilogram epoxide emissions per megagram of product (1.69×10^{-2} pounds epoxide emissions per 1,000 pounds of product) for all process vents in the PMPU.
I	Existing	Comply with a combination of the following options: (2) Reduce the total epoxide emissions from the group of applicable process vents by an aggregated 98 percent; (3) Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture or recovery devices of 20 ppmv or less; ***Note***: If complying with this option, each process vent that is not controlled in accordance with (3) shall be part of the group of applicable process vents that shall then comply with (2)."
J	Existing	Comply with a combination of the following options: (1) Reduce the total epoxide emissions from each process vent using a flare; (2) Maintain an outlet concentration of total epoxides or TOC after each combustion, recapture or recovery devices of 20 ppmv or less;

Appendix C: Treatment Unit Description Codes

Physical Treatment Processes			
1-A	Absorption	1-E	Solvent Extraction
1-B	Distillation	1-F	Steam Stripping
1-C	Mixing	1-G	Thin Film Evaporation
1-D	Reverse Osmosis (Hyperfiltration)	1-H	Other Physical Treatment Process – Provide a description
Chemical Treatment Processes			
2-A	Carbon Adsorption	2-D	Ion Exchange
2-B	Chemical Oxidation	2-E	Reduction
2-C	Chemical Precipitation	2-F	Other Chemical Treatment Process – Provide a description
Biological Treatment Processes			
3-A	Activated Sludge	3-D	Stabilization Ponds
3-B	Anaerobic Treatment	3-E	Trickling Filtration
3-C	Nitrification – Denitrification	3-F	Other Biological Treatment Process – Provide a description
	Other Processes		
4-A	Underground injection	4-B	Other Process not listed – Provide a description

Appendix D: Methods for Determining Wastewater Concentrations

Select a code from the list below. Methods for determining concentration of Table 9 HAP in process wastewater streams. Also see the Procedure for Determining Wastewater Average Concentration.

Attached documentation providing sufficient information showing that the annual average concentration for wastewater streams was determined to be a Group 2 wastewater stream. This column is not required for **Group 1 streams** or Group 2 wastewater stream that are used to comply with 40 CFR 6.138(g).

Code	*Type*
A	*Knowledge of the wastewater using material balances.*
B	Knowledge of the wastewater using records of chemical purchases.
C	Knowledge of the wastewater using process stoichiometry.
D	Knowledge of the wastewater using previous test results. If test data are used, the owner or operator shall provide documentation describing the testing protocol and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the determination.
E	Bench-scale or pilot-scale test data. Where bench-scale or pilot-scale test data are used to determine the annual average concentration, the owner or operator shall provide sufficient information to document that the data are representative of the actual annual average concentration, or are reliably indicative of another relevant characteristic of the wastewater stream that could be used to predict the annual average concentration. Also provide documentation describing the testing protocol, and the means by which any losses of volatile compounds during sampling, and the bias and accuracy of the analytical method, were accounted for in the de-termination of annual average concentration.
F	Method 25D. Use procedures specified in Method 25D of 40 CFR part 60, appendix A.
G	Method 305. Use procedures specified in Method 305 of 40 CFR part 63, appendix A.
H	Methods 624 and 625. Use procedures specified in Methods 624 and 625 of 40 CFR part 136, appendix A and comply with the sampling protocol requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved com-pounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed. For Method 625, make corrections to the compounds for which the analysis is being conducted based on the accuracy as recovery factors in Table 7 of the method.
I	Method 1624 and Method 1625. Use procedures specified in Method 1624 and Method 1625 of 40 CFR part 136, appendix A and comply with the requirements specified in paragraph (b)(5)(ii) of this section. If these methods are used to analyze one or more compounds that are not on the method's published list of approved compounds, the Alternative Test Procedure specified in 40 CFR 136.4 and 136.5 shall be followed.
J	Other EPA method(s). Use procedures specified in the method and comply with the requirements specified in 63.144(b)(5)(ii) and either 63.144(b)(5)(iii)(A) or (b)(5)(iii)(B).
K	Method(s) other than EPA method. Use procedures specified in the method and comply with requirements specified in 63.144(b)(5)(ii) and (b)(5)(iii)(A).

Appendix E. Control Method Codes for Liquid Streams in Open Systems (Table 35 of Subpart G)

A.	Drain or drain hub - Tightly fitting solid cover (TFSC)
B.	Drain or drain hub - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements
C.	Drain or drain hub - Water seal with submerged discharge or barrier to protect discharge from wind.
D.	Manhole - TFSC
E.	Manhole - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements
F.	Manhole - If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
G.	Lift Station - TFSC and the lift station shall be level controlled to minimize changes in the liquid level.
H.	Lift Station - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements and the lift station shall be level controlled to minimize changes in the liquid level.
I.	Lift Station - If the lift station is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in collection system. The vent shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter. The lift station shall be level controlled to minimize changes in the liquid level.
J.	Trench - TFSC
K.	Trench - TFSC with a vent to either a process, or to a fuel gas system, or to a control device meeting the HAP Removal Efficiency Requirements
L.	Trench - If the item is vented to the atmosphere, use a TFSC with a properly operating water seal at the entrance or exit to the item to restrict ventilation in the collection system. The vent pipe shall be at least 90 cm in length and not exceeding 10.2 cm in nominal inside diameter.
M.	Pipe - Each pipe shall have no visible gaps in joints, seals, or other emission interfaces.
N.	Oil/ Water Separator or Organic / Water Separator - Equip with a fixed roof and route vapors to a process or to a fuel gas system. Note - A fixed roof may have openings necessary for proper venting of the tank, such as pressure/vacuum vent, j-pipe vent.
O.	Oil/ Water Separator or Organic / Water Separator - Equip with a closed vent system that routes vapors to a control device meeting the HAP Removal Efficiency Requirements
P.	Oil/ Water Separator or Organic / Water Separator - Equip with a floating roof that meets the equipment specifications of Alternative Standards for Oil/Water Separators (Sec. 60.693-2 in Subpart QQQ).
Q.	Tank with capacity ≥ 38 cubic meters - Maintain a fixed roof
R.	Tank with capacity ≥ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to other process equipment
S.	Tank with capacity ≥ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to a fuel gas system.
T.	Tank with capacity ≥ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to a control device that reduces inlet emissions of the total OHAP by 95% or greater (if the control device was installed after September 4, 1997.)
U.	Tank with capacity ≥ 38 cubic meters - If the tank is sparged or used for heating or treating by means of an exothermic reaction, equip it with a fixed roof and a closed vent system that routes the organic hazardous air pollutants vapors to a control device that reduces inlet emissions of the total OHAP by 90% or greater (if the control device was installed before September 4, 1997).

ATTACHMENT 1 FOR PGA MACT PPP NOCS
SCRUBBER DESIGN ANALYSIS

B13PGSV3 Design Analysis Results

Plant Name: Polyglycol Amines
Control Device-ID: B13PGSV3
Control Device Name: SC-2 Kettle Scrubber

ASPEN Results

An ASPEN design analysis was completed for water scrubber B13PGSV3 on May 31, 2002. The results of this analysis show that at the following maximum lb/hr oxide vent rates this unit will still achieve > 99% removal efficiency for ethylene oxide and propylene oxide.

Oxide Name	Vent Rate (lb/hr) from ASPEN	Water Flow from ASPEN	Removal Efficiency (%)
Ethylene oxide	1.46	6553.8 lb/hr (13.1 gpm)	99.9 %
Propylene oxide	2.04	6553.8 lb/hr (13.1 gpm)	99.9 %

Worst-case Scenario's

Four kettle simulations were completed to depict the worst-case venting scenarios for this plant. The results are displayed below:

Product	Kettle	Oxide Feed Time (hours)	EO in Vent (total lbs)	EO Vent rate (lb/hr)	PO in Vent (total lbs)	PO Vent rate (lb/hr)
15-200	KR-8	15.3	7.7	0.50	5.2	0.34
PB-285	KR-5	7.5	No EO	No EO	5.9	0.79
PB-285	KR-7	7.3	No EO	No EO	3.4	0.47
EPB-5100	KR-5	12.7	7.4	0.58	9.5	0.75

From this summary, it can be determined that in each case the ethylene oxide and propylene oxide vent rates are well below the maximum vent rate of 1.46 lb/hr that was established in the ASPEN design analysis. The minimum water flow for this scrubber is 13.1 gpm.

ATTACHMENT 2 FOR PGA MACT PPP NOCS
B34 Flameless Thermal Operator Design Evaluation

B34 Flameless Thermal Operator (FTO) Design Evaluation

General Information	Standard No.:	40 CFR Part 63 subpart PPP, Polyether Polyols Production MACT

Requirement: §63.14269(f)(1)(ii)(A) -

(f) Design evaluation. A design evaluation is required for those control techniques that receive less than 10 tons per year (9.1 megagrams per year) of uncontrolled organic HAP emissions from one or more PMPU, if the owner or operator has chosen not to conduct a performance test for those control techniques in accordance with paragraph (b)(6) of this section. The design evaluation shall include documentation demonstrating that the control technique being used achieves the required control efficiency under worst-case conditions, as determined from the emission profile described in §63.1426(c)(3)(i)(B)(3)(i).

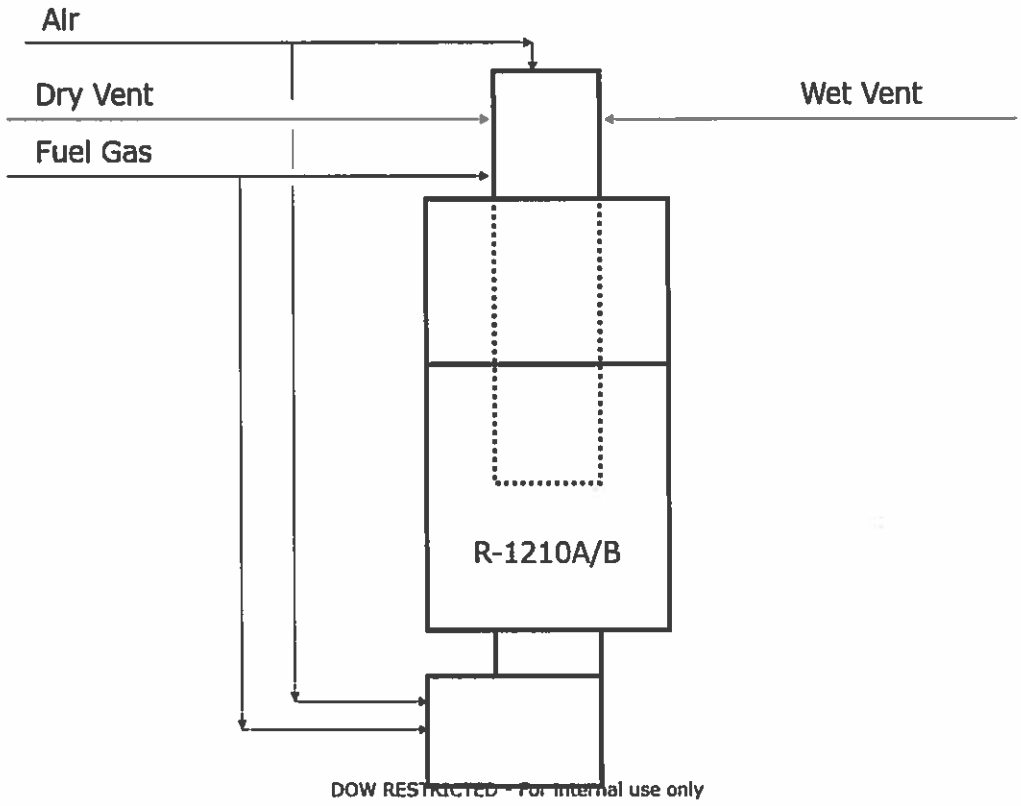
(1) Except for ECO whose design evaluation is presented in paragraph (f)(2) of this section, to demonstrate that a control technique meets the required control efficiency, a design evaluation shall address the composition and organic HAP concentration of the vent stream, immediately preceding the use of the control technique. A design evaluation shall also address other vent stream characteristics and control technique operating parameters, as specified in any one of paragraphs (f)(1)(i) through (vi) of this section, depending on the type of control technique that is used. If the vent stream is not the only inlet to the control technique, the owner or operator shall also account for all other vapors, gases, and liquids, other than fuels, received into the control technique from one or more PMPUs, for purposes of the efficiency determination.

(ii) For a combustion control technique that does not satisfy the criteria in paragraph (f)(1)(i) of this section, the design evaluation shall document the control efficiency and address the characteristics listed in paragraphs (f)(1)(ii)(A) through (C) of this section, depending on the type of control technique.

(A) For a thermal vapor incinerator, in the design evaluation the owner or operator shall consider the auto ignition temperature of the organic HAP, shall consider the vent stream flow rate, and shall establish the design minimum and average temperatures in the combustion zone and the combustion zone residence time.

FTO Description

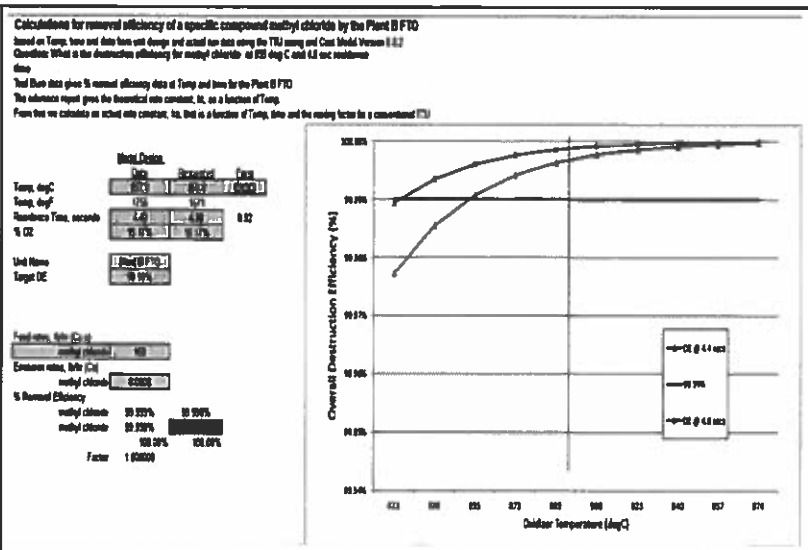
Vents from upstream processes (reactors, distillation columns, product tanks, absorber/stripper system, and process vessels) are collected in a vent header system and then treated in dual, parallel flameless thermal oxidizer systems with heat recovery.



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Design Evaluation

Documentation demonstrating that the control technique being used achieves the required control efficiency under worst-case conditions	The PPP vent stream is not the only inlet to this control device. For purposes of the efficiency demonstration, previous performance testing was conducted initialy in 2003. Methyl chloride (a Class 1 PHOC) was included in the initial testing to demonstrate high destruction rates of even very refractory compounds. FTO represented worst-case obtainable conditions and was within allowable limits.

Documentation of Control Efficiency	
Autoignition temperature of the organic HAP	Ethylene Oxide – 429°C
Vent Stream Flow Rate	The subject PPP Vent stream to the FTO is <1 lb/hr of oxides based on modeling and only makes up a small fraction of the total pollutants to be controlled in the device.
Design minimum and average temperatures in the combustion zone	Minimum temperatures were established during performance testing in 2003. The outlet temperature operates at approximately 1000 C.
Combustion Zone Residence Time	Device flow path consists of 2 reactors and a common hot duct with the attached dimensions. Reactor: Inner Diameter – 20', 9" Height Tangent to Tangent – 25', 11-7/8" Height above tangent – 18', 8-3/8" Height above bed to uper tangent – 7', 3-1/2" Hot Duct; Diameter – 9', 4" Length – 48' Gas Flow – 17,000 acfm Gas Temperature (deg C inlet / outlet) – 25 / 1000 **Residence Time 4.4 sec**
Operating Parameters	To insure Operation with design: Min. R1210A Outlet Temp., Daily 938 deg. C Min. R1210B Outlet Temp., Daily 957 deg. C

Document Control and History

Revision history

The following information documents at least the last 3 changes to this document, with all the changes listed for the last 6 months.

Date	Revised By	Changes
7/11/2017	Betsy Farkas Elaine Schroeder	Document Creation for POBA vents
7/18/2017	E Roesch	Updated information specific to PGA process

Document Location

Record Retention

Until Superseded or Life of Equipment + 5 years

From: Carolyn Maus
Sent: Thursday, February 19, 2026 10:27 AM
To: 'Schmidt, Crystal (C)'
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Hi Crystal,

Thanks for this – I can see the information you pointed out and that looks good. All I need now is the justification for the deviation limit for the other unit (B13SCPOLY). Please provide that by Tuesday, February 24.

Thanks!

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



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---

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Thursday, February 12, 2026 5:17 PM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Thursday, February 12, 2026 5:17 PM
To: Carolyn Maus
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: T384 Scrubber.pdf

Carolyn,

Please see the attached performance test for B17SV384. If you look at Table 3.4 on page 10, you can see where we got the 480 gallons per hour value. The actual operating rate (avg) is 8 gal/min. Multiply that by 60, and you get the 480 gallons per hour. I know the document is pretty large, but I'm hoping you can find everything you need on pages 1-19. Please let me know if you would like to discuss anything over a Teams meeting.

Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Tuesday, February 10, 2026 9:49 AM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

The Dow Chemical Company
2301 N. Brazosport Blvd.
Freeport, Texas 77541
USA

April 19, 2012

AirCo/BL-0082-R/RN-100225945/RP

Mr. Manuel Bautista
Air Section Manager, Field Operations Region XII
Texas Commission On Environmental Quality
5425 Polk Avenue, Suite H
Houston, Texas 77023-1423

Certified Mail 7009 3410 0001 6860 9613

AIR PERMIT #75751 TEST REPORT FOR CONTINUED COMPLIANCE OF THE T-384 WATER SCRUBBER, EPN#B17SV384 OF THE PHENOL GLYCOL ETHER PRODUCTION PLANT LOCATED AT THE DOW CHEMICAL FACILITY IN FREEPORT, TEXAS; ACCOUNT NO. BL-0082-R

Dear Mr. Bautista,

Please find enclosed a copy of the report for the testing that was performed to demonstrate continued compliance with the requirements of TCEQ Air permit #75751. The reason for this testing was to establish a higher allowed operating limit (Oxide Feed Rate) than that which was established during the initial testing conducted in 2008. The emission testing was performed on the outlet stack of the T-384 Water Scrubber, EPN# B17SV384 which is located inside of our plant B Site that is owned and operated by The Dow Chemical Company, Texas Operations, Freeport, Texas.

The previous testing was conducted on July 3, 2008. The unit started up and was placed into service a few months prior to the initial testing in 2008.

The testing was performed by the Dow Chemical Stack Testing Team and the sample analysis was performed by an outside contract lab (Enthalpy). The following table provides the results from the test completed on 2/29/12. The unit demonstrated compliance for all of the applicable limits tested.

TEST RESULTS (2/29/12)

SAMPLE TYPE	TEST METHOD	ACTUAL EMISSION RATE*	ALLOWABLE EMISSION RATE
Total VOC's	EPA M18	0.16 lb/hr	0.17 lb/hr
Acetone	EPA M18	<0.0002 lb/hr	0.01 lb/hr

* Emissions based on average of three one-hour runs.

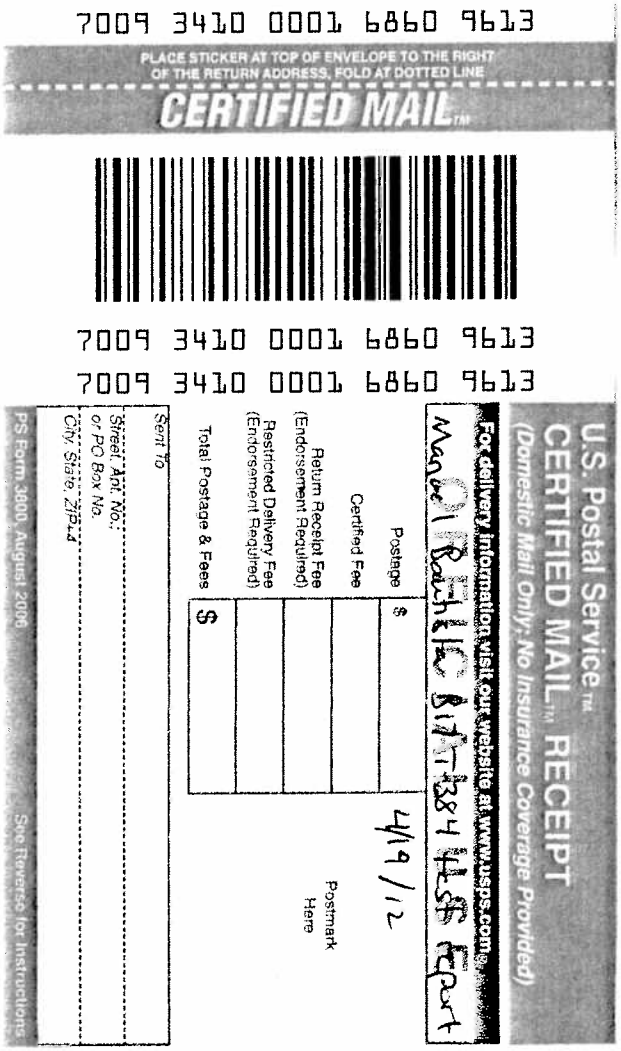
- May be shared

If you have any questions concerning this test report, please call me at (979) 238-7158.

Sincerely,

Spencer Hurley
The Dow Chemical Company
EH&S Leveraged Delivery
(979) 238-7158
e-mail:nshurleyjr@dow.com

xc: Mr. Ramiro Garcia, TCEQ, Austin
Ms. Julie Woodard, B-101(cover)
Mr. Joe Doby, TCEQ, Houston (cover)



- May be shared

Bcc: Ms Erica Ocampo, B-3803 (1-hard copy & 1 CD), I CD copy to Ms. Katholyn Davis B-101

ECC: Mr. Michael Carpenter
Ms. Rebecca Chancey
Mr. Mark Larson
Mr. Royce Williams
Mr. James Sutherland
Ms. Cheryl Steves

TCEQ Air Permit #75751
Compliance Test Report

Phenol Glycol Ether (PGE) Production Facility, B-1700

T-384 Water Scrubber
EPN# B17SV384



The Dow Chemical Company
Freeport, Texas

Sampling Dates: February 29, 2012

** Please note that The Dow Chemical Company PGE Process is the final copy holder and owner of this document. A temporary electronic copy will be retained by The Dow Chemical Company Stack Testing Team for a short period of time.*

CEMS CERTIFICATION REPORT

PGE Process
T-384 Water Scrubber
EPN# B17SV384

I certify that I have personally examined and am familiar with the information submitted herein, and based on my inquiries of those individuals immediately responsible for obtaining the information; I believe the submitted information is true, accurate, and complete.

Chuck Glenn
Dow U.S.A. Texas Operations
Dow Stack Testing Team

Michael Carpenter
Dow U.S.A Texas Operations
Process Focal Point

4/12/12

Spencer Hurley
Dow U.S.A. Texas Operations
EH&S Delivery

Erica Ocampo
Dow U.S.A Texas Operations
EH&S Focal Point

DOW CHEMICAL U.S.A. TEXAS OPERATIONS
FREEPORT, TEXAS

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1.0 INTRODUCTION

1.1 Summary of Test Program

This compliance test report describes the test procedures as required by TCEQ Air Permit #75751 followed to complete the Performance Specification Test for the PGE process T-384 water scrubber. The reason for this testing was to establish a higher allowed Operating limit (Oxide Feed Rate) than that as established by the initial testing in 2008. The total VOC emission sampling was performed on the T-384 Water Scrubber EPN# B17SV384, of the Phenol Glycol Ether Production Facility which is located in the B-1700 block of the plant B Site that is owned and operated by The Dow Chemical Company, Texas Operations, Freeport, Texas.

The following table summarizes the pertinent data for this compliance test:

Responsible Groups	• The Dow Chemical Company • Texas Commission on Environmental Quality (TCEQ) • Environmental Protection Agency (EPA)
Applicable Regulations	• TCEQ Permit #75751
Industry / Plant	• PGE Process
Plant Location	• B-1700 Block Freeport, Texas 77541
Unit Initial Start-up	• 2008
Date of Last Test	• July 3, 2008
Air Pollution Control Equipment	• T-384 Water Scrubber
Emission Points	• T-384 Water Scrubber (EPN B17SV384)
Pollutants/Diluent Measured	• Acetone • Total VOC's (Phenol, Ethylene Oxide, and any other VOC's >5%)
Test Dates	• February 29, 2012

1.2 Key Personnel

The key personnel who coordinated the test program are:

- Michael Carpenter is a process engineer for the PGE unit and provided support as the process focal point. He was responsible for coordinating the plant operation during the test and ensuring the unit was operating at the agreed upon conditions in the test plan. He also served as the key contact for collecting any process data required and providing all technical support related to process operation. His contact information is 979-238-4216.

- Erica Ocampo is the environmental specialist for the PGE business and provided support as the EH&S Focal Point for this unit. She was responsible for ensuring that all regulatory requirements and citations were reviewed and considered for the testing. Her contact information is 979-238-1109.

- Spencer Hurley works for the Dow Chemical Company and the EH&S Leveraged Delivery group. He served as the test plan coordinator and was responsible for the overall leadership of the sampling program. He developed the overall testing plan and determined the correct sample methods. All agency communication was completed through his role. His contact information is 979-238-7158.

- Chuck Glenn works for the Dow Chemical stack testing team. He completed the final report. His contact information is 979-238-9109.

- Jason Hicks works for the Dow Chemical stack testing team. He served as sample team leader and was responsible for ensuring that the data generated met the quality assurance objectives of the plan. Morgan Laird and Jeremy Carlock are sampling technicians that also helped with this testing.

2.0 PLANT AND SAMPLING LOCATION DESCRIPTION

2.1 Facility Description

Figure 2.1 illustrates the basic processing steps for the B-1700 facility.

PGE Process Description

Introduction	The Phenol Glycol Ether (PGE) plant emission sources include columns, reactors, tanks, vents, a scrubber, sample collection spots, loading operations, and fugitive emissions. All process vents requiring control will be routed to the scrubber.
Phenol Drying	The phenol drying column will remove water impurities from the phenol feedstock. Vents from the column are routed to the scrubber (EPN B17ST384).
PGE Production	The primary feedstocks, phenol, ethylene oxide, and propylene oxide, are combined in prescribed ratios and fed to the reaction system. The reaction is catalyzed. The outlet stream from the reaction system is composed of phenol glycol ethers and un-reacted phenol.
Recovery	The outlet stream is routed to the phenol recovery section. Distillation is utilized to separate un-reacted phenol from the process stream. The un-reacted phenol is recycled to the beginning of the process.
Refining	The remaining process stream is sent to the refining section. This material is distilled and sent to storage for distribution.
Loading	Product is loaded into tank trucks/shipping containers or rail cars at existing loading racks.
Scrubber	Rerun drums D-351 and D-352 and process vents requiring control are routed to the scrubber (EPN B17SV384).

2.2 Control Equipment Description -

T-384 is a packed water scrubber used in the B-1700 block to control emissions from the Phenol Glycol Ether process. The scrubber uses water to remove VOC's in the process vent stream. The water leaving the scrubber is sent to an on-site wastewater treatment facility.

2.3 Flue Gas Sampling Locations –

OUTLET: T-384 Scrubber -

The T-384 exhaust stack has two 1" sampling ports “A” & “B” as shown in Figure 2.2. The ports are installed at a height, which complies with the requirements of 40 CFR 60, Appendix A, Reference Method 1A. The sample location meets the minimum of two duct diameters downstream and 1/2 duct diameters upstream of gas flow disturbances as required by EPA Method 1.

Due to the very small diameter of the vent stack of 3” we requested approval to conduct the flow and VOC sampling from the centroid area of the vent pipe.

(Approved 1/23/12 by Mr. Nathan Chenaux during pretest meeting)

FIGURE 2.1: B-1700 FACILITY PROCESS DIAGRAM

Phenyl Glycol Ethers Production Unit, B-1700
Process Flow Diagram

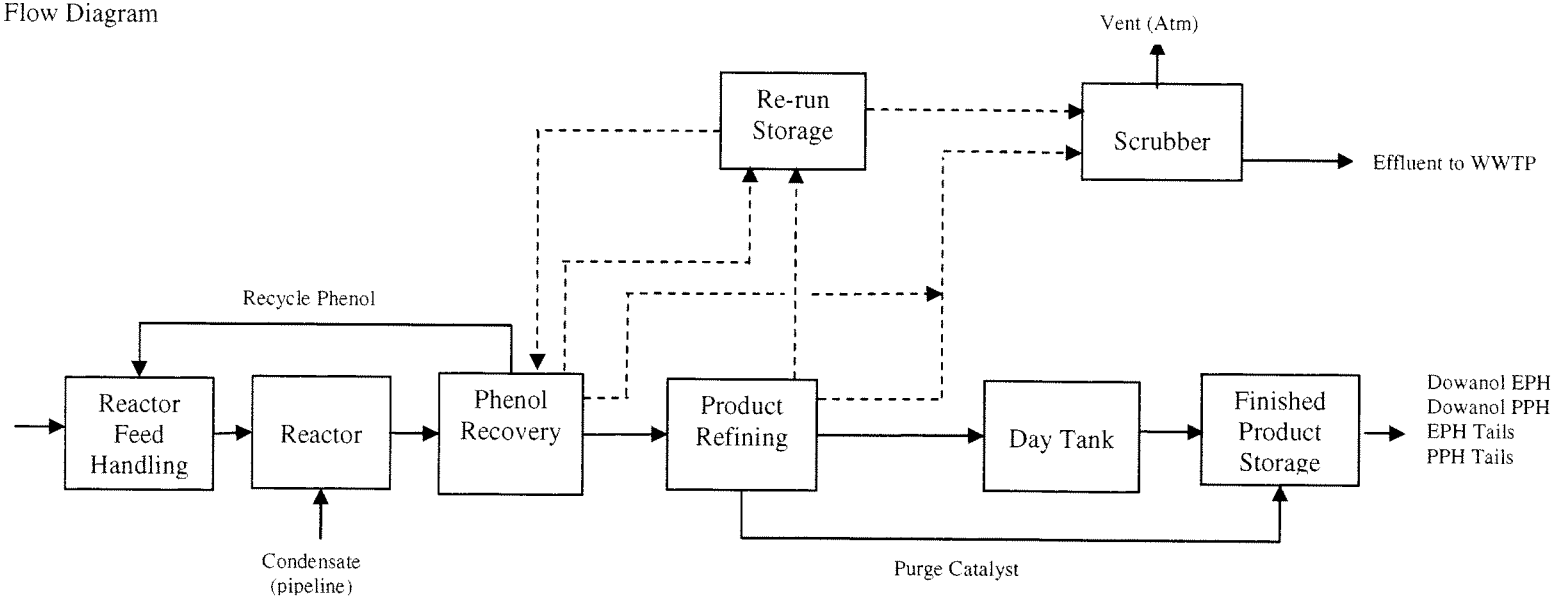
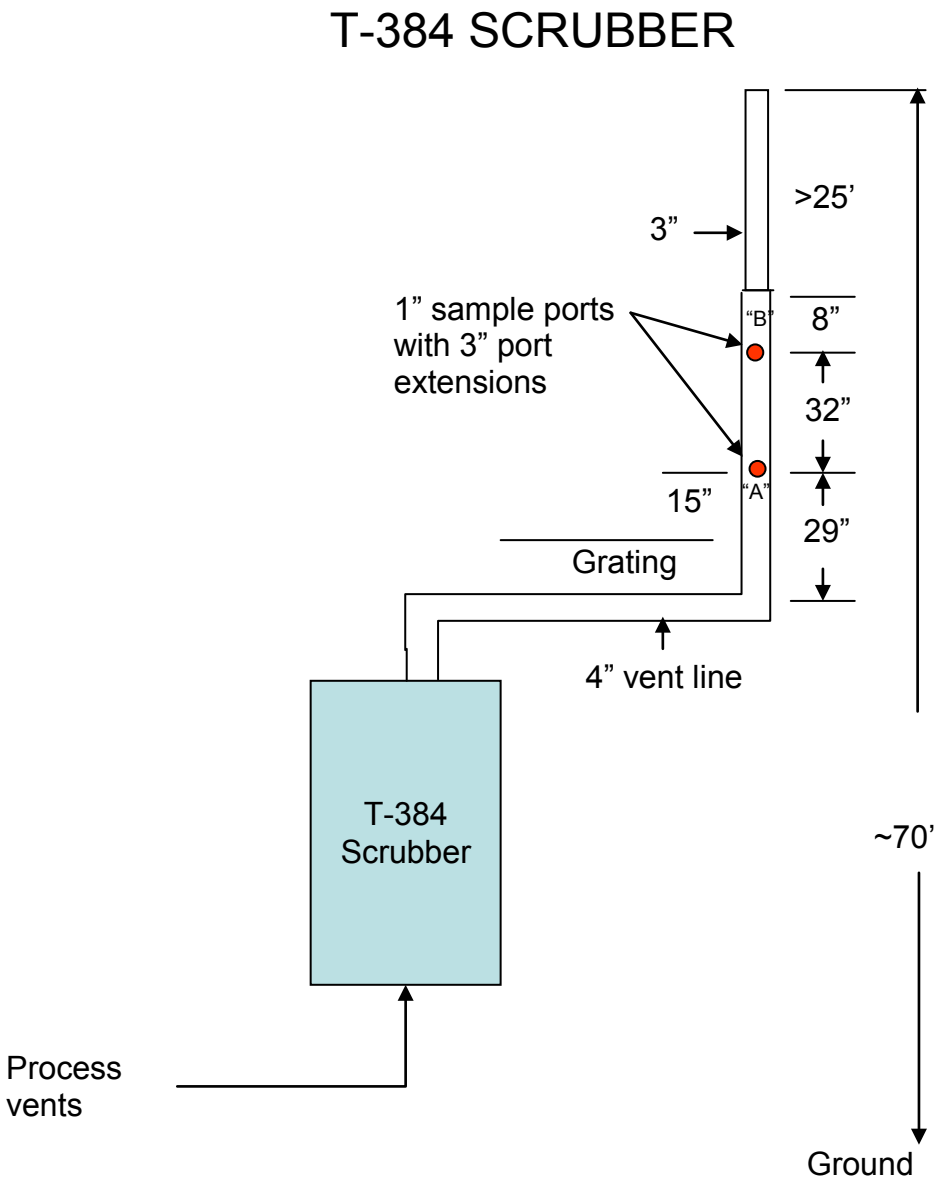


FIGURE 2.3: T-384 SCRUBBER STACK SCHEMATIC-



3.0 SUMMARY AND DISCUSSION OF TEST RESULTS

3.1 Objectives and Test Matrix

The purpose of this test was to demonstrate compliance with the requirements and emission limits as found in TCEQ Air permit #75751. The specific objectives are as follows:

AIR PERMIT

- Demonstrate that the Total VOC emission rate is $\leq$0.17 lb/hr
- Demonstrate that the acetone emission rate is $\leq$0.01 lb/hr
- Conduct testing at the required operating condition:
  - Normal Maximum Production Rate during EPH series production
- Establish minimum water flow through T-384
- Collect Process Data that supports the operating rates during each test

3.2 Facility Operations

Air Permit Requirements:

The facility was operated at the maximum currently achievable production rate during stack emission testing. Production rate is established by the oxide feed rate into the process. Thus, oxide feed rate was selected as the key operating parameter that will define the unit's production rate at the time of this test, and during subsequent operations.

3.3 Results

The scrubber was within the allowable limits for all compounds analyzed. Tables 3.1 and 3.2 provide a summary of the emission results. The individual run data can also be found in Section 6 (Field Data).

3.4 Comments / Exceptions

None

TABLE 3.1: Scrubber Emission Results (EPN B17SV384)

SAMPLE TYPE	TEST METHOD	SAMPLING TIME (MINUTES)	ACTUAL EMISSION RATE	ALLOWABLE EMISSION RATE
Total VOC's)	EPA Method 18	60	0.16 lb/hr	0.17 lb/hr
Acetone	EPA Method 18	60	<0.0002	0.01 lb/hr

TABLE 3.2: SCRUBBER TESTING RUN DATA

PARAMETER	RUN 1	RUN 2	RUN 3	AVERAGE
Run Date	2/29/2012	2/29/2012	2/29/2012	n/a
Run Times (start/end)	1005/1105	1130/1230	1245/1345	n/a
Stack Gas Velocity (ft/s)	6.5	6.2	6.2	6.3
Stack Gas Wet Flow (cu ft/hr)	2106	2009	2009	2041
Stack Gas Dry Flow (dscf/hr)	1885	1791	1791	1822
Stack Gas Dry Flow (dscm/min)	0.890	0.845	0.845	0.860
Raw Volume of Bag (L) Volume of Bag Corrected to STP (L)	9.0 8.86	9.0 8.86	9.0 8.86	9.0 8.9
Conc. Acetone in Bag (ppmv)	< 0.42	< 0.42	< 0.42	< 0.42
Catch Wt. Acetone in Outlet KO (ug)	< 3.87	< 3.87	< 3.87	< 3.87
Acetone Molecular Weight	58.08	58.08	58.08	58.1
Conc. Acetone in KO (ppmv)	< 0.18	< 0.18	< 0.18	< 0.18
Conc. Acetone in Outlet (ppmv)	< 0.60	< 0.60	< 0.60	< 0.60
Acetone Emissions (Lb/Hr)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Conc. Ethylene Oxide in Bag (ppmv)	< 0.227	< 0.227	< 0.227	< 0.227
Ethylene Oxide Molecular Weight	44.05	44.05	44.05	44.05
Ethylene Oxide Emissions (Lb/Hr)	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Conc. TVOC as Propane (ppmv)	418	804	1056	759.3
TVOC as Propane Molecular Weight	42.0	42.0	42.0	42.0
VOC Emissions (Lb/Hr)	0.0859	0.1652	0.2170	0.156
Raw Volume for Tube (L)	39.0	39.0	39.0	39.0
Volume Across Tubes Corrected to STP (L)	38.41	38.41	38.41	38.41
Catch Wt. Phenol in Outlet (ug)	115.0	40.9	69.1	75.0
Phenol Molecular Weight	94.11	94.11	94.11	94.1
Conc. Phenol in KO (ppmv)	0.8	0.3	0.5	0.5
Phenol Emissions (Lb/Hr)	0.0004	0.0001	0.0002	0.0002

TABLE 3.3: SCRUBBER PROCESS DATA

PARAMETER	RUN 1	RUN 2	RUN 3	AVERAGE
Run Date	2/29/2012	2/29/2012	2/29/2012	n/a
Run Times (start/end)	1005/1105	1130/1230	1245/1345	n/a
T-384 Water Flow Rate [AI-536] [lb/hr]	4013	4006	3992	4004
Oxide Feed Rate [AI-106] [lb/hr]	2739	2739	2738	2739
Total Nitrogen Flow into unit [AI-602][lb/hr]	359	359	360	359
Control valve position on D-351 [AO(502)]	110	110	110	110
Control valve position on D-352 [AO(512)]	110	110	110	110
Phenol Feed Rate [AI(197)]	11998	11999	11998	11998

TABLE 3.4 OPERATIONAL RATES

Parameter	Design Maximum Operating rate	Normal Operating Rate (AVG)	Actual Operating Rate (AVG)
Total Water Flow Rate (Minimum)*	10 gal/min	~10 gal/min	***8 gal/min**
Oxide Feed Rate	2,200 lb/hr	~2,000 lb/hr	**2739 lb/hr**

*Water gal/min = Avg lb/hr flow from [AI-536] ÷ 8.34 lb/gal ÷ 60 = gpm

4.0 SAMPLING AND ANALYTICAL PROCEDURES

4.1 Test Methods

The trains used for sampling are shown in Figures 4.1 – 4.2. The following EPA Methods were used during the sampling and analysis.

4.1.1 Sampling Point Determination - EPA Method 1

The number and location of traverse points in the stack are determined according to the procedures outlined in EPA Method 1.

4.1.2 Flue Gas Velocity and Volumetric Flow Rate - EPA Method 2

The flue gas velocity and volumetric flow rate was determined according to the procedures outline in 40 CFR 60, Appendix A, EPA Method 2 at port "A". Velocity measurements were made using S-type pitot tubes conforming to the geometric specifications outlined in EPA Method 2. Differential pressures was measured using a calibrated magnehelic gauge. **We were granted approval by Mr. Nathan Chenaux of TCEQ Region 12 during the pretest meeting on 1/23/12 to sample from the centroid only since the outlet vent is only a 3" ID vent.**

4.1.3 Flue Gas Composition and Molecular Weight - EPA Method 3

The molecular weight was determined as approved during the pretest meeting on 1/23/12 by Mr. Nathan Chenaux by taking reading using a fyrite detector directly from the stack during each test run.

4.1.4 Flue Gas Moisture Content - EPA Method 4

We were approved to use the saturation curve to determine the moisture content during the pretest meeting by Mr. Chenaux due to the very small diameter of the vent pipe and the very low expected stack temperature (<100F)

4.1.5 Total organic VOC's, Ethylene Oxide & Acetone EPA Method 18 Tedlar Bag with knockout.

<u>T-384 Vent Stack</u>

Emission sampling was conducted on the outlet vent of the scrubber at sample port "A". A Tedlar bag was used to collect an integrated vent sample. The sample was collected over each one hour test run. A DI water knockout was placed in front of the bag and was recovered and analyzed for the target compounds following Method 18 type analysis. Three runs of approximately 1 hour duration each were conducted. A schematic of the sampling train is shown in Figure 4.1.

4.1.6 Total VOC's (Phenol) EPA Method 18 Tubes

The vent gas was pulled through two XAD-2 tubes in series with a spiked train and an un-spiked train ran simultaneously as required by EPA Method 18. The flow rate through the tubes was maintained between 500-1000cc/min. A chilled knockout was placed in front of each tube train t ocapture any condensed liwuid and to prevent any liquid from getting into the tubes. The condensates were recovered and analyzed for phenol. Each tube is a dual fraction tube and the front half of each tube was analyzed as a separate faction. NOTE: As requested, Enthalpy provided the required prespike solution for the spiked trains. **A schematic of the sampling train is shown in Figure 4.2.**

4.2 List of Sampling Equipment

Stack Reference Instruments

SAMPLE POINT	EQUIPMENT	ID #
T-384 Outlet	Pitot Tube Stack Temp Sensor Dry Cal meter Rotometer	22 T-3 510 1 & 2

FIGURE4.1 Total VOC's, Ethylene Oxide and Acetone EPA Method 18 Bag with Knockout
NOTE: Block valve with gasket not required for the outlet vent sampling

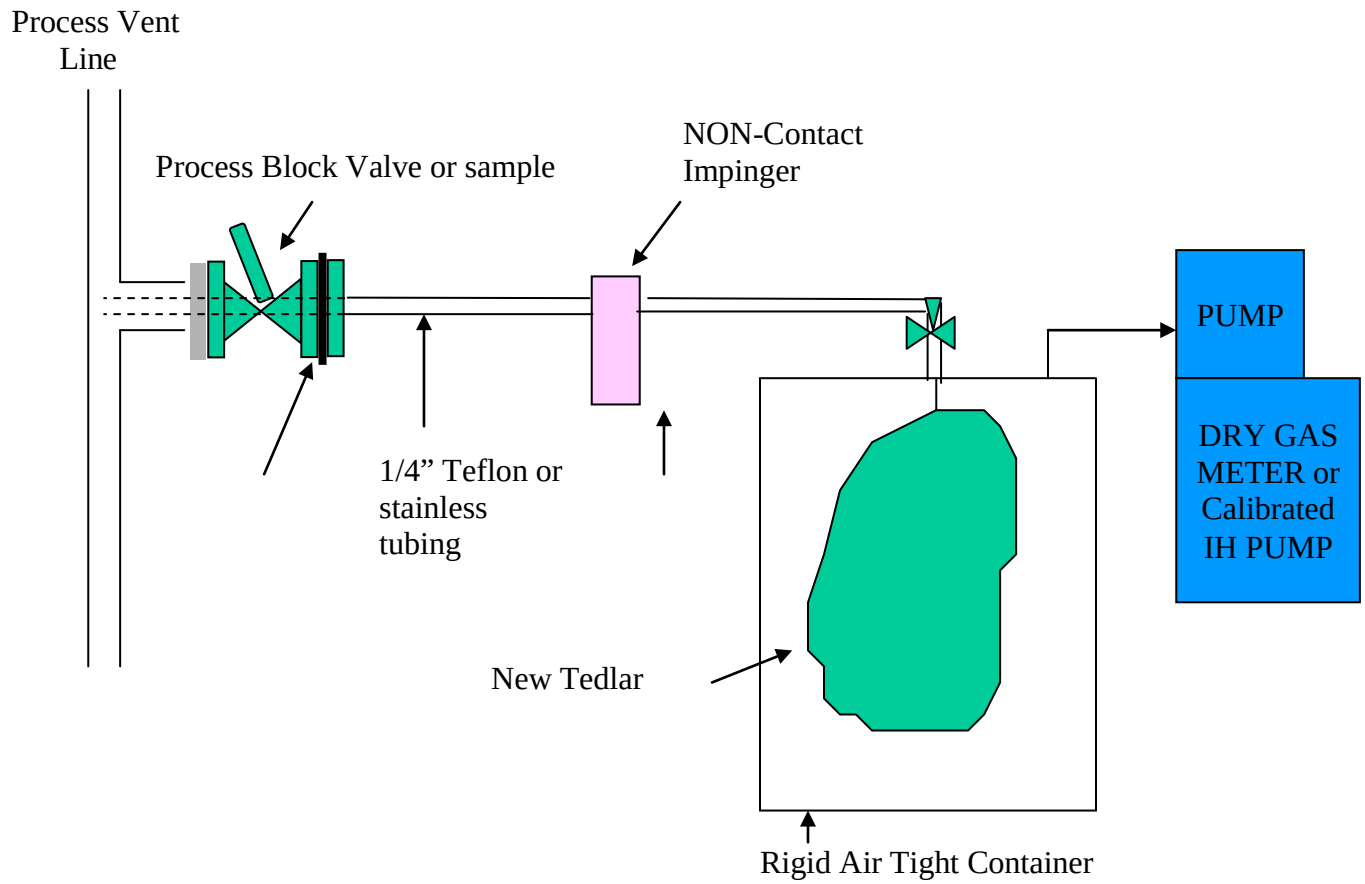
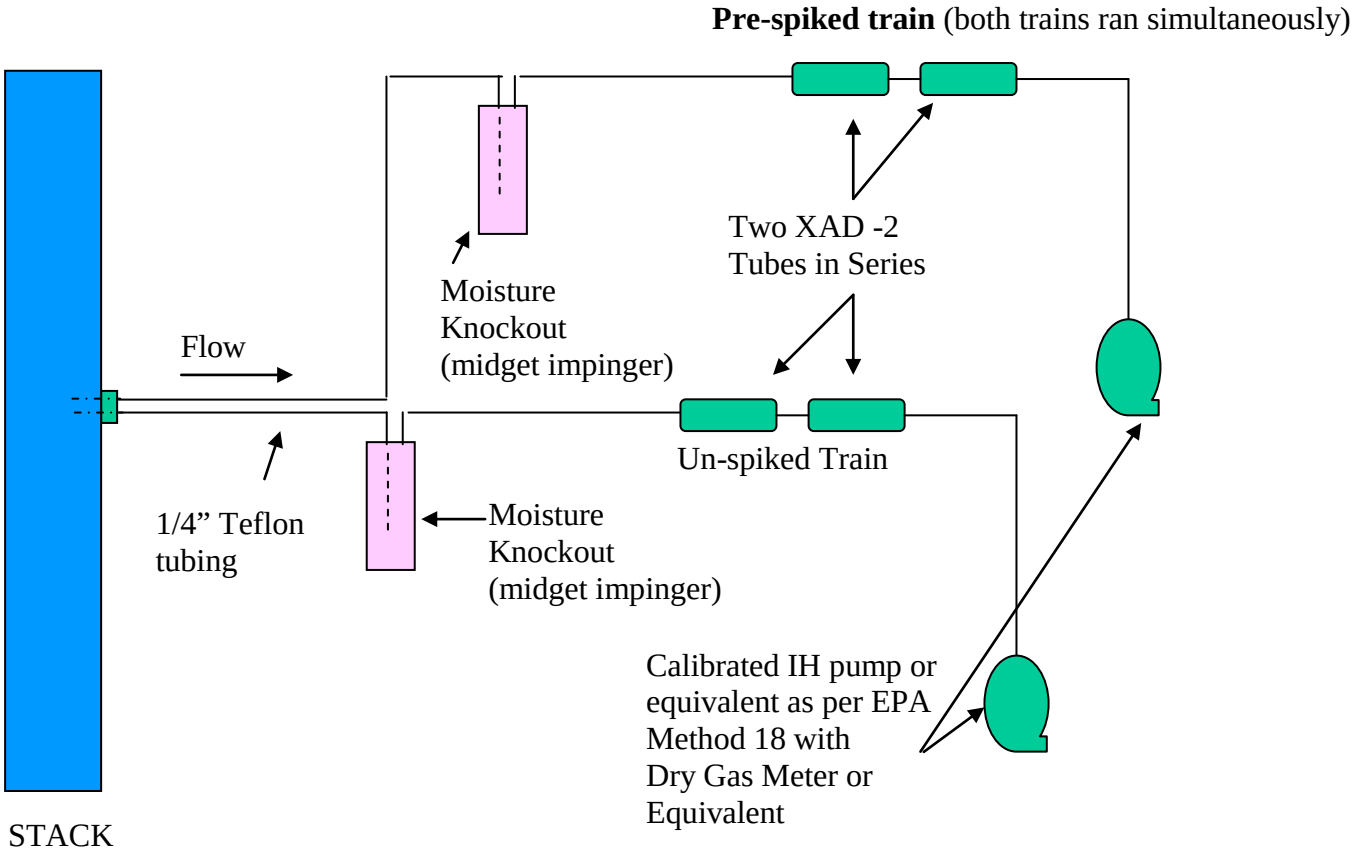


FIGURE 4.2: EPA METHOD 18 TUBE TRAIN FOR PHENOL

METHOD 18 USING ADSORPTION TUBES WITH KNOCKOUT



5.0 CALCULATIONS

5.1 Emission Calculations

5.1.2 Molecular Weight of Stack Gas (M3 Fyrite)

The dry and wet molecular weights of the stack gas are calculated using the following equations. The concentrations of oxygen and carbon dioxide were determined by instrumental analysis (paramagnetic and infrared).

$$M_d = 0.440(\%CO_2) + 0.320(\%O_2) + 0.280(\%N_2)$$

where: M_d = Dry molecular weight (g/g-mole)
$\%CO_2$ = Percent CO_2 by volume, dry basis
$\%O_2$ = Percent O_2 by volume, dry basis
$\%N_2$ = Percent N_2 by volume, dry basis (includes any CO)
0.440 = Molecular weight of CO_2 divided by 100
0.320 = Molecular weight of O_2 divided by 100
0.280 = Molecular weight of N_2 or CO divided by 100

The average wet molecular weight is calculated as follows:

$$M_s = M_d(1 - B_{ws}) + 18.0(B_{ws})$$

where: M_s = Molecular weight of stack gas, wet basis (g/g-mole)
B_{ws} = Water vapor in the gas stream, proportion by volume

RUN 1

$$M_d = 0.440(0.0) + 0.320(0.0) + 0.280(100) = 28.0$$

$$M_s = 28.0(1 - 0.057) + 18.0(0.057) = \underline{27.4}$$

5.1.3 Stack Gas Velocity and Volumetric Flow rates (M2)

The velocity and volumetric flow rate of the stack gas are calculated using the following equations:

$$V_s = K_p C_p (\Delta p)\sqrt{\frac{T_{s(avg)}}{P_s M_s}}$$

$$Q_w = (V_s)x(A_s)x(3600\text{sec/hr})$$

$$Qwc = (Qw)\ X\left(\frac{528°R}{T_s}\right)x\left(\frac{P_s}{29.92"\text{Hg}}\right)$$

$$Q_{sd} = (Q_{ws})\,x(\text{DGF})$$

where: V_S = Stack Gas velocity (ft/sec)

K_p = Pitot Tube Constant, $85.49\frac{ft}{\text{sec}}\sqrt{\frac{(lb/lb-mole)("Hg)}{(°R)("H_2O)}}$

C_p = Pitot Tube Coefficient, 0.84 (dimensionless)

Δp = Square Root Velocity Head of Stack Gas, ("H_2O)

T_S = Stack Temperature (°R)

P_S = Absolute Stack Pressure ("Hg)

M_S = Molecular weight of stack gas, wet basis (lb/lb-mole)

Q_W = Stack Gas Wet Volumetric Flow at Stack Conditions (ft^3/hr)

A_S = Stack Area (ft^2)

Q_{sd} = Stack Gas Flow @ Std. Conditions, dry basis (dscf/hr)

DGF = Dry Gas Fraction

VOLUMETRIC FLOW
RUN 1

$$Vs = (0.84)(0.109"H2O)\left(85.49\frac{ft}{sec}\sqrt{\frac{(lb/lb-mole)("\ Hg)}{(°R)("H2O)}}\right)\sqrt{\frac{(556\ °R)}{(29.91\ "\text{Hg})(27.4lb/lb-mole)}} = \underline{6.5ft/sec}$$

$$Q_W = (6.5ft/sec)\ x\ (3600\ sec/hr)\ x\ (0.09\ ft^2) = \underline{2.11\ x\ 10^3\ ft^3/hr}$$

Correct to Standard Conditions:

$$Q_{wc} = (2.11x10^3\,ft^3/\text{hr})x\left(\frac{528°R}{556°R}\right)x\left(\frac{29.91"Hg}{29.92"Hg}\right) = \underline{2.00x10^3\,\text{scf/hr}}$$

Correct to Dry Standard Conditions:

$$Q_{sd} = (2.00x10^3\,ft^3/\text{hr})\ X\ (0.943) = \underline{1.89x10^3\,\text{dscf/hr}}$$

5.1.4 Acetone Emissions

Data obtained from the method 18 sampling train was reduced according to the procedures in Method 18. The emission calculation is as follows:

Catch Weight Concentration Conversion

$$VOC_{CW} = \frac{(CVOC)/(MWVOC)}{(Vm\ (bag))/(24.056 L/mol)}$$

where: VOC_{cw} = Catchweight Concentration VOC (ppmv)
C_{VOC} = Concentration VOC in Knockout (ug)
MW_{VOC} = Molecular weight of VOC (g/mol)
V_m = Volume Sample Collected (Liters)

Total Acetone Emissions

$$ECl2 = \frac{(VOCcw)(Qs)(MWVOC)(28.32 L/ft^3)}{(10^6 ppm)(24.056 L/mol)(453.6 g/lb)}$$

where: E_{VOC} = Emissions VOC (lb/hr)
C_{VOC} = Concentration of VOC (ppmv)
Q_S = Dry Stack flow corrected to std. conditions (dscf/hr)
MW_{VOC} = Molecular weight of VOC (g/mol)
KO = Knock Out

NOTE- Acetone is not considered a VOC- it was used as an example because the air permit specifically requires determination of acetone emission rate and it provides an example of all calculations used.

Acetone Run 1 Example
(convert catch weight to ppm)

$$KOAcet_{Conc} = \frac{(< 3.87\ ug)/(58.08\ g/gmol)}{(9.0\ L)/(24.056 L/mol)} = \underline{< 0.18\ ppmv\ Acet}$$

$$< 0.18\ ppm KO + < 0.42\ ppm(bag) = < 0.60\ ppmv$$

$$EAcet = \frac{(< 0.60\ ppmv\ Acet)(1.89\ X\ 10^3\ dscf/hr)(58.08\ g/gmol)(28.32\ L/ft^3)}{(10^6\ ppmv)(24.056\ L/mol)(453.6\ g/Lb)} = \underline{< 0.0002\ Lb/Hr}$$

6.0 FIELD DATA

T-384 Scrubber

Symbol	Run #	1	2	3	Average
SD	Sample Date	2/29/2012	2/29/2012	2/29/2012	n/a
ST	Sample Times (start/end)	1005/1105	1130/1230	1245/1345	n/a
0	Sampling Time (minutes)	60	60	60	60
PTCF	Pitot Tube Correction Factor	0.84	0.84	0.84	0.84
Hp	Port Height on Stack (ft)	45	45	45	45.00
As	Stack Area (sq ft)	0.09	0.09	0.09	0.09
Ts	Average Stack Temperature (deg F)	96	97	97	97
Tsa	Average Ambient temperature [deg F]	76	76	76	76
Pbar	Lab Barometric Pressure ("Hg)	29.95	29.95	29.95	29.95
P@	Barometric Pressure @ Stack ("Hg)	29.91	29.91	29.91	29.91
Pg	Measured Static Pressure ("H2O)	0.05	0.05	0.05	0.05
Ps	Absolute Stack Pressure ("Hg)	29.91	29.91	29.91	29.91
Pv	Vapor Press. of H2O at Saturation ("Hg)	1.712	1.765	1.765	1.747
Bws	Calc Moisture Fraction if entrained H2O	0.057	0.059	0.059	0.058
DGF	Calc Dry Gas Fraction if entrained H2O	0.943	0.941	0.941	0.942
%O2	Concentration O2, dry basis (%)	0.0	0.0	0.0	0.0
%CO2	Concentration CO2, dry basis (%)	0.0	0.0	0.0	0.0
%N2	Concentration N2, dry basis (%)	100.0	100.0	100.0	100.0
Msd	Stack Gas Molecular Weight (wet)	28.0	28.0	28.0	28.0
Ms	Stack Gas Molecular Weight	27.4	27.4	27.4	27.4
dp ^1/2	AVG (dp)^1/2	0.109	0.105	0.104	0.106
Vs	Stack Gas Velocity (ft/s)	6.5	6.2	6.2	6.3
Qw	Stack Gas Wet Flow (cu ft/hr)	2.11E+03	2.01E+03	2.01E+03	2.04E+03
Qs	Stack Gas Dry Flow (dscf/hr)	1.89E+03	1.79E+03	1.79E+03	1.82E+03
Bvol	Raw Volume of Bag (L)	9.0	9.0	9.0	9.0
Bvolcorr	Volume of Bag Corrected to STP (L)	8.86	8.86	8.86	8.9
VOC (ppmv)	Conc. Acetone in Bag (ppmv)	< 0.42	< 0.42	< 0.42	< 0.42
VOC cw (ug)	Catch Wt. Acetone in Outlet KO (ug)	< 3.87	< 3.87	< 3.87	< 3.87
MW VOC	Acetone Molecular Weight	58.08	58.08	58.08	58.1
Cko (ppmv)	Conc. Acetone in KO (ppmv)	< 0.18	< 0.18	< 0.18	< 0.18
CVOC	Conc. Acetone in Outlet (ppmv)	< 0.60	< 0.60	< 0.60	< 0.60
EVOC	Acetone Emissions (Lb/Hr)	< 0.0002	< 0.0002	< 0.0002	< 0.0002
VOC (ppmv)	Conc. Ethylene Oxide in Bag (ppmv)	< 0.227	< 0.227	< 0.227	< 0.227
MW VOC	Ethylene Oxide Molecular Weight	44.05	44.05	44.05	44.05
EVOC	Ethylene Oxide Emissions (Lb/Hr)	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Cko (ppmv)	Conc. TVOC as Propane (ppmv)	418	804	1056	759.3
MW VOC	TVOC as Propane Molecular Weight	42.0	42.0	42.0	42.0
EVOC	VOC Emissions (Lb/Hr)	0.0859	0.1652	0.2170	0.156
Cvol	Raw Volume for Tube (L)	39.0	39.0	39.0	39.0
Cvolcorr	Vol Across Tubes Corrected to STP (L)	38.41	38.41	38.41	38.41
VOC cw (ug)	Catch Wt. Phenol in Outlet (ug)	115.0	40.9	69.1	75.0
MW VOC	Phenol Molecular Weight	94.11	94.11	94.11	94.1
Cko (ppmv)	Conc. Phenol in KO (ppmv)	0.8	0.3	0.5	0.5
EVOC	Phenol Emissions (Lb/Hr)	0.0004	0.0001	0.0002	0.0002

Sampling Field Data Sheet
RUN 1

Sample Type: Flow

General Information	
Facility	PGE
Unit/Stack	T-384 Scrubber
Plant Contact	M.Carpenter
Run Number	1
Test Date	02/29/12
Operator(s)	J.Hicks
Base Sample Time/point (min)	5
Height of Ports from Ground (ft)	45
Stack Diameter (in.)	4
Area of Stack (sq. ft.)	0.09

Initial K Estimate		
Pbar	Barometric Pressure at Lab (in. Hg)	29.95
Pg	Stack Static Pressure (in. H2O)	0.05
PTCF	Pitot Tube Correction Factor	0.84

Equipment Identification	
Pitot Tube	22
Stack Temperature Sensor	T3

Traverse Point	Clock Time (24 hours)	Pitot Δp ("H2O)	Sq Root ΔP ("H2O)	Stack Temp (deg F)
1	10:05	0.015	0.122	92.5
2	10:10	0.010	0.100	92.6
3	10:15	0.010	0.100	92.8
4	10:20	0.010	0.100	93.5
5	10:25	0.010	0.100	95.5
6	10:30	0.010	0.100	96
7	10:35	0.015	0.122	95.2
8	10:40	0.015	0.122	95.7
9	10:45	0.010	0.100	97.2
10	10:50	0.015	0.122	98.5
11	10:55	0.015	0.122	99.6
12	11:00	0.010	0.100	97.2
			0.109	**96**

Sampling Field Data Sheet
RUN 2
Sample Type: Flow

General Information	
Facility	PGE
Unit/Stack	T-384 Scrubber
Plant Contact	M.Carpenter
Run Number	2
Test Date	02/29/12
Operator(s)	J.Hicks
Base Sample Time/point (min)	5
Height of Ports from Ground (ft)	45
Stack Diameter (in.)	4
Area of Stack (sq. ft.)	0.09

Initial K Estimate		
Pbar	Barometric Pressure at Lab (in. Hg)	29.95
Pg	Stack Static Pressure (in. H2O)	0.05
PTCF	Pitot Tube Correction Factor	0.84

Equipment Identification	
Pitot Tube	22
Stack Temperature Sensor	T3

Traverse Point	Clock Time (24 hours)	Pitot Δp ("H2O)	Sq Root ΔP ("H2O)	Stack Temp (deg F)
1	11:30	0.015	0.122	96.7
2	11:35	0.010	0.100	96.7
3	11:40	0.010	0.100	96.6
4	11:45	0.011	0.105	96.3
5	11:50	0.010	0.100	96.7
6	11:55	0.010	0.100	95.9
7	12:00	0.012	0.110	96.6
8	12:05	0.012	0.110	96.8
9	12:10	0.013	0.114	96.9
10	12:15	0.010	0.100	97.2
11	12:20	0.010	0.100	97.6
12	12:25	0.011	0.105	97.6
			0.105	**97**

Sampling Field Data Sheet
RUN 3
Sample Type: Flow

General Information	
Facility	PGE
Unit/Stack	T-384 Scrubber
Plant Contact	M.Carpenter
Run Number	3
Test Date	02/29/12
Operator(s)	J.Carlock
Base Sample Time/point (min)	5
Height of Ports from Ground (ft)	45
Stack Diameter (in.)	4
Area of Stack (sq. ft.)	0.09

Initial K Estimate		
Pbar	Barometric Pressure at Lab (in. Hg)	29.95
Pg	Stack Static Pressure (in. H2O)	0.05
PTCF	Pitot Tube Correction Factor	0.84

Equipment Identification	
Pitot Tube	22
Stack Temperature Sensor	T3

Traverse Point	Clock Time (24 hours)	Pitot Δp ("H2O)	Sq Root ΔP ("H2O)	Stack Temp (deg F)
1	12:45	0.013	0.114	97.7
2	12:50	0.011	0.105	97.7
3	12:55	0.009	0.095	97.6
4	13:00	0.014	0.118	96.3
5	13:05	0.009	0.095	96.5
6	13:10	0.013	0.114	96.9
7	13:15	0.010	0.100	96.7
8	13:20	0.012	0.110	96.7
9	13:25	0.010	0.100	96.4
10	13:30	0.011	0.105	97.1
11	13:35	0.010	0.100	96.9
12	13:40	0.009	0.095	96.7
		0.104	**97**	

BAG TIME 1005 - 1103

VELOCITY DETERMINATION
TWELVE POINT

Facility/Unit: PGE T-384 Scrubber Run #: 1 Stack ID: ~~3'4"~~ 4"

Sample Date: 02/29/12 Description: Compliance Test

Barometric Pressure (P_{bar}): 29.95 "Hg Stack Temp. Sensor ID: T3

Static Pressure: -0.05 "H2O Pitot Tube ID #22

Start Time 10:05 Stop Time 11:05

Pitot Pre Leak check Done: GOOD Post Leak ck: GOOD (15sec>3"H2O)

Traverse Point	ΔP " H_2O	Temp °F
1	0.015	92.5
2	0.010	92.6
3	0.010	92.8
4	0.010	93.5
5	0.010	95.5
6	0.010	96.0
7	0.015	95.2
8	0.015	95.7
9	0.010	97.2
10	0.015	98.5
11	0.015	99.6
12	0.010	97.2

Fyrite

	O_2	CO_2
PRE	0.0	0.0
POST	0.0	0.0

Note: Flow readings taken every ~5 minutes from centroid as approved in test plan by Mr. Nathan Chenaux of TCEQ Region 12.

TCEQ 2-29-12

Signature _____ Date 02/29/12 Checked By _____ Date: 2/29/12

VELOCITY DETERMINATION
TWELVE POINT

Facility/Unit: PGE T-384 Scrubber Run #: 2 Stack ID: ~~3~~ 4" SH.

Sample Date: 02/29/12 Description: Compliance Test

Barometric Pressure (P_{bar}): 29.95 "Hg Stack Temp. Sensor ID: T3

Static Pressure: ±9.05 "H2O Pitot Tube ID #22

Start Time 11:30 Stop Time 12:30

Pitot Pre Leak check Done: Good Post Leak ck: Good (15sec>3"H2O)

Traverse Point	ΔP " H_2O	Temp °F
1	0.015	96.7
2	0.010	96.7
3	0.010	96.6
4	0.011	96.3
5	0.010	96.7
6	0.010	95.9
7	0.012	96.6
8	0.012	96.8
9	0.013	96.9
10	0.010	97.2
11	0.010	97.6
12	0.011	97.6

Fyrite

	O^2	CO^2
Pre:	0	0
Post:	0	0

Note! Flow readings taken every 5 minutes AH

Signature [signature] Date 02/29/12 Checked By [signature] Date: 2/29/12

VELOCITY DETERMINATION
TWELVE POINT

Facility/Unit: PGE T-384 Scrubber Run #: 3 Stack ID: 3' 4" SW.

Sample Date: 02/29/12 Description: Compliance Test

Barometric Pressure (P_{bar}): 29.95 "Hg Stack Temp. Sensor ID: T3

Static Pressure: ± 0.05 "H2O Pitot Tube ID #22

Start Time 12:45 Stop Time 13:45

Pitot Pre Leak check Done: Good Post Leak ck: _____ (15sec>3"H2O) Fyrite

	O_2	CO_2
Pre	0	0
Post		

Traverse Point	ΔP " H_2O	Temp °F
1	0.013	97.7
2	0.011	97.7
3	0.009	97.6
4	0.014	96.3
5	0.009	96.5
6	0.013	96.9
7	0.010	96.7
8	0.012	96.7
9	0.010	96.4
10	0.011	97.1
11	0.010	96.9
12	0.009	96.7

Note: Flow rates taken every ~5 minutes during test run

Signature Jeremy Corbett Date 02/29/12 Checked By _____ Date: 2/29/12

METHOD 18 TUBE SAMPLING FIELD DATA SHEET - ROTOMETER

Facility : PGE Block: B1700 Unit Tested: T-384 SCRUBBER
Date: 2-29-12 Technician(s): M.LAIRD Port Ht(ft):
Knock Out Used(Y/N) Y Stack ID: 4"

Standard Used to Verify Rotometers Used:
Type: DEFENDER 510 DRYCAL Manufacturer: BIOS
S/N# 115099 Date of Last Calibration: 9-2011

Rotometer # 1 Pre-Verification
Date: 2-28-12 Technician M.LAIRD
Cal Standard Reading 1: 671 Reading 2: 670 Reading 3: 670 Avg: 670
Rotometer Set Point: .65 L/MIN Accuracy <5%(Y/N) Y
Post- Verification Date: 3-1-12 Technician: M.LAIRD
Reading 1: 672 Reading 2: 672 Reading 3: 671 Avg: 671
Rotometer Set Point: .65 L/MIN Accuracy <5%(Y/N) Y

Rotometer # 2 Pre-Verification
Date: 2-28-12 Technician M.LAIRD
Cal Standard Reading 1: 649 Reading 2: 650 Reading 3: 651 Avg: 650
Rotometer Set Point: .50 L/MIN Accuracy <5%(Y/N) Y
Post- Verification Date: 3-1-12 Technician: M.LAIRD
Reading 1: 649 Reading 2: 649 Reading 3: 648 Avg: 649
Rotometer Set Point: .50 L/MIN Accuracy <5%(Y/N) Y

SPIKED TRAIN- Rotometer# 1

	Run 1	Run 2	Run 3	Run 4
Start / Stop Time	1005 / 1105	1130 / 1230	1245 / 1345	/
Rotometer Set point during Testing	.65 L/MIN	.65 L/MIN	.65 L/MIN	
Sample Flow Rate(cc/min)(L/min)	670 CC/MIN	670 CC/MIN	670 CC/MIN	
Total Sample Volume (Liters)	40.2	40.2	40.2	

UN-SPIKED TRAIN- Rotometer# 2

Start / Stop Time	1005 / 1105	1130 / 1230	1245 / 1345	/
Rotometer Set point during Testing	.50 L/MIN	.50 L/MIN	.50 L/MIN	
Sample Flow Rate(cc/min) (L/min)	650 CC/MIN	650 CC/MIN	650 CC/MIN	
Total Sample Volume (Liters)	39.0 ~~30.0~~	39.0 ~~30.0~~	39.0 ~~30.0~~	

Signature/Date 3.21.12 **Checked by/Date:** 3/21/12

Method 18 Bag Sampling Field Data Sheet

Facility :PGE Block: B-1700 Unit Tested: T-384 Scrubber
Date: 2-29-12 Technician(s): JH JC ML Port Ht(ft): 4
Knock Out Used(Y/N) YES Stack ID: 4"

	Run 1	Run 2	Run 3	Run 4
Start / Stop Time	1005 / 1105	1130 / 1230	1245 / 1345	/
Sample Flow Rate(cc/min)(L/min)	150 cc/min	150 cc/min	150 cc/min	
Total Sample Volume (Liters)	9.0	9.0	9.0	

Signature/Date 02/29/12 **Checked by/Date:** 2/29/12

7.0 PROCESS DATA

PROCESS DATA SUMMARY

TAG#	Process Variable	RUN 1	RUN 2	RUN 3	AVG
AI(536)	T-384 Condensate Flow [LB/HR]	4013	4006	3992	4004
AI(602)	Utility N2 Supply Flow [LB/HR]	359	359	360	359
AO(512)	D-352 Vent To T-384 FO [%]	110	110	110	110
AO(502)	D-351 Vent To T-384 FO[%]	110	110	110	110
AI(106)	PF-316 EO Feed Flow [LB/HR]	2739	2739	2738	2739
AI(197)	R-326 Inlet Phenol Flow [LB/HR	11998	11999	11998	11998

RUN 1	LB/HR AI(536)	LB/HR AI(602)	% AO(512)	% AO(502)	LB/HR AI(106)	LB/HR AI(197)
2/29 10:05 AM	3952	337	110	110	2716	12001
2/29 10:06 AM	4155	379	110	110	2745	11998
2/29 10:07 AM	4053	329	110	110	2759	12001
2/29 10:08 AM	4176	332	110	110	2772	11995
2/29 10:09 AM	3858	381	110	110	2758	11996
2/29 10:10 AM	4155	343	110	110	2731	11994
2/29 10:11 AM	3942	361	110	110	2713	12001
2/29 10:12 AM	3849	377	110	110	2703	12001
2/29 10:13 AM	3879	355	110	110	2729	12000
2/29 10:14 AM	4063	349	110	110	2739	11999
2/29 10:15 AM	3972	381	110	110	2757	11997
2/29 10:16 AM	4085	377	110	110	2761	11997
2/29 10:17 AM	4095	351	110	110	2756	11999
2/29 10:18 AM	4176	371	110	110	2749	11991
2/29 10:19 AM	4044	373	110	110	2723	11992
2/29 10:20 AM	4044	322	110	110	2707	11994
2/29 10:21 AM	4176	330	110	110	2710	11995
2/29 10:22 AM	3889	355	110	110	2734	11999
2/29 10:23 AM	4105	353	110	110	2752	11999
2/29 10:24 AM	4166	369	110	110	2761	11995
2/29 10:25 AM	4105	379	110	110	2762	11996
2/29 10:26 AM	3992	377	110	110	2753	11998
2/29 10:27 AM	3879	385	110	110	2720	11997
2/29 10:28 AM	3909	320	110	110	2702	11999
2/29 10:29 AM	4166	357	110	110	2723	11998
2/29 10:30 AM	4126	369	110	110	2746	11996
2/29 10:31 AM	3828	357	110	110	2766	11999
2/29 10:32 AM	3879	392	110	110	2776	12004
2/29 10:33 AM	3963	389	110	110	2744	12000
2/29 10:34 AM	3889	320	110	110	2725	11998
2/29 10:35 AM	4053	329	110	110	2714	12001
2/29 10:36 AM	4085	389	110	110	2715	11991
2/29 10:37 AM	3889	377	110	110	2730	11997
2/29 10:38 AM	3992	345	110	110	2751	11996
2/29 10:39 AM	4013	387	110	110	2749	11997
2/29 10:40 AM	4145	322	110	110	2749	11995
2/29 10:41 AM	3849	383	110	110	2746	11997
2/29 10:42 AM	4003	324	110	110	2753	11996
2/29 10:43 AM	4003	385	110	110	2748	11999
2/29 10:44 AM	4003	345	110	110	2738	12001
2/29 10:45 AM	3899	341	110	110	2733	11999
2/29 10:46 AM	4176	387	110	110	2737	11995
2/29 10:47 AM	3839	353	110	110	2737	12004
2/29 10:48 AM	4155	383	110	110	2739	11998
2/29 10:49 AM	3952	330	110	110	2732	12002
2/29 10:50 AM	3849	392	110	110	2734	11999
2/29 10:51 AM	4095	343	110	110	2728	12001
2/29 10:52 AM	4044	389	110	110	2731	12000
2/29 10:53 AM	3839	357	110	110	2723	11998
2/29 10:54 AM	3849	339	110	110	2738	12000
2/29 10:55 AM	3839	394	110	110	2745	11999
2/29 10:56 AM	4186	371	110	110	2741	12002
2/29 10:57 AM	3992	377	110	110	2743	12003
2/29 10:58 AM	4126	369	110	110	2741	12003
2/29 10:59 AM	3889	375	110	110	2738	11995
2/29 11:00 AM	3922	332	110	110	2745	11996
2/29 11:01 AM	3879	314	110	110	2756	12001
2/29 11:02 AM	4196	343	110	110	2758	11999
2/29 11:03 AM	4186	367	110	110	2759	11999
2/29 11:04 AM	4115	327	110	110	2727	11994
2/29 11:05 AM	4166	377	110	110	2725	11998
AVERAGE	**4013**	**359**	**110**	**110**	**2739**	**11998**

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RUN 2	LB/HR AI(536)	LB/HR AI(602)	% AO(512)	% AO(502)	LB/HR AI(106)	LB/HR AI(197)
2/29 11:30 AM	3963	347	110	110	2746	11999
2/29 11:31 AM	4095	329	110	110	2747	11994
2/29 11:32 AM	3932	373	110	110	2746	11994
2/29 11:33 AM	4186	361	110	110	2735	11999
2/29 11:34 AM	4105	365	110	110	2735	12004
2/29 11:35 AM	3828	381	110	109	2743	11994
2/29 11:36 AM	3818	361	110	109	2750	11996
2/29 11:37 AM	4073	329	110	110	2741	12003
2/29 11:38 AM	3909	361	110	110	2743	12003
2/29 11:39 AM	3849	381	110	110	2738	11994
2/29 11:40 AM	4126	329	110	110	2726	11997
2/29 11:41 AM	3808	381	110	110	2720	11999
2/29 11:42 AM	4105	367	110	109	2716	12004
2/29 11:43 AM	4013	369	110	109	2731	11999
2/29 11:44 AM	3849	345	110	110	2741	12001
2/29 11:45 AM	4176	339	110	110	2743	11997
2/29 11:46 AM	3858	373	110	110	2745	11996
2/29 11:47 AM	4186	379	110	109	2743	11993
2/29 11:48 AM	3839	329	110	108	2735	11997
2/29 11:49 AM	4145	355	110	109	2747	12002
2/29 11:50 AM	4073	347	110	109	2756	12000
2/29 11:51 AM	3808	375	110	110	2762	11998
2/29 11:52 AM	4207	375	110	109	2753	12003
2/29 11:53 AM	3839	343	110	109	2734	12001
2/29 11:54 AM	3922	357	110	109	2730	12005
2/29 11:55 AM	4186	373	110	109	2719	11998
2/29 11:56 AM	3858	361	110	108	2716	11997
2/29 11:57 AM	4063	359	110	109	2733	12003
2/29 11:58 AM	3932	351	110	110	2750	11996
2/29 11:59 AM	3839	373	110	109	2739	11993
2/29 12:00 PM	3768	349	110	110	2729	11994
2/29 12:01 PM	3952	369	110	108	2723	11994
2/29 12:02 PM	4145	375	110	108	2742	12000
2/29 12:03 PM	3922	351	110	109	2761	11995
2/29 12:04 PM	3922	327	110	108	2772	12001
2/29 12:05 PM	4207	359	110	109	2780	11996
2/29 12:06 PM	4166	353	110	109	2747	12004
2/29 12:07 PM	3952	359	110	109	2731	11998
2/29 12:08 PM	4013	373	110	109	2723	12004
2/29 12:09 PM	3932	335	110	109	2727	12000
2/29 12:10 PM	4095	371	110	109	2716	12004
2/29 12:11 PM	3839	375	110	108	2725	12001
2/29 12:12 PM	4115	381	110	108	2748	12000
2/29 12:13 PM	4136	359	110	109	2758	11998
2/29 12:14 PM	4105	371	110	109	2760	11995
2/29 12:15 PM	4095	361	110	109	2746	11997
2/29 12:16 PM	4136	357	110	109	2741	11999
2/29 12:17 PM	4166	381	110	108	2723	11999
2/29 12:18 PM	4126	383	110	108	2721	11998
2/29 12:19 PM	3868	379	110	109	2722	11995
2/29 12:20 PM	3879	379	110	108	2727	12004
2/29 12:21 PM	4145	353	110	108	2739	12002
2/29 12:22 PM	4013	377	110	109	2758	11996
2/29 12:23 PM	4136	349	110	108	2761	11996
2/29 12:24 PM	4095	361	110	107	2764	11994
2/29 12:25 PM	4166	322	110	108	2740	11994
2/29 12:26 PM	4145	341	110	108	2712	11999
2/29 12:27 PM	4044	353	110	109	2700	11999
2/29 12:28 PM	3828	355	110	108	2725	12001
2/29 12:29 PM	3828	349	110	107	2740	12002
2/29 12:30 PM	3868	335	110	108	2751	12003
AVERAGE	**4006**	**359**	**110**	**109**	**2739**	**11999**

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RUN 3	LB/HR AI(536)	LB/HR AI(602)	% AO(512)	% AO(502)	LB/HR AI(106)	LB/HR AI(197)
2/29 12:45 PM	3932	379	110	108	2729	12000
2/29 12:46 PM	3932	343	110	109	2718	11998
2/29 12:47 PM	4145	327	110	108	2714	12003
2/29 12:48 PM	3808	343	110	109	2726	11999
2/29 12:49 PM	3839	332	110	108	2739	11999
2/29 12:50 PM	3972	327	110	108	2749	11999
2/29 12:51 PM	3849	327	110	108	2758	12000
2/29 12:52 PM	3972	353	110	108	2767	11999
2/29 12:53 PM	3889	337	110	107	2761	11997
2/29 12:54 PM	3992	351	110	108	2740	11995
2/29 12:55 PM	4216	357	110	108	2728	12003
2/29 12:56 PM	3942	377	110	107	2725	11997
2/29 12:57 PM	4126	377	110	107	2724	11996
2/29 12:58 PM	3868	377	110	108	2732	12002
2/29 12:59 PM	3879	335	110	108	2739	12002
2/29 1:00 PM	4105	318	110	107	2750	11998
2/29 1:01 PM	3952	375	110	107	2745	11997
2/29 1:02 PM	4155	351	110	107	2746	11994
2/29 1:03 PM	3849	369	110	107	2747	11996
2/29 1:04 PM	3839	353	110	107	2742	11999
2/29 1:05 PM	3909	318	110	108	2740	11999
2/29 1:06 PM	4115	330	110	107	2733	11993
2/29 1:07 PM	4115	330	110	107	2743	11996
2/29 1:08 PM	3889	349	110	108	2747	11993
2/29 1:09 PM	4095	329	110	107	2749	12001
2/29 1:10 PM	4166	316	110	108	2739	11999
2/29 1:11 PM	3889	339	110	108	2729	12001
2/29 1:12 PM	3798	322	110	108	2722	11999
2/29 1:13 PM	4033	329	110	107	2727	12003
2/29 1:14 PM	3899	320	110	107	2728	12001
2/29 1:15 PM	4216	371	110	108	2737	11998
2/29 1:16 PM	4145	379	110	107	2740	11999
2/29 1:17 PM	3952	375	110	107	2738	12000
2/29 1:18 PM	3889	369	110	107	2734	11997
2/29 1:19 PM	3932	357	110	108	2733	11996
2/29 1:20 PM	4145	359	110	107	2734	11997
2/29 1:21 PM	4013	361	110	107	2744	11999
2/29 1:22 PM	4013	322	110	105	2767	11996
2/29 1:23 PM	3932	400	110	107	2772	11997
2/29 1:24 PM	4126	383	110	106	2752	11996
2/29 1:25 PM	3849	379	110	106	2731	11998
2/29 1:26 PM	4176	420	110	106	2733	11994
2/29 1:27 PM	3839	418	110	105	2721	11999
2/29 1:28 PM	3972	418	110	107	2719	11991
2/29 1:29 PM	3922	443	110	106	2729	11993
2/29 1:30 PM	4136	400	110	107	2733	11998
2/29 1:31 PM	3858	379	110	107	2740	11999
2/29 1:32 PM	4033	406	110	105	2743	11994
2/29 1:33 PM	3868	425	110	107	2748	11995
2/29 1:34 PM	4095	402	110	106	2744	11993
2/29 1:35 PM	3972	394	110	105	2739	11996
2/29 1:36 PM	4095	353	110	106	2722	11999
2/29 1:37 PM	4003	337	110	105	2716	11995
2/29 1:38 PM	3889	359	110	107	2725	12003
2/29 1:39 PM	4207	322	110	106	2756	11999
2/29 1:40 PM	3849	359	110	107	2766	11997
2/29 1:41 PM	4166	369	110	105	2773	11998
2/29 1:42 PM	3899	385	110	106	2745	12001
2/29 1:43 PM	4166	369	110	106	2725	12003
2/29 1:44 PM	3868	353	110	106	2718	11999
2/29 1:45 PM	4126	320	110	105	2722	12002
AVERAGE	**3992**	**360**	**110**	**107**	**2738**	**11998**

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8.0 ANALYTICAL DATA

Dow Chemical Company
Freeport

2301 Brazosport Blvd.
Freeport, TX 77541-3257

PGE Plant T-384

Analytical Report
(0212-67A)

EPA Method 18 Bag Condensates

Acetone

EPA Method 18 Bags

Methane, Ethane, Propane, Butane, Ethylene oxide,
Acetone, Pentane, Hexane, Heptane,
Others as Cx Compounds, Total VOCs as Propane

EPA Method 18 Adsorbents

Phenol

Enthalpy Analytical, Inc.
Phone: (919) 850 - 4392 / Fax: (919) 850 - 9012 / www.enthalpy.com
800-1 Capitola Drive Durham, NC 27713-4385

I certify that to the best of my knowledge all analytical data presented in this report:

- Have been checked for completeness
- Are accurate, error-free, and legible
- Have been conducted in accordance with approved protocol, and that all deviations and analytical problems are summarized in the appropriate narrative(s)

This analytical report was prepared in Portable Document Format (.PDF) and contains 630 pages.

Michael Steven Schapira

QA Review Performed by: Michael Steven Schapira

Report Issued: 3/21/12

Summary of Results



Company	Dow Chemical
Analyst	JBB
Parameters	EPA Method 18 Bag Condensates

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 Blank

Compound	Sample ID / Catch Weight (ug)		
	T384 R1 Bag KO	***T384 R2 Bag KO***	***T384 R3 Bag KO***
Acetone	3.87 ND	3.87 ND	3.87 ND
	T384 Blank di water		
Acetone	3.48 ND		

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3

Compound	Sample ID / Adjusted Concentration (ppm)		
	T-384-R1-Bag	***T-384-R2-Bag***	***T-384-R3-Bag***
Methane	1.90 J	1.10 J	1.13 J
Ethane	0.264 ND	0.264 ND	0.264 ND
C2 as Ethane	0.428 J	1.49 J	1.65 J
Propane	0.239 ND	0.239 ND	0.239 ND
C3 as Propane	3.01	10.1	10.5
Butane	0.165 ND	0.165 ND	0.165 ND
C4 as Butane	3.32	9.47	9.21
Ethylene oxide	0.227 ND	0.227 ND	0.227 ND
Acetone	0.420 ND	0.420 ND	0.420 ND
Pentane	0.188 ND	0.188 ND	0.188 ND
C5 as Pentane	0.188 ND	0.188 ND	0.188 ND
Hexane	0.155 ND	0.194 J	0.217 J
C6 as Hexane	0.155 ND	0.155 ND	0.155 ND
Heptane	0.136 ND	0.136 ND	0.136 ND
C7 as Heptane	183	348	461
Total VOC as Propane	418	804	1,056

Company	Dow Chemical Company
Analyst	JBB
Parameters	EPA Method 18 Tubes

Client #	Plant T-384
Job #	0212-67
# Samples	3, & 1 Blank + 3 Spikes

Compound	Sample ID / Catch Weight (ug)		
	Run 1 non-Spk	***Run 2 non-Spk***	***Run 3 non-Spk***
Phenol	115	40.9	69.1
	Run 1 Spiked	***Run 2 Spiked***	***Run 3 Spiked***
Phenol	458	300	485
	T384 Blank di Water		
Phenol	4.75 ND		

Results



Company	Dow Chemical
Analyst	JBB
Parameters	EPA Method 18 Bag Condensates

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 Blank

MDL 0.158 (ug/mL)
LOQ 1.58 (ug/mL)
Compound Acetone

Lower Curve Limit 1.58 (ug/mL)
Upper Curve Limit 1,580 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
T384 R1 Bag KO	010B1001.D	010B1002.D	010B1003.D	GC116P100.M	NA	NA	NA	NA	0.158	0.158	0.158	0.0	0.158	1	24.5	3.87	ND
T384 R1 Bag KO LD	011B1101.D	011B1102.D	011B1103.D	GC116P100.M	NA	NA	NA	NA	0.158	0.158	0.158	0.0	0.158	1	24.5	3.87	ND
														% Difference		NA	
T384 R2 Bag KO	012B1201.D	012B1202.D	012B1203.D	GC116P100.M	NA	NA	NA	NA	0.158	0.158	0.158	0.0	0.158	1	24.5	3.87	ND
T384 R3 Bag KO	013B1301.D	013B1302.D	013B1303.D	GC116P100.M	NA	NA	NA	NA	0.158	0.158	0.158	0.0	0.158	1	24.5	3.87	ND
T384 Blank di water	009B0901.D	009B0902.D	009B0903.D	GC116P100.M	NA	NA	NA	NA	0.158	0.158	0.158	0.0	0.158	1	22.0	3.48	ND
RB H2O	008B0801.D	008B0802.D	008B0803.D	GC116P100.M	NA	NA	NA	NA	0.158	0.158	0.158	0.0	0.158	1	1.00	0.158	ND
gc116p100 #3ss	007B0701.D	007B0702.D	007B0703.D	GC116P100.M	2.10	2.10	2.10	0.1	32.9	32.8	32.7	0.3	32.8	1	1.00	32.8	
															Spike Amount (ug)	31.3	
															Spike Recovery (%)	105%	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.500 (ppm)
LOQ 2.00 (ppm)
Compound Methane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	1.41	1.40	1.40	0.9	1.62	1.62	1.59	1.2	1.61	1	84.6	1.90	J
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	1.40	1.40	1.40	0.1	0.806	1.02	0.974	13.6	0.933	1	84.6	1.10	J
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	1.40	1.40	1.40	0.1	0.936	0.975	0.957	2.1	0.956	1	84.6	1.13	J
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.500	0.500	0.500	0.0	0.500	1	100	0.500	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	1.40	1.40	1.40	0.1	5.79	5.74	5.72	0.8	5.75	1	100	5.75	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.288 (ppm)
LOQ 2.00 (ppm)
Compound Ethane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.288	0.288	0.288	0.0	0.288	1	109	0.264	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.288	0.288	0.288	0.0	0.288	1	109	0.264	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.288	0.288	0.288	0.0	0.288	1	109	0.264	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.288	0.288	0.288	0.0	0.288	1	100	0.288	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	1.53	1.52	1.52	0.2	5.60	5.51	5.45	1.5	5.52	1	100	5.52	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.288 (ppm)
LOQ 2.00 (ppm)
Compound C2 as Ethane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	0.438	0.460	0.503	7.8	0.467	1	109	0.428	J
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	1.60	1.63	1.64	1.4	1.62	1	109	1.49	J
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	1.76	1.93	1.72	7.0	1.80	1	109	1.65	J
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.288	0.288	0.288	0.0	0.288	1	100	0.288	ND

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.246 (ppm)
LOQ 2.00 (ppm)
Compound Propane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.246	0.246	0.246	0.0	0.246	1	103	0.239	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.246	0.246	0.246	0.0	0.246	1	103	0.239	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.246	0.246	0.246	0.0	0.246	1	103	0.239	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.246	0.246	0.246	0.0	0.246	1	100	0.246	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	1.83	1.82	1.82	0.2	5.24	5.22	5.17	0.7	5.21	1	100	5.21	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.246 (ppm)
LOQ 2.00 (ppm)
Compound C3 as Propane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	3.29	2.84	3.19	8.5	3.11	1	103	3.01	
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	10.6	10.6	10.2	2.6	10.4	1	103	10.1	
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	10.8	10.7	10.9	1.3	10.8	1	103	10.5	
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.246	0.246	0.246	0.0	0.246	1	100	0.246	ND

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.167 (ppm)
LOQ 2.00 (ppm)
Compound Butane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.167	0.167	0.167	0.0	0.167	1	101	0.165	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.167	0.167	0.167	0.0	0.167	1	101	0.165	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.167	0.167	0.167	0.0	0.167	1	101	0.165	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.167	0.167	0.167	0.0	0.167	1	100	0.167	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	2.67	2.66	2.66	0.1	5.13	5.11	5.08	0.5	5.10	1	100	5.10	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.167 (ppm)
LOQ 2.00 (ppm)
Compound C4 as Butane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	3.32	3.43	3.32	2.2	3.36	1	101	3.32	
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	9.58	9.51	9.59	0.5	9.56	1	101	9.47	
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	9.33	9.28	9.29	0.3	9.30	1	101	9.21	
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.167	0.167	0.167	0.0	0.167	1	100	0.167	ND

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.235 (ppm)
LOQ 1.67 (ppm)
Compound Ethylene oxide

Lower Curve Limit 1.67 (ppm)
Upper Curve Limit 250 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.235	0.235	0.235	0.0	0.235	1	104	0.227	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.235	0.235	0.235	0.0	0.235	1	104	0.227	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.235	0.235	0.235	0.0	0.235	1	104	0.227	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.235	0.235	0.235	0.0	0.235	1	100	0.235	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	2.78	2.78	2.78	0.1	5.29	5.20	5.23	1.0	5.24	1	100	5.24	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.405 (ppm)
LOQ 2.57 (ppm)
Compound Acetone

Lower Curve Limit 2.57 (ppm)
Upper Curve Limit 257 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.405	0.405	0.405	0.0	0.405	1	96.3	0.420	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.405	0.405	0.405	0.0	0.405	1	96.3	0.420	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.405	0.405	0.405	0.0	0.405	1	96.3	0.420	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.405	0.405	0.405	0.0	0.405	1	100	0.405	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	3.67	3.67	3.67	0.1	5.47	5.32	5.48	1.9	5.42	1	100	5.42	d

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.171 (ppm)
LOQ 2.00 (ppm)
Compound Pentane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.171	0.171	0.171	0.0	0.171	1	91.0	0.188	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.171	0.171	0.171	0.0	0.171	1	91.0	0.188	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.171	0.171	0.171	0.0	0.171	1	91.0	0.188	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.171	0.171	0.171	0.0	0.171	1	100	0.171	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	4.17	4.16	4.16	0.1	4.59	4.61	4.60	0.3	4.60	1	100	4.60	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.171 (ppm)
LOQ 2.00 (ppm)
Compound C5 as Pentane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	0.171	0.171	0.171	0.0	0.171	1	91.0	0.188	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	0.171	0.171	0.171	0.0	0.171	1	91.0	0.188	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	0.171	0.171	0.171	0.0	0.171	1	91.0	0.188	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.171	0.171	0.171	0.0	0.171	1	100	0.171	ND

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.150 (ppm)
LOQ 2.00 (ppm)
Compound Hexane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.150	0.150	0.150	0.0	0.150	1	97.0	0.155	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	5.77	5.77	5.77	0.0	0.186	0.210	0.170	11.3	0.189	1	97.0	0.194	J
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	5.77	5.77	5.77	0.0	0.206	0.234	0.191	11.2	0.210	1	97.0	0.217	J
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.150	0.150	0.150	0.0	0.150	1	100	0.150	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	5.77	5.76	5.76	0.1	10.4	10.5	10.4	0.4	10.4	1	100	10.4	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.150 (ppm)
LOQ 2.00 (ppm)
Compound C6 as Hexane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	0.150	0.150	0.150	0.0	0.150	1	97.0	0.155	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	0.150	0.150	0.150	0.0	0.150	1	97.0	0.155	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	0.150	0.150	0.150	0.0	0.150	1	97.0	0.155	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.150	0.150	0.150	0.0	0.150	1	100	0.150	ND

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.139 (ppm)
LOQ 2.00 (ppm)
Compound Heptane

Lower Curve Limit 2.00 (ppm)
Upper Curve Limit 100 (ppm)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.139	0.139	0.139	0.0	0.139	1	102	0.136	ND
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.139	0.139	0.139	0.0	0.139	1	102	0.136	ND
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.139	0.139	0.139	0.0	0.139	1	102	0.136	ND
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	NA	NA	NA	NA	0.139	0.139	0.139	0.0	0.139	1	100	0.139	ND
T-384-R1-BagS&R	023B2501.D	023B2502.D	023B2503.D	GC126P045_0212-67.M	6.94	6.94	6.94	0.0	5.16	5.21	5.15	0.7	5.17	1	100	5.17	

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.139 (ppm)
LOQ 2.00 (ppm)
Compound C7 as Heptane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	186	188	188	0.6	187	1	102	183	
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	358	356	355	0.4	356	1	102	348	
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	470	472	472	0.3	472	1	102	461	
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.139	0.139	0.139	0.0	0.139	1	100	0.139	ND

Company	Dow Chemical
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3, 1 S&R

MDL 0.246 (ppm)
LOQ 2.00 (ppm)
Compound Total VOC as Propane

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Conc # 1 (ppm)	Conc # 2 (ppm)	Conc # 3 (ppm)	% Diff Conc	Avg Conc (ppm)	DF	Rec Eff (%)	Adj Conc (ppm)	Qual
T-384-R1-Bag	023B0801.D	023B0802.D	023B0803.D	GC126P045_0212-67.M	428	431	432	0.6	430	1	103	418	
T-384-R2-Bag	020B0901.D	020B0902.D	020B0903.D	GC126P045_0212-67.M	831	827	826	0.4	828	1	103	804	
T-384-R3-Bag	032B1001.D	032B1002.D	032B1003.D	GC126P045_0212-67.M	1,085	1,090	1,090	0.3	1,088	1	103	1,056	
compressed air blank	022B1901.D	022B1902.D	022B1903.D	GC126P045_0212-67.M	0.246	0.246	0.246	0.0	0.246	1	100	0.246	ND

v 2.13 Validated by MSS 4/14/11

Company	Dow Chemical	Client #	Plant T-384
Analyst	MTH	Job #	0212-67A
Parameters	Bag Spike & Recovery	Unspiked Sample ID	T-384-R1-Bag

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	Methane MW 16.04			Ethane MW 30.07			Propane MW 44.10			Butane MW 58.12		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	1.62	1.62	1.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Avg ppm	1.61		Avg ppm	0.00		Avg ppm	0.00		Avg ppm	0.00	
What was added to the bag?												
Liquid Spike #1	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0		0	0	
uL Added	0			0			0			0		
Liquid Spike #2	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0		0	0	
uL Added	0			0			0			0		
Liquid Spike #3	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0		0	0	
uL Added	0			0			0			0		
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	100	29.46	71.5	100	29.46	71.5	100	29.46	71.5	100	29.46	71.5
Volume Added (mL)	400	Total ug	26.1	400	Total ug	48.9	400	Total ug	71.7	400	Total ug	94.5
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #2	0	29.46	71.5	0	29.46	71.5	0	29.46	71.5	0	29.46	71.5
Volume Added (mL)	90	Total ug	0.0	90	Total ug	0.0	90	Total ug	0.0	90	Total ug	0.0
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #3	0	29.46	71.5	0	29.46	71.5	0	29.46	71.5	0	29.46	71.5
Volume Added (mL)	160	Total ug	0.0	160	Total ug	0.0	160	Total ug	0.0	160	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0			0.0			0.0		
Total Vol (mL) added as gas	650			650			650			650		
Other volume (mL) Added	0			0			0			0		

What volume was in the bag before spiking?

Wedge Volume 7.084 (L)

Sampled 2/29/12 10:05 AM

Analyzed 3/1/12 2:40 PM

Delta Hours 28:35:34

Spiked 3/1/12 4:45 PM

Spike Analyzed 3/2/12 10:26 PM

Delta Hours 29:41:18

Total Vol. After Spiking 7,734 (mL)

Spike hold equal to or greater than original hold: YES

Ending Volume in Bag (mL)	7,734			
Original volume in the bag (mL)	7,084	7,084	7,084	7,084
Total volume added (mL)	650	650	650	650
Dilution Factor caused by addition	1.09	1.09	1.09	1.09
Dilution Adjusted Base Conc (ppm) "U"	1.47	0.00	0.00	0.00
Theoretical Spike Conc (ppm) "S"	**5.06**	**5.06**	**5.06**	**5.06**

	Methane			Ethane			Propane			Butane		
What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	5.79	5.74	5.72	5.60	5.51	5.45	5.24	5.22	5.17	5.13	5.11	5.08
Final Concentration (ppm) "T"	Avg ppm	5.75		Avg ppm	5.52		Avg ppm	5.21		Avg ppm	5.10	
RECOVERY %	84.6 %			109 %			103 %			101 %		

v 2.13 Validated by MSS 4/14/11

Company	Dow Chemical	Client #	Plant T-384
Analyst	MTH	Job #	0212-67A
Parameters	Bag Spike & Recovery	Unspiked Sample ID	T-384-R1-Bag

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

	Pentane MW 72.15			Hexane MW 86.18			Heptane MW 100.20			Acetone MW 58.08		
What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Avg ppm	0.00		Avg ppm	0.00		Avg ppm	0.00		Avg ppm	0.00	
What was added to the bag?												
Liquid Spike #1	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0		0	0	
uL Added	0			0			0			0		
Liquid Spike #2	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0		0	0	
uL Added	0			0			0			0		
Liquid Spike #3	ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug		ug/mL	Total ug	
	0	0		0	0		0	0		0	0	
uL Added	0			0			0			0		
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	100	29.46	71.5	100	29.46	71.5	100	29.46	71.5	0	29.46	71.5
Volume Added (mL)	400	Total ug	117	400	Total ug	140	400	Total ug	163	400	Total ug	0.0
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #2	0	29.46	71.5	501	29.46	71.5	0	29.46	71.5	495	29.46	71.5
Volume Added (mL)	90	Total ug	0.0	90	Total ug	158	90	Total ug	0.0	90	Total ug	105
	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #3	0	29.46	71.5	0	29.46	71.5	0	29.46	71.5	0	29.46	71.5
Volume Added (mL)	160	Total ug	0.0	160	Total ug	0.0	160	Total ug	0.0	160	Total ug	0.0
Total Vol (mL) vaporized	0.0			0.0			0.0			0.0		
Total Vol (mL) added as gas	650			650			650			650		
Other volume (mL) Added	0			0			0			0		

What volume was in the bag before spiking?

Wedge Volume 7.084 (L)

Sampled 2/29/12 10:05 AM

Analyzed 3/1/12 2:40 PM

Delta Hours 28:35:34

Spiked 3/1/12 4:45 PM

Spike Analyzed 3/2/12 10:26 PM

Delta Hours 29:41:18

Total Vol. After Spiking 7,734 (mL)

Spike hold equal to or greater than original hold: YES

	Pentane	Hexane	Heptane	Acetone
Ending Volume in Bag (mL)	7,734	7,084	7,084	7,084
Original volume in the bag (mL)	7,084	650	650	650
Total volume added (mL)	650	1.09	1.09	1.09
Dilution Factor caused by addition	1.09	0.00	0.00	0.00
Dilution Adjusted Base Conc (ppm) "U"	0.00			
Theoretical Spike Conc (ppm) "S"	**5.06**	**10.8**	**5.06**	**5.63**

What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	4.59	4.61	4.60	10.4	10.5	10.4	5.16	5.21	5.15	5.47	5.32	5.48
Final Concentration (ppm) "T"	Avg ppm	4.60		Avg ppm	10.4		Avg ppm	5.17		Avg ppm	5.42	
RECOVERY %		91.0	%		97.0	%		102	%		96.3	%

v 2.13 Validated by MSS 4/14/11

Company	Dow Chemical	Client #	Plant T-384
Analyst	MTH	Job #	0212-67A
Parameters	Bag Spike & Recovery	Unspiked Sample ID	T-384-R1-Bag

% Recovery = (T - U) / S x 100

T = after spike concentration U = before spike concentration S = theoretical spike concentration

Ethylene oxide
MW 44.05

What was the conc of the bag before spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
U' (before spiking)	0.00	0.00	0.00
	Avg ppm	0.00	

What was added to the bag?

	ug/mL	Total ug
Liquid Spike #1	0	0
uL Added	0	
Liquid Spike #2	0	0
uL Added	0	
Liquid Spike #3	0	0
uL Added	0	

	Conc. ppm	Pbar (inHg)	T (F)
Gas Spike #1	0	29.46	71.5
Volume Added (mL)	400	Total ug	0.0
Gas Spike #2	0	29.46	71.5
Volume Added (mL)	90	Total ug	0.0
Gas Spike #3	250	29.46	71.5
Volume Added (mL)	160	Total ug	71.6

Total Vol (mL) vaporized	0.0
Total Vol (mL) added as gas	650
Other volume (mL) Added	0

What volume was in the bag before spiking?

Wedge Volume	7.084	(L)	Sampled	2/29/12 10:05 AM	Hours
					Delta 28:35:34
			Analyzed	3/1/12 2:40 PM	
			Spiked	3/1/12 4:45 PM	Hours
					Delta 29:41:18
			Spike Analyzed	3/2/12 10:26 PM	
Total Vol. After Spiking	7,734	(mL)	Spike hold equal to or greater than original hold		YES

Ending Volume in Bag (mL)	7,734
Original volume in the bag (mL)	7,084
Total volume added (mL)	650
Dilution Factor caused by addition	1.09
Dilution Adjusted Base Conc (ppm) "U"	0.00
Theoretical Spike Conc (ppm) "S"	**5.06**

What was the conc of the bag after spiking?	Inj 1 (ppm)	Inj 2 (ppm)	Inj 3 (ppm)
	5.29	5.20	5.23
Final Concentration (ppm) "T"	Avg ppm	5.24	
RECOVERY %		104 %	

Company	Dow Chemical Company
Analyst	JBB
Parameters	EPA Method 18 Tubes

Client #	Plant T-384
Job #	0212-67
# Samples	3 Runs, 1 Blank, 3 Spikes

MDL 0.216 (ug/mL)
LOQ 2.16 (ug/mL)
Compound Phenol

Lower Curve Limit 2.16 (ug/mL)
Upper Curve Limit 111 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
T384 R1 US KO	013B0801.D	013B0802.D	013B0803.D	GC116P096.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	48.5	10.5	ND
T384 R1 US FH	041F4401.D	041F4402.D	041F4403.D	GC124P081.M	6.65	6.65	6.65	0.0	21.6	20.8	20.7	2.6	21.0	1	5.00	105	
T384 R1 US BH	045F4801.D	045F4802.D	045F4803.D	GC124P081.M	6.62	6.62	6.62	0.0	1.90	1.86	1.88	1.1	1.88	1	5.00	9.40	J
																115	
T384 R2 US KO	024B2801.D	024B2802.D	024B2803.D	GC116P096.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	24.5	5.29	ND
T384 R2 US FH	042F4501.D	042F4502.D	042F4503.D	GC124P081.M	6.64	6.64	6.64	0.0	8.21	8.09	8.23	1.0	8.18	1	5.00	40.9	
T384 R2 US BH	023F2601.D	023F2602.D	023F2603.D	GC124P081.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	5.00	1.08	ND
																40.9	
T384 R3 US KO	016B1101.D	016B1102.D	016B1103.D	GC116P096.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	24.5	5.29	ND
T384 R3 US FH	014F1701.D	014F1702.D	014F1703.D	GC124P081.M	6.64	6.65	6.65	0.1	12.8	13.4	13.5	3.1	13.2	1	5.00	66.0	
T384 R3 US BH	024F2701.D	024F2702.D	024F2703.D	GC124P081.M	6.62	6.63	6.62	0.1	0.638	0.597	0.638	4.4	0.624	1	5.00	3.12	J
																69.1	
T384 R1 SP KO	017B1201.D	017B1202.D	017B1203.D	GC116P096.M	7.92	7.92	7.92	0.0	13.0	12.2	12.1	4.6	12.5	1	24.5	305	
T384 R1 SP FH	015F1801.D	015F1802.D	015F1803.D	GC124P081.M	6.66	6.66	6.66	0.0	28.0	28.5	27.8	1.4	28.1	1	5.00	141	
T384 R1 SP BH	025F2801.D	025F2802.D	025F2803.D	GC124P081.M	6.62	6.62	6.62	0.0	2.42	2.49	2.39	2.3	2.43	1	5.00	12.2	
																458	
T384 R2 SP KO	019B1601.D	019B1602.D	019B1603.D	GC116P096.M	7.93	7.93	7.93	0.0	7.55	7.00	7.53	4.9	7.36	1	24.0	177	
T384 R2 SP FH	017F2001.D	017F2002.D	017F2003.D	GC124P081.M	6.66	6.66	6.66	0.0	23.0	23.4	23.1	0.9	23.2	1	5.00	116	
T384 R2 SP BH	026F2901.D	026F2902.D	026F2903.D	GC124P081.M	6.62	6.62	6.62	0.0	1.62	1.54	1.60	3.0	1.59	1	5.00	7.93	J
																300	

Company	Dow Chemical Company
Analyst	JBB
Parameters	EPA Method 18 Tubes

Client #	Plant T-384
Job #	0212-67
# Samples	3 Runs, 1 Blank, 3 Spikes

MDL 0.216 (ug/mL)
LOQ 2.16 (ug/mL)
Compound Phenol

Lower Curve Limit 2.16 (ug/mL)
Upper Curve Limit 111 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
T384 R3 SP KO	020B1701.D	020B1702.D	020B1703.D	GC116P096.M	7.93	7.92	7.93	0.0	15.7	15.4	15.8	1.6	15.6	1	24.5	382	
T384 R3 SP FH	043F4601.D	043F4602.D	043F4603.D	GC124P081.M	6.65	6.65	6.65	0.0	19.2	19.1	19.6	1.4	19.3	1	5.00	96.5	
T384 R3 SP BH	027F3001.D	027F3002.D	027F3003.D	GC124P081.M	6.62	6.62	6.62	0.0	1.26	1.30	1.28	1.7	1.28	1	5.00	6.40	J
																485	
T384 R1 SP KO LD	018B1501.D	018B1502.D	018B1503.D	GC116P096.M	7.92	7.92	7.92	0.0	13.8	13.1	12.9	3.8	13.3	1	24.5	326	
															% Difference	6.4%	
T384 R1 SP FH LD	016F1901.D	016F1902.D	016F1903.D	GC124P081.M	6.66	6.66	6.66	0.0	30.7	28.2	29.2	4.6	29.4	1	5.00	147	
															% Difference	4.3%	
T384 Blank di Water	012B0701.D	012B0702.D	012B0703.D	GC116P096.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	22.0	4.75	ND
RB H2O	011B0601.D	011B0602.D	011B0603.D	GC116P096.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	1.00	0.216	ND
AQ LCS1	009B0501.D	009B0502.D	009B0503.D	GC116P096.M	7.92	7.92	7.92	0.0	20.3	20.0	20.3	0.8	20.2	1	10.0	202	
															Spike Amount (ug)	201	
															Spike Recovery (%)	100%	
AQ LCS2	010B0401.D	010B0402.D	010B0403.D	GC116P096.M	7.91	7.92	7.92	0.1	19.8	19.0	19.9	2.8	19.6	1	10.0	196	
															Spike Amount (ug)	201	
															Spike Recovery (%)	97.2%	

Company	Dow Chemical Company
Analyst	JBB
Parameters	EPA Method 18 Tubes

Client #	Plant T-384
Job #	0212-67
# Samples	3 Runs, 1 Blank, 3 Spikes

MDL 0.216 (ug/mL)
LOQ 2.16 (ug/mL)
Compound Phenol

Lower Curve Limit 2.16 (ug/mL)
Upper Curve Limit 111 (ug/mL)

Sample ID	Lab ID # 1	Lab ID # 2	Lab ID # 3	Analysis Method	Ret Time (min)	Ret Time (min)	Ret Time (min)	% Diff Ret	Conc # 1 (ug/mL)	Conc # 2 (ug/mL)	Conc # 3 (ug/mL)	% Diff Conc	Avg Conc (ug/mL)	DF	Vol (mL)	Catch Weight (ug)	Qual
XAD MB	010F1301.D	010F1302.D	010F1303.D	GC124P081.M	NA	NA	NA	NA	0.216	0.216	0.216	0.0	0.216	1	5.00	1.08	ND
XAD LCS1	008F1101.D	008F1102.D	008F1103.D	GC124P081.M	6.66	6.66	6.66	0.0	20.4	21.2	20.6	2.1	20.7	1	5.00	104	
															Spike Amount (ug)	109	
															Spike Recovery (%)	95.5%	
XAD LCS2	009F1201.D	009F1202.D	009F1203.D	GC124P081.M	6.66	6.66	6.66	0.0	20.1	20.4	20.2	0.8	20.3	1	5.00	101	
															Spike Amount (ug)	109	
															Spike Recovery (%)	93.3%	
gc116p096 #3ss	008B0801.D	008B0802.D	008B0803.D	GC116P096.M	7.93	7.91	7.86	0.8	5.49	5.40	5.62	2.2	5.50	1	1.00	5.50	
															Spike Amount (ug)	5.34	
															Spike Recovery (%)	103%	
gc124p080 #3ss	007F1001.D	007F1002.D	007F1003.D	GC124P081.M	6.66	6.66	6.66	0.0	32.4	32.2	34.4	4.2	33.0	1	1.00	33.0	
															Spike Amount (ug)	35.9	
															Spike Recovery (%)	92.0%	

Company	DOW Chemical
Analyst	JBB
Parameters	Spike Recovery

Client #	DOW Chemical
Job #	0212-67
# Samples	3 collocated pairs

Analyte: Phenol

	Spike Amt.		"ND"	Catch (ug)	Sampling Volume	Recovery (%)
Run 1	201	Spiked Train		458	40.2	
		Un-spiked Train		115	39.0	169%
	Spike Amt.		"ND"	Catch (ug)	Sampling Volume	Recovery (%)
Run 2	201	Spiked Train		300	40.2	
		Un-spiked Train		40.9	39.0	128%
	Spike Amt.		"ND"	Catch (ug)	Sampling Volume	Recovery (%)
Run 3	201	Spiked Train		485	40.2	
		Un-spiked Train		69.1	39.0	206%
					Avg Recovery:	**168%**

Narrative Summary

Enthalpy Analytical Narrative Summary

Company	Dow Chemical Company
Analyst	JBB
Parameters	EPA Method 18 Condensates

Client #	PGE Plant T-384
Job #	0212-67A
# Samples	3 and 1 Blank

Custody

Lindsey Chatterton received the samples on 3/1/12 after being relinquished by Dow Chemical Company - Freeport. The samples were received at 3.8°C in good condition. Prior to, during, and after analysis, the sample was kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for acetone using the analytical procedures in EPA Method 308, Procedure for Determination of Methanol Emission from Stationary Sources (40 CFR Part 63, Appendix A).

The samples were analyzed following the procedures in Section 11.0 Analytical Procedures.

The Hewlett Packard Model 5890, Series II Gas Chromatograph ("Oscar" S/N 2938A25721) was equipped with a Flame Ionization Detector and a Restek Stabilwax 30 m x 0.53 mm x 1.5 um column (S/N 1033248).

Calibration

The calibration curve is located in the back of this report and referenced in the Analysis Method column on the Detailed Results page.

The first page of the calibration curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

The acquisition method GC116P100.M is included in the Calibration Curve Chromatograms section of this report.

QC Notes

All sample preparation and analytical holding times specified in the method were met.

Acetone was not detected in the laboratory method blank or the client provided blank.

Enthalpy Analytical Narrative Summary
(continued)

QC Notes (continued)	A laboratory duplicate analysis of sample ***T384 R1 Bag KO*** was performed. Acetone was not present in quanities greater than the detection limit in either the initial or the duplicate analyses. A Second Source sample (gc116p100 #3ss) was analyzed along with the samples and had a percent recovery of 105%.
Reporting Notes	These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative. The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	Dow Chemical - Freeport
Analyst	MTH
Parameters	EPA Method 18 Bags

Client #	Plant T-384
Job #	0212-67A
# Samples	3

Custody

Lindsey Chatterton received the samples on 3/1/12 after being relinquished by Dow Chemical Company Freeport. The samples were received at ambient temperature in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for methane, ethane, propane, butane, ethylene oxide, acetone, pentane, hexane, heptane, others as Cx compounds, and Total VOCs as Propane using the analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A).

The standards and samples were analyzed following the procedures specified in section 8.2.1, Integrated Bag Sampling and Analysis.

All samples and standards were introduced directly to the column using an automated multi-port Valco gas sampling valve equipped with a stainless steel loop. The C_1-C_7 n-alkanes, ethylene oxide, and acetone of interest were referenced to certified gas phase standards.

The retention time for each n-alkane is used to generate retention time windows for other Cx as compounds. For example, the areas for all peaks between 2.3 and 3.4 minutes (except for n-butane) are summed, the total referenced to the calibrated n-butane response, and the result labeled "C4 as Butane".

TVOC as propane results were determined by referencing the areas for all chromatographic peaks to the calibrated propane response.

The Agilent Technologies Model 6890, Gas Chromatograph ("Gummo" S/N US00028451) was equipped with a Flame Ionization Detector and a Restek Rtx-624 30 m x 0.32 mm x 4.0 um column (S/N 869999).

Calibration

The calibration curves are located in the back of this report and referenced in the Analysis Method column on the Detailed Results page.

Enthalpy Analytical Narrative Summary
(continued)

Calibration (continued)

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

Chromatographic Conditions

The acquisition methods GC126P057.M and GC126P045.M are included in the Calibration Curve Chromatograms section of this report.

QC Notes

As required by section 8.4.2, Recovery Study for Bag Sampling, a recovery study is performed on a bag sample. The bag sample ***T-384-R1-Bag*** was spiked at 4:45 PM on 3/1/12, with all the analytes of interest. The spiked sample was analyzed at 10:26 PM on 3/2/12. The recovery efficiency values are used to adjust the sample results following equation 18-7 from section 12.8. The propane recovery efficiency value was used to adjust the TVOC as propane results.

All sample preparation and analytical holding times specified in the method were met.

Reporting Notes

These analytical results are reported on a wet basis. The user of this report should determine the % moisture in the sample and correct the reported value to ppmvd as appropriate.

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.

Enthalpy Analytical Narrative Summary

Company	Dow Chemical - Freeport
Analyst	JBB
Parameters	EPA Method 18 Adsorbents

Client #	Plant T-384
Job #	0212-67A
# Samples	3 Runs, 1 Blank, 3 Spikes

Custody

Lindsey Chatterton received the samples on 3/1/12 after being relinquished by Dow Chemical Company Freeport. The samples were received at 3.8°C in good condition. Prior to, during, and after analysis, the samples were kept under lock with access only to authorized personnel by Enthalpy Analytical, Inc.

Analysis

The samples were analyzed for phenol using the analytical procedures in EPA Method 18, Measurement of Gaseous Organic Compound Emissions by Gas Chromatography (40 CFR Part 60, Appendix A). The standards and samples were analyzed following the procedures specified in section 8.2.4, Adsorption Tube Procedure.

The samples each had one knockout (condensate) except the ***non-spiked Run 1***, which had two. An aliquot of the sole vial for the other samples was analyzed. Proportional aliquots from the two vials for ***non-spiked Run 1*** were combined and analyzed as a single fraction.

The XAD-2 (Cat# 226-30-06), tubes were desorbed in two fractions: the whole first tube combined with the front half (FH) of the second tube in series and the back half (BH) of the second tube. Each fraction was desorbed using 5 mL of a 10% methanol/90% methylene chloride solution and shaken at 450 rev/min for 30 min, on 3/7/12.

The Agilent Technologies Model 6890, Gas Chromatograph ("Lolita" S/N US00000347) was equipped with a Flame Ionization Detector (FID) with a DB-624 30 m x 0.32 mm x 1.8 um (S/N USB499434H) column for the tube fraction analyses.

The Hewlett-Packard Model 5890, Series II Gas Chromatograph ("Oscar" S/N 2938A25721) was equipped with a Flame Ionization Detector and a Restek stabilwax 30 m x 0.53 mm x 1.5 um column (S/N 1033248) for the condensate analyses.

Chromatographic Conditions

The acquisition methods GC116P096.M and GC124P080.M are included in the Calibration Curve Chromatograms section of this report.

Calibration

The calibration curves are located in the back of this report and referenced in the Analysis Method column on the Detailed Results page.

Enthalpy Analytical Narrative Summary
(continued)

Calibration

For each calibration curve used, the first page of the curve contains all method specific parameters (i.e., curve type, origin, weight, etc.) used to quantify the samples. The calibration curve section also includes a table with the Retention Time (RetTime), Level (Lvl), Amount (corresponding units), Area, Response Factor (Amt/Area) and the analyte Name. The calibration table is used to identify (by retention time) and quantify each target compound.

QC Notes

The laboratory prepared eight aqueous spikes, each containing 201.2 ug of phenol. Six were provided to the client prior to sample collection, and two were retained for use as Laboratory Control Samples (LCSs). The collocated spike trains did not meet the method criterion (an average recovery value of 70-130%), so the results have not been adjusted.

The retained aqueous LCSs were brought to a volume of 10 mL and analyzed with the aqueous sample fractions, and exhibited recovery values of 100% and 97.2%.

The analyst also prepared two XAD tube LCSs, spiking 109 ug of phenol on each tube. They were desorbed and analyzed along with the tube fractions and yielded percent recovery values 95.5% and 93.3%.

Duplicate analyses were performed on samples ***T384 R1 SP KO*** and ***T384 R1 SP FH*** as Laboratory Duplicates (LD). The percent differences were 6.4% and 4.3% respectively.

Second Source (SS) gc116p096 #3ss and gc124p080 #3ss were also analyzed as LCSs along with the samples and yielded percent recoveries of 103% and 92.0% respectively.

Phenol was not present in the client or laboratory blanks above the detection limit.

All sample preparation and analytical holding times specified in the method were met.

Reporting Notes

These analyses met the requirements of the NELAC Standard. Any deviations from the requirements of the reference method or NELAC Standard have been previously noted in the report narrative.

The results presented in this report are representative of the samples as provided to the laboratory.

General Reporting Notes

The following are general reporting notes that are applicable to all Enthalpy Analytical, Inc. data reports, unless specifically noted otherwise.

- The acronym ***MDL*** represents the Minimum Detection Limit. Below this value the laboratory cannot determine the presence of the analyte of interest reliably.
- The acronym ***LOQ*** represents the Limit of Quantification. Below this value the laboratory cannot quantitate the analyte of interest within the criteria of the method.
- The acronym ***ND*** following a value indicates a non-detect or analytical result below the MDL.
- The letter ***J*** following a value indicates an analytical result between the MDL and the LOQ. A J flag indicates that the laboratory can positively identify the analyte of interest as present, but the value should be considered an estimate.
- The letter ***E*** following a value indicates an analytical result exceeding 100% of the highest calibration point. The associated value should be considered as an estimate.
- The acronym ***DF*** represents Dilution Factor. This number represents dilution of the sample during the preparation and/or analysis process. The analytical result taken from a laboratory instrument is multiplied by the DF to determine the final undiluted sample results.
- The addition of ***MS*** to the Sample ID represents a Matrix Spike. An aliquot of an actual sample is spiked with a known amount of analyte so that a percent recovery value can be determined. This shows what effect the sample matrix may have on the target analyte, i.e. whether or not anything in the sample matrix interferes with the analysis of the analyte(s).
- The addition of ***MSD*** to the Sample ID represents a Matrix Spike Duplicate. Prepared in the same manner as an MS, the use of duplicate matrix spikes allows further confirmation of laboratory quality by showing the consistency of results gained by performing the same steps multiple times.
- The addition of ***LD*** to the Sample ID represents a Laboratory Duplicate. The analyst prepares an additional aliquot of sample for testing and the results of the duplicate analysis are compared to the initial result. The result should have a difference value of within 10% of the initial result (if the results of the original analysis are greater than the LOQ).
- The addition of ***AD*** to the Sample ID represents an Alternate Dilution. The analyst prepares an additional aliquot at a different dilution factor (usually double the initial factor). This analysis helps confirm that no additional compound is present and coeluting or sharing absorbance with the analyte of interest, as they would have a different response/absorbance than the analyte of interest.
- The Sample ID ***LCS*** represents a Laboratory Control Sample. Clean matrix, similar to the client sample matrix, prepared and analyzed by the laboratory using the same reagents, spiking standards and procedures used for the client samples. The LCS is used to assess the control of the laboratory's analytical system. Whenever spikes are prepared for our client projects, two extra spikes are prepared. The extras (randomly chosen) are labeled with the associated project number and kept in-house at the appropriate temperature conditions. When the project samples are received for analysis, the LCSs are analyzed to confirm that the analyte could be recovered from the media, separate from the samples which were used on the project and which may have been affected by source matrix, sample collection and/or sample transport.



General Reporting Notes

(continued)

- **Significant Figures**: Where the reported value is much greater than unity (1.00) in the units expressed, the number is rounded to a whole number of units, rather than to 3 significant figures. For example, a value of 10,456.45 ug catch is rounded to 10,456 ug. There are five significant digits displayed, but no confidence should be placed on more than two significant digits.
- **Manual Integration**: The data systems used for processing will flag manually integrated peaks with an "M". There are several reasons a peak may be manually integrated. These reasons will be identified by the following two letter designations. The peak was ***not integrated*** by the software **"NI"**, the peak was ***integrated incorrectly*** by the software **"II"** or the ***wrong peak*** was integrated by the software **"WP"**. These codes will accompany the analyst's manual integration stamp placed next to the compound name.



Sample Custody



Freeport TX
Environmental Analytical Chemistry
Discipline

Texas Environmental Analytical Chemistry

CHAIN OF CUSTODY RECORD

Job # ____-____-____

Page ___ of ___ page(s)

CUSTOMER INFO — Master #

Name & Master #: Spencer Hurley — Copy Rpt to:
Department: EH&S Leveraged Delivery
Building: B-2009
Phone Number: 979-238-7158
Fax Number: 979-238-0906
Client Code / Co. Code / Plant Code / Cost Cntr:
Sample Site: B1700 PGE Plant T-384 Scrubber Outlet

Customer MUST provide complete sample description, collection information, hazard information and labeling, and proper PPE requirements for hazardous samples

matrix: A = air W = water S = soil/solid SL = sludge SV = solvent O = other
container: T = tubes P = plastic V = vial G = glass A = amber B = badges W = wipes TB = tedlar bags EF = evacuated flask
size: 1 = 1 liter 4 = 4 oz 40 = vial 8 = 8 oz 16 = 16 oz G = 1 gallon 10 = 10 liter
preser.: 1 = HCl 2 = HNO_3 H_2SO_4 3 = 4 = Methanol 5 = NaOH O = other N = None C = Temp ≤ 6 deg C
type: C24=24hr. Composite G=Grab C1=1hr. Composite S=Standard
Number of Containers
Sampling Method
Requested Analysis
Sample Preparation: T = Totals L = TCLP B = Both
n-hexane potential VOC by M18

SAMPLE DESCRIPTION (include field reference #, container box #, etc.)	SAMPLE COLLECTION INFORMATION: DATE	TIME	BLOCK	PLANT	WPN	LIMS NUMBER	matrix	container	size	preser.	type	# Containers	Sampling Method	Sample Prep	Requested Analysis
T-384 Run 1 Spiked Tube Primary	2/29/2012	1005-1105	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 1 Spiked Tube Secondary	2/29/2012	1005-1105	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 2 Spiked Tube Primary	2/29/2012	1130-1230	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 2 Spiked Tube Secondary	2/29/2012	1130-1230	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 3 Spiked Tube Primary	2/29/2012	1245-1345	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 3 Spiked Tube Secondary	2/29/2012	1245-1345	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 1 non-Spk Tube Primary	2/29/2012	1005-1105	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 1 non-Spk Tube Secondary	2/29/2012	1005-1105	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 2 non-Spk Tube Primary	2/29/2012	1130-1230	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 2 non-Spk Tube Secondary	2/29/2012	1130-1230	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 3 non-Spk Tube Primary	2/29/2012	1245-1345	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
T-384 Run 3 non-Spk Tube Secondary	2/29/2012	1245-1345	B-1700	PGE			A	T			C1	1	M18	M18	Phenol & any VOC's >5%
											C1	1	M18	M18	Phenol & any VOC's >5%

Client/Consultant Remarks: (negotiate and confirm with laboratory personnel date results needed)

Required Accuracy: ____Qualitative ____Semi-Quantitative ____Quantitative
____ Percent ____ PPM ____ PPB

Expected Levels:
Hazard Information/PPE Required:

Waste Characterization Coordinator_____

Lab Relinquishment Requirements

Relinquished By: [signature]
Received By: [signature]
Date: 2/29/12 Time: 3:00pm
Date: 3/1/12 Time: 10:50
Comments: Temp: 3.8° RayGun#1

Relinquished By: _____
Received By: _____
Date: _____ Time: _____
Date: _____ Time: _____
Comments: _____

Laboratory Remarks: (include any abnormal sample conditions upon receipt)

Results needed by Routine

If above "Results needed by" date is not specified, a 15 day turn-around time will be assumed.

DQO attached _____ or DQO on file _____

Sampling Method Examples:
1 = bailer 2 = scoop / shovel
3 = drum / tank sampler 4 = drum / tank spigot
5 = dredge 6 = Pond Sampler 7 = COLIWASA
8 = Holding container under stream

Regulations:
Air [ ] TPDES [ ] RCRA [ ]
TSCA [ ] NIOSH [ ] HON [ ]
Groundwater ___Qtr [ ]
Process Knowledge [ ]
Other_____ [ ]

PGE T384 Scrubber 2012-37

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Freeport, TX
Environmental Analytical Chemistry Discipline

Texas Environmental Analytical Chemistry

CHAIN OF CUSTODY RECORD

Job # ____-____-____

Page ___ of ___ page(s)

CUSTOMER INFO — Master #

Name & Master #: Spencer Hurley — Copy Rpt to:

Department: EH&S Leveraged Delivery

Building: B-2009

Phone Number: 979-238-7158

Fax Number: 979-238-0906

Client Code / Co. Code / Plant Code / Cost Cntr:

Sample Site: B1700 PGE Plant T-384 Scrubber Outlet

Customer MUST provide complete sample description, collection information, hazard information and labeling, and proper PPE requirements for hazardous samples

matrix: A = air W = water S = soil/solid SL = sludge SV = solvent O = other

container: T = tubes P = plastic V = vial G = glass A = amber B = badges W = wipes TB=tedlar bags EF=evacuated flask

size: 1 = 1 liter 4 = 4 oz 40 = Vial 8 = 8 oz 16 = 16 oz G = 1 gallon 10= 10 liter

preser.: 1 = HCl 2 = HNO_3 H_2SO_4 3 = 4 = Methanol 5 = NaOH O = other N = None C = Temp ≤ 6 deg C

type: C24=24hr. Composite G=Grab C1=1hr. Composite S=Standard

Requested Analysis — Sample Preparation: T = Totals L = TCLP B = Both

SAMPLE DESCRIPTION (include field reference #, container box #, etc.)	SAMPLE COLLECTION INFORMATION: DATE	TIME	BLOCK	PLANT	WPN	LIMS NUMBER	matrix	container	size	preser.	type	Number of Containers	Sampling Method	Sample Preparation					Requested Analysis: n-hexane potential VOC by M18
T-384 Run 1 non-Spiked KO	2/29/2012	1005-1105	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run 1 non-Spiked KO #2	2/29/2012	1005-1105	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run 1 Spiked KO	2/29/2012	1005-1105	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run 2 Spiked KO	2/29/2012	1130-1230	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run 2 non-Spiked KO	2/29/2012	1130-1230	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run 3 Spiked KO	2/29/2012	1245-1345	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run3 non-Spiked KO	2/29/2012	1245-1345	B-1700	PGE			A	V			C1	1	M18		M18				Phenol & any VOC's >5%
T-384 Run 1 bag Primary	2/29/2012	1005-1105	B-1700	PGE			A	TB			C1	1	M18		M18	M25A			EO, Acetone & VOC's 25A
T-384 Run 1 bag Retain	2/29/2012	1005-1105	B-1700	PGE			A	TB			C1	1	M18		M18	M25A			EO, Acetone & VOC's 25A
T-384 Run 2bag Primary	2/29/2012	1130-1230	B-1700	PGE			A	TB			C1	1	M18		M18	M25A			EO, Acetone & VOC's 25A
T-384 Run 2 bag Retain	2/29/2012	1130-1230	B-1700	PGE			A	TB			C1	1	M18		M18	M25A			EO, Acetone & VOC's 25A
T-384 Run 3 bag Primary	2/29/2012	1245-1345	B-1700	PGE			A	TB			C1	1	M18		M18	M25A			EO, Acetone & VOC's 25A
T-384 Run3 bag Retain	2/29/2012	1245-1345	B-1701	PGE			A	TB			C1	1	M18		M18	M25A			EO, Acetone & VOC's 25A
											C2	1	M19		M19	M25A			EO, Acetone & VOC's 25A

Client/Consultant Remarks: (negotiate and confirm with laboratory personnel date results needed)

Required Accuracy: ____Qualitative ____Semi-Quantitative ____Quantitative

____ Percent ____ PPM ____ PPB

Expected Levels:

Hazard Information/PPE Required:

Laboratory Remarks: (include any abnormal sample conditions upon receipt)

Results needed by Routine

If above "Results needed by" date is not specified, a 15 day turn-around time will be assumed.

DQO attached ____ or DQO on file ____

Waste Characterization Coordinator ____

Lab Relinquishment Requirements

Relinquished By: [signature] Date: 2/29/12 Time: 3:00pm

Received By: [signature] Date: 3/1/12 Time: 10:50

Comments: Temp = 3.8° Rep Gun #1

Relinquished By: ____ Date: ____ Time: ____

Received By: ____ Date: ____ Time: ____

Comments: ____

Sampling Method Examples:
1 = bailer 2 = scoop / shovel
3 = drum / tank sampler 4 = drum / tank spigot
5 = dredge 6 = Pond Sampler 7 = COLIWASA
8 = Holding container under stream

Regulations:
Air [ ] TPDES [ ] RCRA [ ]
TSCA [ ] NIOSH [ ] HON [ ]
Groundwater ___ Qlr [ ]
Process Knowledge [ ]
Other ____ [ ]

Rep Temp = Ambient

PGE T384 Scrubber 2012-37

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DOW RESTRICTED - For internal use only
Prepared by Meaza Mariam:Mariam M u363274 2/29/2012

Freeport, TX
Environmental Analytical Chemistry
Discipline

Texas Environmental Analytical Chemistry

CHAIN OF CUSTODY RECORD

Job # ____-____-____

Page ___ of ___ page(s)

CUSTOMER INFO — Master #

Name & Master #:	Spencer Hurley
Copy Rpt to:	
Department:	EH&S Leveraged Delivery
Building:	B-2009
Phone Number:	979-238-7158
Fax Number:	979-238-0906
Client Code / Co. Code / Plant Code / Cost Cntr:	
Sample Site:	B1700 PGE Plant T-384 Scrubber Outlet

Customer MUST provide complete sample description, collection information, hazard information and labeling, and proper PPE requirements for hazardous samples

SAMPLE DESCRIPTION (include field reference #, container box #, etc.)	SAMPLE COLLECTION INFORMATION					LIMS NUMBER	matrix	container	size	preser.	type	Number of Containers	Sampling Method	Requested Analysis: Sample Preparation (T = Totals, B = Both, L = TCLP)						n-hexane potential VOC by M18
	DATE	TIME	BLOCK	PLANT	WPN															
T-384 Run 1 bag KO	2/29/2012	1005-1105	B-1700	PGE			A	V	25ml		C1	1	M18		M18					EO, Acetone
T-384 Run 2 bag KO	2/29/2012	1005-1105	B-1700	PGE			A	V	25ml		C1	1	M18		M18					EO, Acetone
T-384 Run 3 bag KO	2/29/2012	1005-1105	B-1700	PGE			A	V	25ml		C1	1	M18		M18					EO, Acetone
T-384 DI Water blank	2/29/2012	1130-1230	B-1700	PGE			A	V	25ml		G	1	M18		M18					EO, Acetone

matrix: A = air, W = water, S = soil/solid, SL = sludge, SV = solvent, O = other

container: T = tubes, P = plastic, V = vial, G = glass, A = amber, B = badges, W = wipes, TB = tedlar bags, EF = evacuated flask

size: 1 = 1 liter, 4 = 4 oz, 40 = vial, 8 = 8 oz, 16 = 16 oz, G = 1 gallon, 10 = 10 liter

preser.: 1 = HCl, 2 = HNO_3, H_2SO_4, 3 =, 4 = Methanol, 5 = NaOH, O = other, N = None, C = Temp ≤ 6 deg C

type: C24-24hr. Composite, G=Grab, C1=1hr. Composite, S=Standard

Client/Consultant Remarks: (negotiate and confirm with laboratory personnel date results needed)

Required Accuracy: ____Qualitative ____Semi-Quantitative ____Quantitative

____ Percent ____ PPM ____ PPB

Expected Levels:

Hazard Information/PPE Required:

Laboratory Remarks: (include any abnormal sample conditions upon receipt)

Results needed by Routine

If above "Results needed by" date is not specified, a 15 day turn-around time will be assumed.

DQO attached ____ or DQO on file ____

Waste Characterization Coordinator_____

Lab Relinquishment Requirements

Relinquished By: _____ Date: 2/29/12 Time: 3:00pm

Received By: _____ Date: 3/1/12 Time: 10:50

Comments: Temp = 3.5° Rx Comm #1

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

Comments: _____

Sampling Method Examples:

1 = bailer 2 = scoop / shovel

3 = drum / tank sampler 4 = drum / tank spigot

5 = dredge 6 = Pond Sampler 7 = COLIWASA

8 = Holding container under stream

Regulations:

Air [ ] TPDES [ ] RCRA [ ]

TSCA [ ] NIOSH [ ] HON [ ]

Groundwater ___Qtr [ ]

Process Knowledge [ ]

Other_____ [ ]

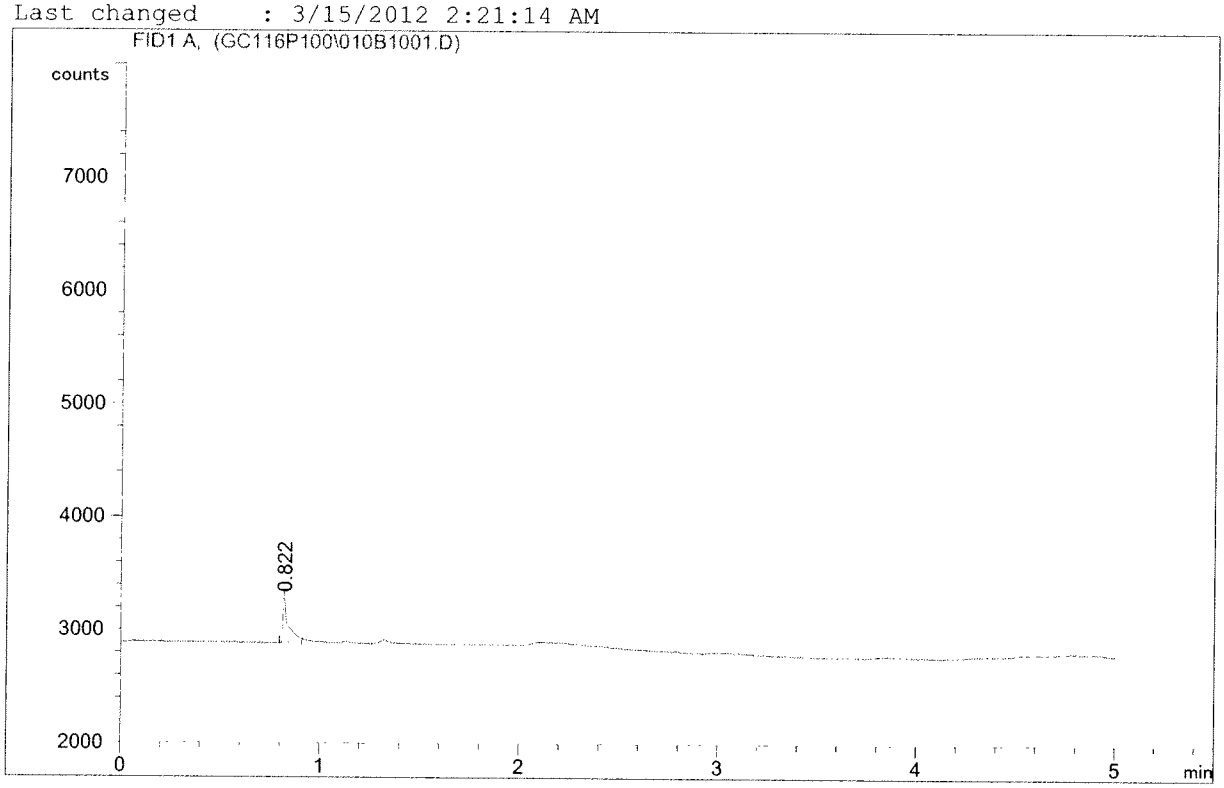
PGE T384 Scrubber 2012-37

DOW RESTRICTED - For internal use only

Prepared by Meaza Mariam:Mariam M u363274 2/29/2012

Sample Chromatograms

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Oscar                                 Location : Vial 10
Injection Date   : 3/14/2012 2:44:23 AM                       Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

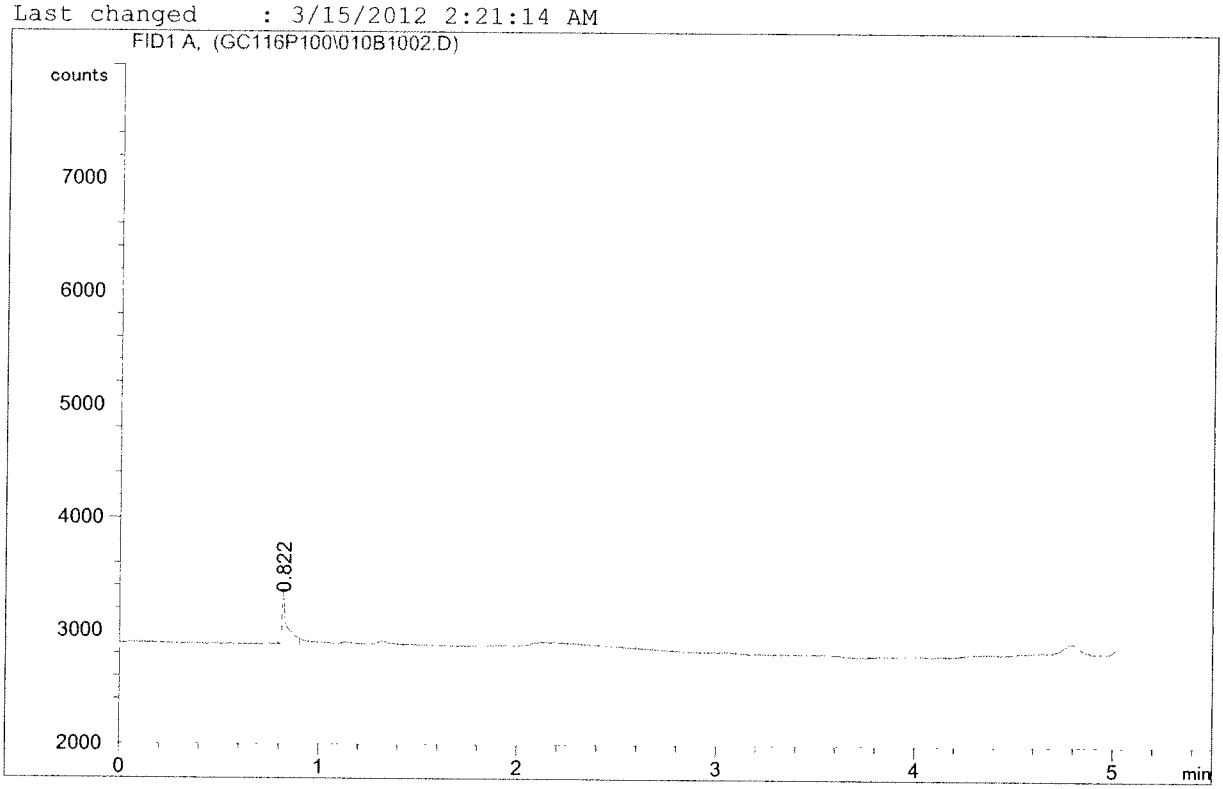
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Oscar                                 Location : Vial 10
Injection Date   : 3/14/2012 2:53:28 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

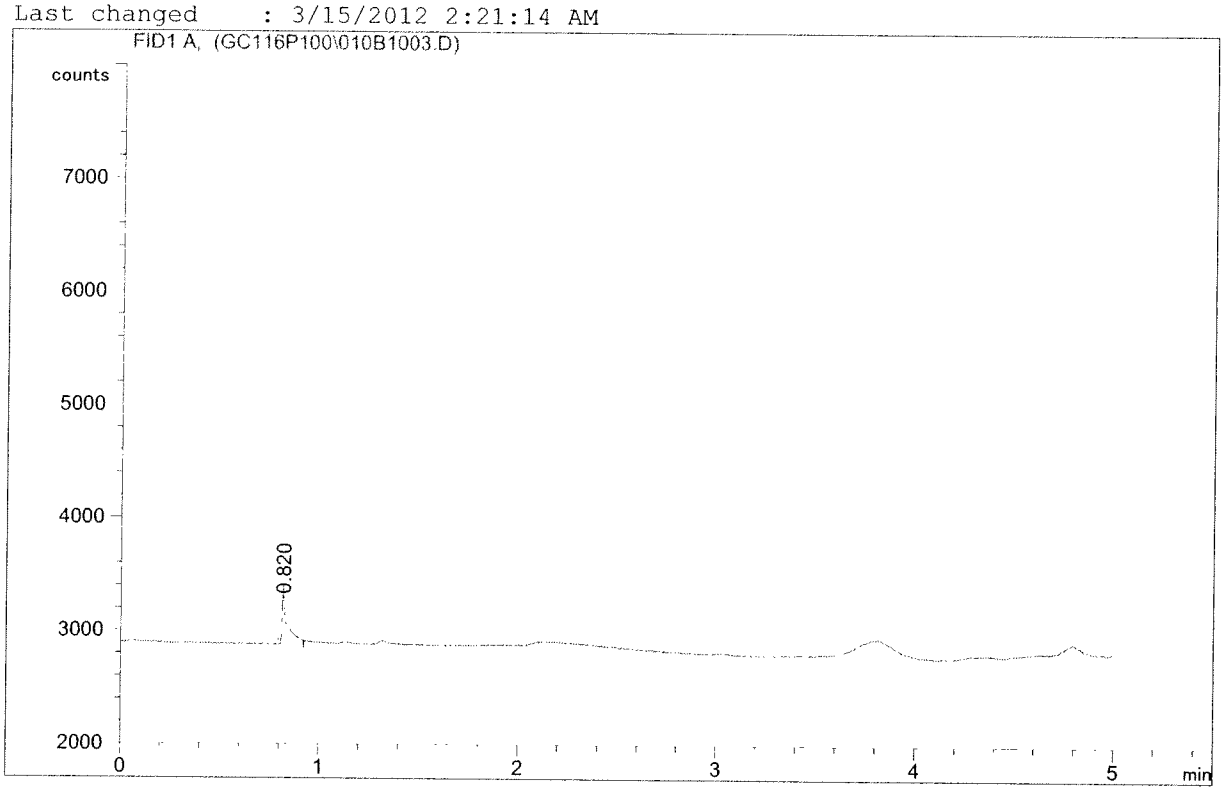
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Oscar                                 Location : Vial 10
Injection Date   : 3/14/2012 3:02:28 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

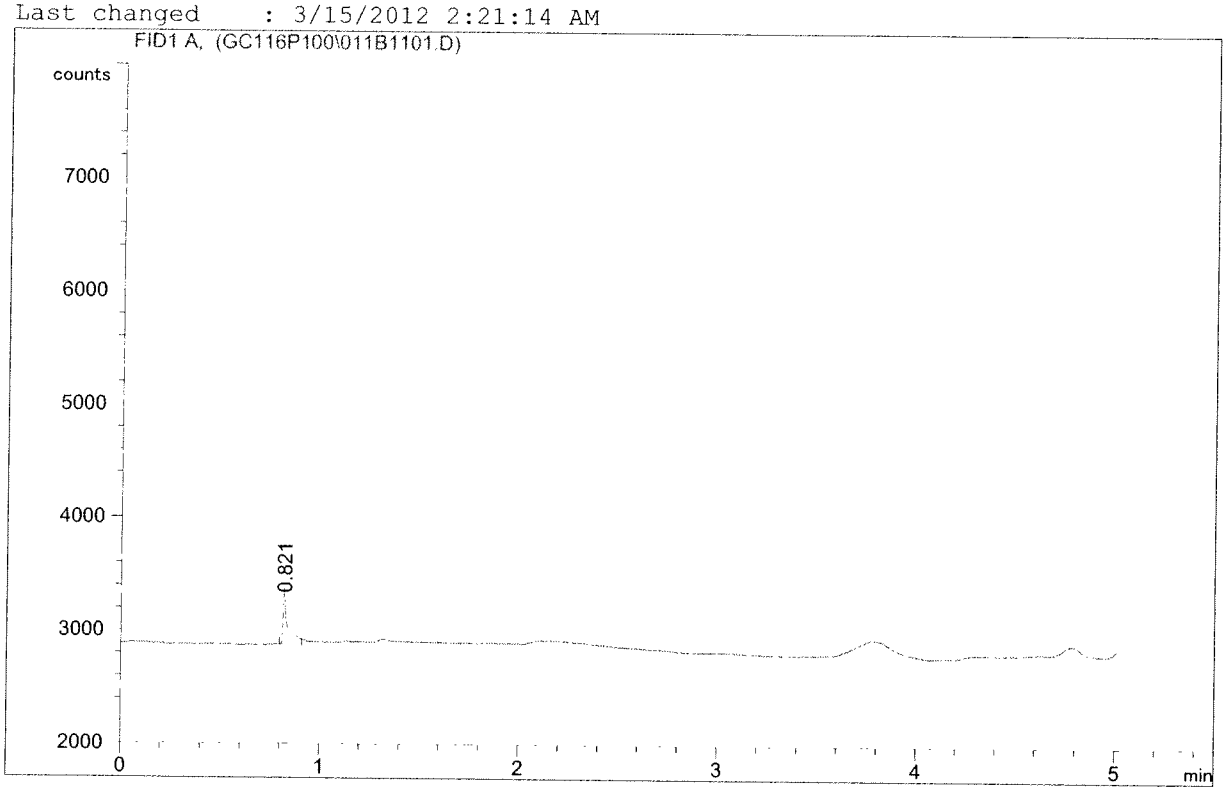
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  11
Acq. Instrument  : Oscar                                 Location : Vial 11
Injection Date   : 3/14/2012 3:11:33 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -           -          -          Acetone

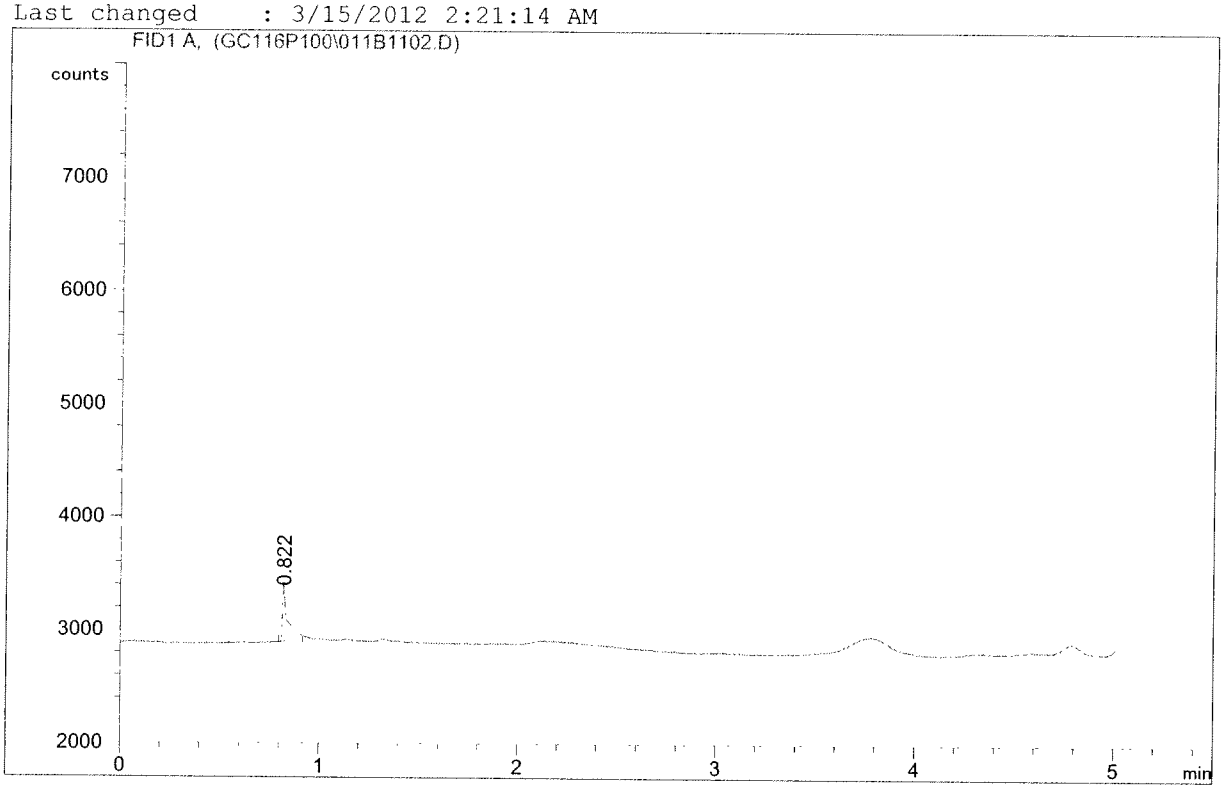
Totals :                                  0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  11
Acq. Instrument  : Oscar                                 Location : Vial 11
Injection Date   : 3/14/2012 3:20:35 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

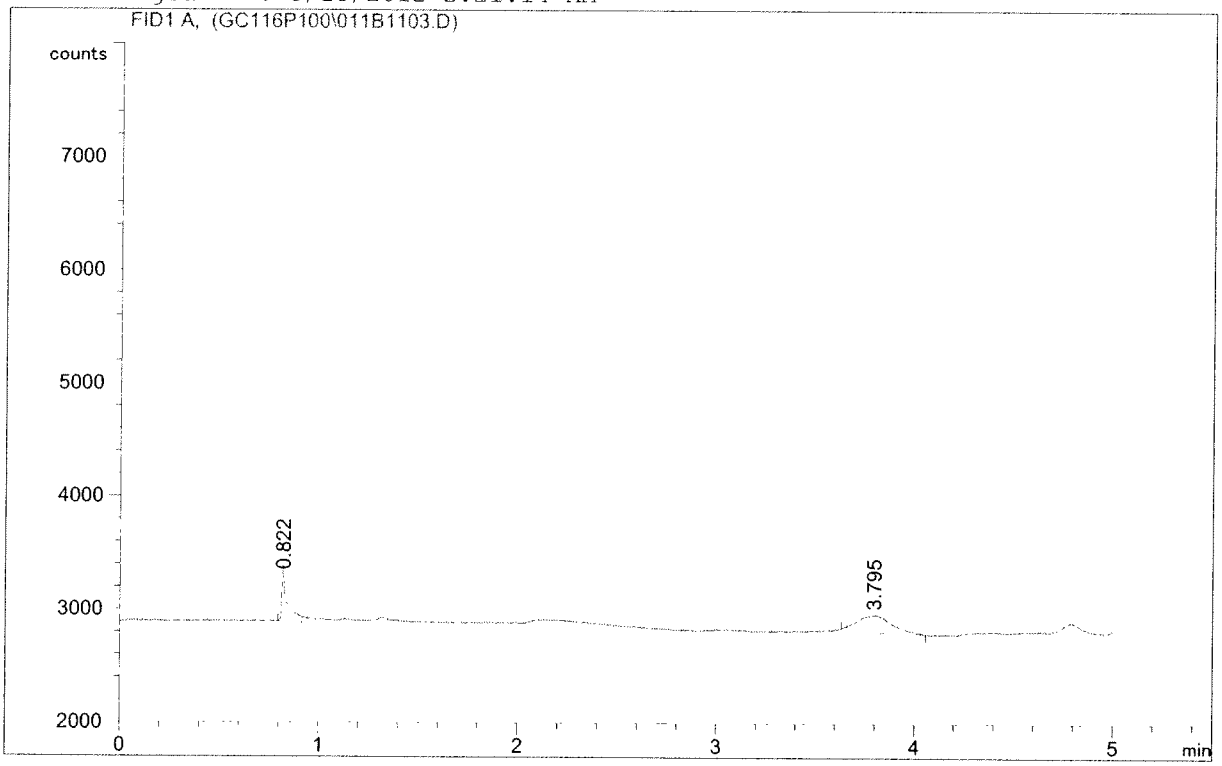
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  11
Acq. Instrument  : Oscar                             Location : Vial 11
Injection Date   : 3/14/2012 3:29:39 AM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

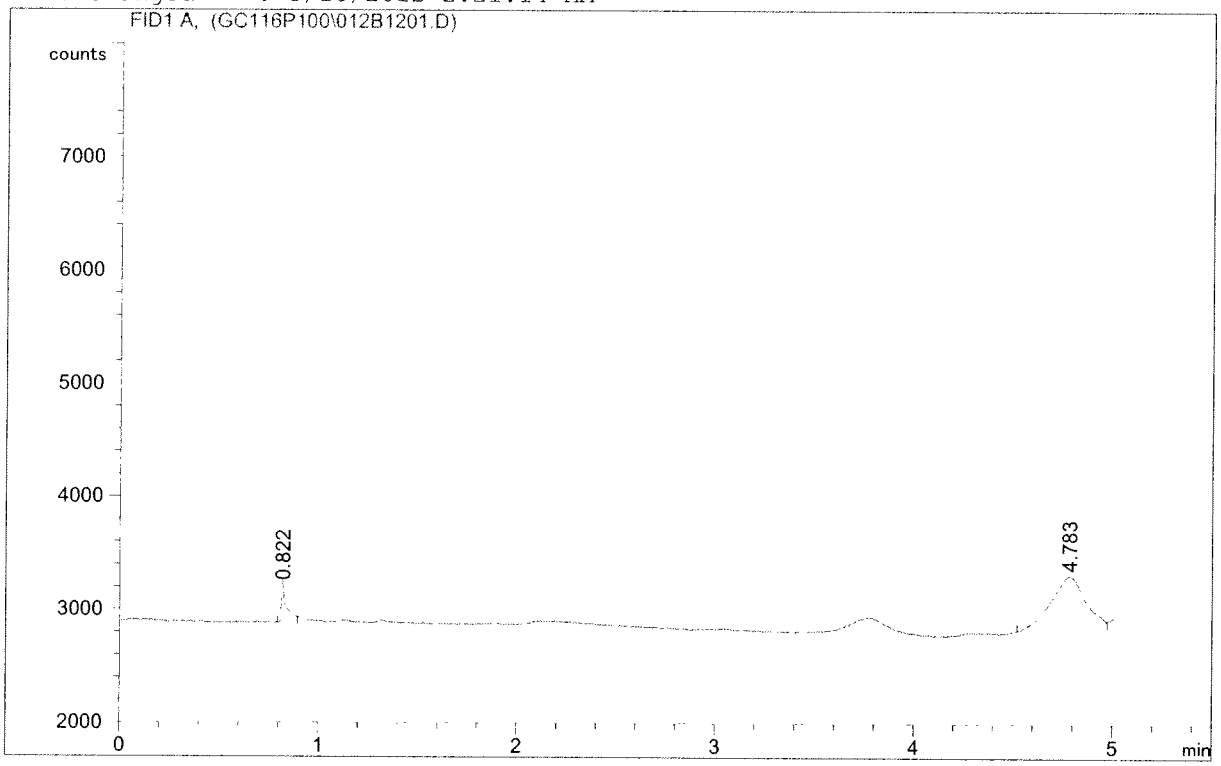
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Oscar                                 Location : Vial 12
Injection Date   : 3/14/2012 3:38:43 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

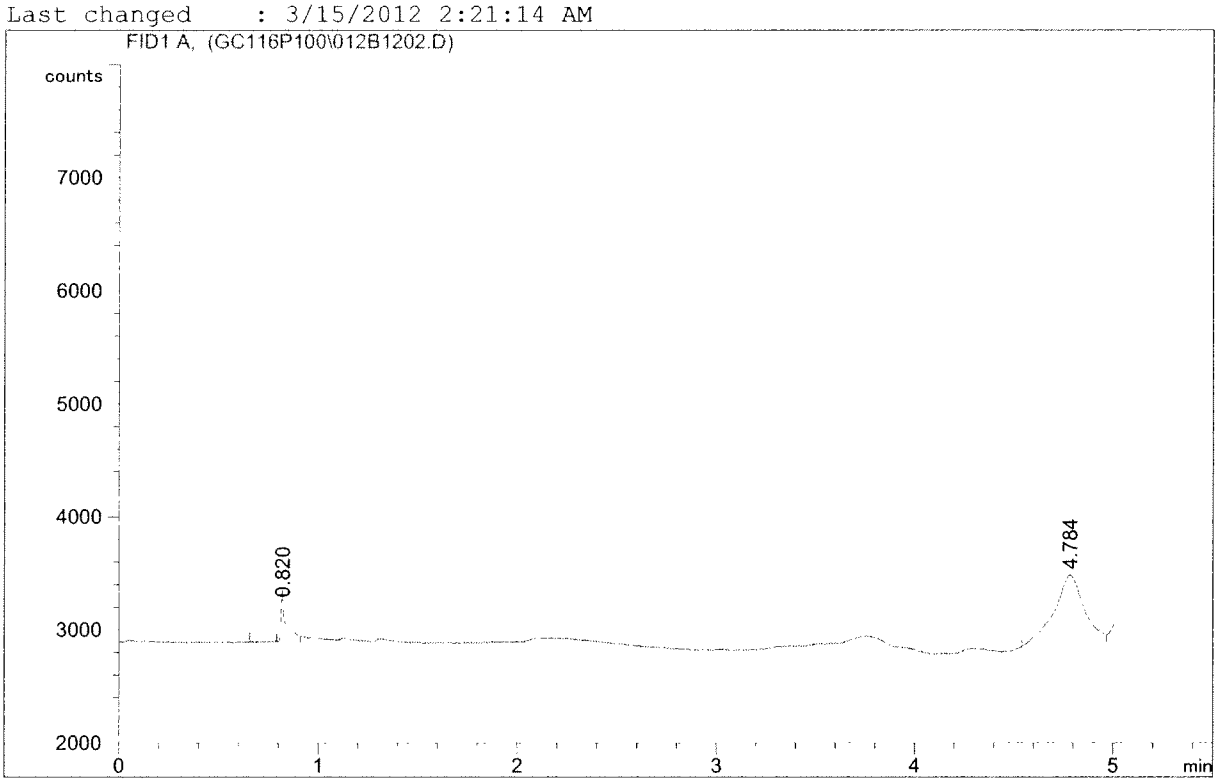
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Oscar                                 Location : Vial 12
Injection Date   : 3/14/2012 3:47:48 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095           -          -          -          Acetone

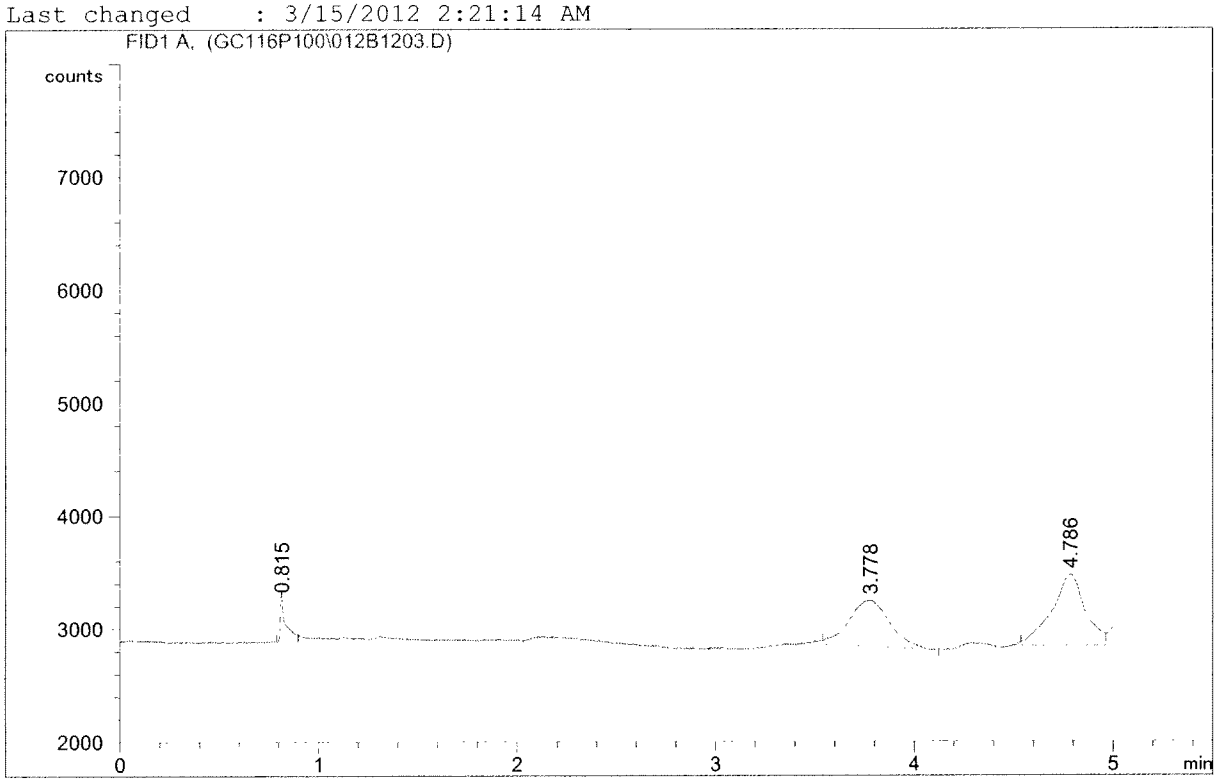
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Oscar                                 Location : Vial 12
Injection Date   : 3/14/2012 3:56:52 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

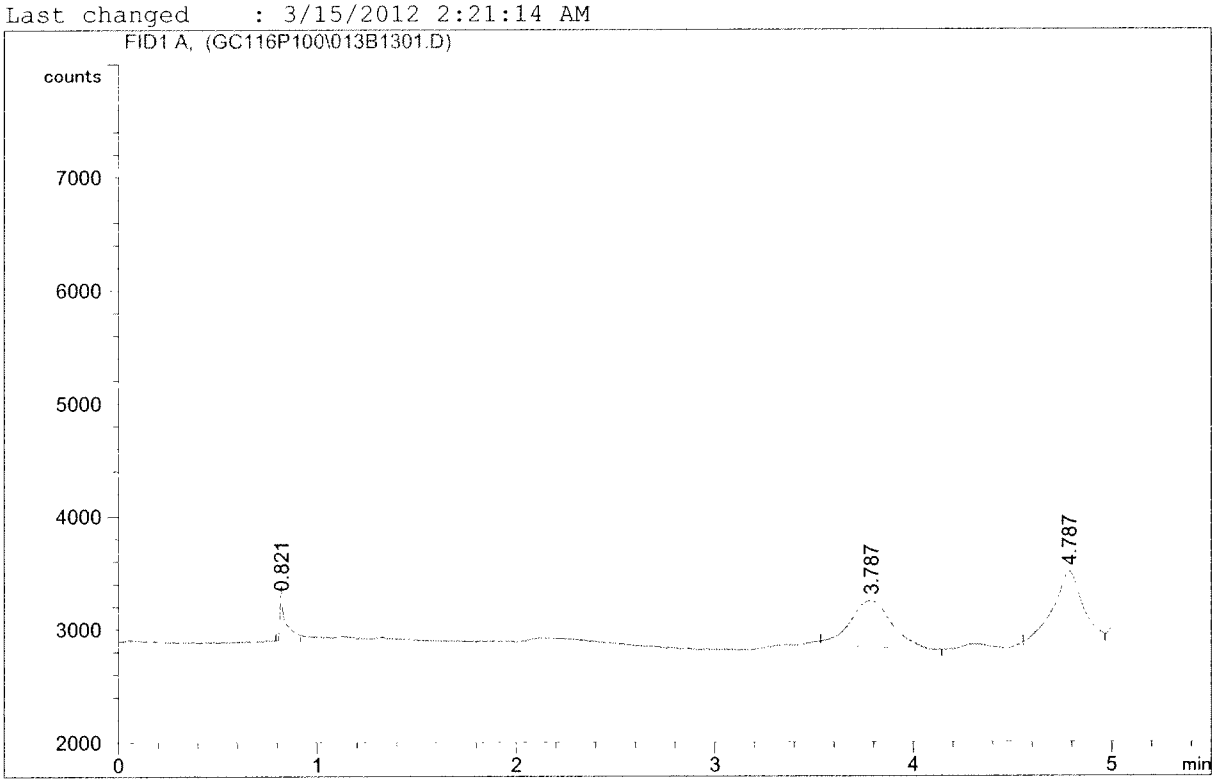
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :  13
Acq. Instrument  : Oscar                               Location : Vial 13
Injection Date   : 3/14/2012 4:06:02 AM                     Inj :   1
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

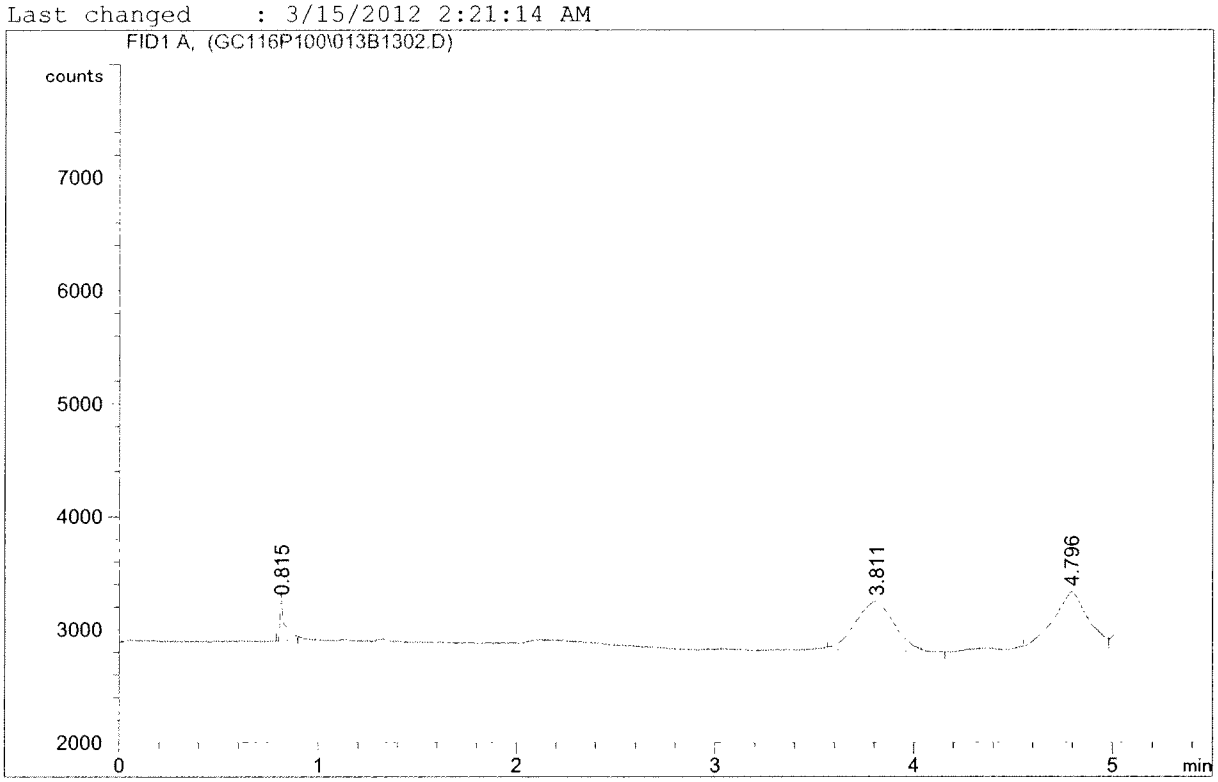
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator   : JBB                                Seq. Line :  13
Acq. Instrument : Oscar                               Location : Vial 13
Injection Date  : 3/14/2012 4:15:02 AM                     Inj :   2
                                                     Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095           -          -          -          Acetone

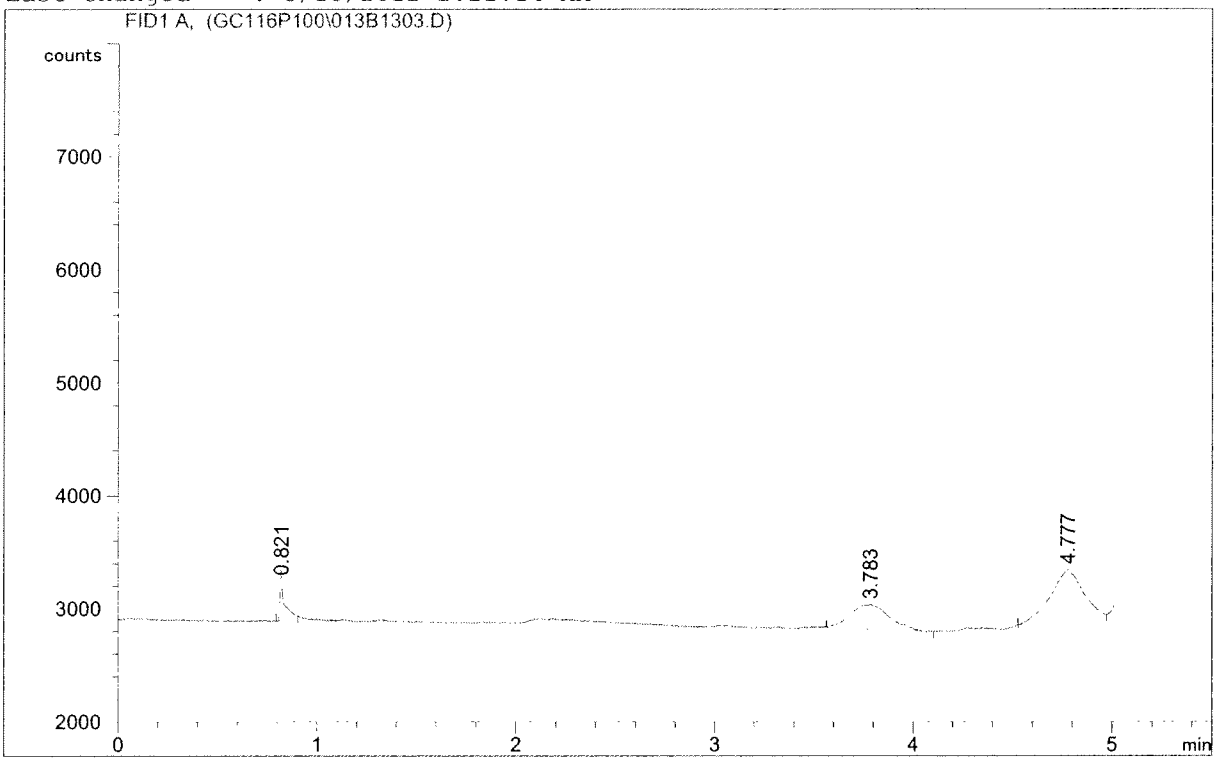
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  13
Acq. Instrument : Oscar                              Location : Vial 13
Injection Date  : 3/14/2012 4:24:12 AM                    Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

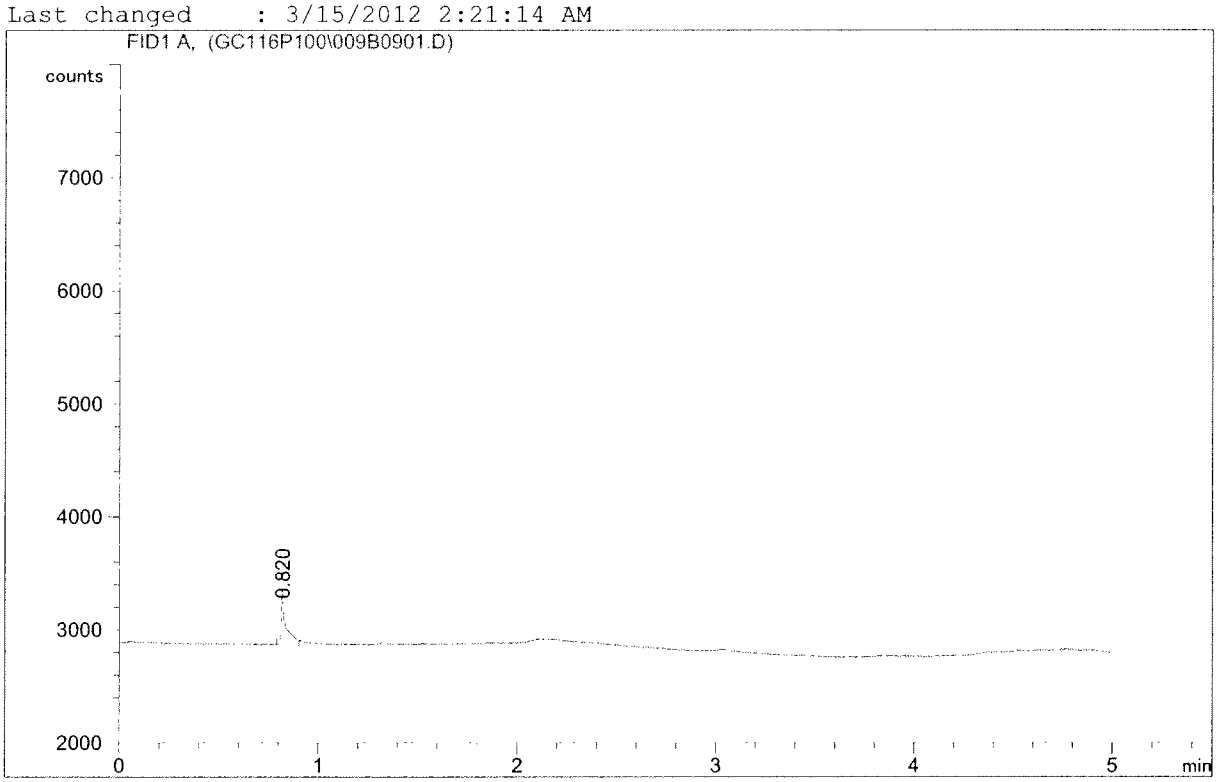
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   9
Acq. Instrument : Oscar                              Location : Vial 9
Injection Date   : 3/14/2012 2:17:13 AM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095           -          -          -          Acetone

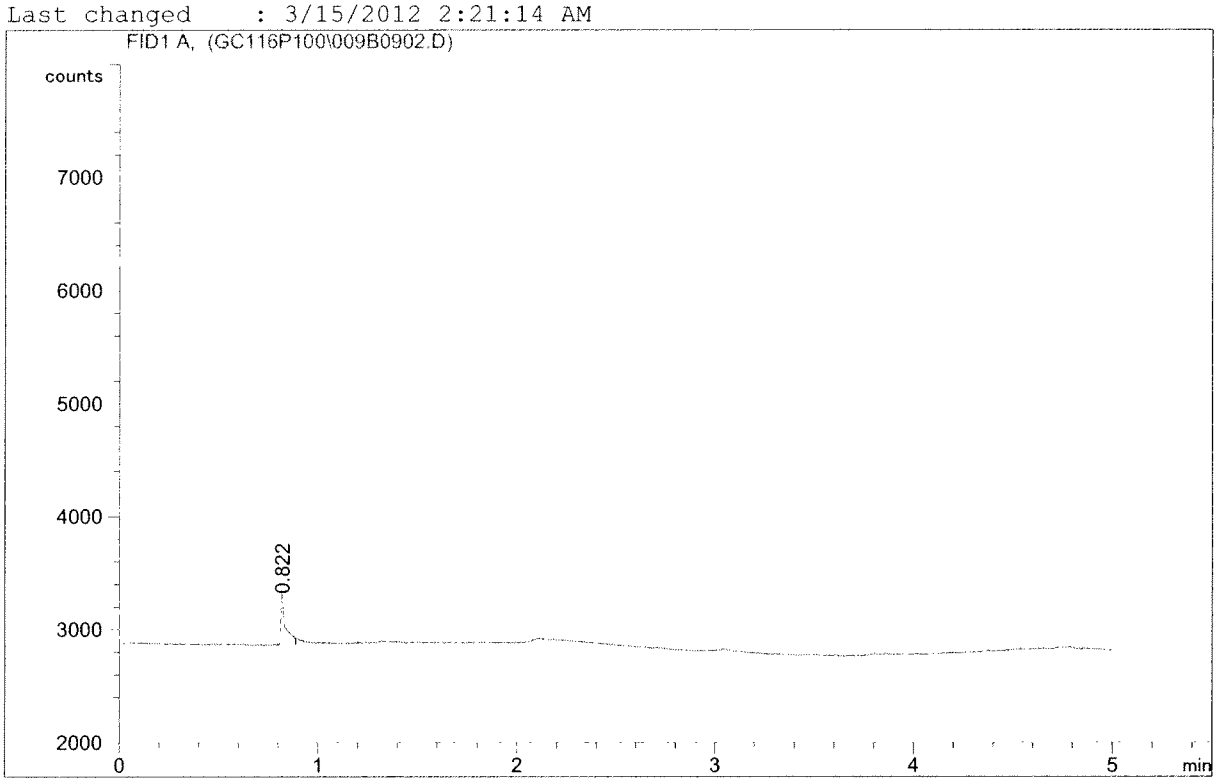
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :   9
Acq. Instrument : Oscar                                 Location : Vial 9
Injection Date  : 3/14/2012 2:26:23 AM                       Inj :   2
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

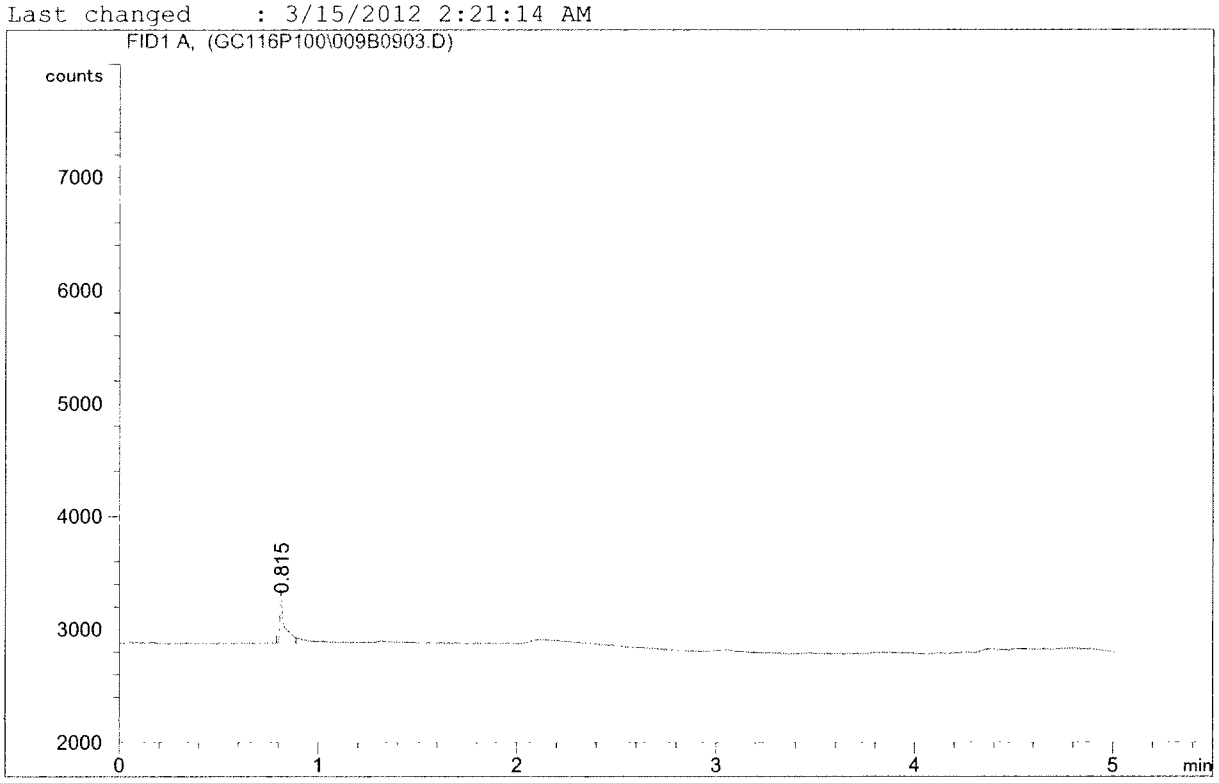
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :   9
Acq. Instrument : Oscar                               Location : Vial 9
Injection Date  : 3/14/2012 2:35:22 AM                    Inj :   3
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

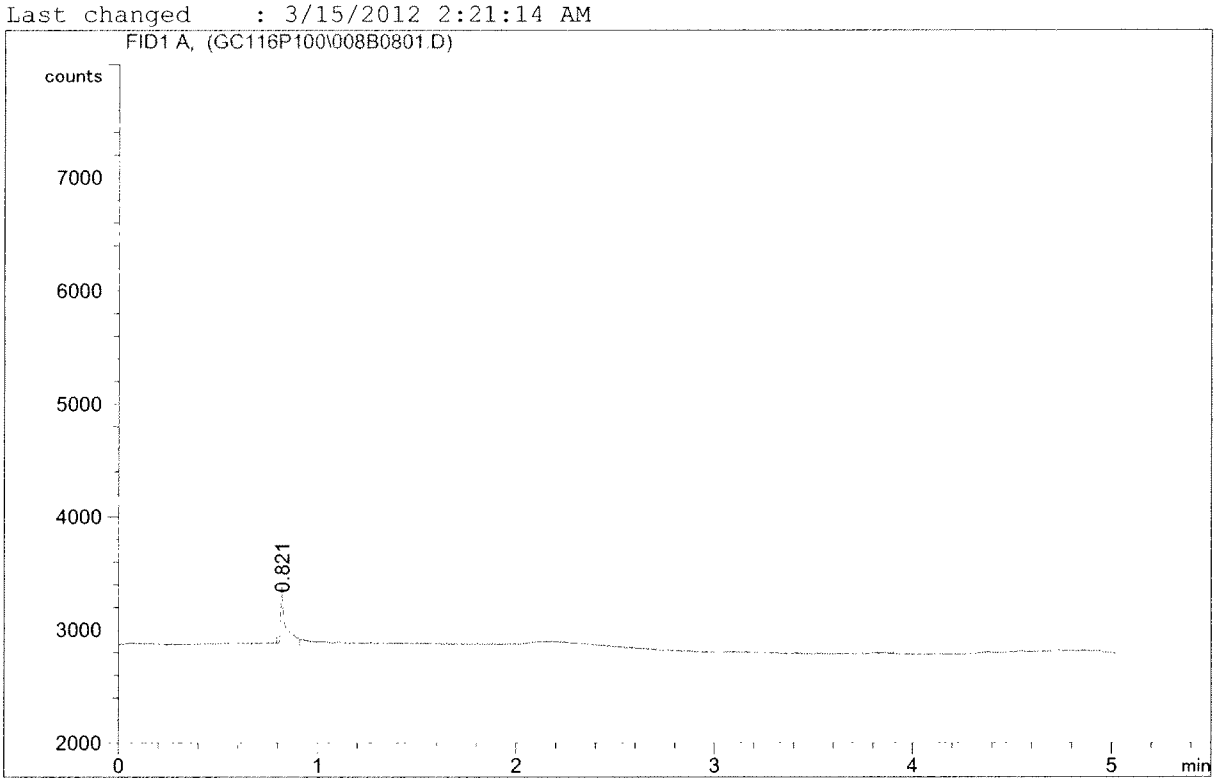
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   8
Acq. Instrument  : Oscar                             Location : Vial 8
Injection Date   : 3/14/2012 1:50:05 AM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095           -          -          -          Acetone

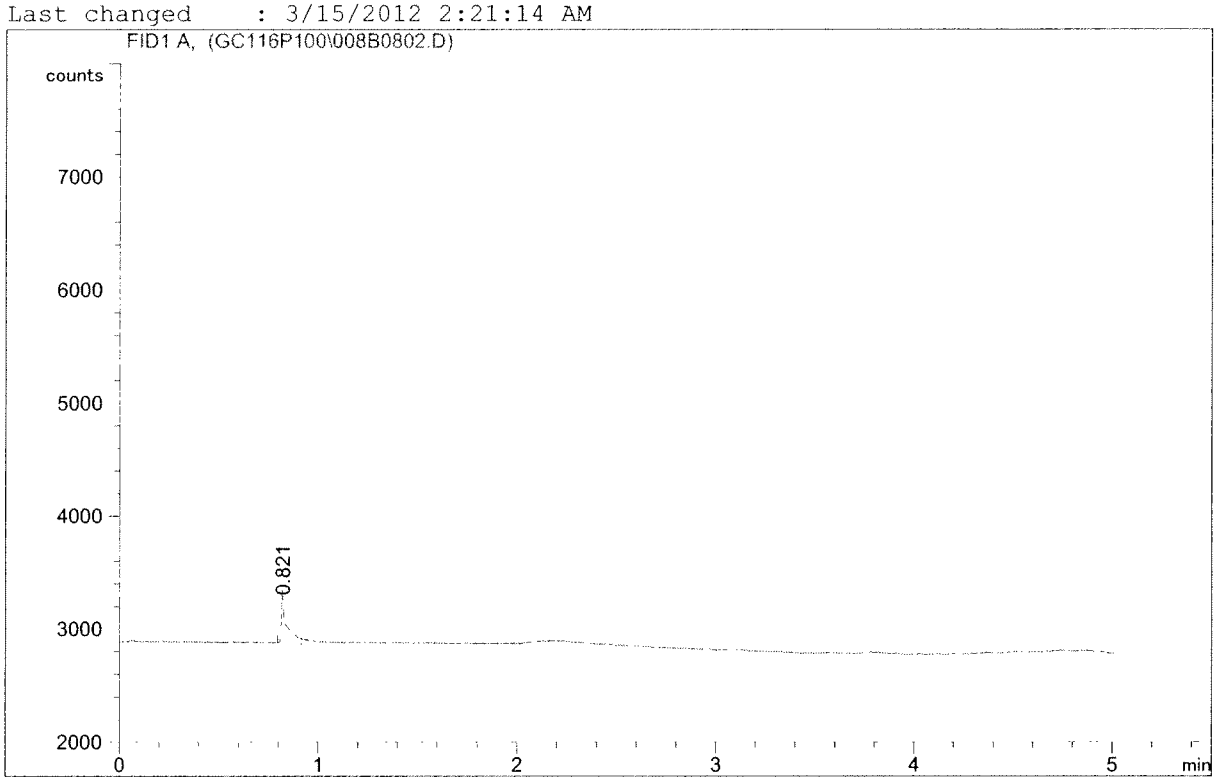
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Oscar                                 Location : Vial 8
Injection Date   : 3/14/2012 1:59:14 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095           -          -          -          Acetone

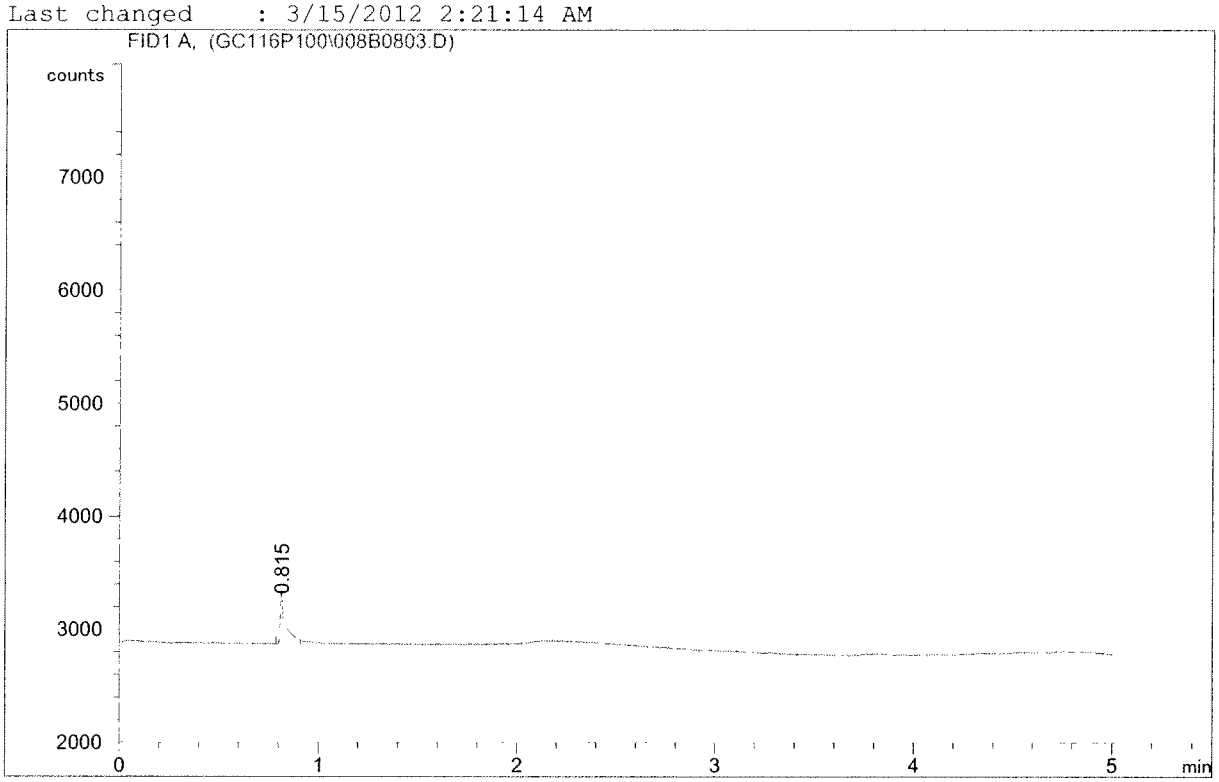
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   8
Acq. Instrument  : Oscar                             Location : Vial 8
Injection Date   : 3/14/2012 2:08:14 AM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095            -          -          -          Acetone

Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

Calibration Curve Chromatograms

Calibration Table

Calib. Data Modified : 3/15/2012 2:20:48 AM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.200 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

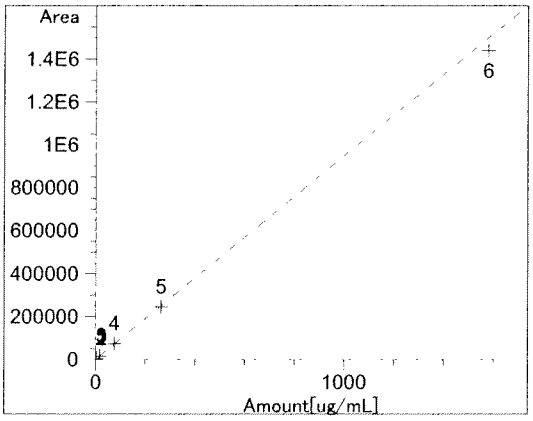
Signal 1: FID1 A,

RetTime [min]	Sig	Lvl	Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
2.095	1	1	1.57800	2432.17350	6.48802e-4			Acetone
		2	3.15300	3991.39209	7.89950e-4			
		3	15.64000	1.63907e4	9.54201e-4			
		4	75.22300	7.36864e4	1.02085e-3			
		5	263.28100	2.44990e5	1.07466e-3			
		6	1579.68400	1.43899e6	1.09777e-3			

Peak Sum Table

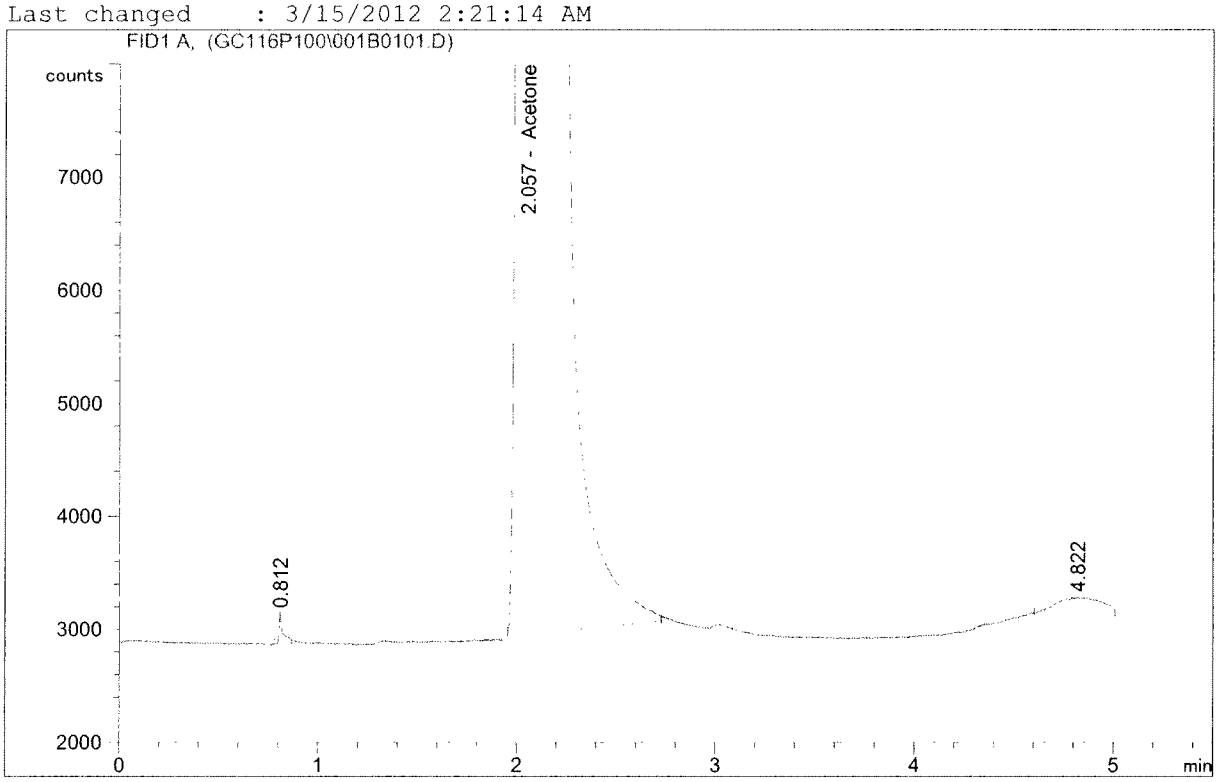
No Entries in table

Calibration Curves



Acetone at exp. RT: 2.095
FID1 A,
Correlation: 0.99942
Residual Std. Dev.: 30392.88683
Formula: y = mx + b
m: 948.62858
b: 953.44417
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.250476
Level 3 : 0.01018
Level 4 : 0.00044
Level 5 : 0.000036
Level 6 : 9.97869e-007

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :   1
Acq. Instrument : Oscar                               Location : Vial 1
Injection Date  : 3/13/2012 7:51:47 PM                    Inj :   1
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

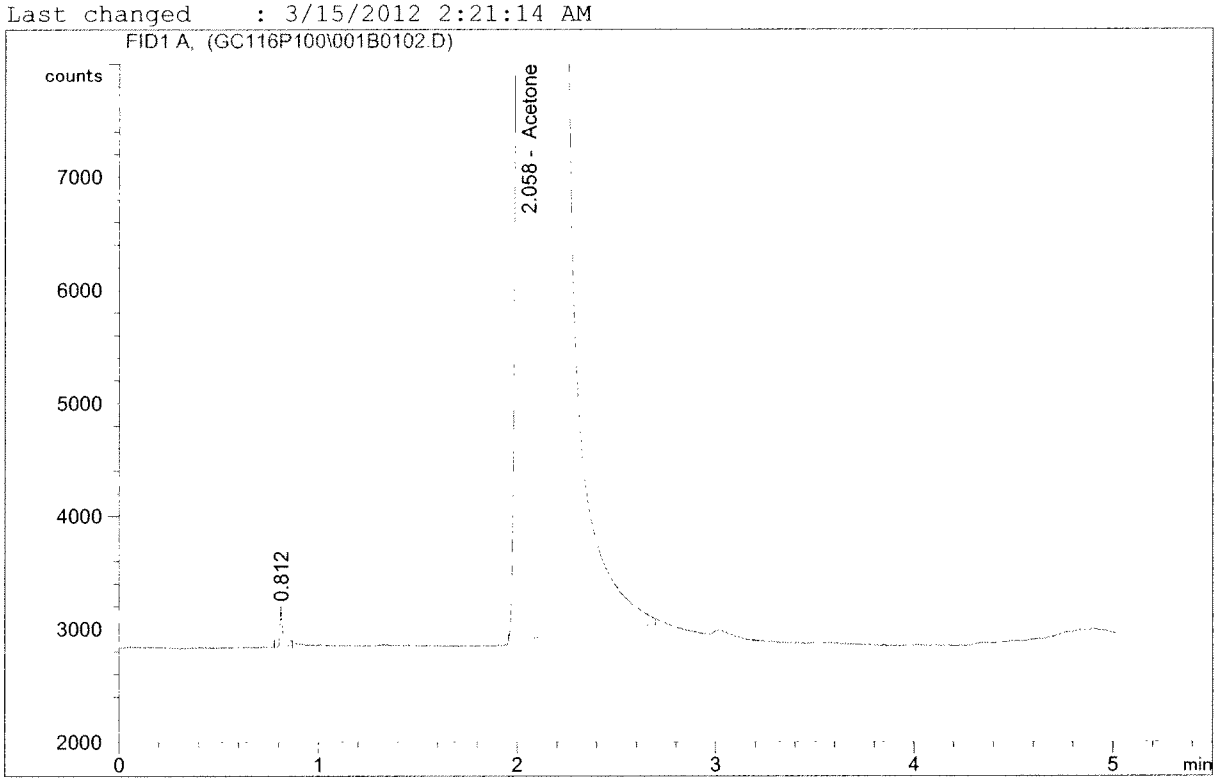
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.057 BB     1.43417e6  1.05345e-3 1510.82740    Acetone

Totals :                               1510.82740


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                Seq. Line :   1
Acq. Instrument : Oscar                               Location : Vial 1
Injection Date  : 3/13/2012 8:01:12 PM                    Inj :   2
                                                    Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

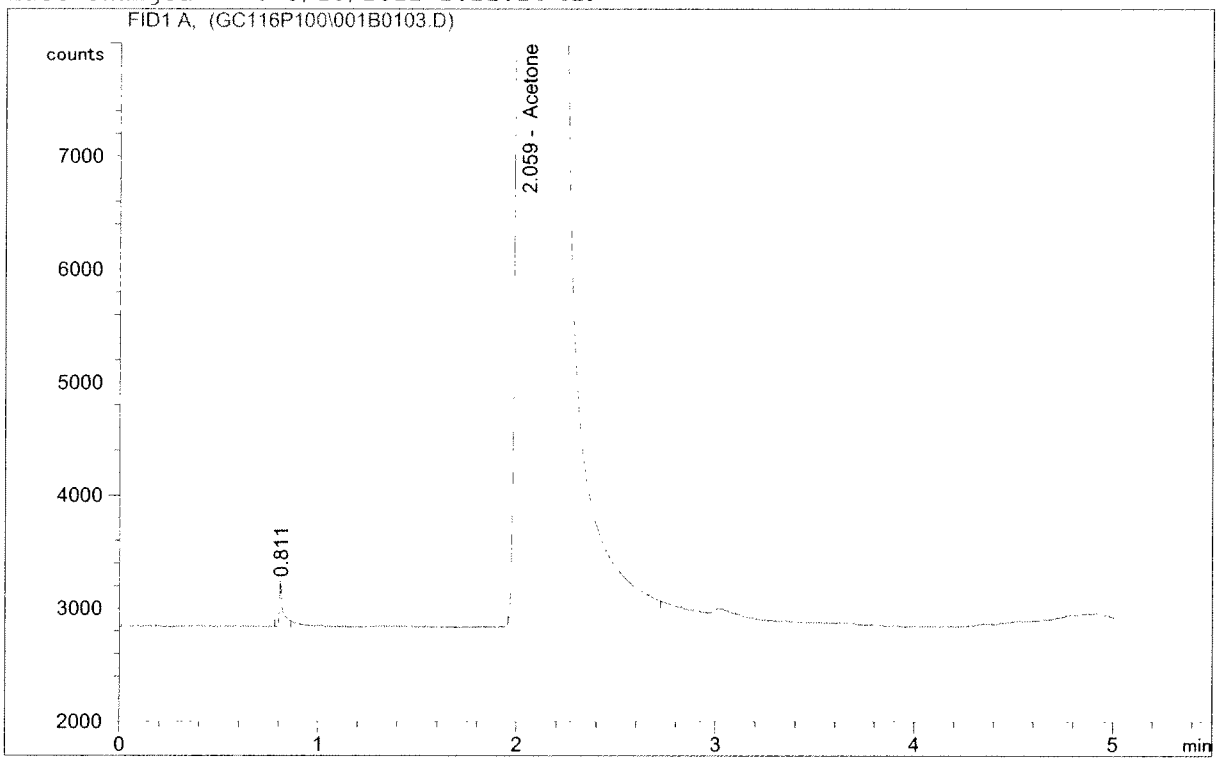
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.058 BB     1.44443e6  1.05346e-3 1521.64683    Acetone

Totals :                               1521.64683


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   1
Acq. Instrument  : Oscar                             Location : Vial 1
Injection Date   : 3/13/2012 8:10:21 PM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

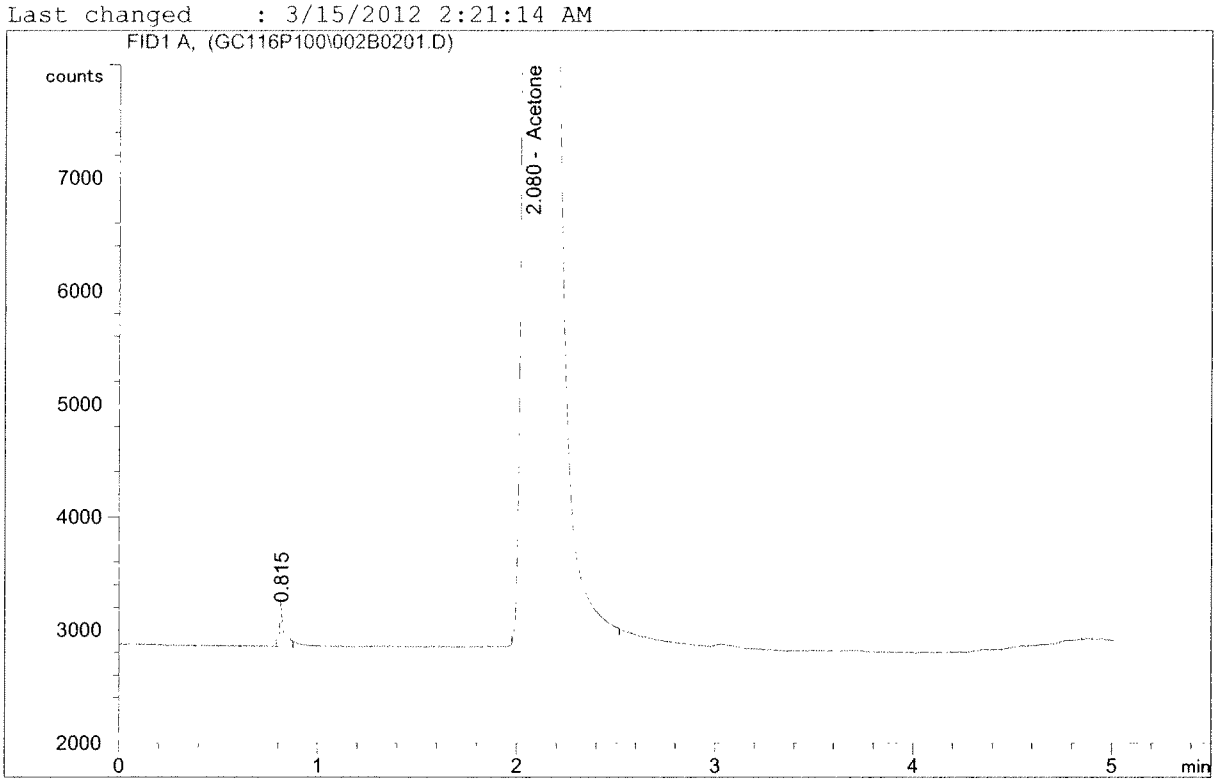
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.059 BB     1.43837e6  1.05345e-3 1515.25682    Acetone

Totals :                               1515.25682


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :   2
Acq. Instrument : Oscar                               Location : Vial 2
Injection Date  : 3/13/2012 8:19:30 PM                     Inj :   1
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

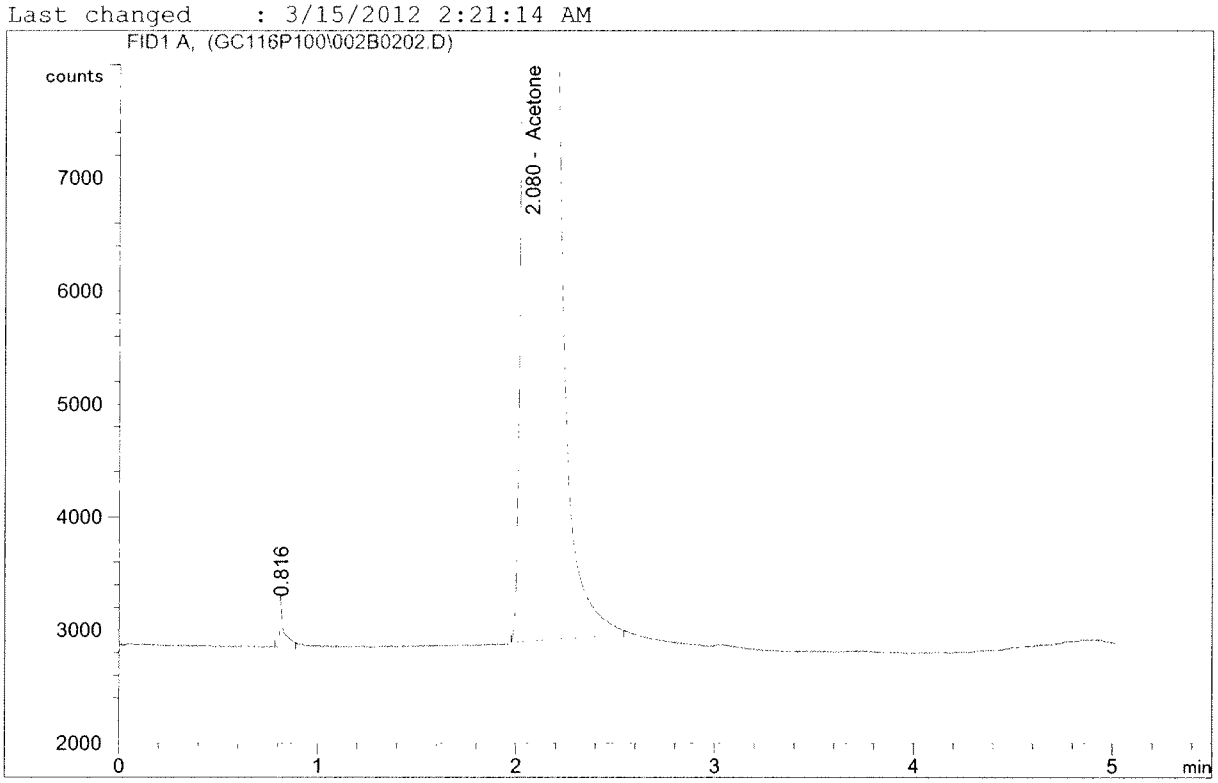
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.080 BB     2.45303e5  1.05006e-3  257.58192     Acetone

Totals :                               257.58192


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/13/2012 8:28:34 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

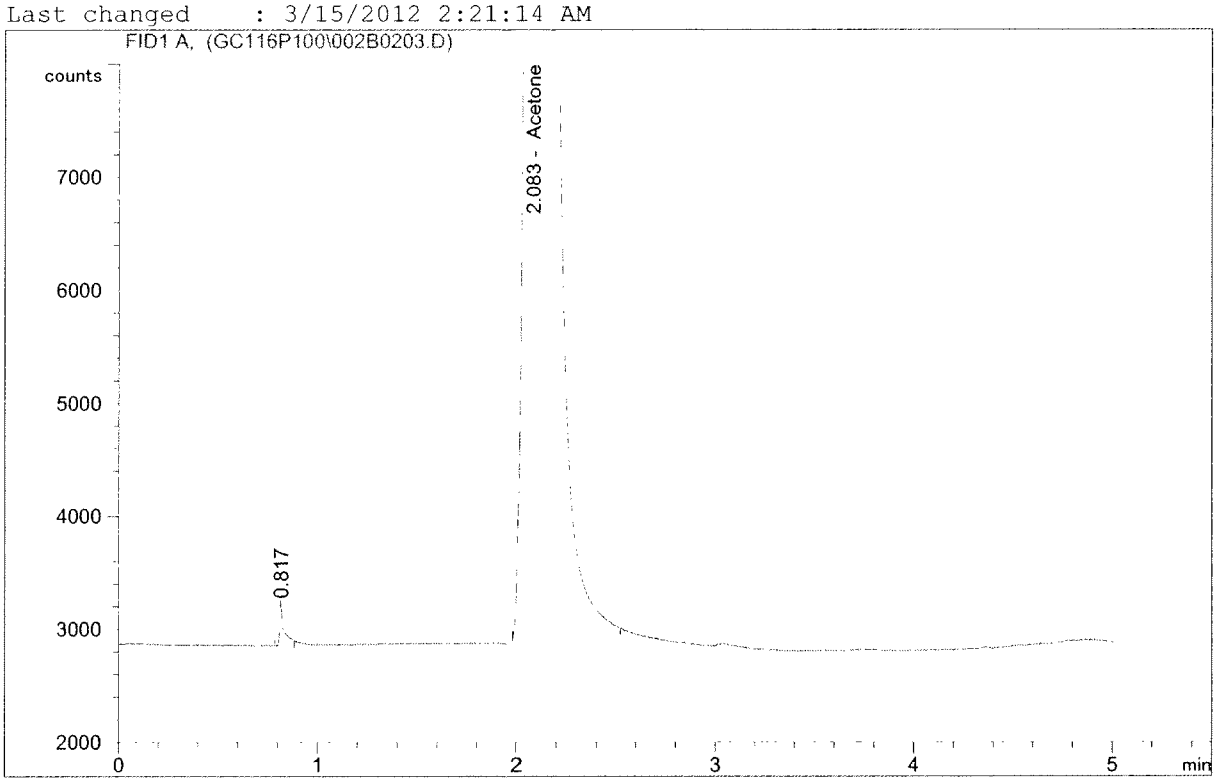
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.080 BB     2.44241e5  1.05004e-3  256.46246     Acetone

Totals :                               256.46246


==========================================================================
                        *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/13/2012 8:37:38 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

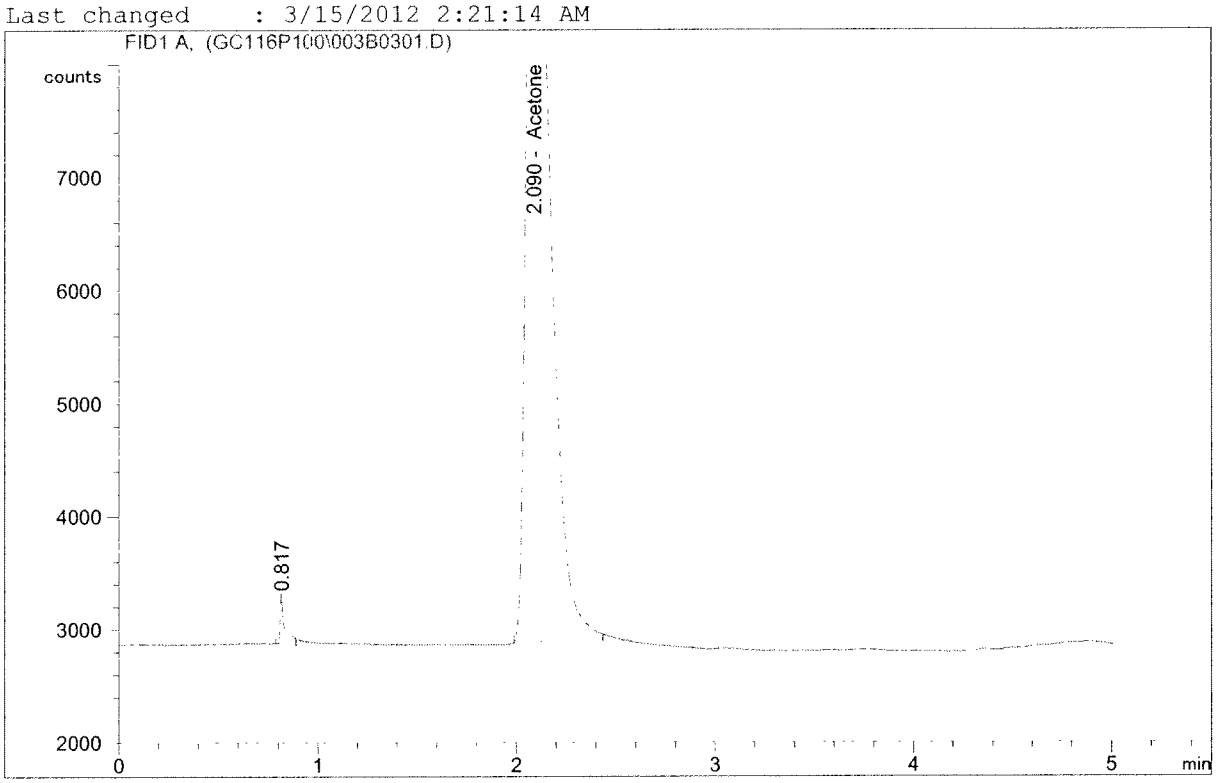
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.083 BB     2.45426e5  1.05006e-3  257.71176    Acetone

Totals :                                257.71176


================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JEB                                  Seq. Line :   3
Acq. Instrument : Oscar                                  Location : Vial 3
Injection Date  : 3/13/2012 8:46:48 PM                       Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

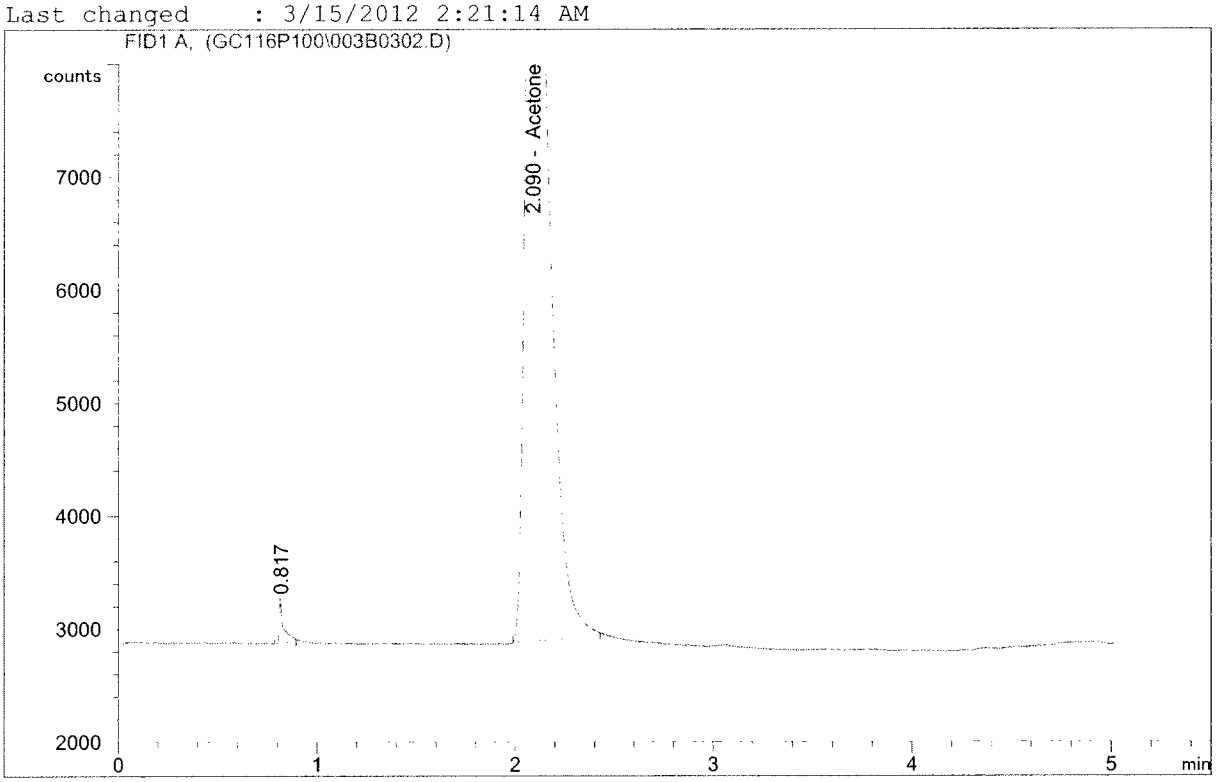
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.090 BB     7.33052e4  1.04044e-3   76.26982     Acetone

Totals :                                76.26982


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :   3
Acq. Instrument : Oscar                             Location : Vial 3
Injection Date  : 3/13/2012 8:55:47 PM                   Inj :   2
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

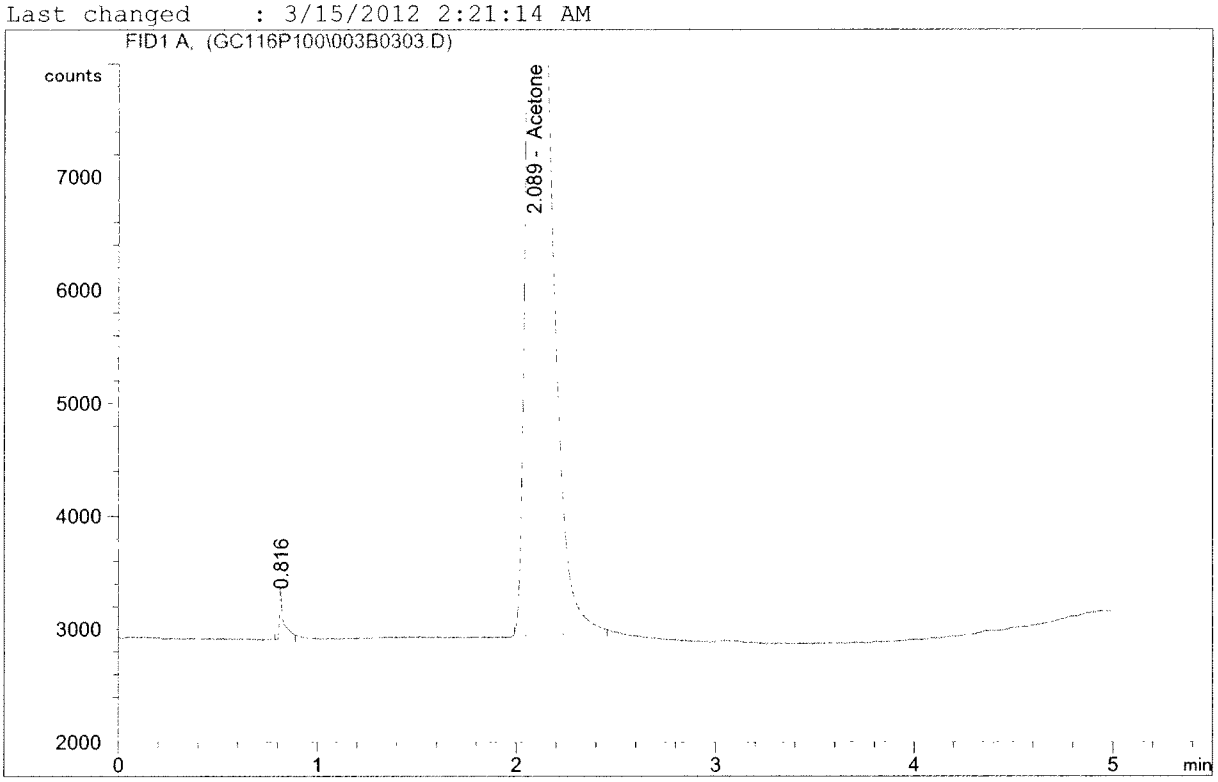
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.090 BB     7.22163e4  1.04024e-3   75.12198     Acetone

Totals :                                75.12198


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                 Seq. Line :   3
Acq. Instrument  : Oscar                                Location : Vial 3
Injection Date   : 3/13/2012 11:07:45 PM                     Inj :   3
                                                      Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

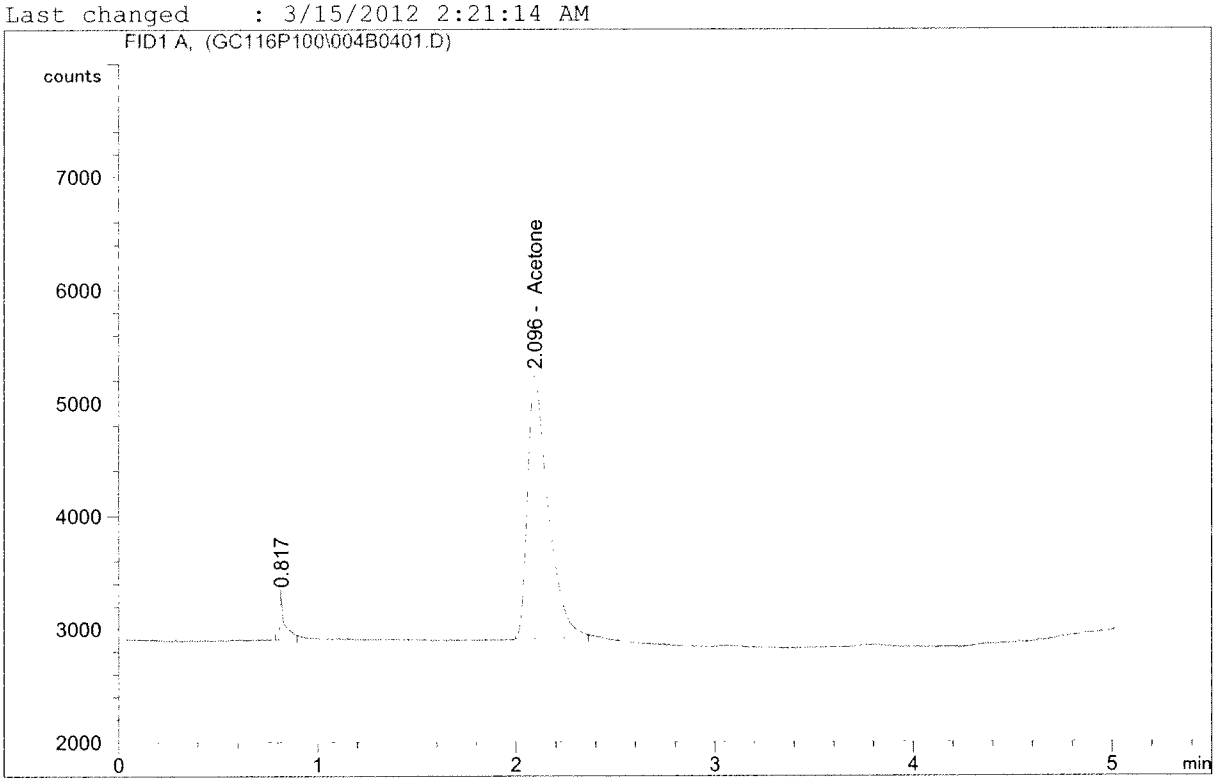
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|-----------------
  2.089 BB     7.55378e4  1.04085e-3   78.62339    Acetone

Totals :                                78.62339


==========================================================================
                          *** End of Report ***
```

```
==============================================================================
Acq. Operator   : JBB                                 Seq. Line :   4
Acq. Instrument : Oscar                                Location : Vial 4
Injection Date  : 3/13/2012 11:16:49 PM                     Inj :   1
                                                     Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

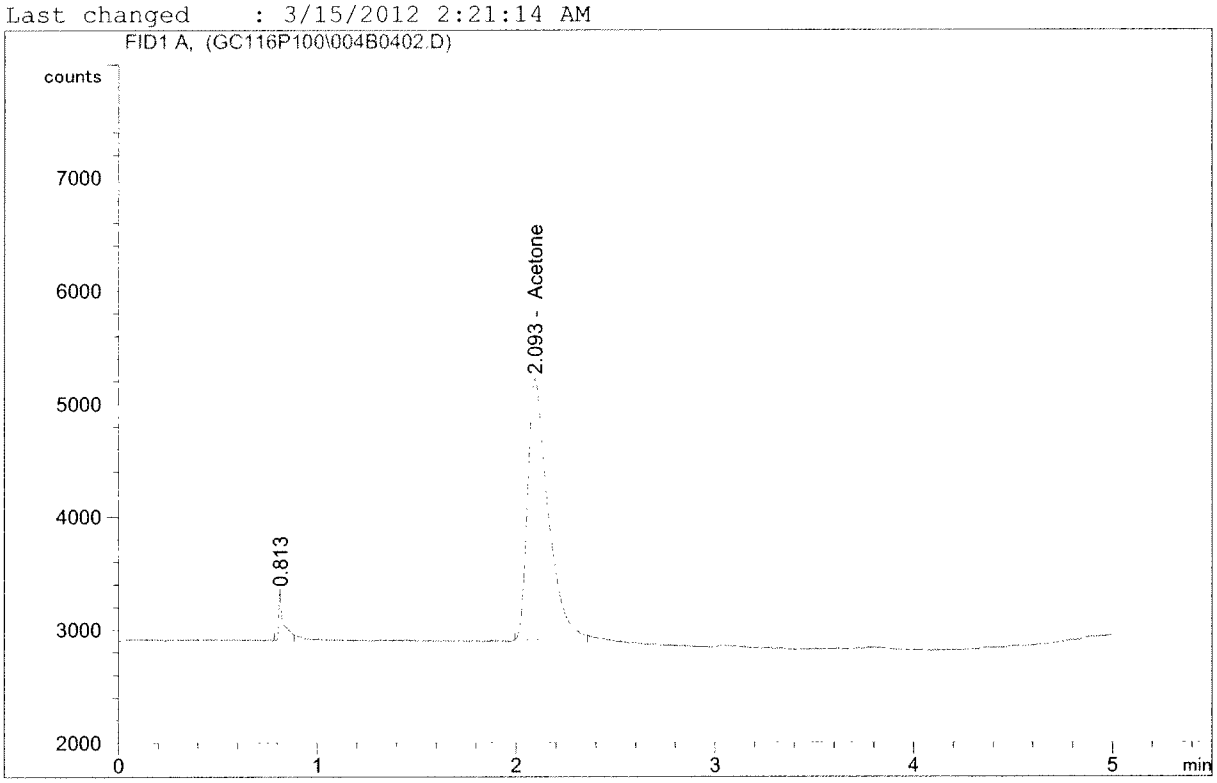
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.096 BB     1.66257e4  9.93700e-4   16.52101     Acetone

Totals :                                16.52101


==============================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument : Oscar                                  Location : Vial 4
Injection Date  : 3/13/2012 11:25:49 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

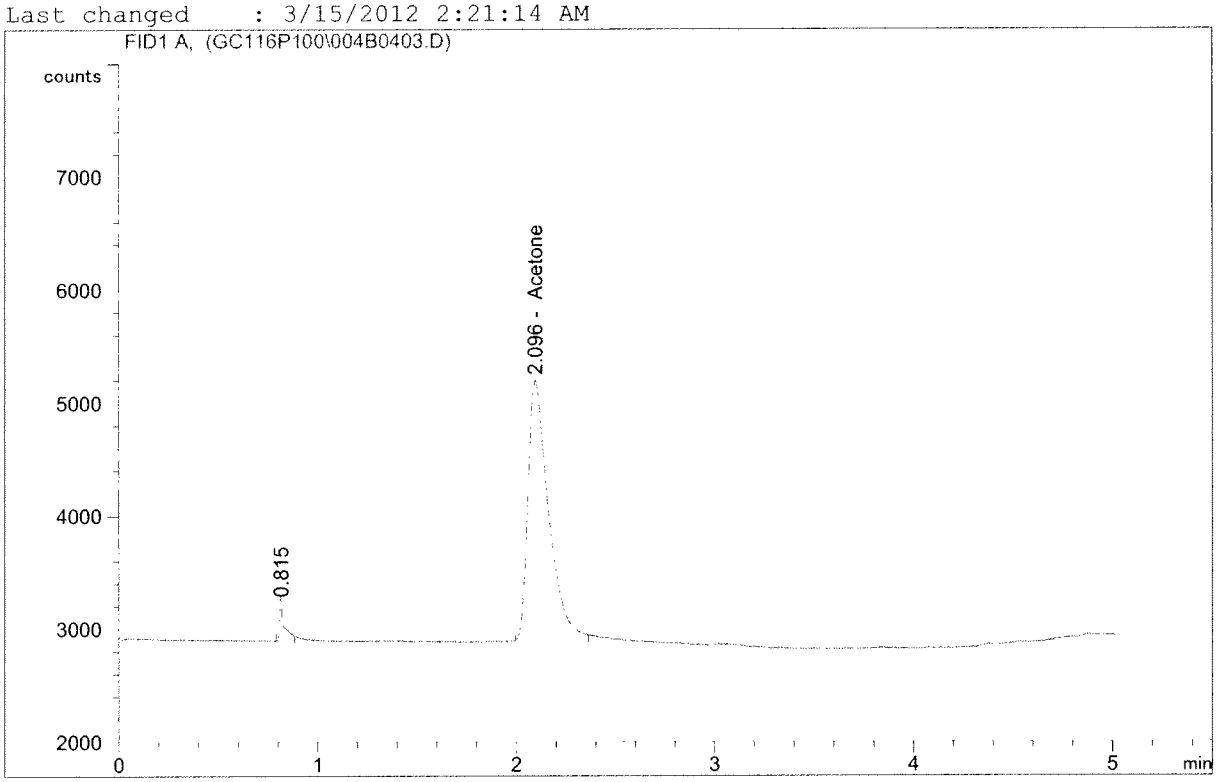
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.093 BB     1.63223e4  9.92577e-4   16.20118    Acetone

Totals :                                16.20118

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/13/2012 11:34:49 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

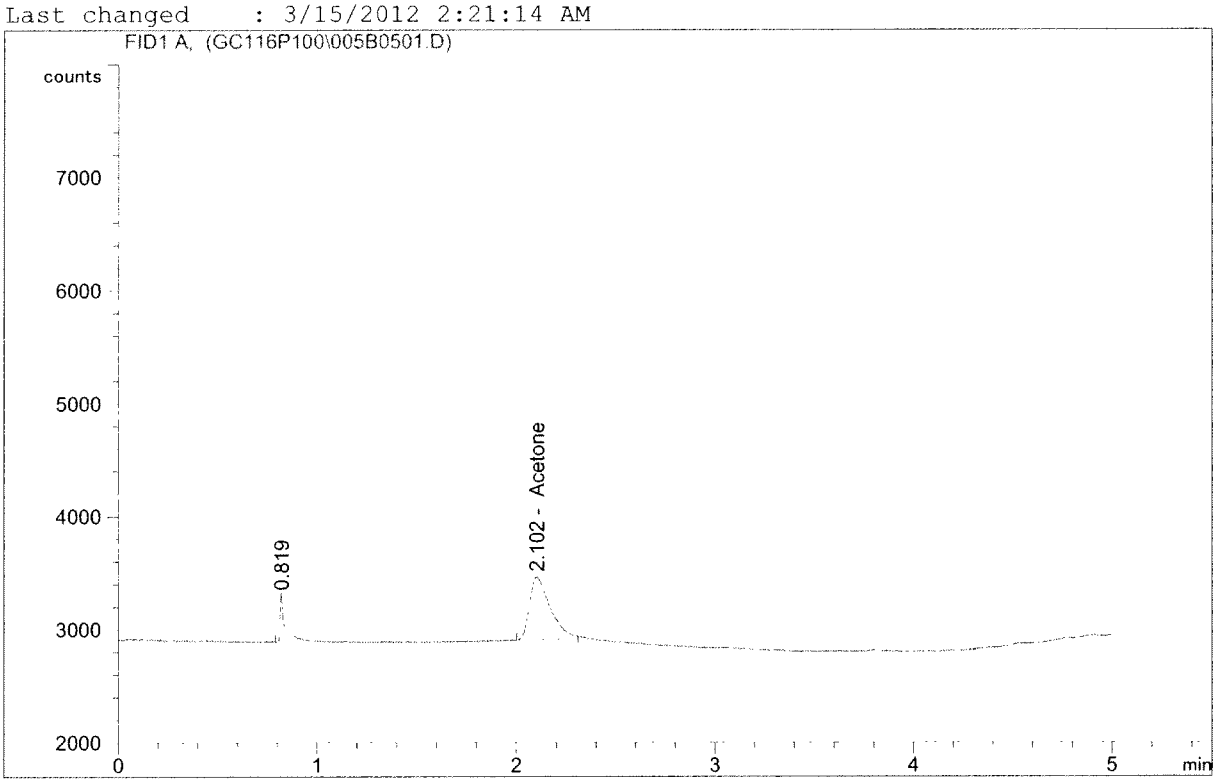
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.096 BB     1.62239e4  9.92203e-4   16.09743     Acetone

Totals :                                16.09743
```

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                Seq. Line :   5
Acq. Instrument : Oscar                               Location : Vial 5
Injection Date  : 3/13/2012 11:43:58 PM                    Inj :   1
                                                    Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

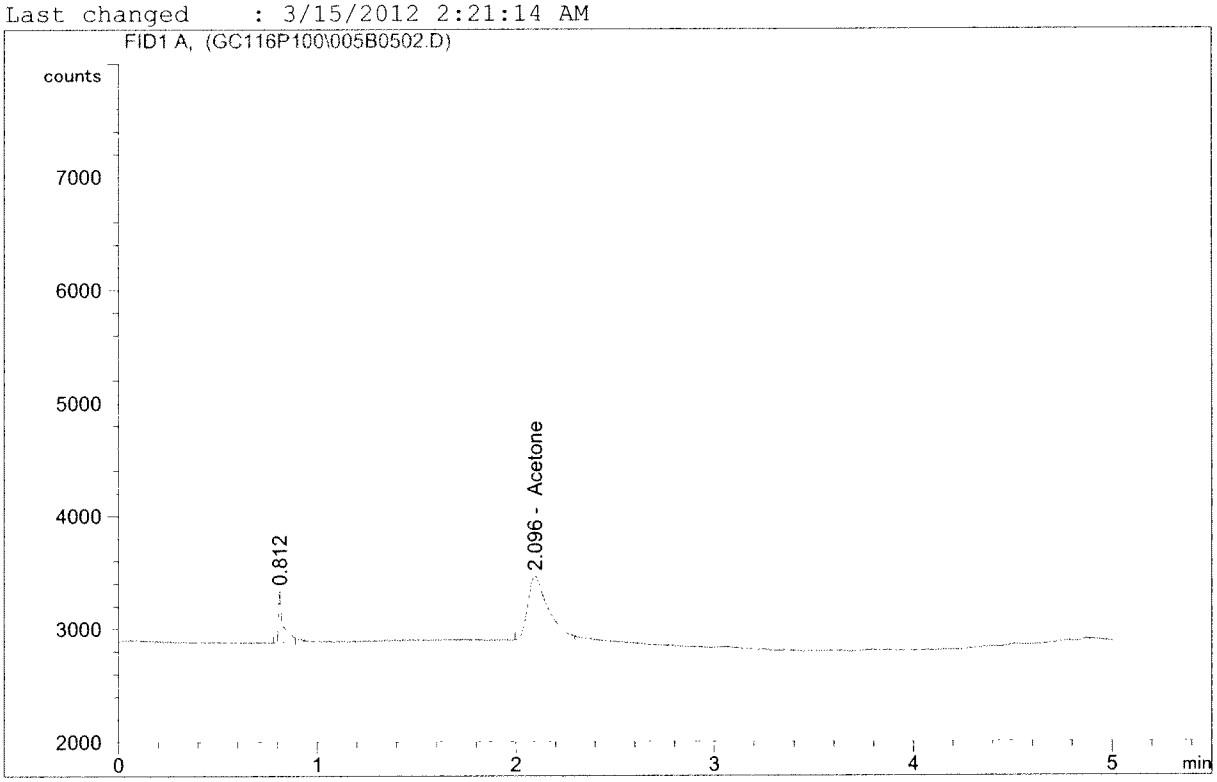
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.102 BB     3998.79028 8.02808e-4    3.21026    Acetone

Totals :                                3.21026

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :   5
Acq. Instrument : Oscar                             Location : Vial 5
Injection Date  : 3/13/2012 11:52:57 PM                  Inj :   2
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

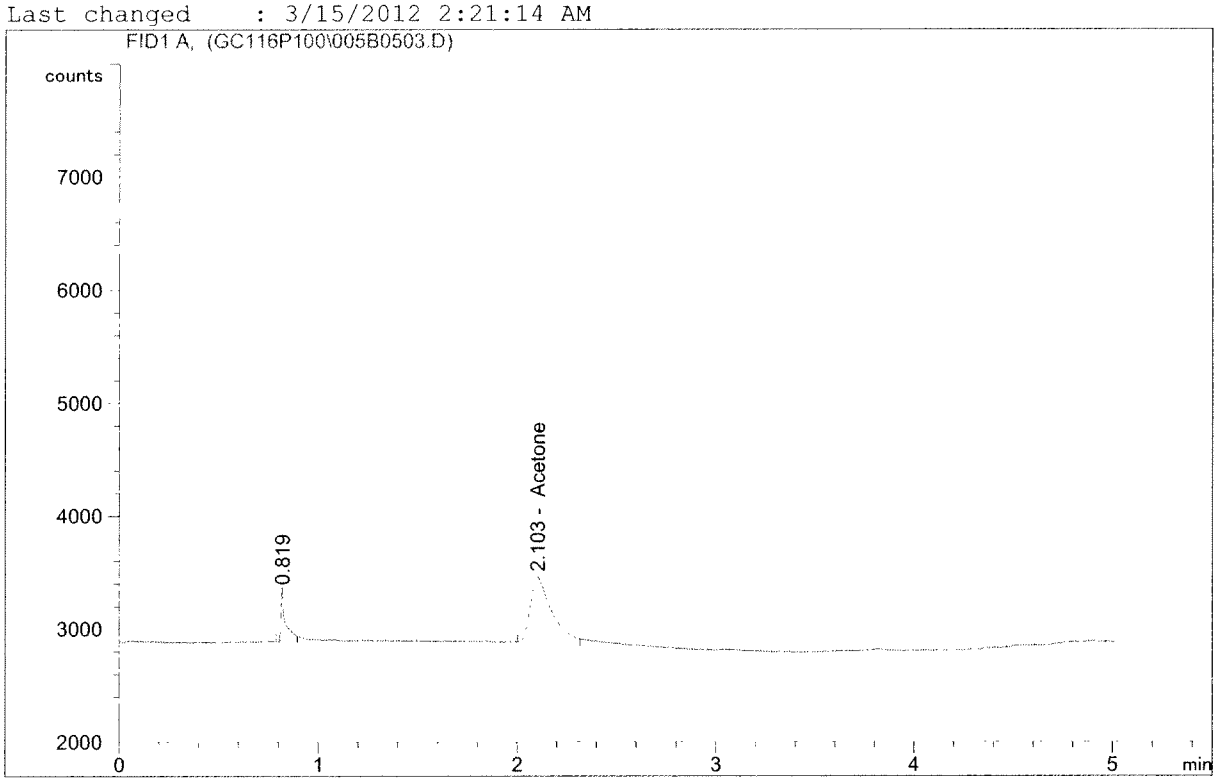
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.096 BB     3916.44824 7.97524e-4    3.12346    Acetone

Totals :                                3.12346


==========================================================================
                          *** End of Report ***
```

```
==============================================================================
Acq. Operator   : JBB                                 Seq. Line :   5
Acq. Instrument : Oscar                                Location : Vial 5
Injection Date  : 3/14/2012 12:02:06 AM                     Inj :   3
                                                     Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

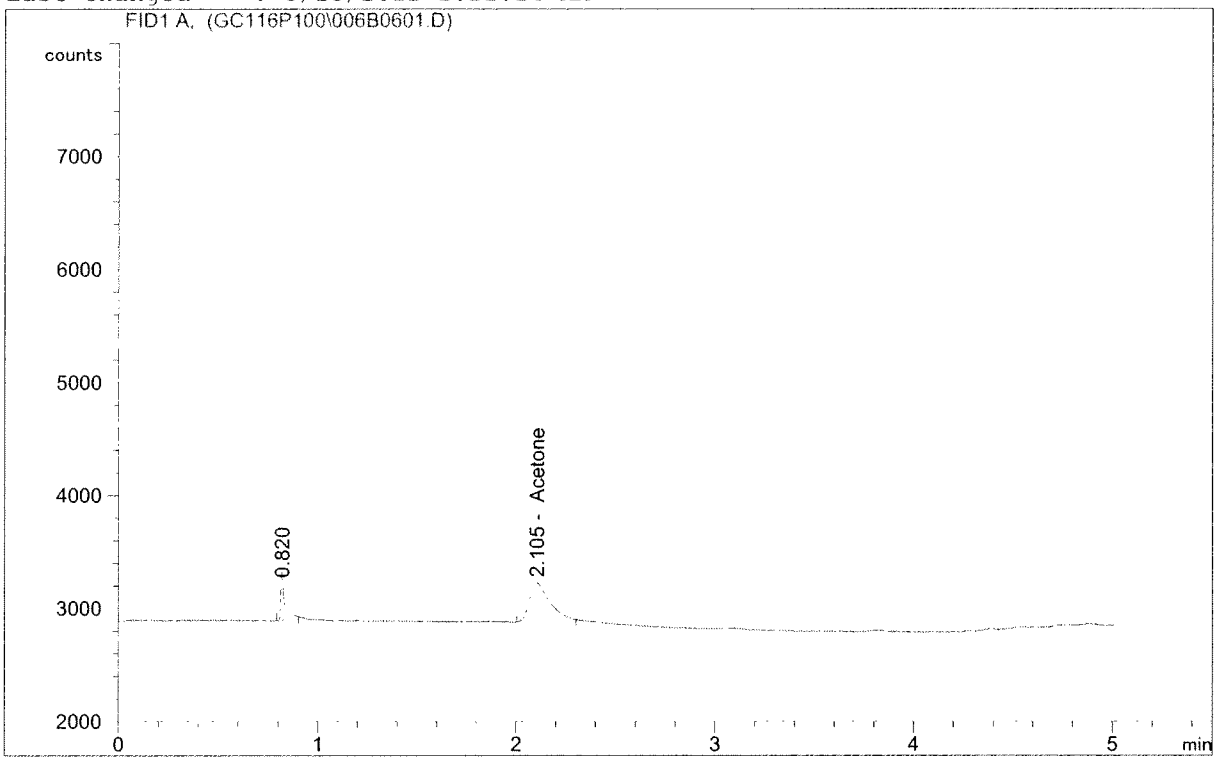
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.103 BB     4058.93774 8.06533e-4    3.27367    Acetone

Totals :                                3.27367


==============================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   6
Acq. Instrument  : Oscar                             Location : Vial 6
Injection Date   : 3/14/2012 12:11:05 AM                  Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/13/2012 7:43:36 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

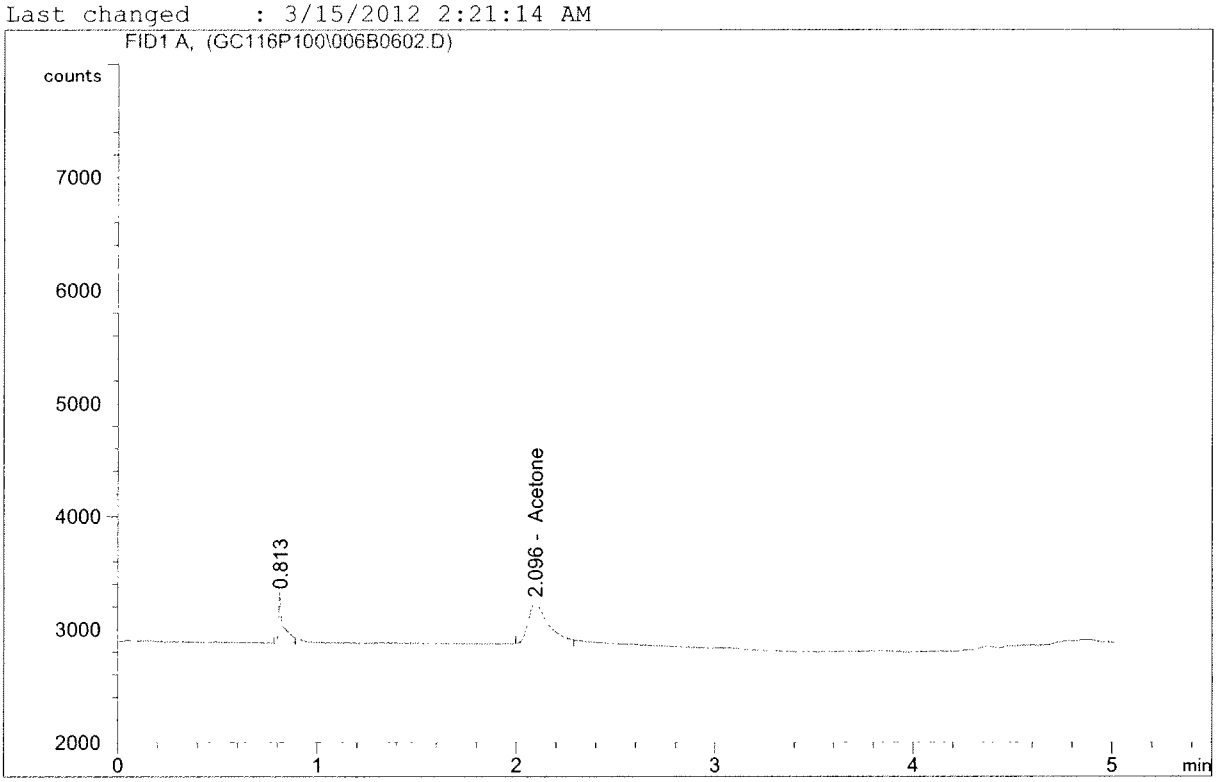
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.105 BB     2474.40405 6.47964e-4    1.60332     Acetone

Totals :                                 1.60332


==========================================================================
                        *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :   6
Acq. Instrument : Oscar                                 Location : Vial 6
Injection Date  : 3/14/2012 12:20:05 AM                      Inj :   2
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/13/2012 7:43:36 PM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

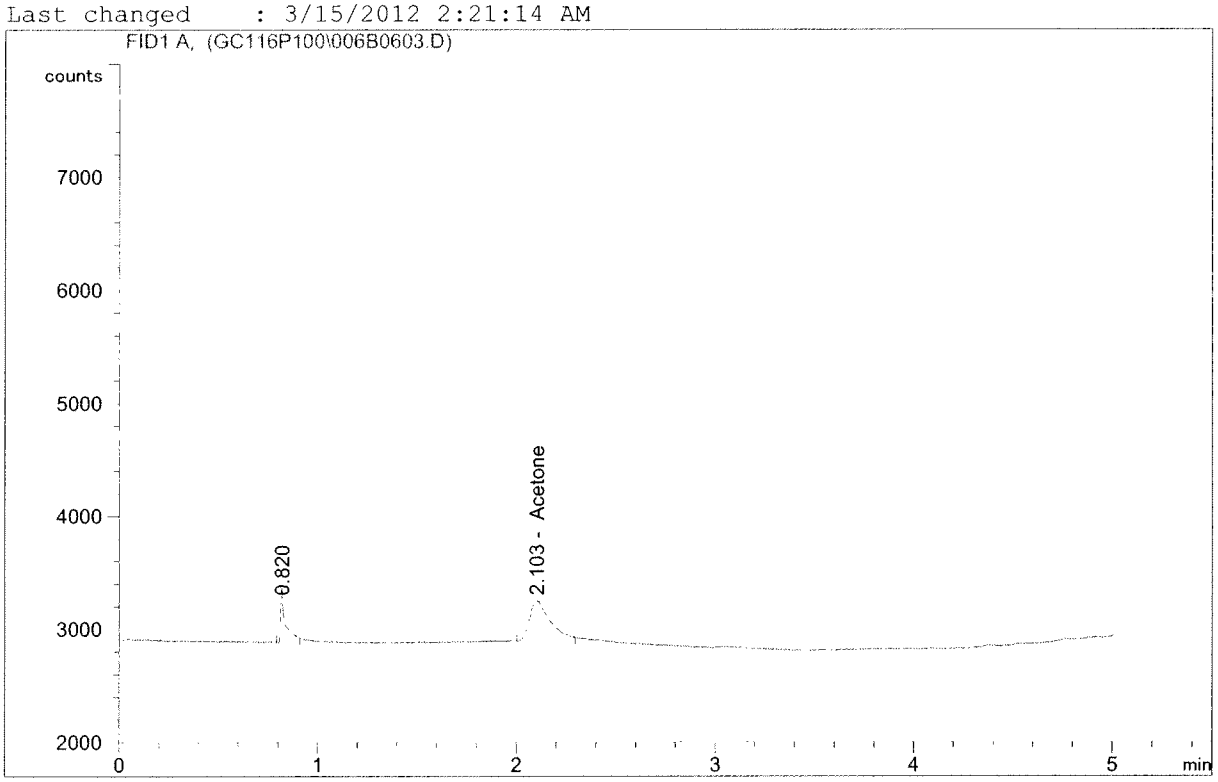
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.096 BB     2350.58130 6.43982e-4    1.51373    Acetone

Totals :                                 1.51373


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :   6
Acq. Instrument : Oscar                             Location : Vial 6
Injection Date  : 3/14/2012 12:37:53 AM                  Inj :   3
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

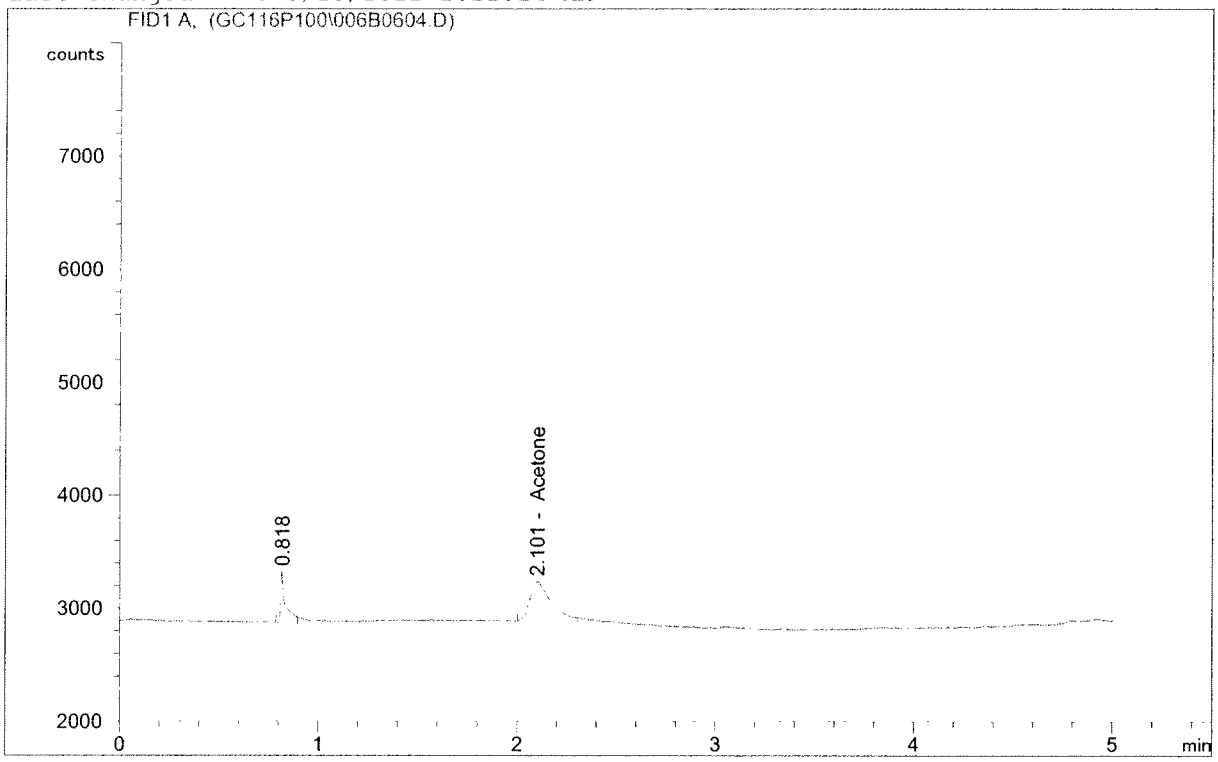
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.103 BB     2471.53516 6.47493e-4    1.60030    Acetone

Totals :                                1.60030


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   6
Acq. Instrument : Oscar                              Location : Vial 6
Injection Date  : 3/14/2012 12:46:53 AM                   Inj :   4
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

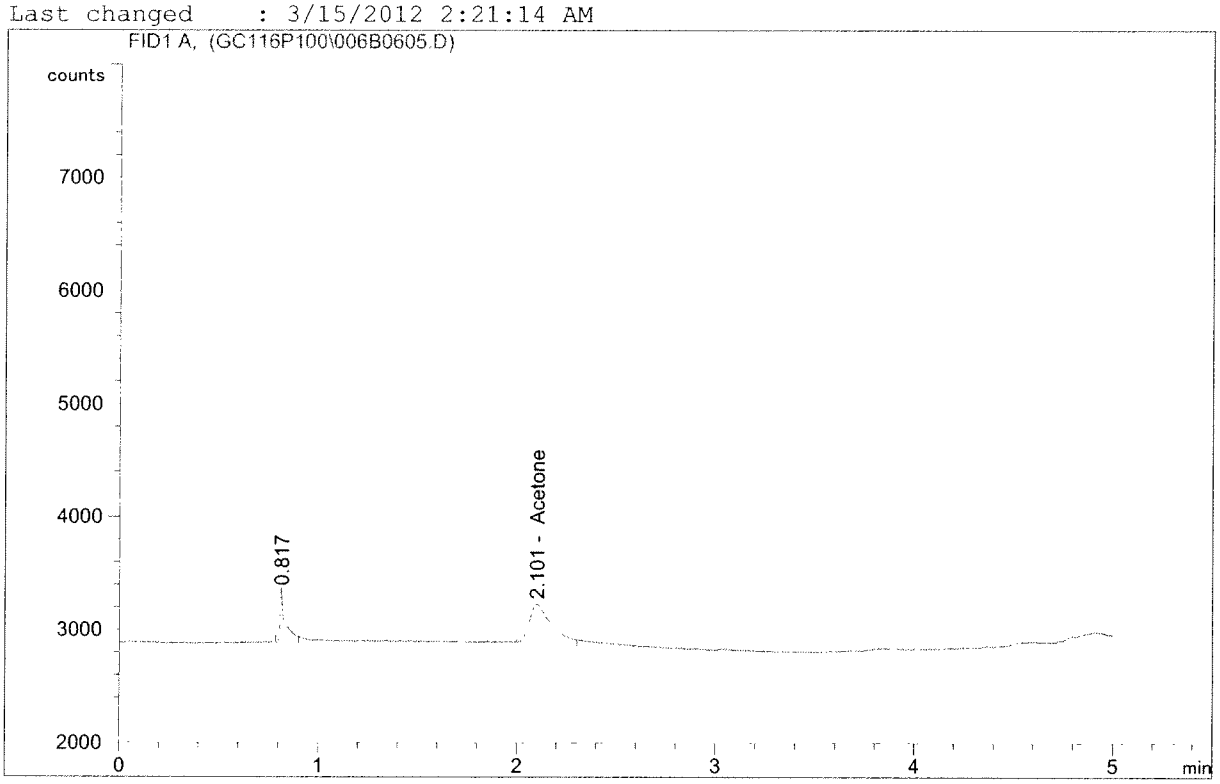
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.101 BB     2493.26489 6.51037e-4    1.62321    Acetone

Totals :                                1.62321


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   6
Acq. Instrument  : Oscar                             Location : Vial 6
Injection Date   : 3/14/2012 12:55:52 AM                  Inj :   5
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

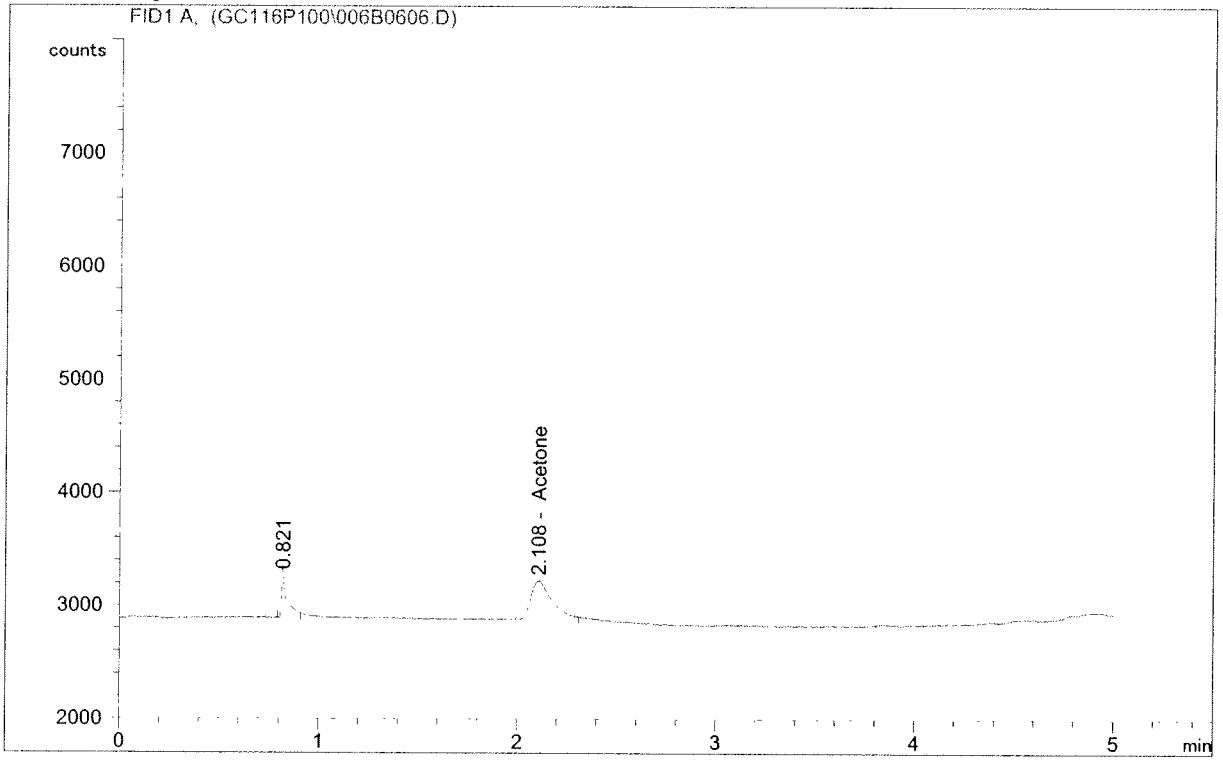
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.101 BB     2433.39575 6.43982e-4    1.56706     Acetone

Totals :                                 1.56706


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Oscar                                 Location : Vial 6
Injection Date   : 3/14/2012 1:04:51 AM                      Inj :   6
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

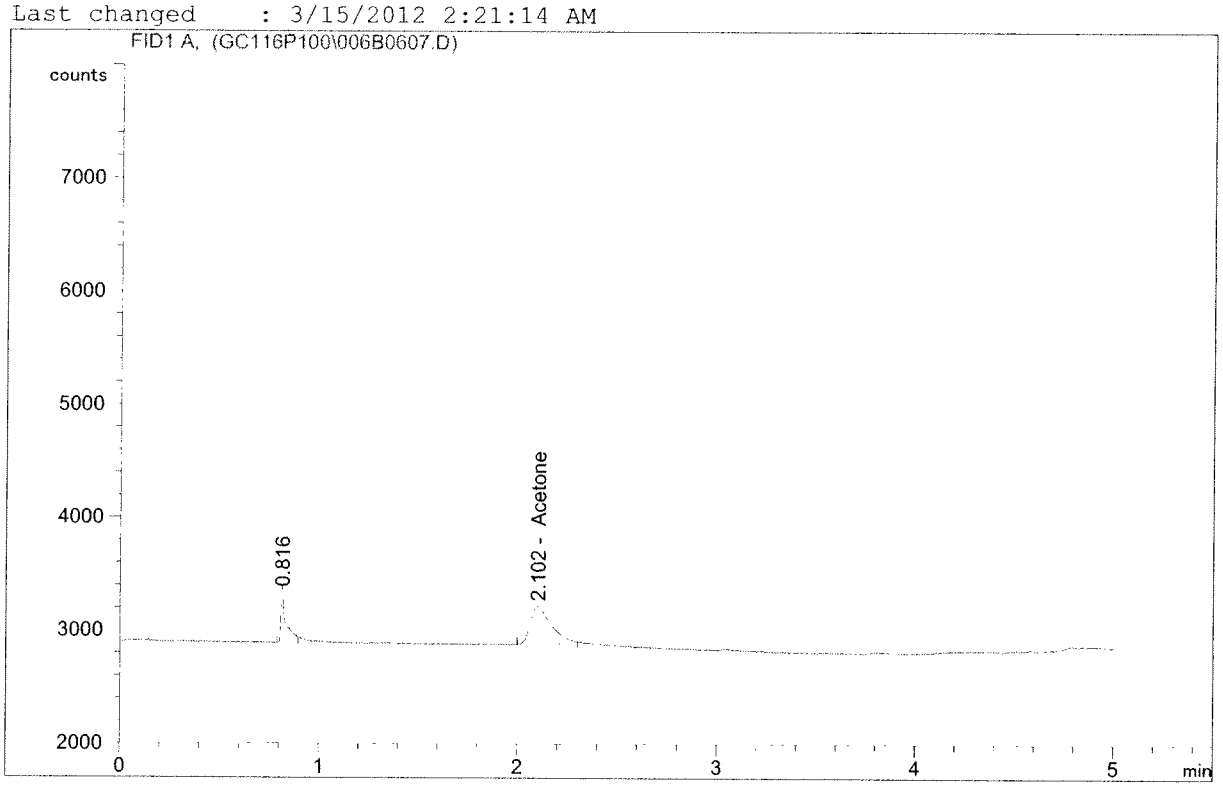
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.108 BB     2462.45483 6.45993e-4    1.59073     Acetone

Totals :                                1.59073

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Oscar                                 Location : Vial 6
Injection Date   : 3/14/2012 1:13:56 AM                      Inj :   7
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

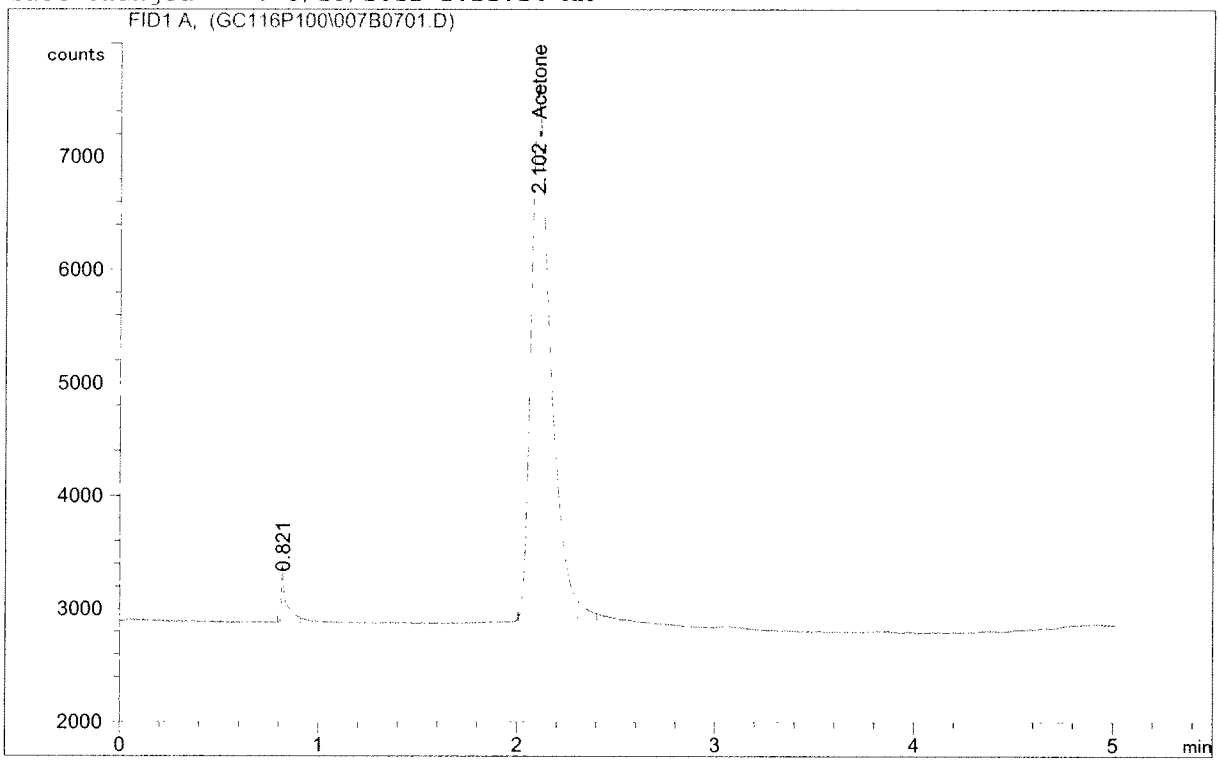
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.102 BB     2434.80005 6.43982e-4    1.56797    Acetone

Totals :                                1.56797

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Oscar                                 Location : Vial 7
Injection Date   : 3/14/2012 1:22:56 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

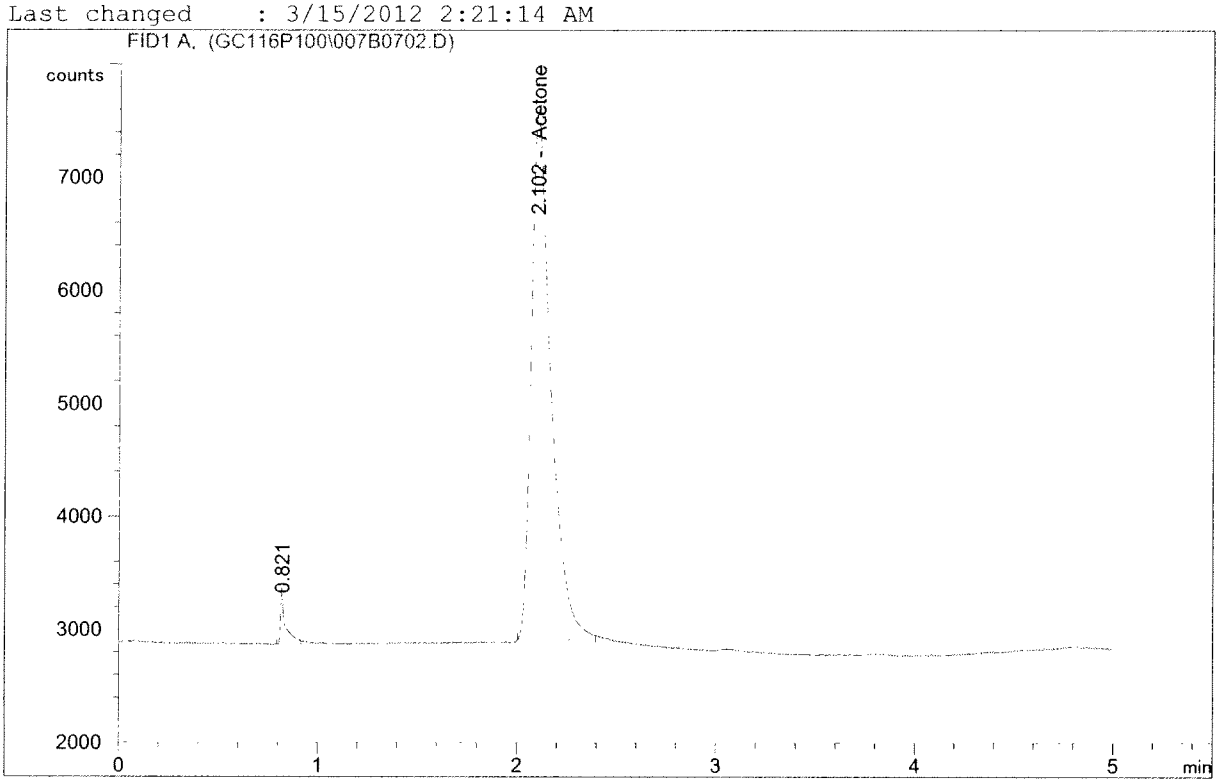
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.102 BB     3.21558e4  1.02290e-3   32.89205     Acetone

Totals :                                32.89205


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   7
Acq. Instrument  : Oscar                             Location : Vial 7
Injection Date   : 3/14/2012 1:32:01 AM                   Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

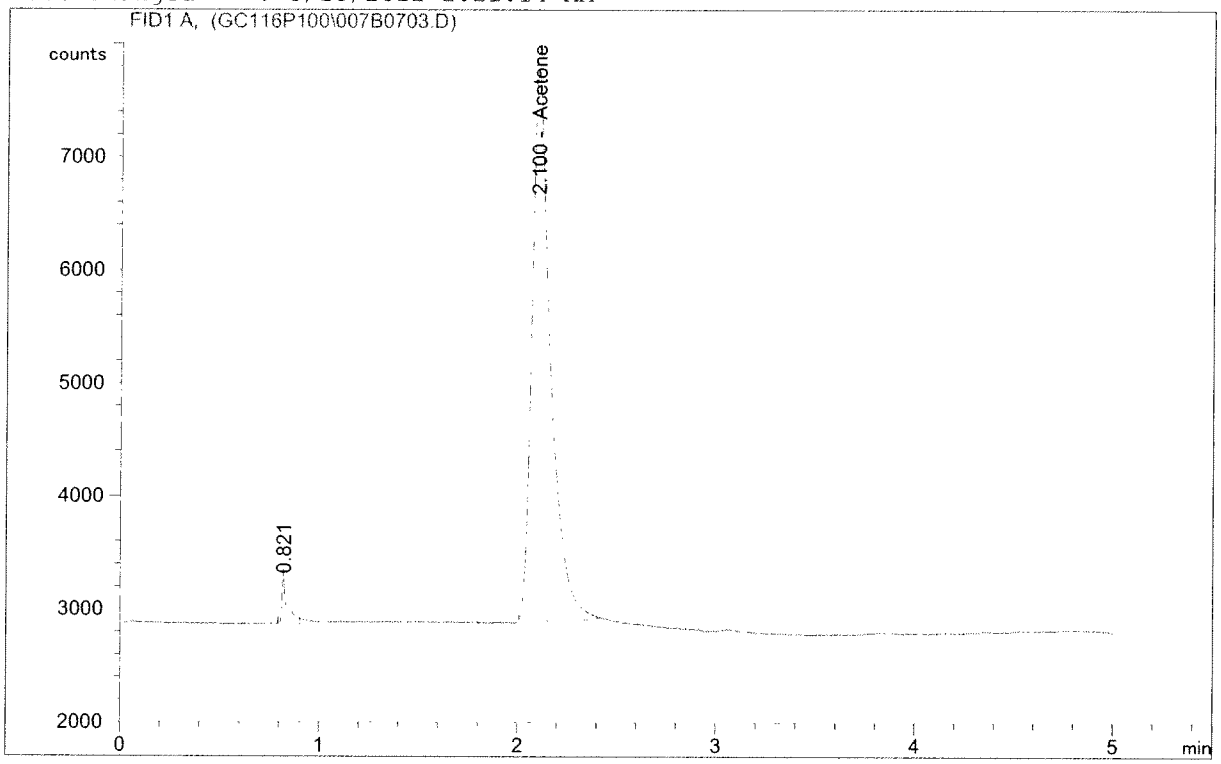
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.102 BB     3.20589e4  1.02280e-3   32.78991     Acetone

Totals :                                32.78991


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Oscar                                 Location : Vial 7
Injection Date   : 3/14/2012 1:41:06 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

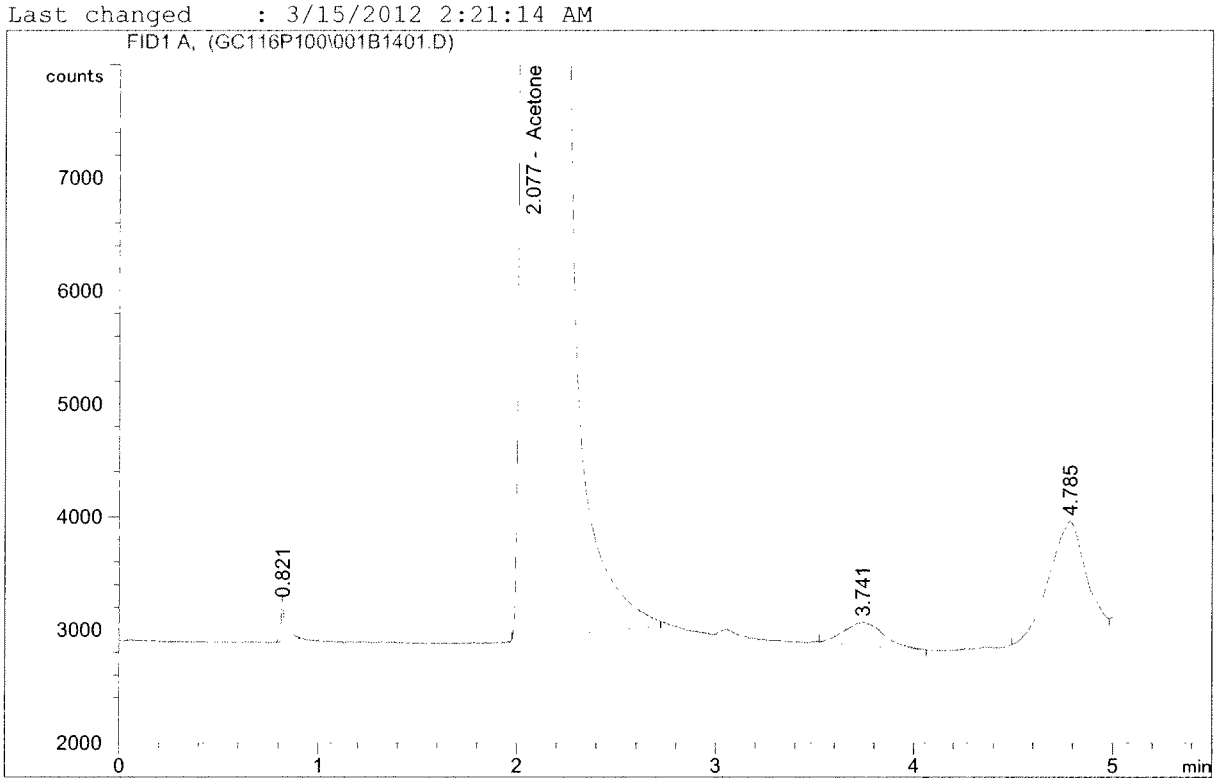
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.100 BB     3.19848e4  1.02273e-3   32.71178     Acetone

Totals :                                32.71178


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  14
Acq. Instrument  : Oscar                             Location : Vial 1
Injection Date   : 3/14/2012 4:33:17 AM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

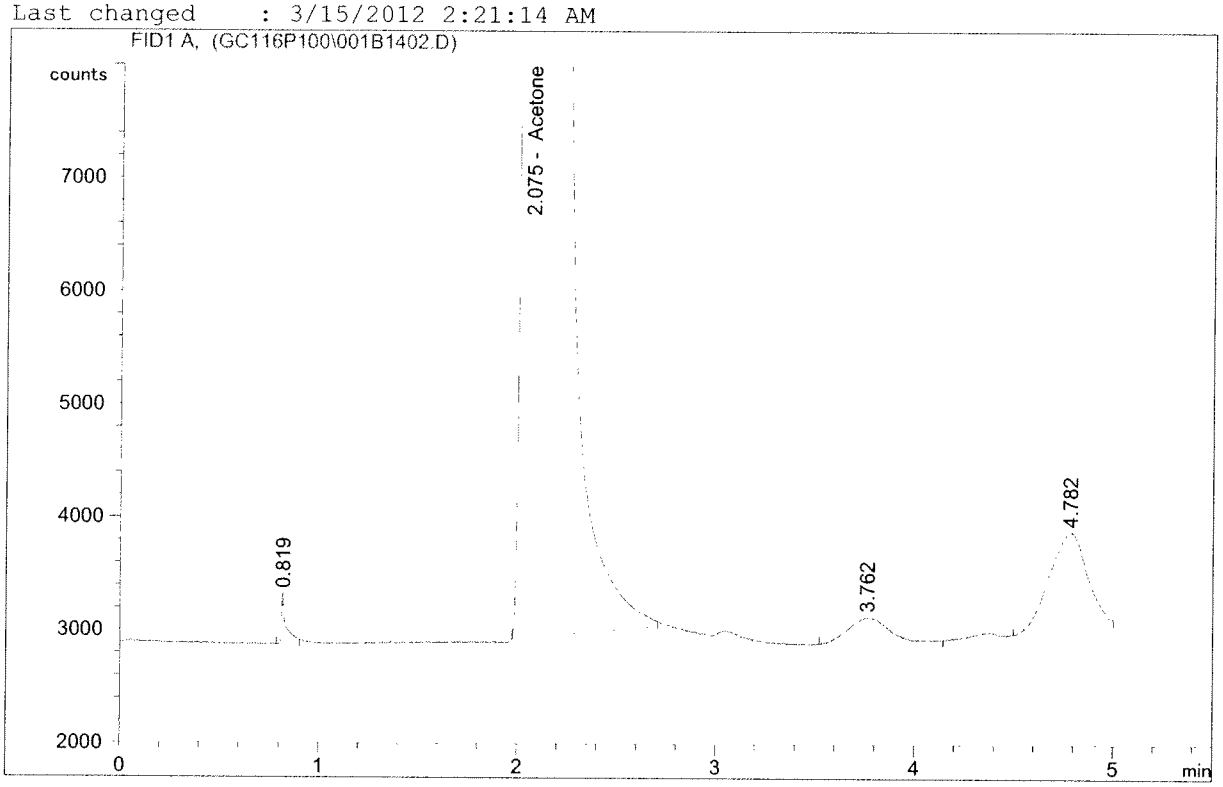
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.077 BB     1.47915e6  1.05347e-3 1558.24532    Acetone

Totals :                               1558.24532


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  14
Acq. Instrument  : Oscar                                 Location : Vial 1
Injection Date   : 3/14/2012 4:42:17 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

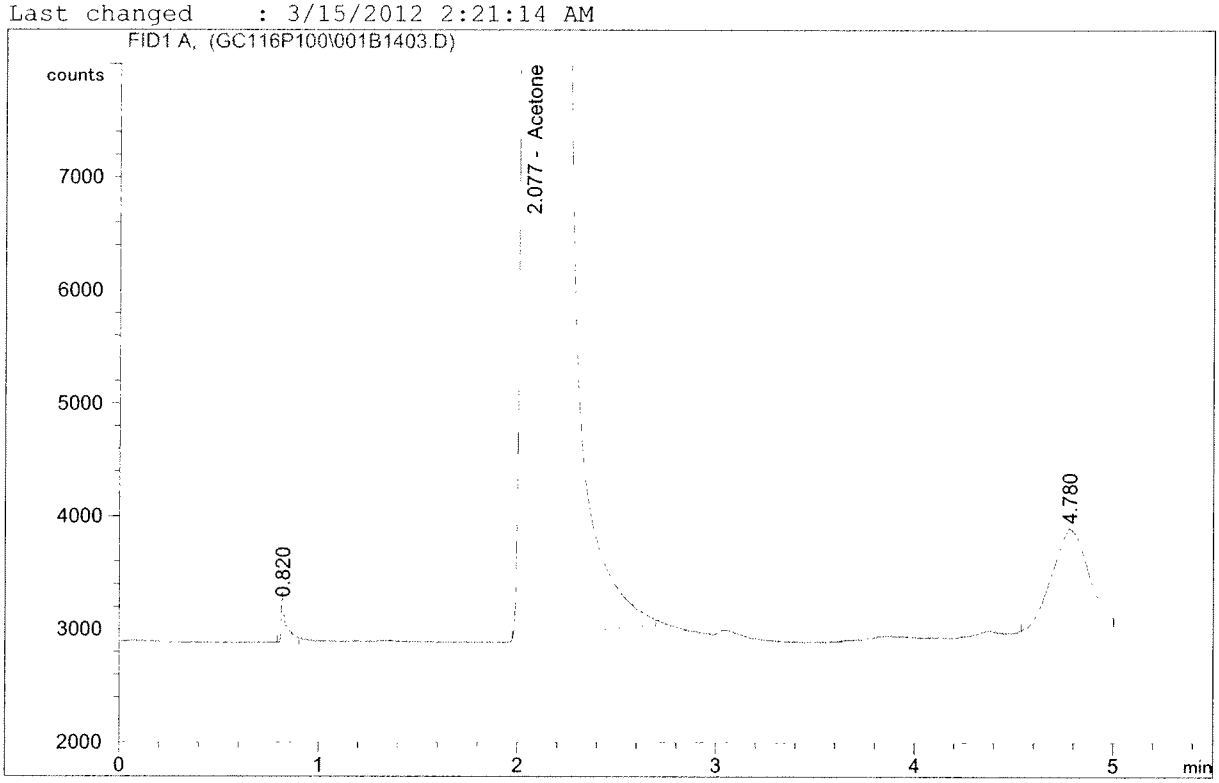
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.075 BB     1.47232e6  1.05347e-3 1551.04980     Acetone

Totals :                               1551.04980

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  14
Acq. Instrument  : Oscar                             Location : Vial 1
Injection Date   : 3/14/2012 4:51:22 AM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

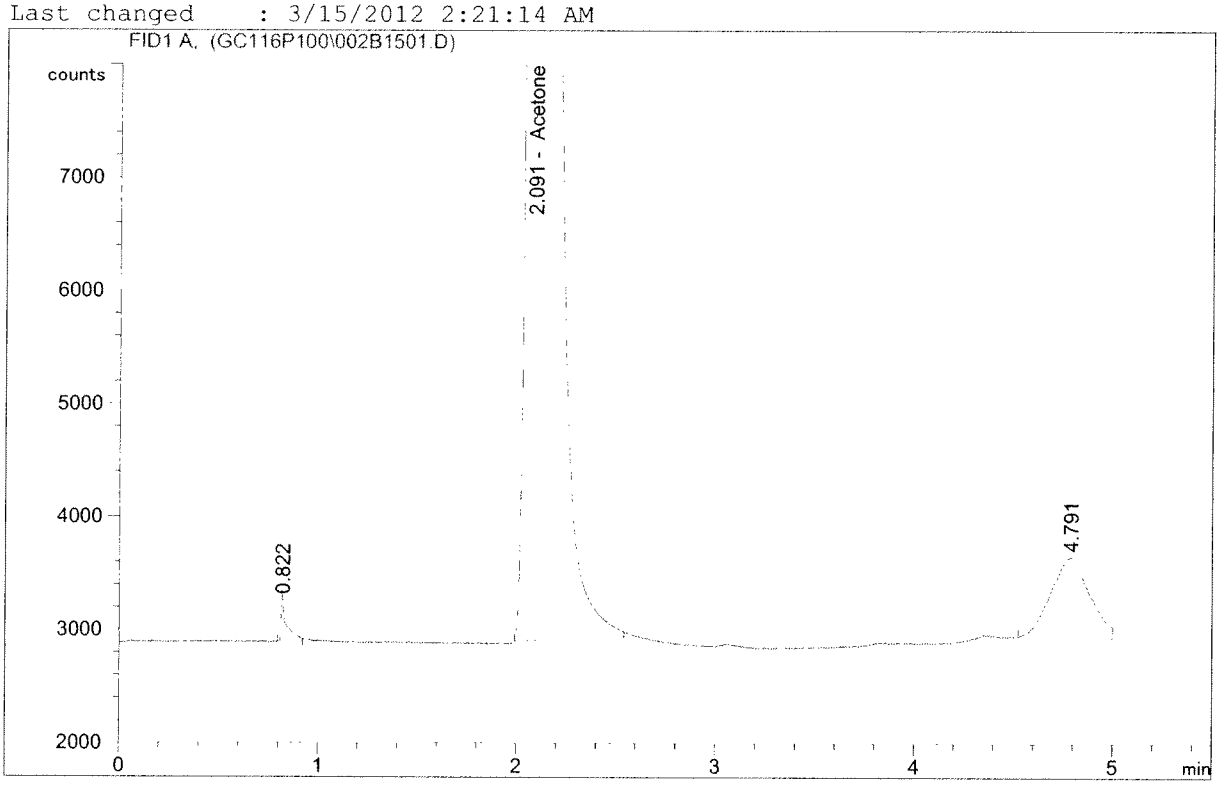
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.077 BB     1.47404e6  1.05347e-3 1552.85491    Acetone

Totals :                               1552.85491


==========================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  15
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/14/2012 5:00:26 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

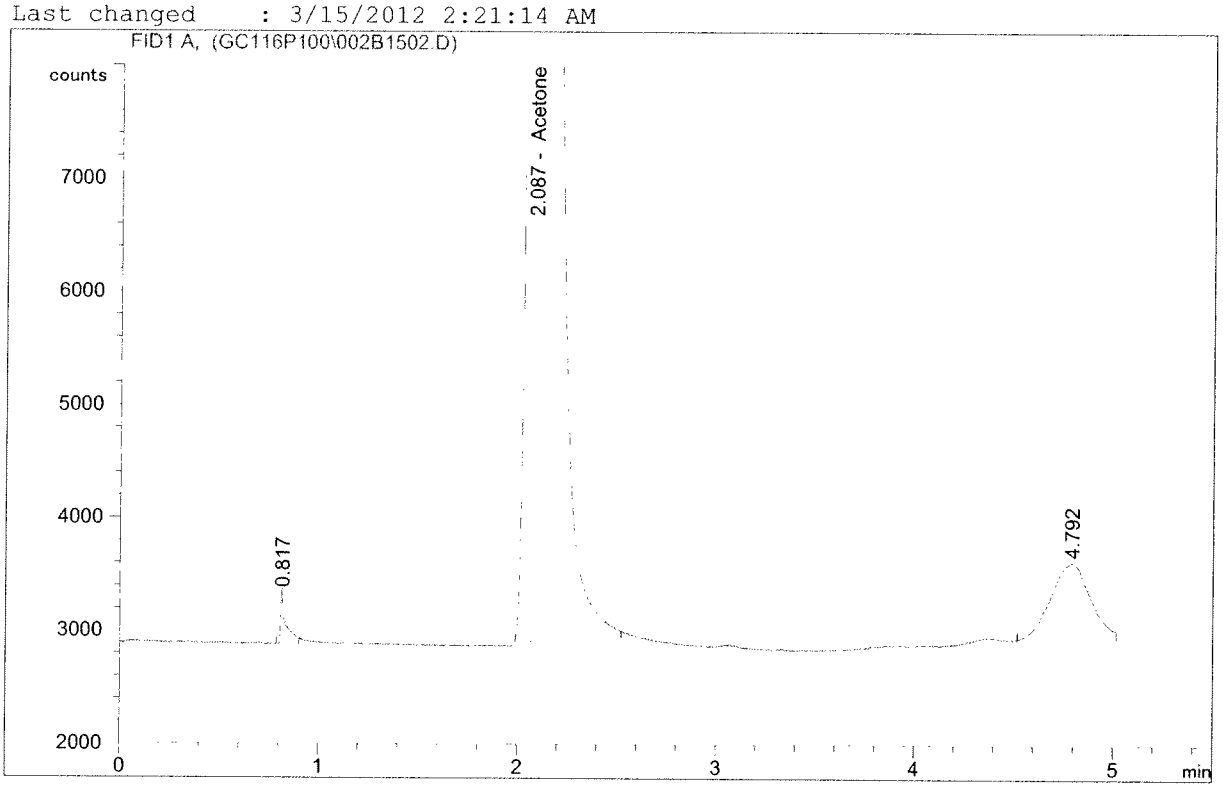
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.091 BB     2.51487e5  1.05016e-3  264.10089     Acetone

Totals :                                264.10089
```

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  15
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/14/2012 5:09:25 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

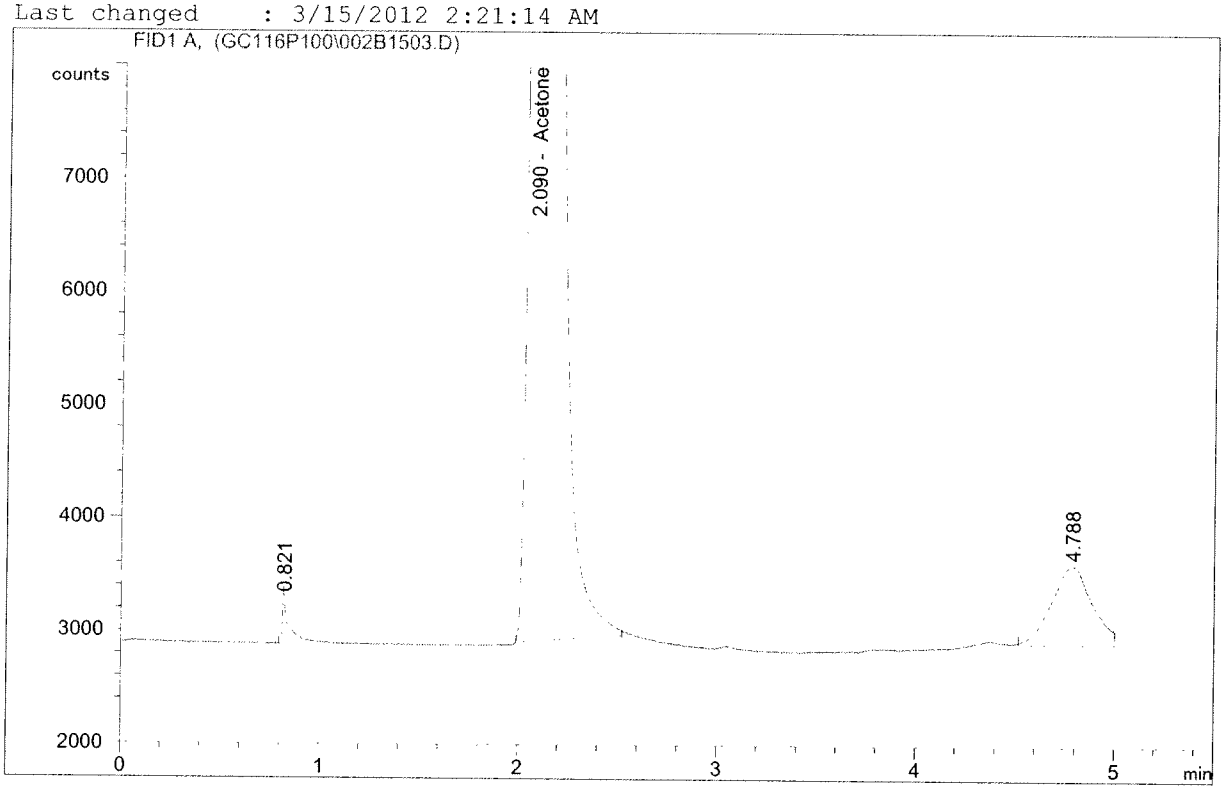
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.087 BB     2.52005e5  1.05017e-3  264.64664     Acetone

Totals :                               264.64664


================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  15
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/14/2012 5:18:35 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

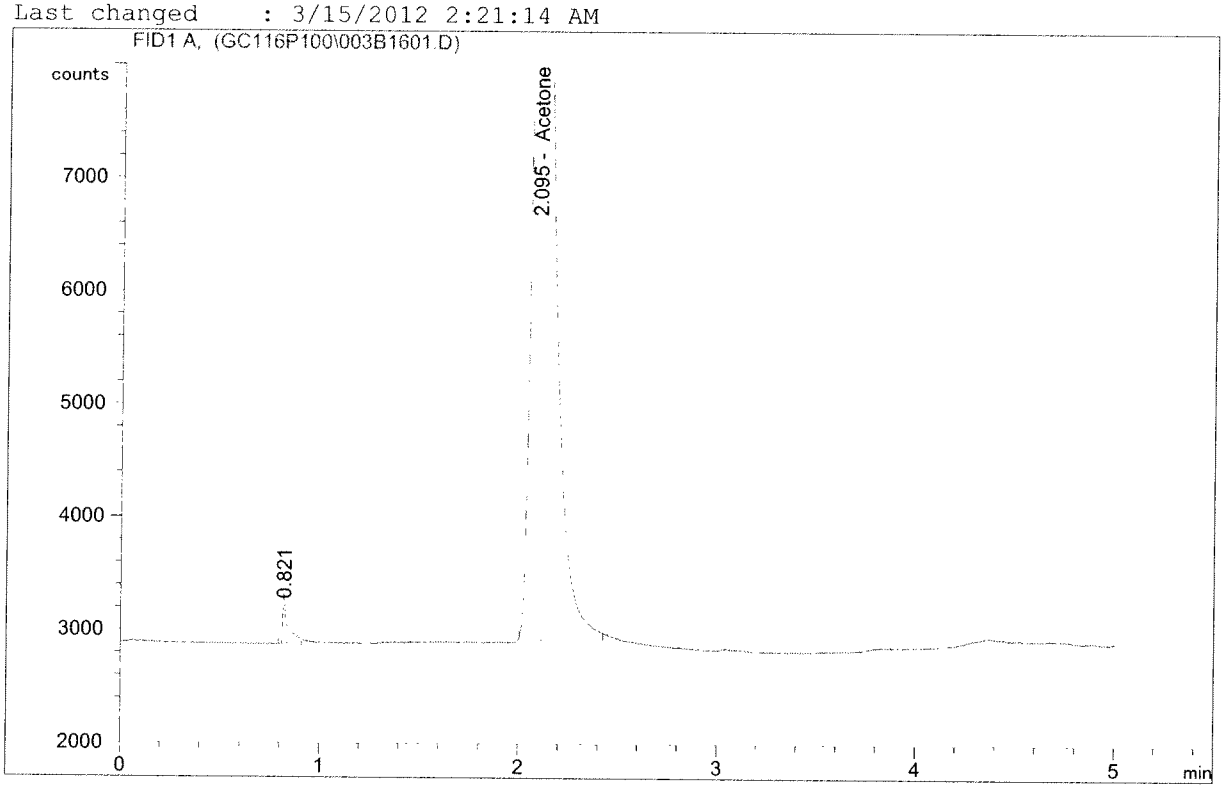
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.090 BB     2.50306e5  1.05014e-3  262.85624     Acetone

Totals :                               262.85624

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  16
Acq. Instrument  : Oscar                                 Location : Vial 3
Injection Date   : 3/14/2012 5:27:40 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

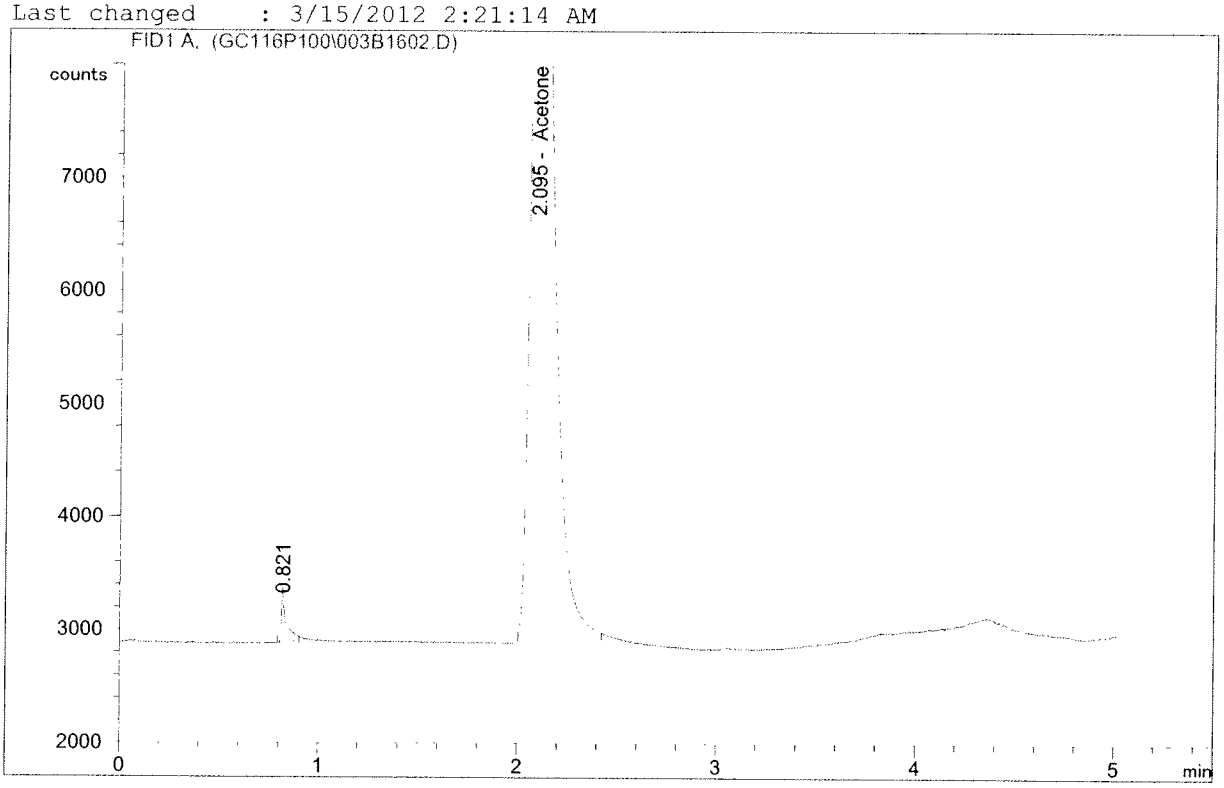
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095 BB     7.25195e4  1.04029e-3   75.44156     Acetone

Totals :                                75.44156

==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  16
Acq. Instrument  : Oscar                                 Location : Vial 3
Injection Date   : 3/14/2012 5:36:46 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

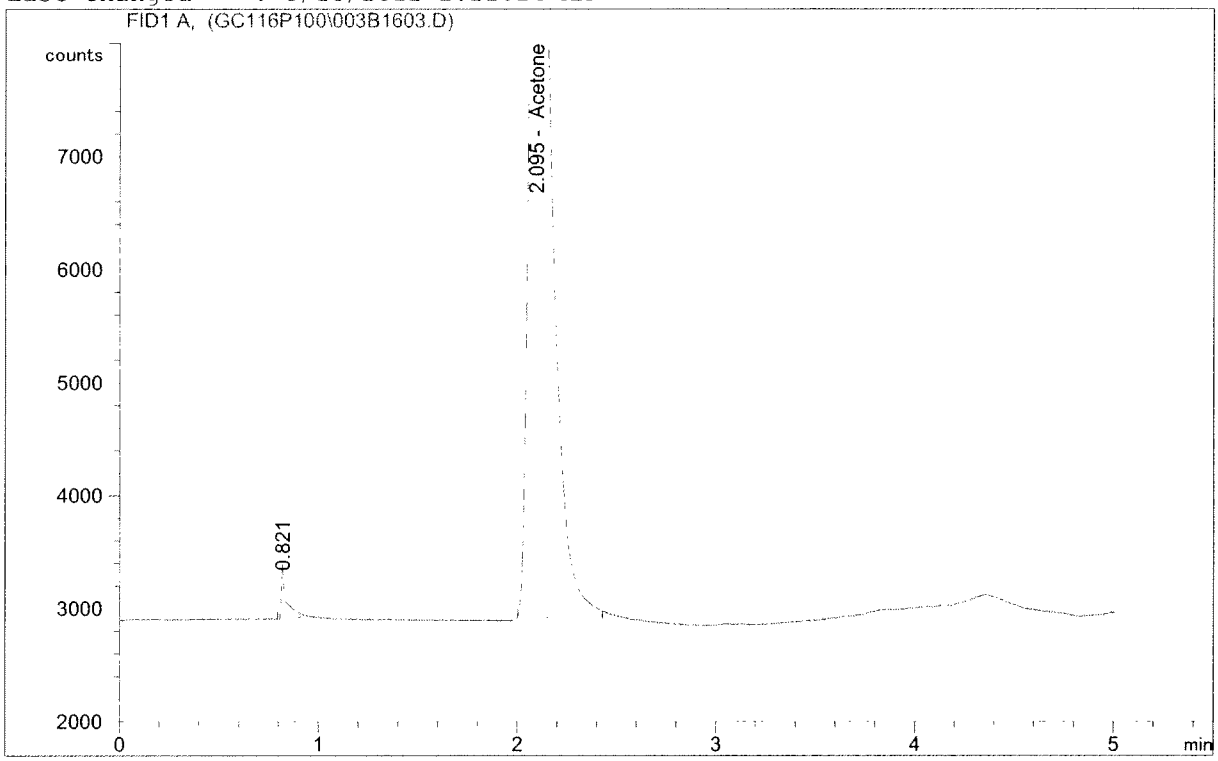
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095 BB     7.27220e4  1.04033e-3   75.65506     Acetone

Totals :                                75.65506


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                 Seq. Line :  16
Acq. Instrument  : Oscar                               Location : Vial 3
Injection Date   : 3/14/2012 5:45:51 AM                     Inj :   3
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

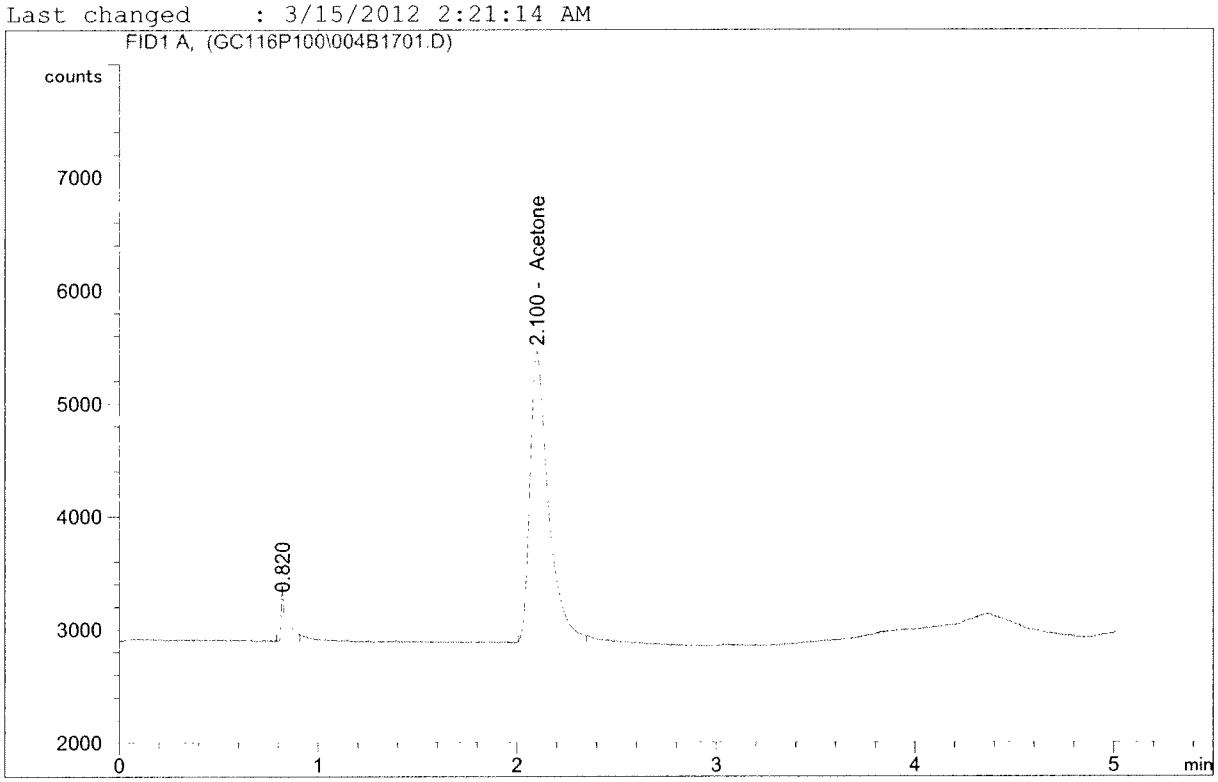
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.095 BB     7.32329e4  1.04043e-3   76.19367    Acetone

Totals :                                76.19367


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                 Seq. Line :  17
Acq. Instrument  : Oscar                                Location : Vial 4
Injection Date   : 3/14/2012 5:54:50 AM                      Inj :   1
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

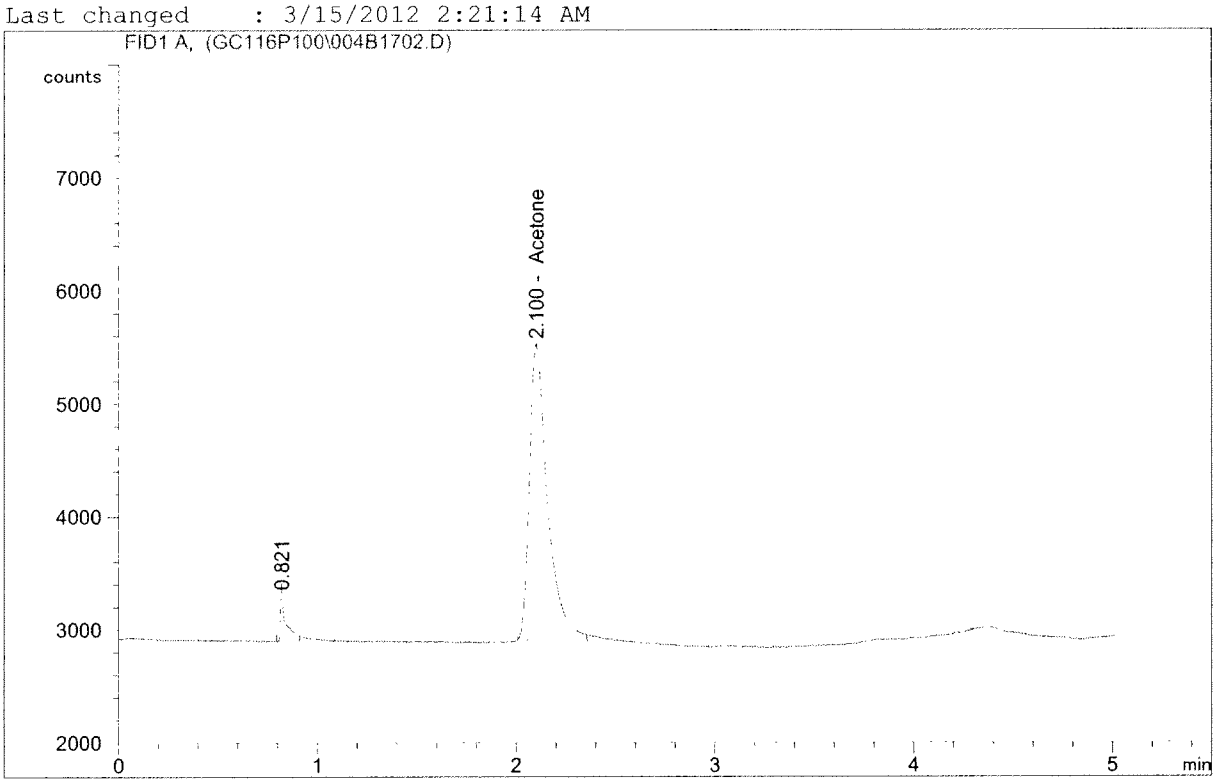
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.100 BB     1.60744e4  9.91627e-4   15.93984     Acetone

Totals :                                15.93984


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  17
Acq. Instrument : Oscar                              Location : Vial 4
Injection Date  : 3/14/2012 6:03:53 AM                    Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

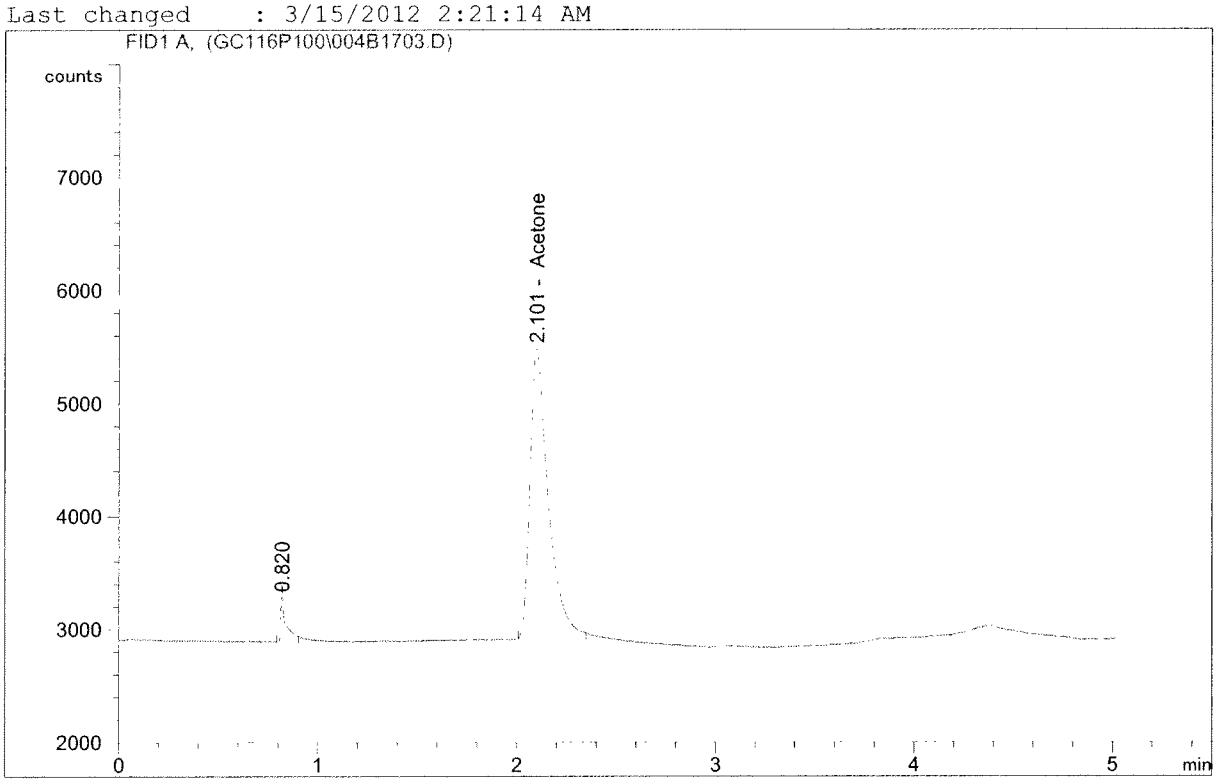
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.100 BB     1.61998e4  9.92111e-4   16.07203    Acetone

Totals :                                16.07203


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                Seq. Line :  17
Acq. Instrument : Oscar                               Location : Vial 4
Injection Date  : 3/14/2012 6:13:03 AM                     Inj :   3
                                                    Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

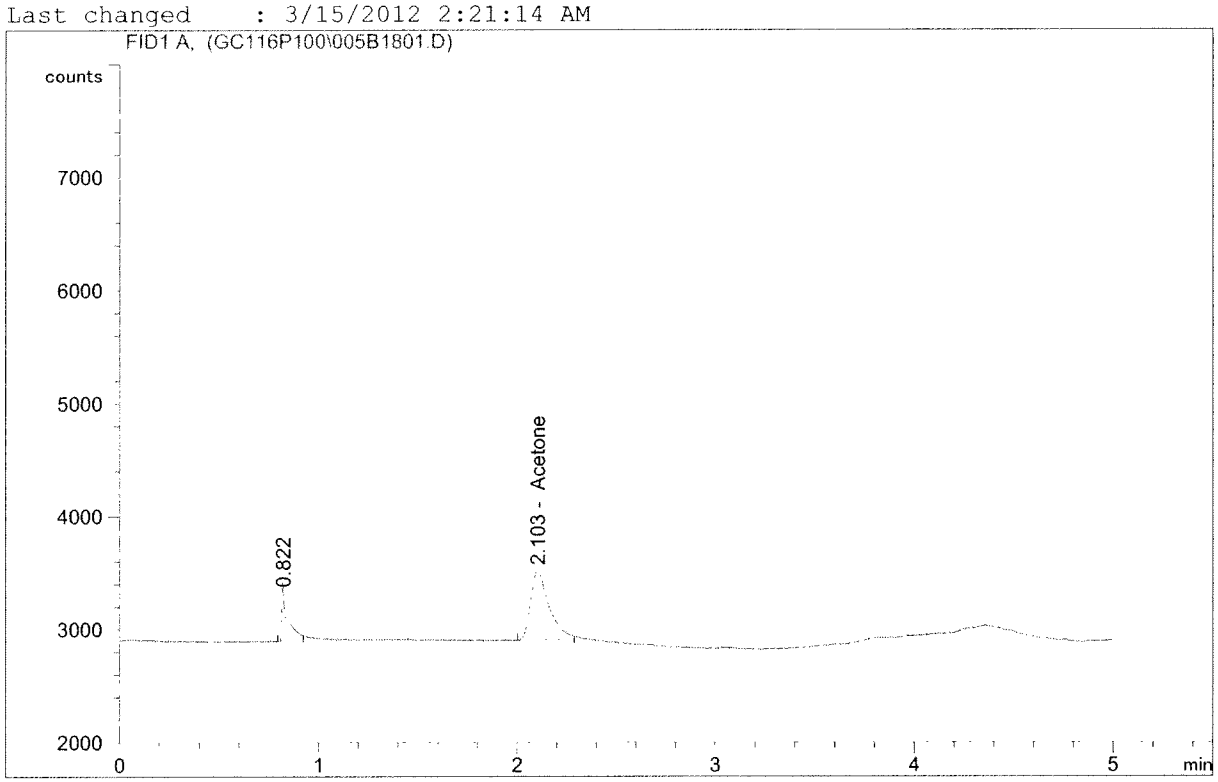
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.101 BB     1.63112e4  9.92535e-4   16.18944    Acetone

Totals :                                16.18944


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  18
Acq. Instrument  : Oscar                             Location : Vial 5
Injection Date   : 3/14/2012 6:22:12 AM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

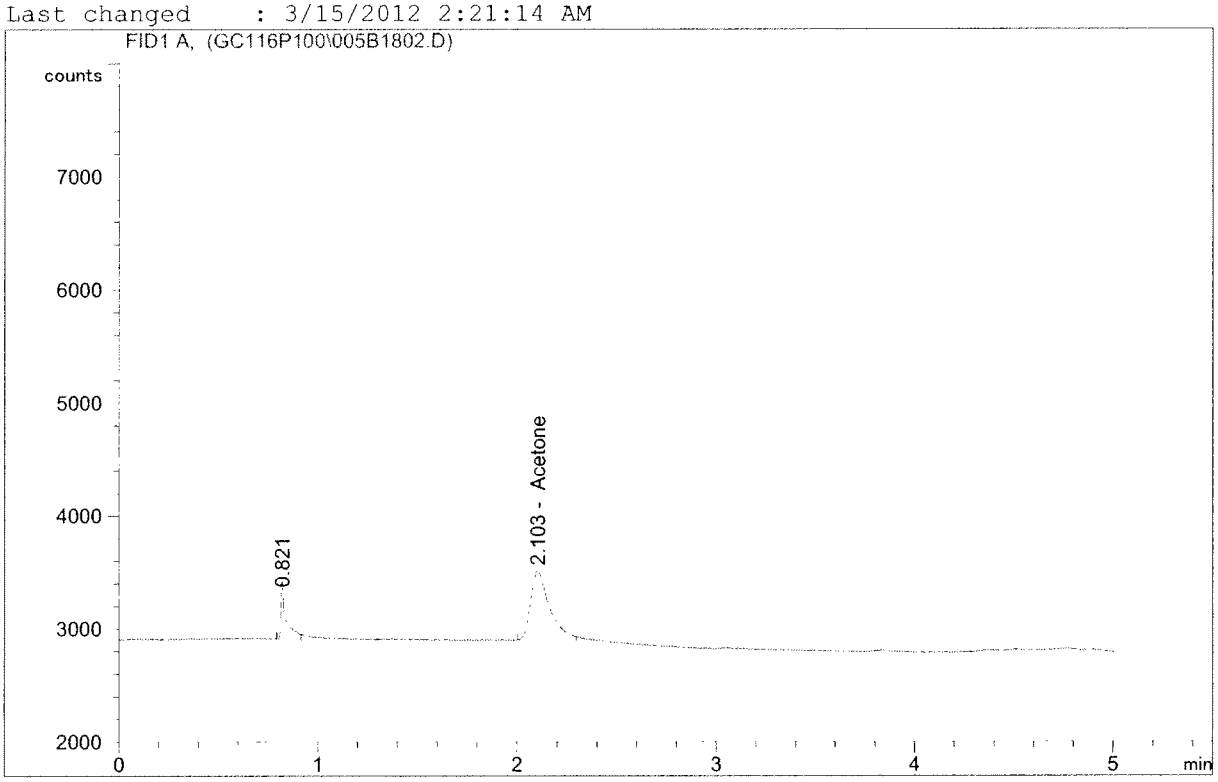
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.103 BB     3935.78101 7.98784e-4    3.14384    Acetone

Totals :                                3.14384

==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument : Oscar                                  Location : Vial 5
Injection Date  : 3/14/2012 6:31:16 AM                       Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

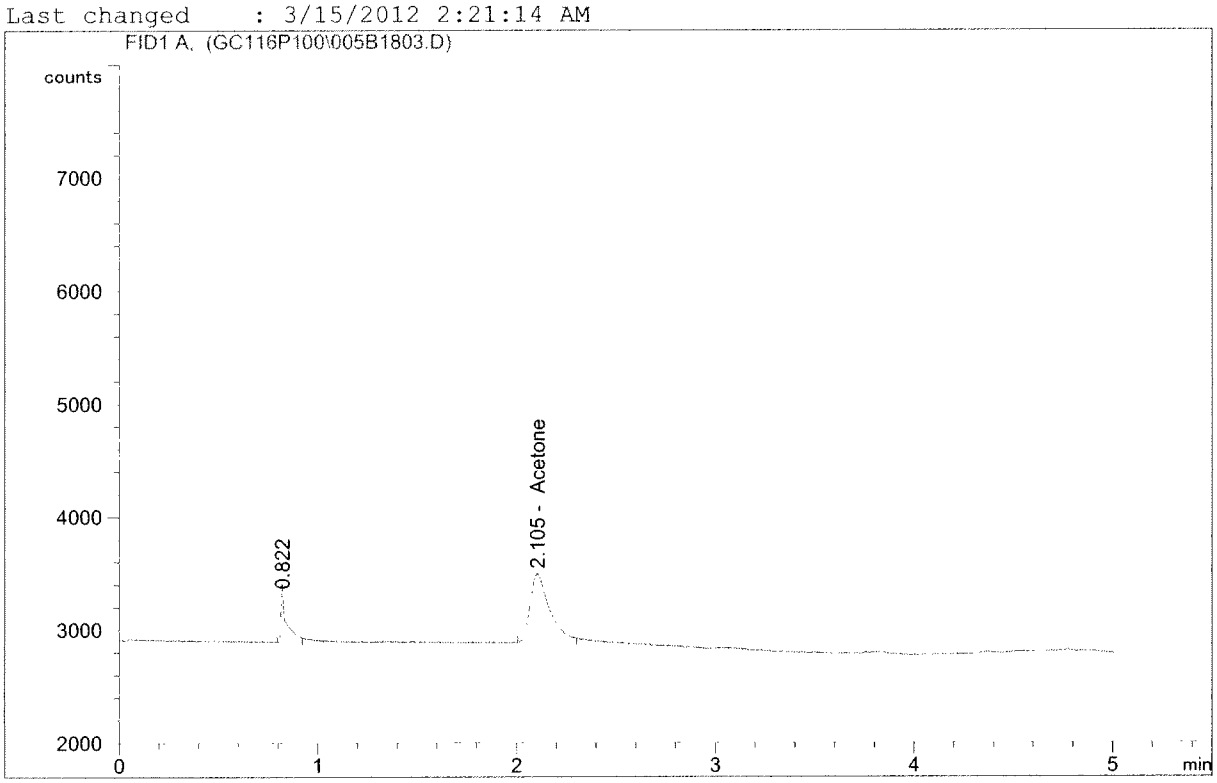
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.103 BB     3952.04663 7.99835e-4    3.16099    Acetone

Totals :                                 3.16099


================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  18
Acq. Instrument  : Oscar                             Location : Vial 5
Injection Date   : 3/14/2012 6:40:26 AM                  Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

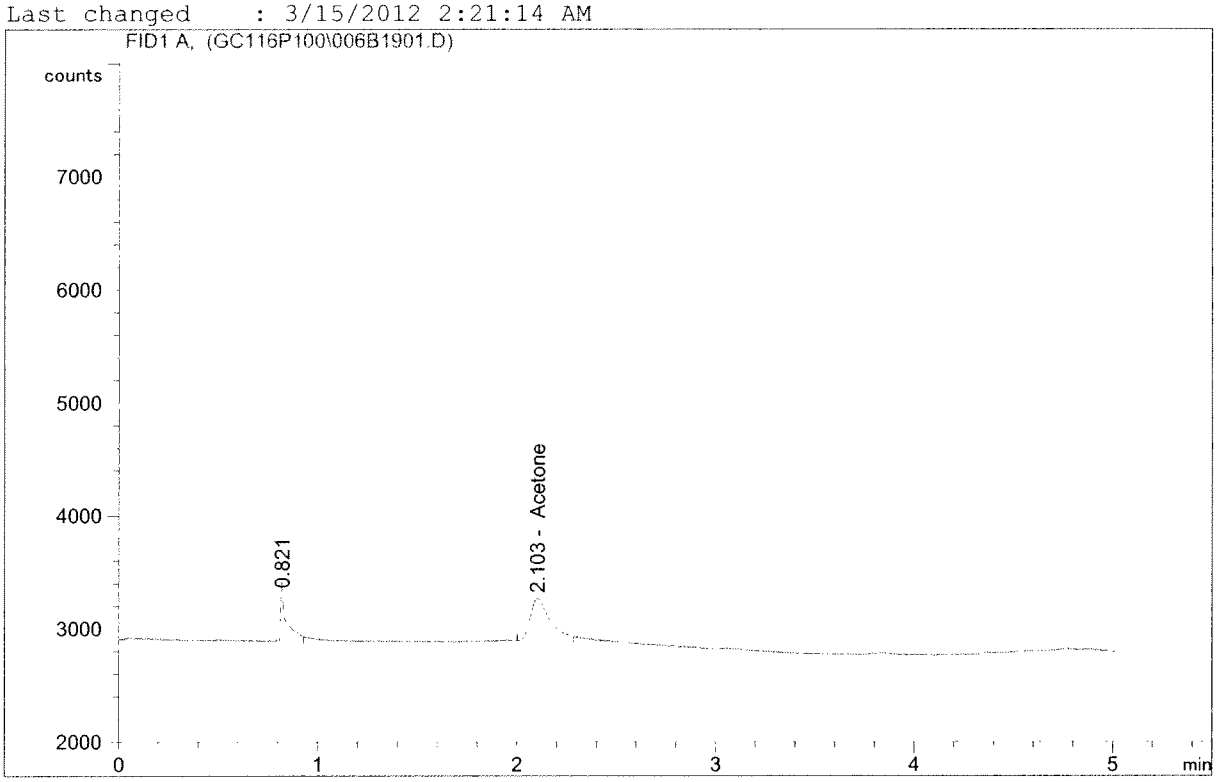
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.105 BB     3985.12085 8.01946e-4    3.19585    Acetone

Totals :                                3.19585


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  19
Acq. Instrument : Oscar                              Location : Vial 6
Injection Date  : 3/14/2012 6:49:31 AM                    Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

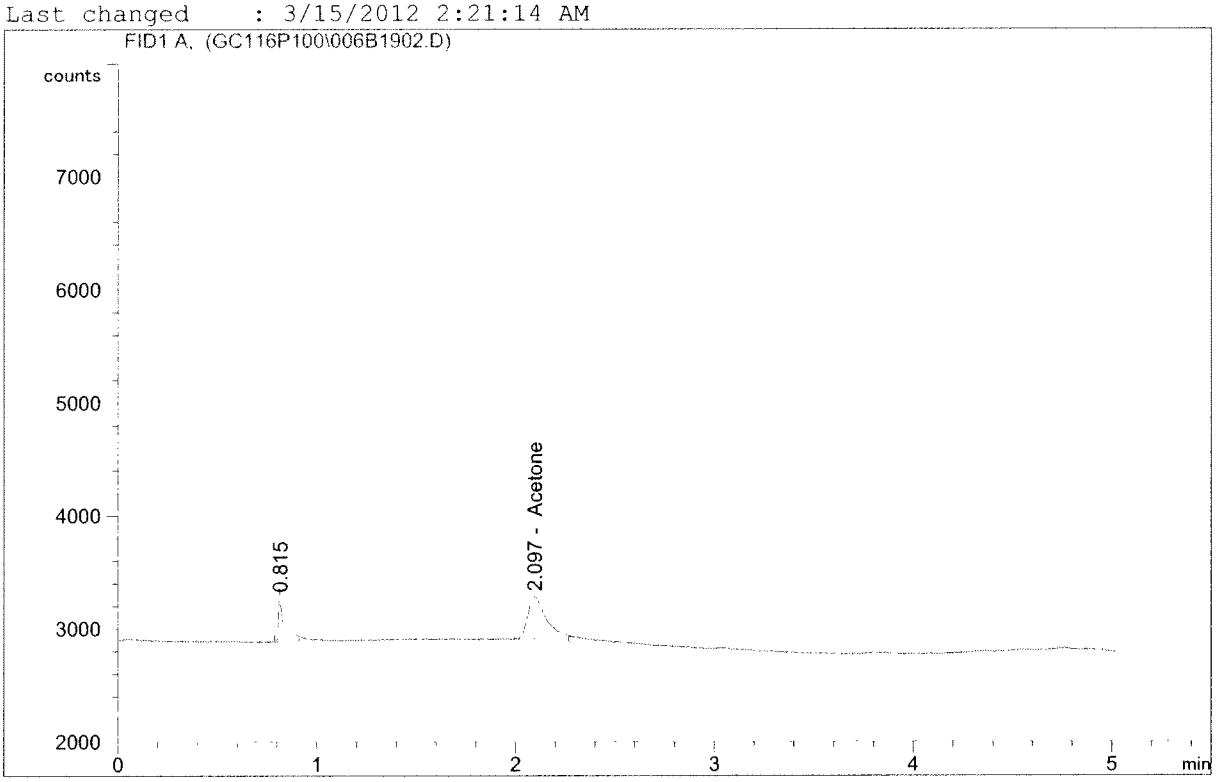
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.103 BB     2439.26440 6.43982e-4    1.57084    Acetone

Totals :                                 1.57084


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                              Seq. Line :  19
Acq. Instrument : Oscar                             Location : Vial 6
Injection Date  : 3/14/2012 6:58:36 AM                   Inj :   2
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

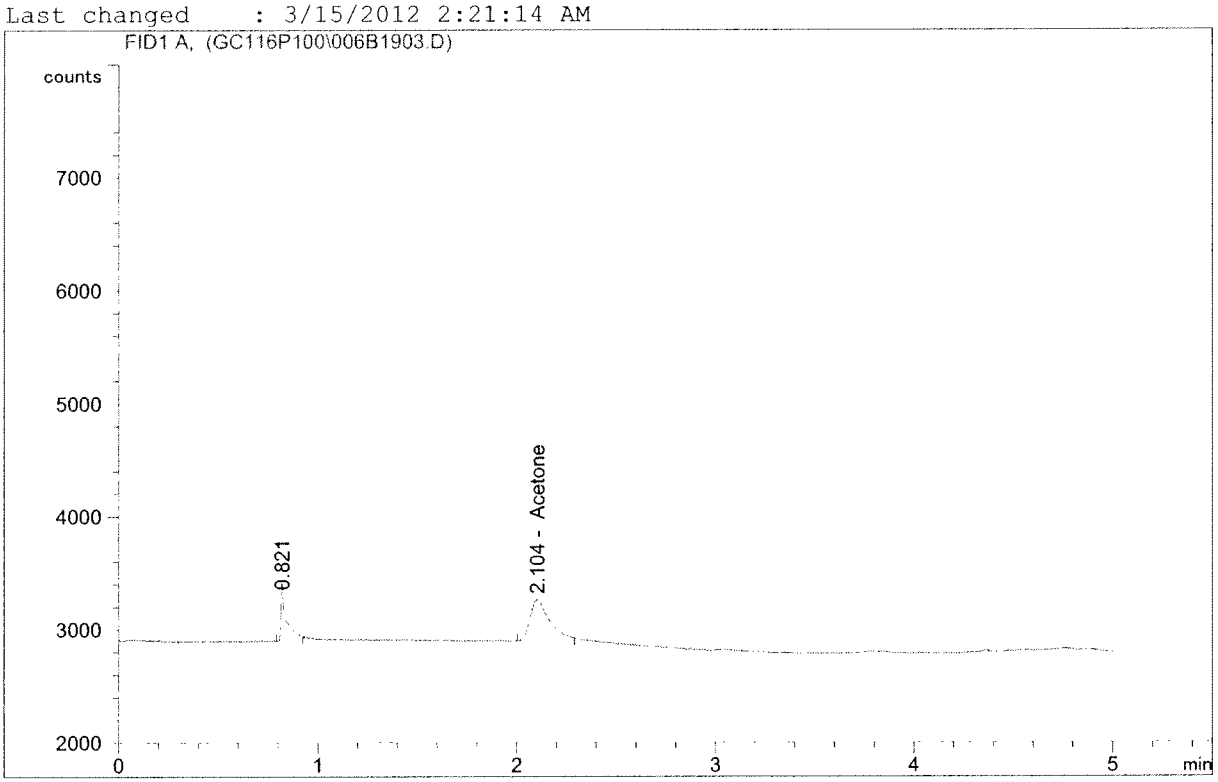
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.097 BB     2363.08130 6.43982e-4    1.52178    Acetone

Totals :                                1.52178


================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                Seq. Line :  19
Acq. Instrument : Oscar                               Location : Vial 6
Injection Date  : 3/14/2012 7:07:46 AM                     Inj :   3
                                                    Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

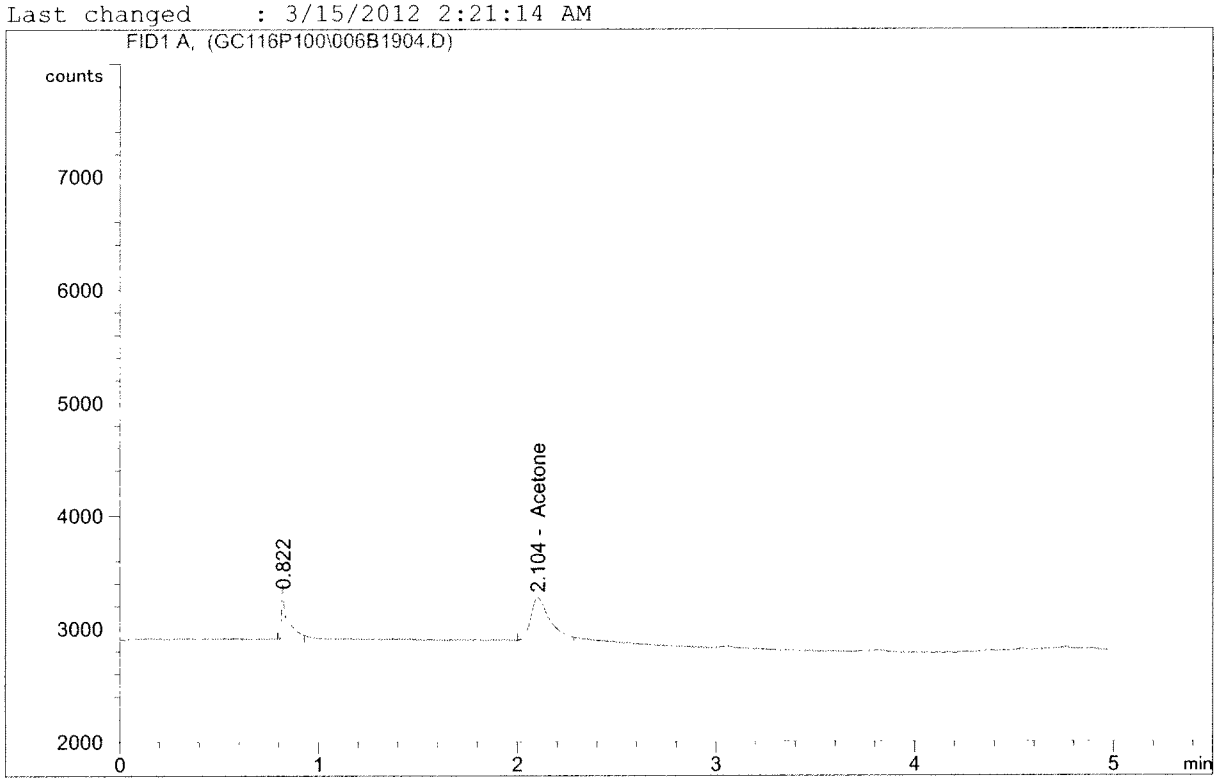
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.104 BB     2420.00757 6.43982e-4    1.55844    Acetone

Totals :                                 1.55844

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  19
Acq. Instrument : Oscar                             Location : Vial 6
Injection Date  : 3/14/2012 7:16:56 AM                   Inj :   4
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/14/2012 12:34:32 AM by JBB
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed    : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

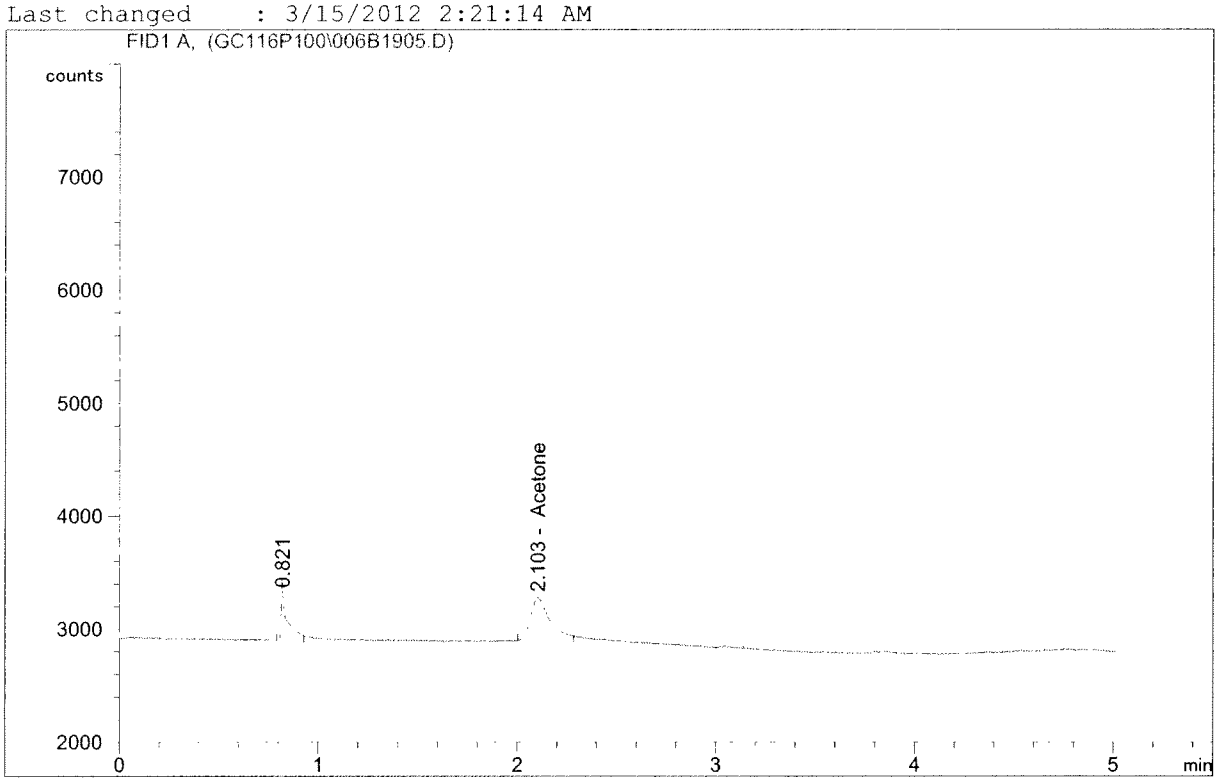
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.104 BB     2453.98389 6.44584e-4    1.58180    Acetone

Totals :                                1.58180


==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  19
Acq. Instrument  : Oscar                             Location : Vial 6
Injection Date   : 3/14/2012 7:26:01 AM                   Inj :   5
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

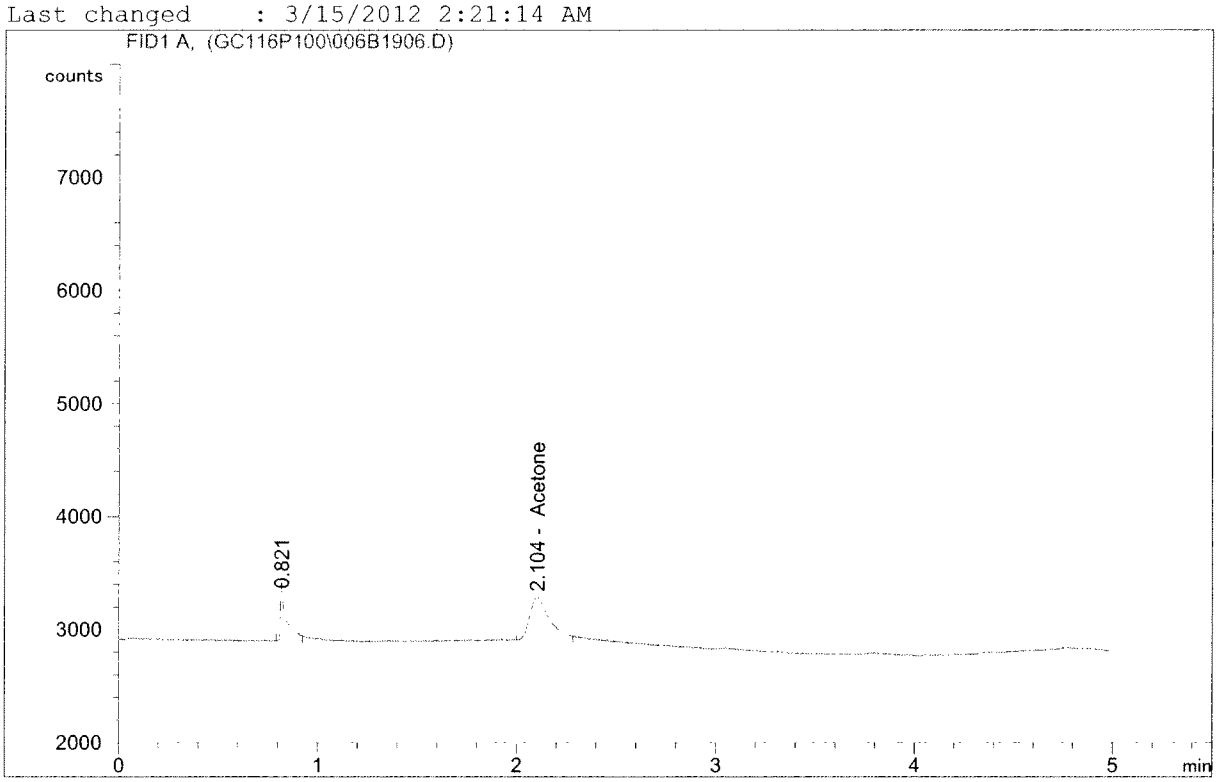
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.103 BB     2415.78320 6.43982e-4    1.55572     Acetone

Totals :                                 1.55572


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                 Seq. Line :  19
Acq. Instrument  : Oscar                                Location : Vial 6
Injection Date   : 3/14/2012 7:35:11 AM                      Inj :   6
                                                      Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P100.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/14/2012 12:34:32 AM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Last changed     : 3/15/2012 2:21:14 AM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/15/2012 2:20:48 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  2.104 BB     2461.41016 6.45820e-4    1.58963    Acetone

Totals :                                1.58963


================================================================================
                          *** End of Report ***
```

OVEN\DET

Runtime (min): 5.0

Zone Temperatures:

	State	Setpoint
Inl. A	ON	175 C.
Inl. B	ON	225 C.
Det. A	ON	250 C.
Det. B	ON	175 C.
Aux.	OFF	50 C.

Oven Zone:

Oven max	280 C.
Equib Time	1.00 Min.
Oven State	ON
Cryo State	OFF
Ambient	25 C.
Cryo Blast	OFF

Oven Program:

	Setpoint
Initial Temp.:	40 C.
Initial Time:	2.00 Min.

Level	Rate (C/min.)	Final Temp.(C)	Final Time (min)
1	20.0	100	0.00

Purge Valve Settings

Purge A/B

	Init Value	On Time (Min.)	Off Time (Min.)
A (Valve 3)	On	0.00	100.00
B (Valve 4)	On	0.00	100.00

A - Splitless Injection: No
B - Splitless Injection: No

Valves/Relays Information

Initial Setpoints:

5890 Valves:

Valve 1:	Off
Valve 2:	Off
Valve 3 (Purge A):	On
Valve 4 (Purge B):	On

Detector Information

Detector A:

Type	FID
State	ON

Detector B:

Type	FPD
State	OFF

method: G:\GC2012Q1\OSCAR\METHODS\GC116P100.M
Modified on: 3/14/2012 at 12:34:32 AM

Signal Information

Save Data:	Signal 1

Signal 1:

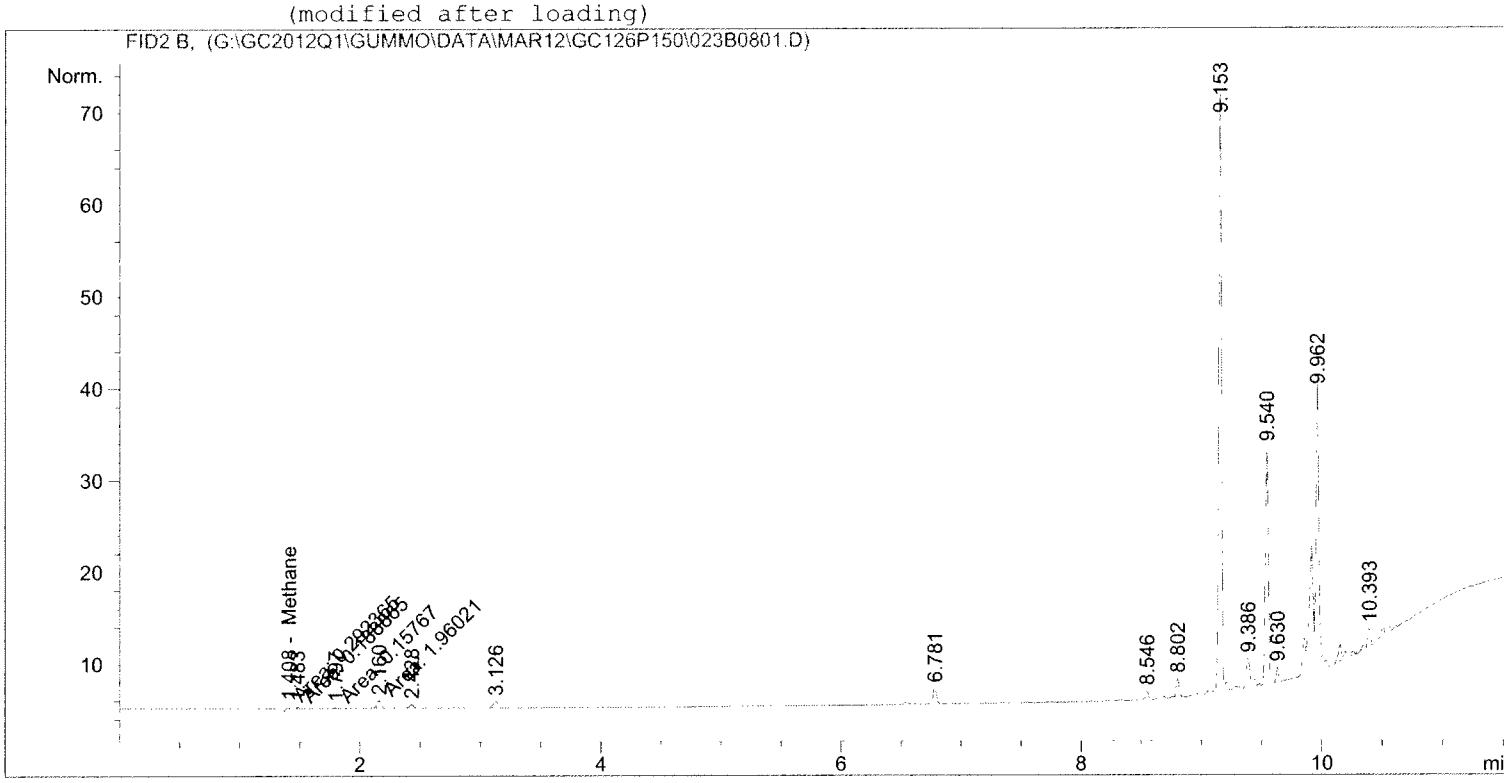
Signal	Det. A
Data rate	20.000 Hz.
Peakwidth	0.010 min.
Start Time	0.00 min.
Stop Time	650.00 min.

Signal 2:

Signal	Testplot
Data rate	20.000 Hz.
Peakwidth	0.013 min.
Start Time	0.00 min.
Stop Time	650.00 min.

Sample Chromatograms

```
================================================================================
Acq. Operator   : mth                                  Seq. Line :   8
Acq. Instrument : Gummo                                 Location : Vial 23
Injection Date  : 01-Mar-12, 14:40:34                       Inj :   1
                                                      Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.408	MF	2.92365e-1	5.53164	1.61726		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.770		-	-	-		Hexane
6.922		-	-	-		Heptane

Totals : 1.61726

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	1.88865e-1	0.4379
as Propane	1.650	2.300	2.11788	3.2870
as Butane	2.300	3.400	2.83680	3.3202
as Heptane	6.400	13.000	269.65838	186.0238
Totals :				193.0689

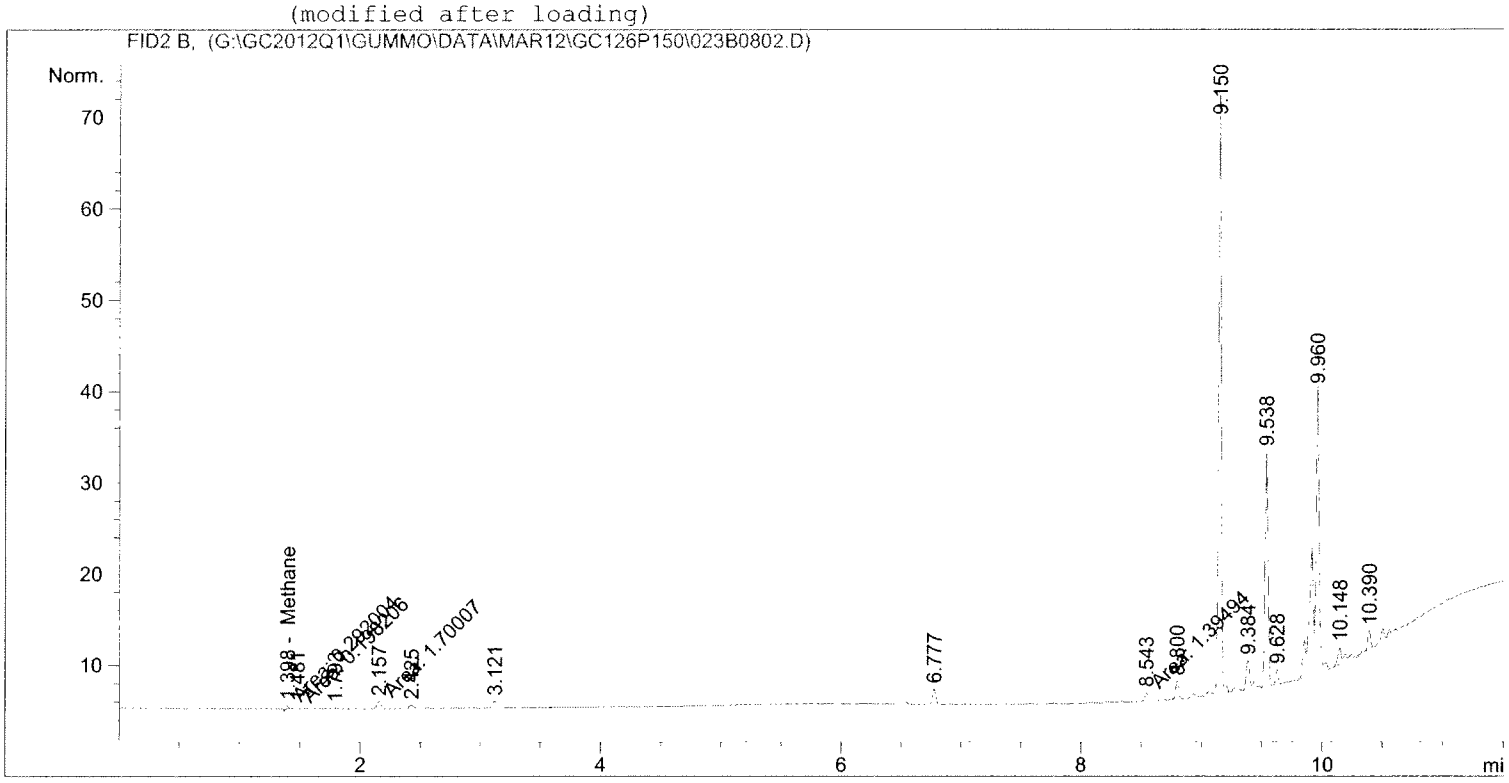
Final Summed Peaks Report

Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	1.88865e-1	0.4379
as Propane	2.11788	3.2870
as Butane	2.83680	3.3202
as Heptane	269.65838	186.0238
Methane	2.92365e-1	1.6173
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	0.00000	0.0000
Heptane	0.00000	0.0000
Totals :		194.6861

*** End of Report ***

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :   8
Acq. Instrument  : Gummo                                 Location : Vial 23
Injection Date   : 01-Mar-12, 14:57:20                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398	MM	2.92004e-1	5.53164	1.61526		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.770		-	-	-		Hexane
6.922		-	-	-		Heptane

Totals : 1.61526

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	1.98206e-1	0.4596
as Propane	1.650	2.300	1.83157	2.8426
as Butane	2.300	3.400	2.93019	3.4295
as Heptane	6.400	13.000	271.89510	187.5668
Totals :				194.2985

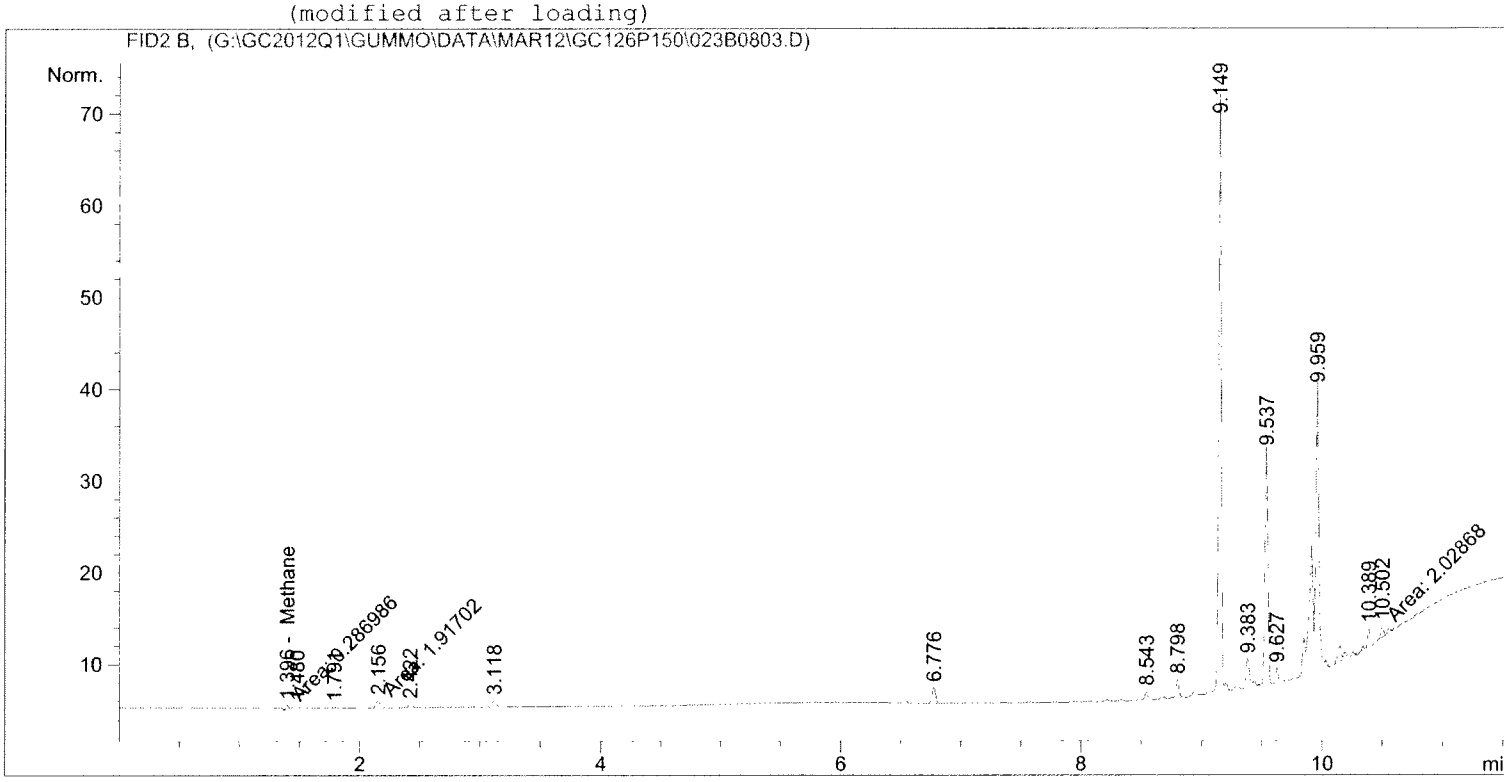
Final Summed Peaks Report

Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	1.98206e-1	0.4596
as Propane	1.83157	2.8426
as Butane	2.93019	3.4295
as Heptane	271.89510	187.5668
Methane	2.92004e-1	1.6153
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	0.00000	0.0000
Heptane	0.00000	0.0000
Totals :		195.9137

*** End of Report ***

```
==========================================================================
Acq. Operator    : mth                              Seq. Line :   8
Acq. Instrument  : Gummo                             Location : Vial 23
Injection Date   : 01-Mar-12, 15:14:27                    Inj :   3
                                                   Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	MM	2.86986e-1	5.53164	1.58750		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.770		-	-	-		Hexane
6.922		-	-	-		Heptane

Totals : 1.58750

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	2.17029e-1	0.5032
as Propane	1.650	2.300	2.05272	3.1858
as Butane	2.300	3.400	2.83361	3.3165
as Heptane	6.400	13.000	272.38664	187.9059
Totals :				194.9114

Final Summed Peaks Report

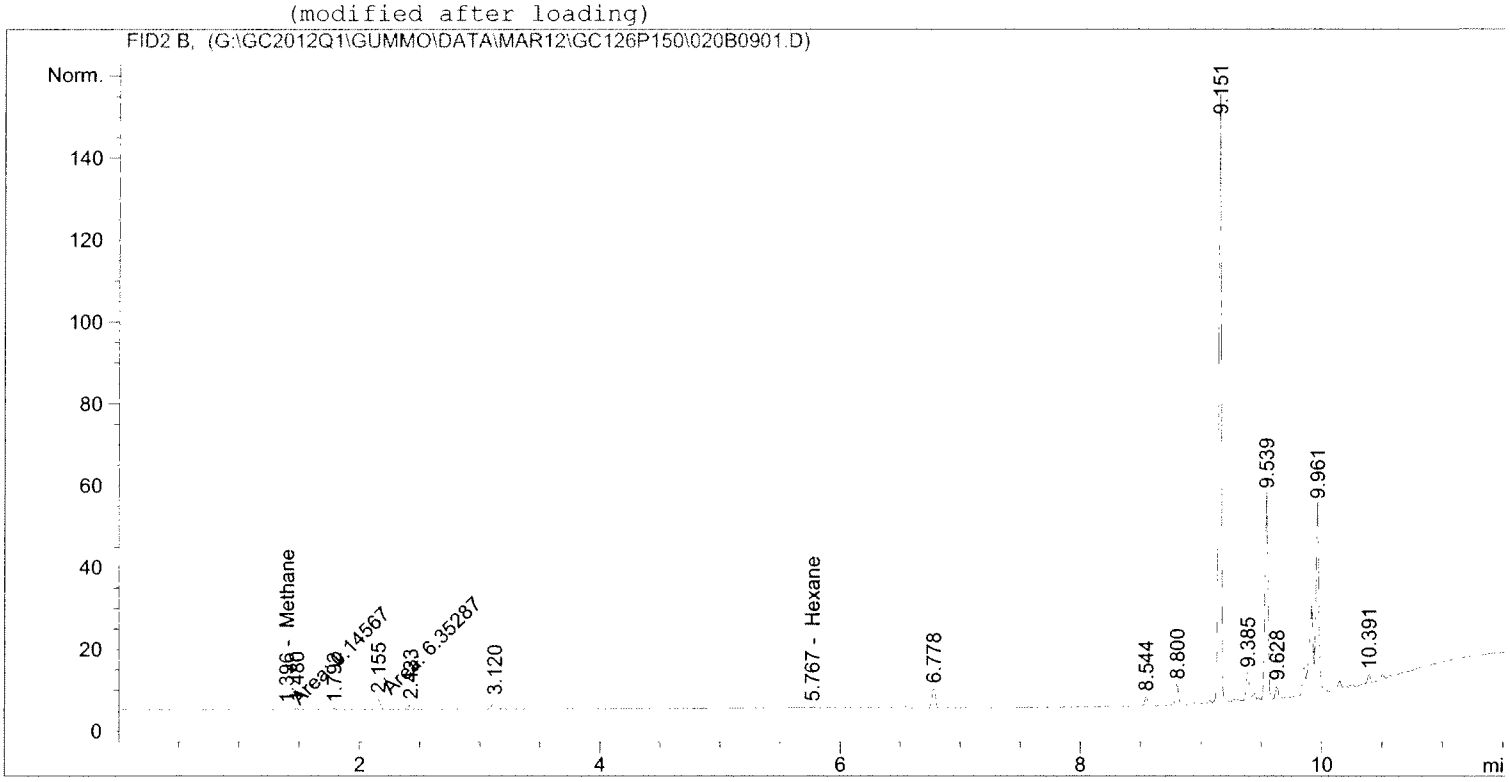
Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	2.17029e-1	0.5032
as Propane	2.05272	3.1858
as Butane	2.83361	3.3165
as Heptane	272.38664	187.9059
Methane	2.86986e-1	1.5875
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	0.00000	0.0000
Heptane	0.00000	0.0000
Totals :		196.4989

*** End of Report ***

PGE T384 Scrubber 2012-37

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :   9
Acq. Instrument  : Gummo                                 Location : Vial 20
Injection Date   : 01-Mar-12, 15:31:31                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	FM	1.45670e-1	5.53164	8.05793e-1		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.767	BB	2.53465e-1	7.32896e-1	1.85763e-1		Hexane
6.922		-	-	-		Heptane

Totals : 9.91557e-1

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	6.90370e-1	1.6007
as Propane	1.650	2.300	6.79923	10.5524
as Butane	2.300	3.400	8.18531	9.5801
as Heptane	6.400	13.000	518.23040	357.5012
Totals :				379.2344

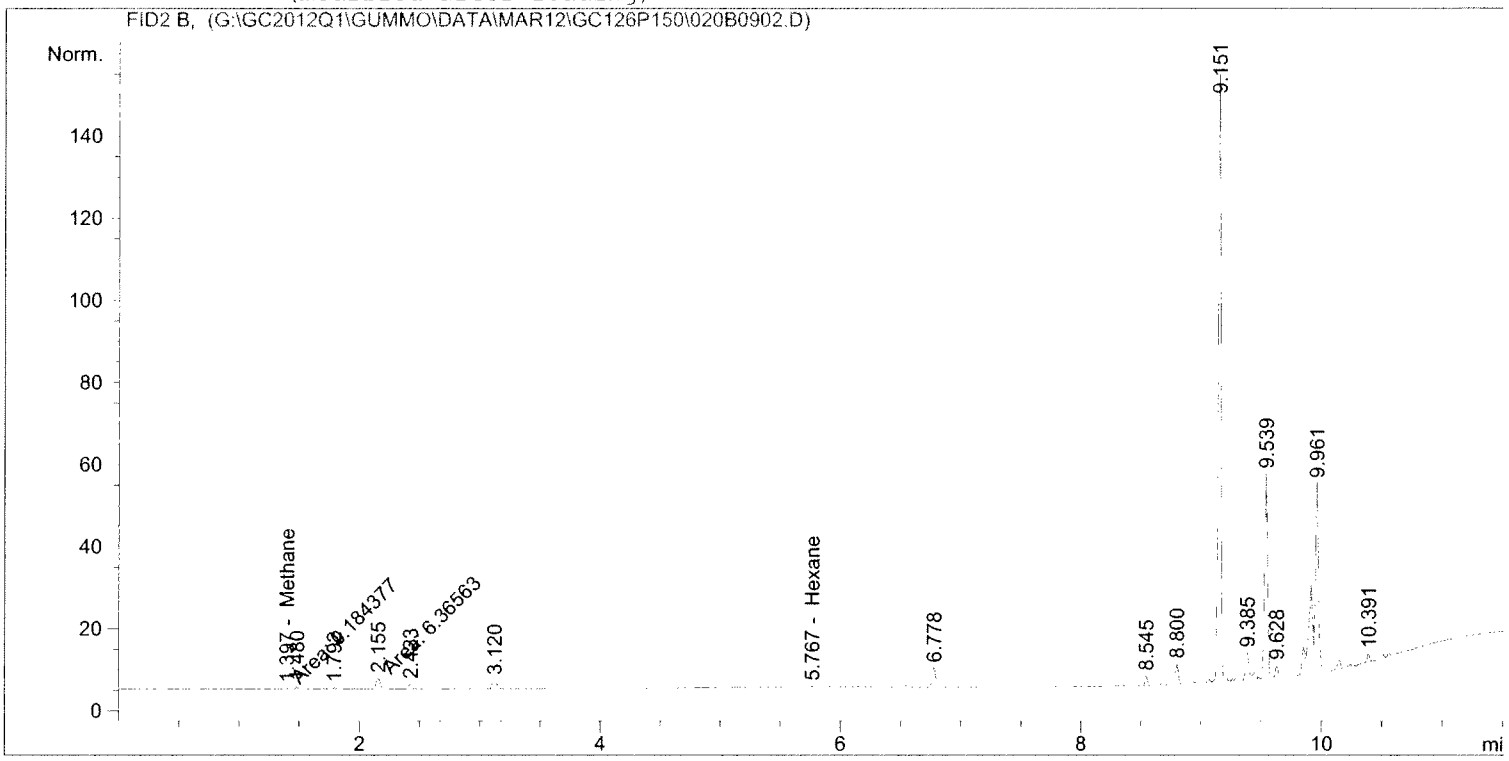
Final Summed Peaks Report

Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	6.90370e-1	1.6007
as Propane	6.79923	10.5524
as Butane	8.18531	9.5801
as Heptane	518.23040	357.5012
Methane	1.45670e-1	0.8058
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	2.53465e-1	0.1858
Heptane	0.00000	0.0000
Totals :		380.2260

*** End of Report ***

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :   9
Acq. Instrument  : Gummo                                 Location : Vial 20
Injection Date   : 01-Mar-12, 15:48:31                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.397	FM	1.84377e-1	5.53164	1.01991		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.767	BB	2.86235e-1	7.32896e-1	2.09781e-1		Hexane
6.922		-	-	-		Heptane

Totals : 1.22969

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	7.04185e-1	1.6327
as Propane	1.650	2.300	6.80391	10.5597
as Butane	2.300	3.400	8.12882	9.5140
as Heptane	6.400	13.000	515.88131	355.8807
Totals :				377.5871

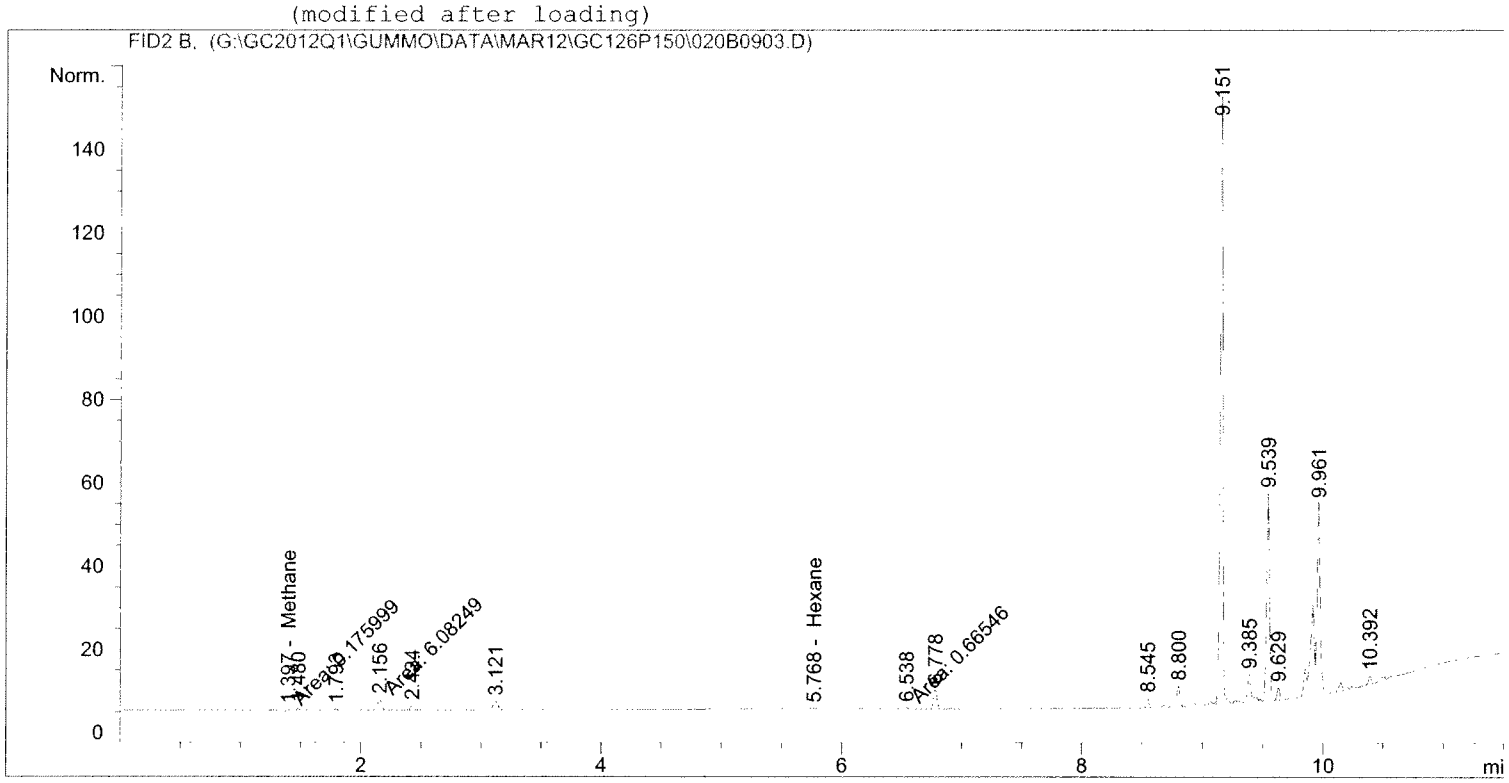
Final Summed Peaks Report

Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	7.04185e-1	1.6327
as Propane	6.80391	10.5597
as Butane	8.12882	9.5140
as Heptane	515.88131	355.8807
Methane	1.84377e-1	1.0199
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	2.86235e-1	0.2098
Heptane	0.00000	0.0000
Totals :		378.8168

*** End of Report ***

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :   9
Acq. Instrument  : Gummo                                 Location : Vial 20
Injection Date   : 01-Mar-12, 16:05:37                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.397	FM	1.75999e-1	5.53164	9.73561e-1		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.768	BB	2.32061e-1	7.32896e-1	1.70077e-1		Hexane
6.922		-	-	-		Heptane

Totals : 1.14364

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	7.06882e-1	1.6390
as Propane	1.650	2.300	6.54049	10.1508
as Butane	2.300	3.400	8.19576	9.5923
as Heptane	6.400	13.000	515.02738	355.2916
Totals :				376.6738

Final Summed Peaks Report

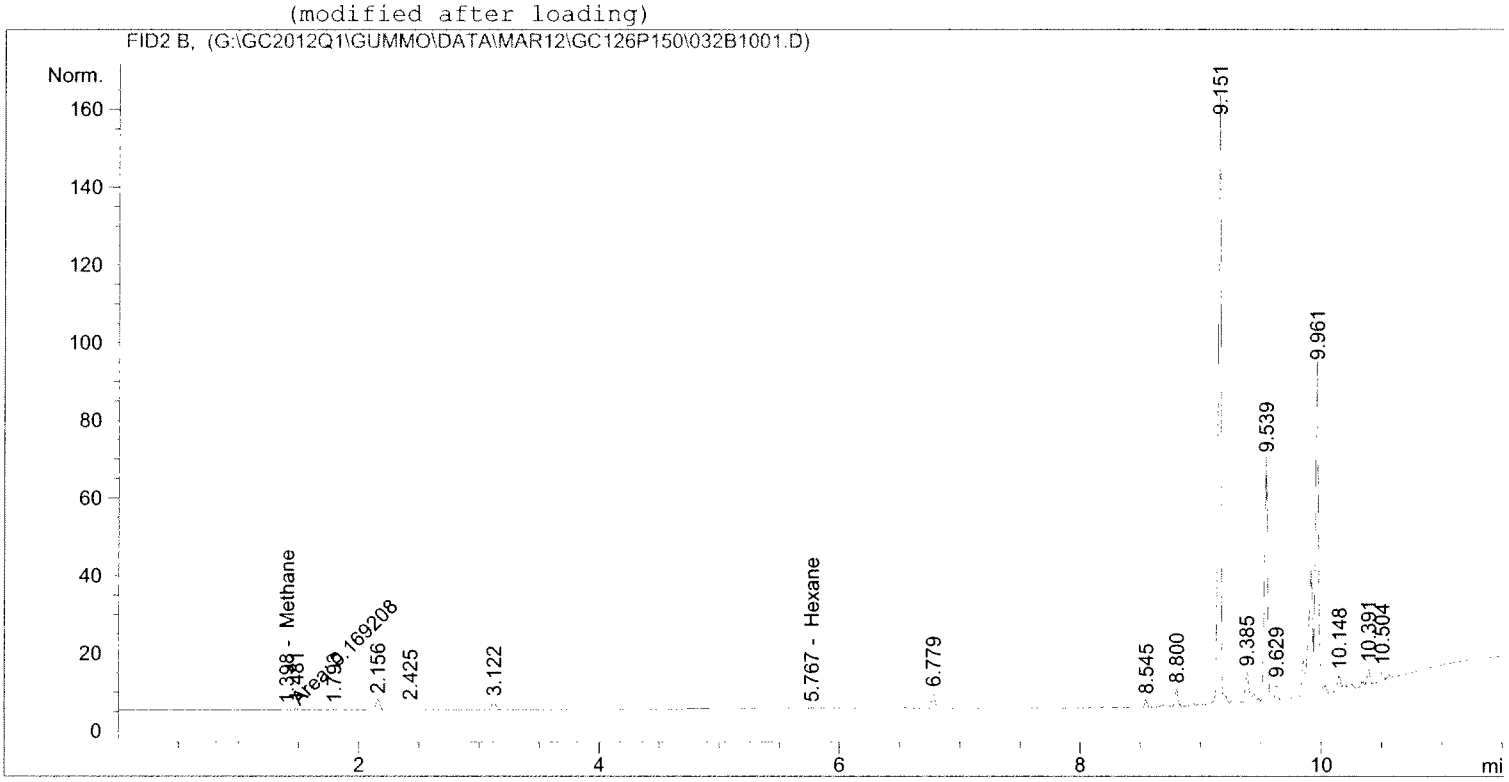
Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	7.06882e-1	1.6390
as Propane	6.54049	10.1508
as Butane	8.19576	9.5923
as Heptane	515.02738	355.2916
Methane	1.75999e-1	0.9736
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	2.32061e-1	0.1701
Heptane	0.00000	0.0000
Totals :		377.8174

*** End of Report ***

PGE T384 Scrubber 2012-37

```
================================================================================
Acq. Operator   : mth                                  Seq. Line :  10
Acq. Instrument : Gummo                                 Location : Vial 32
Injection Date  : 01-Mar-12, 16:22:51                       Inj :   1
                                                      Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398	FM	1.69208e-1	5.53164	9.35997e-1		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.767	BB	2.81083e-1	7.32896e-1	2.06005e-1		Hexane
6.922		-	-	-		Heptane

Totals : 1.14200

Maual Integration
"II" (MTH)

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	7.59910e-1	1.7619
as Propane	1.650	2.300	6.92785	10.7520
as Butane	2.300	3.400	7.97046	9.3286
as Heptane	6.400	13.000	681.84418	470.3702
Totals :				492.2128

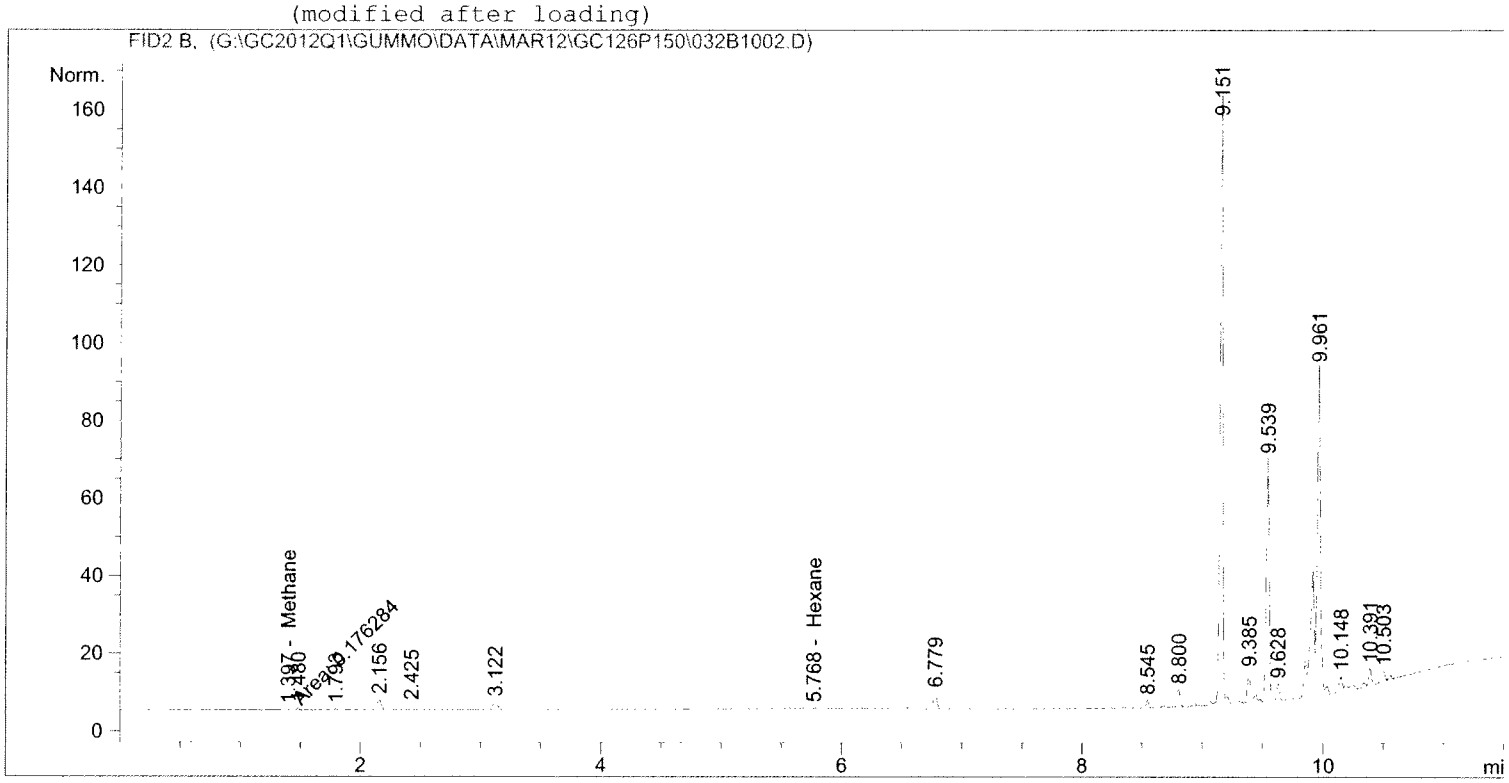
Final Summed Peaks Report

Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	7.59910e-1	1.7619
as Propane	6.92785	10.7520
as Butane	7.97046	9.3286
as Heptane	681.84418	470.3702
Methane	1.69208e-1	0.9360
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	2.81083e-1	0.2060
Heptane	0.00000	0.0000
Totals :		493.3548

*** End of Report ***

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  10
Acq. Instrument  : Gummo                                 Location : Vial 32
Injection Date   : 01-Mar-12, 16:39:37                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
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```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.397	FM	1.76284e-1	5.53164	9.75138e-1		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.768	BB	3.19262e-1	7.32896e-1	2.33986e-1		Hexane
6.922		-	-	-		Heptane

Totals : 1.20912

Maual Integration
"II" (MTH)

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	8.32082e-1	1.9293
as Propane	1.650	2.300	6.89823	10.7061
as Butane	2.300	3.400	7.92811	9.2791
as Heptane	6.400	13.000	684.46565	472.1786
Totals :				494.0930

Final Summed Peaks Report

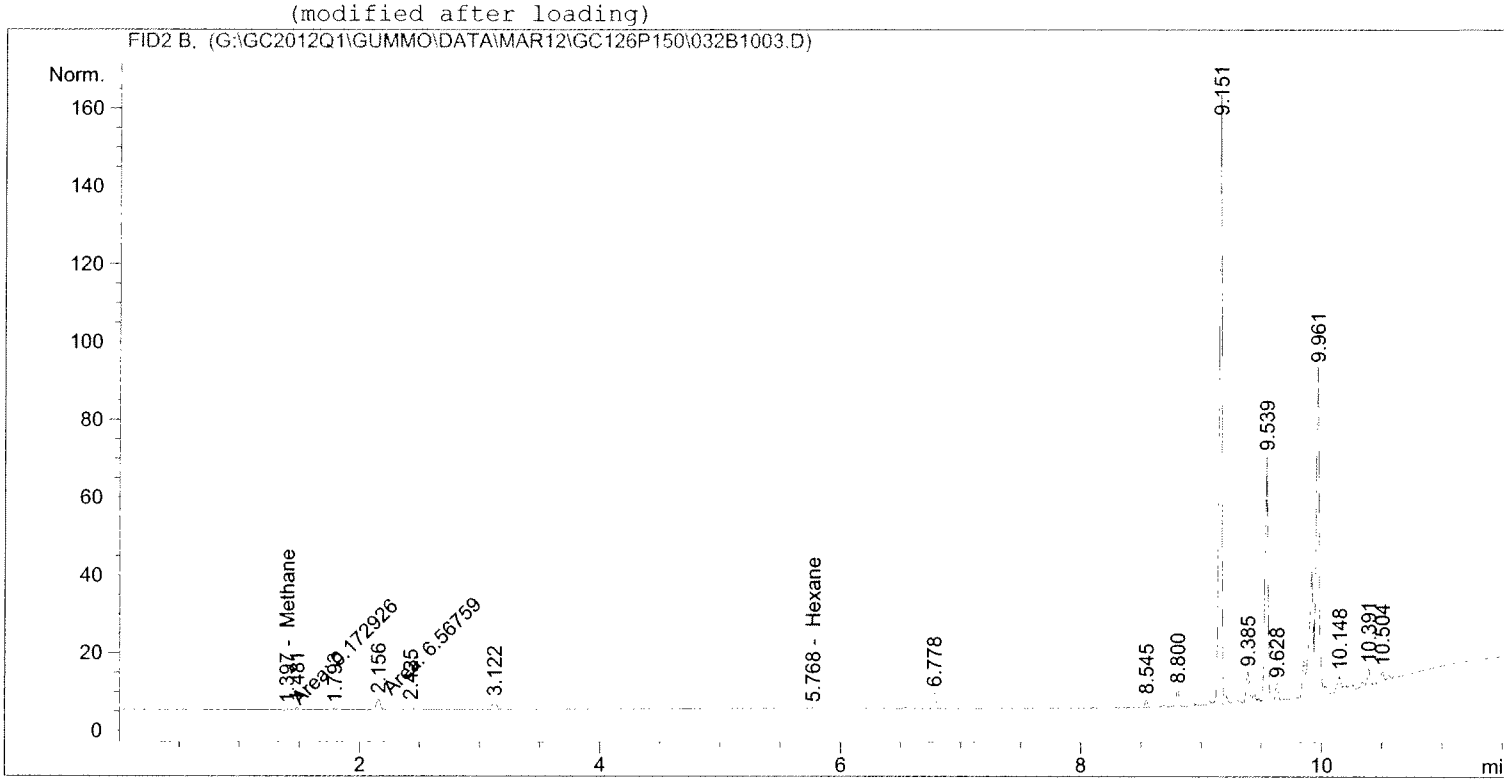
Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	8.32082e-1	1.9293
as Propane	6.89823	10.7061
as Butane	7.92811	9.2791
as Heptane	684.46565	472.1786
Methane	1.76284e-1	0.9751
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	3.19262e-1	0.2340
Heptane	0.00000	0.0000
Totals :		495.3021

*** End of Report ***

PGE T384 Scrubber 2012-37

```
==========================================================================
Acq. Operator    : mth                                Seq. Line :  10
Acq. Instrument  : Gummo                               Location : Vial 32
Injection Date   : 01-Mar-12, 16:56:49                      Inj :   3
                                                     Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.397	MM	1.72926e-1	5.53164	9.56562e-1		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.768	BB	2.60867e-1	7.32896e-1	1.91188e-1		Hexane
6.922		-	-	-		Heptane

Totals : 1.14775

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Summed Peaks Report

Signal 1: FID2 B,

Name	Start Time [min]	End Time [min]	Total Area [pA*s]	Amount [ppm]
as Ethane	1.400	1.650	7.41864e-1	1.7201
as Propane	1.650	2.300	7.04589	10.9352
as Butane	2.300	3.400	7.93873	9.2915
as Heptane	6.400	13.000	684.60647	472.2758
Totals :				494.2226

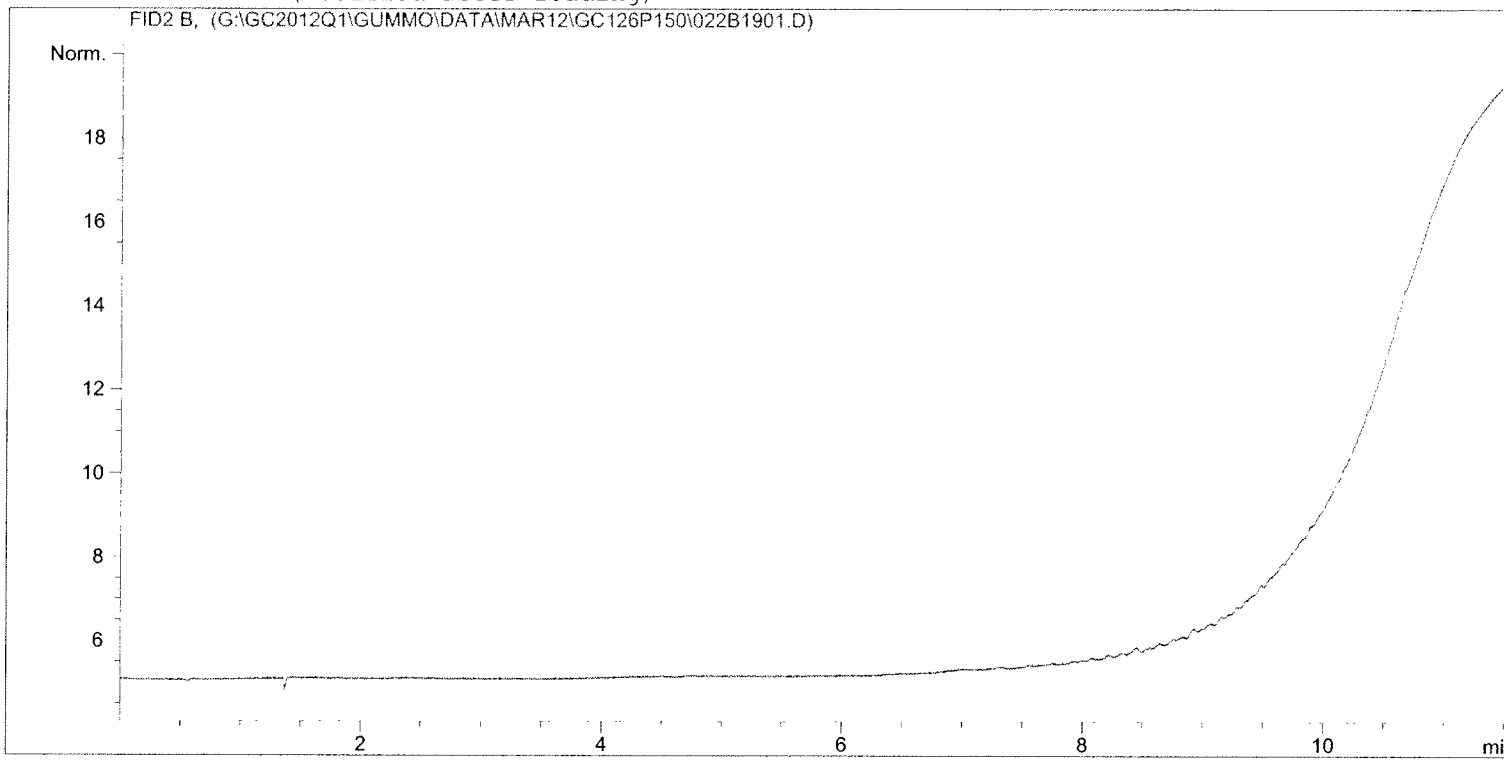
Final Summed Peaks Report

Signal 1: FID2 B,

Name	Total Area [pA*s]	Amount [ppm]
as Ethane	7.41864e-1	1.7201
as Propane	7.04589	10.9352
as Butane	7.93873	9.2915
as Heptane	684.60647	472.2758
Methane	1.72926e-1	0.9566
Ethane	0.00000	0.0000
Propane	0.00000	0.0000
Butane	0.00000	0.0000
ethylene oxide	0.00000	0.0000
acetone	0.00000	0.0000
Pentane	0.00000	0.0000
Hexane	2.60867e-1	0.1912
Heptane	0.00000	0.0000
Totals :		495.3703

*** End of Report ***

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  19
Acq. Instrument  : Gummo                                 Location : Vial 22
Injection Date   : 02-Mar-12, 11:52:39                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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================================================================================
                        External Standard Report
================================================================================

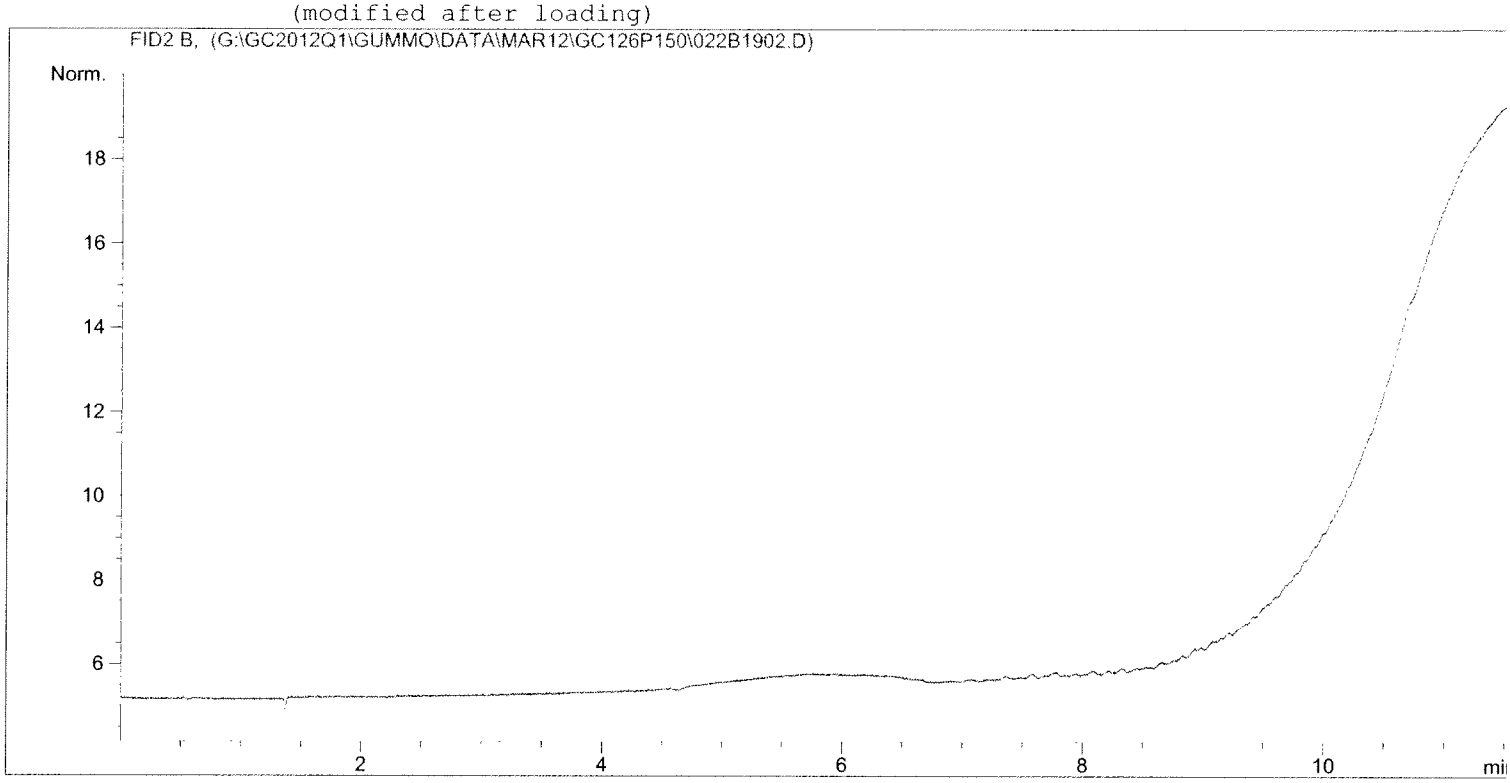
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.533           -          -          -          Ethane
  1.839           -          -          -          Propane
  2.663           -          -          -          Butane
  2.780           -          -          -          ethylene oxide
  3.671           -          -          -          acetone
  4.162           -          -          -          Pentane
  5.770           -          -          -          Hexane
  6.922           -          -          -          Heptane

Totals :                                0.00000
```

```
==========================================================================
Acq. Operator    : mth                                Seq. Line :  19
Acq. Instrument  : Gummo                               Location : Vial 22
Injection Date   : 02-Mar-12, 12:08:57                      Inj :   2
                                                     Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

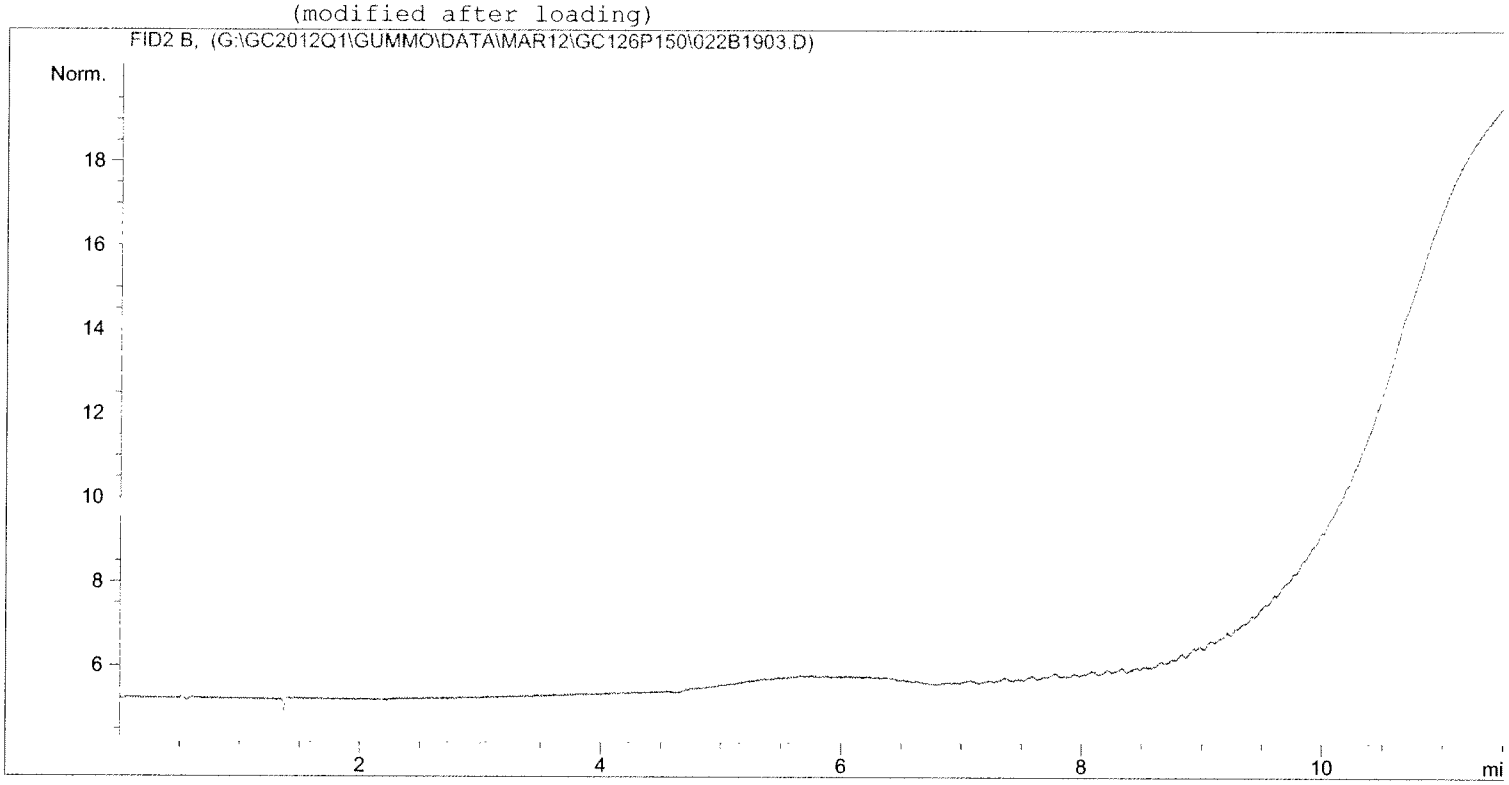
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.770		-	-	-		Hexane
6.922		-	-	-		Heptane

```
Totals :                                0.00000
```

```
================================================================================
Acq. Operator   : mth                                  Seq. Line :  19
Acq. Instrument : Gummo                                 Location : Vial 22
Injection Date  : 02-Mar-12, 12:25:26                        Inj :   3
                                                      Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

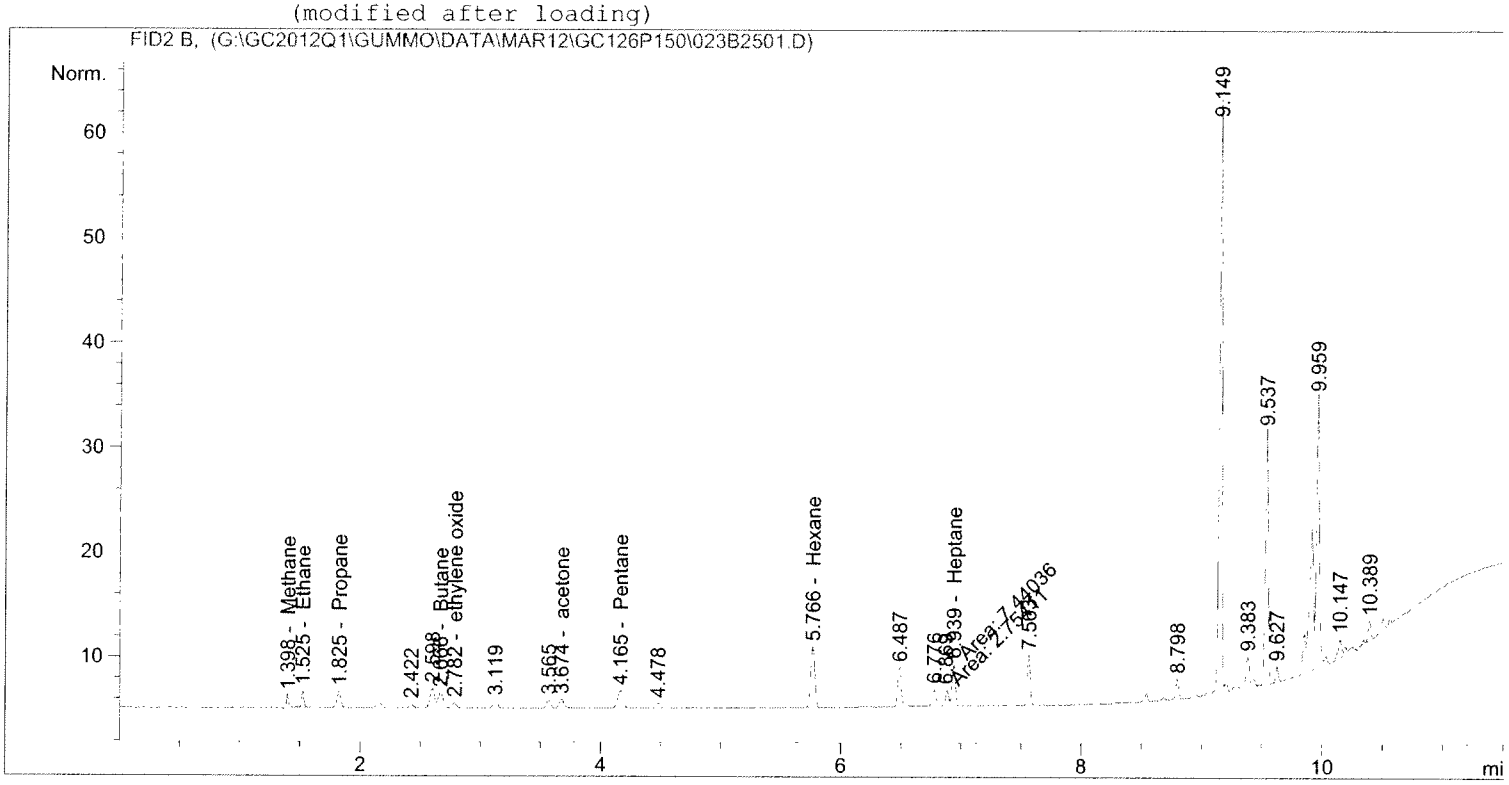
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.533           -          -          -          Ethane
  1.839           -          -          -          Propane
  2.663           -          -          -          Butane
  2.780           -          -          -          ethylene oxide
  3.671           -          -          -          acetone
  4.162           -          -          -          Pentane
  5.770           -          -          -          Hexane
  6.922           -          -          -          Heptane

Totals :                                0.00000
```

```
==========================================================================
Acq. Operator    : mth                                Seq. Line :  25
Acq. Instrument  : Gummo                               Location : Vial 23
Injection Date   : 02-Mar-12, 22:26:18                      Inj :   1
                                                     Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

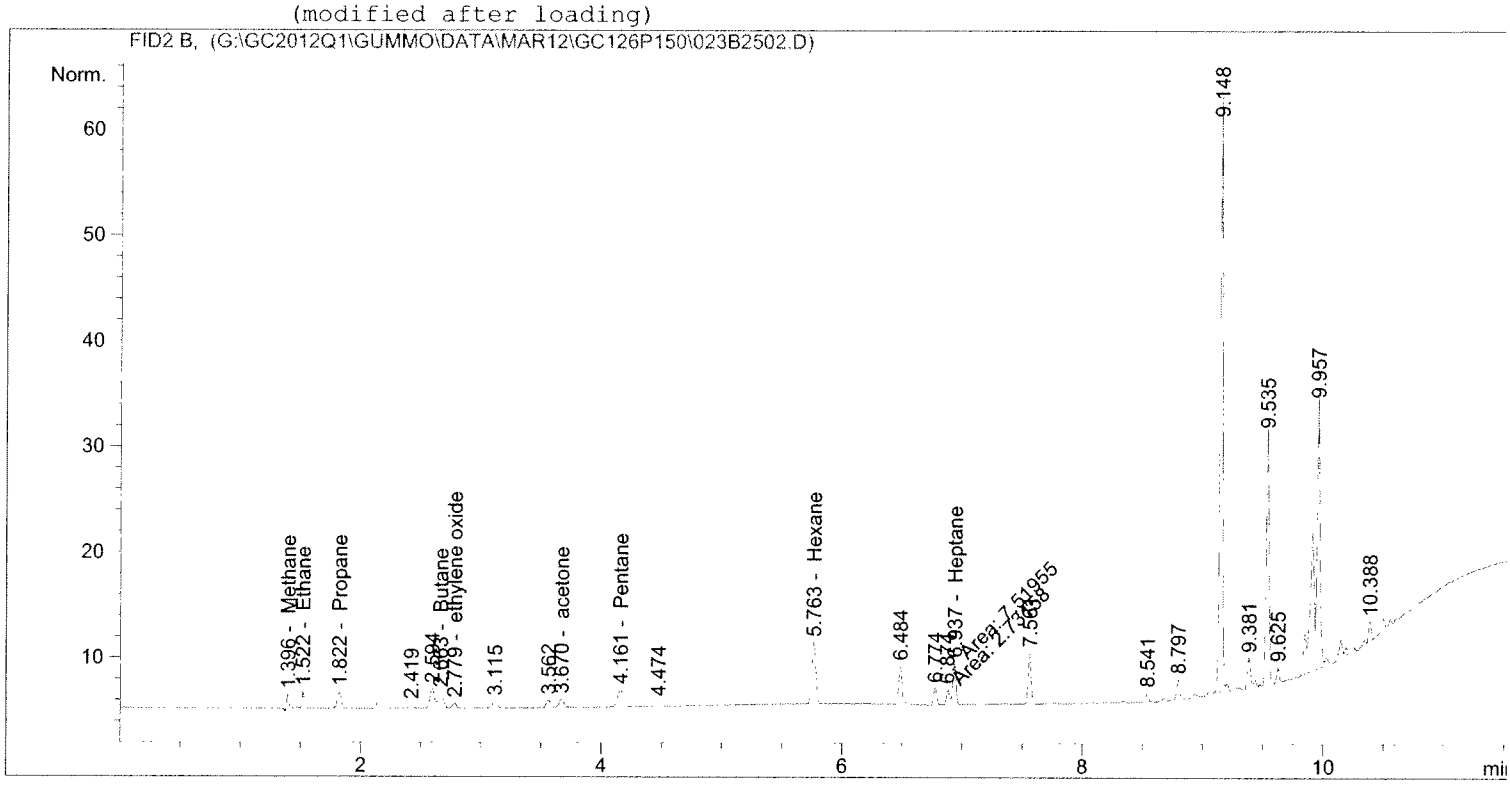
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398	BV	1.27116	4.55768	5.79355		Methane
1.525	VB	2.41522	2.32019	5.60377		Ethane
1.825	BP	3.35788	1.56090	5.24132		Propane
2.666	VV	4.35788	1.17606	5.12514		Butane
2.782	VB	1.17099	4.52138	5.29448		ethylene oxide
3.674	VB	2.40916	2.27223	5.47416		acetone
4.165	BB	5.40229	8.49679e-1	4.59021		Pentane
5.766	BB	13.80336	7.56886e-1	10.44757		Hexane
6.939	FM	7.44036	6.93073e-1	5.15672		Heptane
Totals :				52.72692		

Maual Integration
"II" (MTH)

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  25
Acq. Instrument  : Gummo                                 Location : Vial 23
Injection Date   : 02-Mar-12, 22:42:45                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

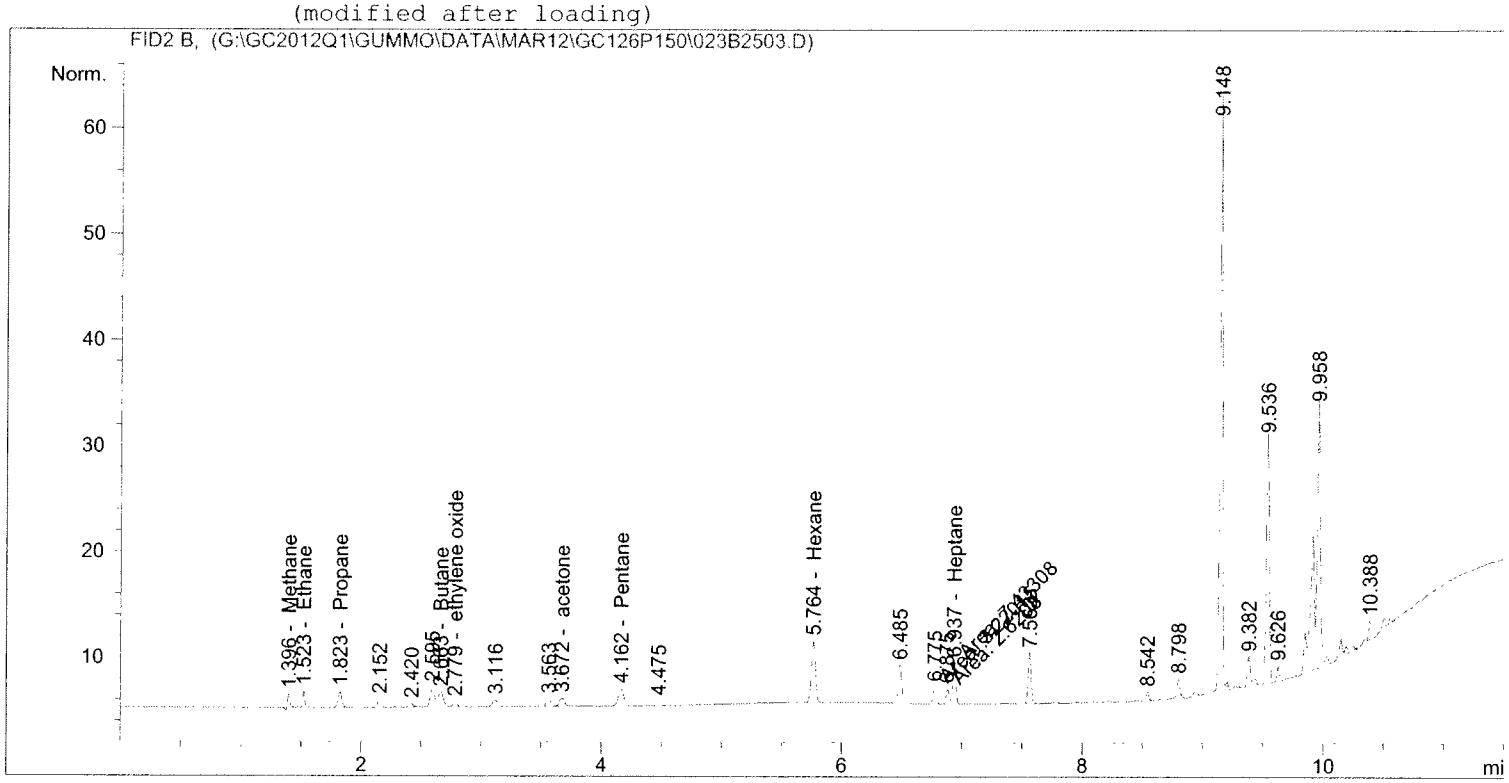
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	BV	1.25767	4.56183	5.73729		Methane
1.522	VB	2.37121	2.32187	5.50563		Ethane
1.822	BP	3.34165	1.56126	5.21718		Propane
2.663	VV	4.34200	1.17626	5.10732		Butane
2.779	VB	1.14992	4.52189	5.19981		ethylene oxide
3.670	VB	2.33945	2.27506	5.32239		acetone
4.161	BB	5.42577	8.50042e-1	4.61213		Pentane
5.763	BB	13.82276	7.56894e-1	10.46236		Hexane
6.937	FM	7.51955	6.92704e-1	5.20882		Heptane
Totals :				52.37294		

Maual Integration
"II" (MTH)

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :  25
Acq. Instrument  : Gummo                                 Location : Vial 23
Injection Date   : 02-Mar-12, 22:59:14                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

Maual Integration
"II" (MTH)

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	BV	1.25267	4.56339	5.71645		Methane
1.523	VB	2.34831	2.32276	5.45458		Ethane
1.823	BB	3.31216	1.56192	5.17333		Propane
2.663	VV	4.31722	1.17657	5.07950		Butane
2.779	VB	1.15652	4.52173	5.22946		ethylene oxide
3.672	VB	2.41050	2.27217	5.47707		acetone
4.162	BB	5.40887	8.49781e-1	4.59635		Pentane
5.764	BB	13.72754	7.56853e-1	10.38973		Hexane
6.937	FM	7.43308	6.93108e-1	5.15193		Heptane
Totals :				52.26839		

Calibration Curve Chromatograms

Calibration Table

Calib. Data Modified : Tuesday, March 06, 2012 8:05:19 AM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.050 min
Uncalibrated Peaks : Separately calculated (see below)
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A,
Uncalibrated Peaks : using compound Propane
Signal 2: FID2 B,
Uncalibrated Peaks : not reported

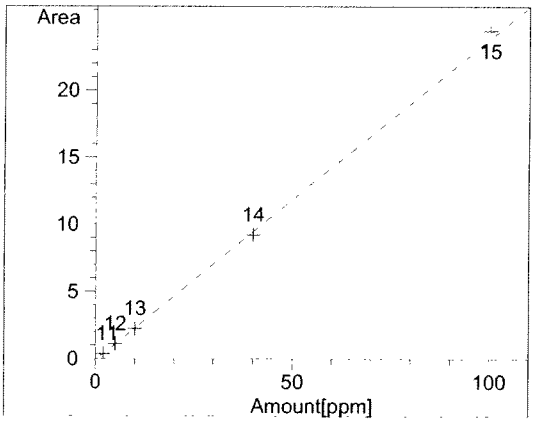
RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
1.398	2	11	2.00000	3.60403e-1	5.54935		Methane
		12	5.00000	1.09586	4.56263		
		13	10.00000	2.25799	4.42872		
		14	40.00000	9.23279	4.33238		
		15	100.00000	24.43655	4.09223		
1.533	2	11	2.00000	8.00332e-1	2.49896		Ethane
		12	5.00000	2.15098	2.32452		
		13	10.00000	4.33735	2.30556		
		14	40.00000	17.59659	2.27317		
		15	100.00000	45.65772	2.19021		
1.839	2	11	2.00000	1.17621	1.70038		Propane
		12	5.00000	3.23714	1.54457		
		13	10.00000	6.44193	1.55233		
		14	40.00000	26.37184	1.51677		
		15	100.00000	68.41683	1.46163		
2.663	2	11	2.00000	1.57720	1.26807		Butane
		12	5.00000	4.25545	1.17496		
		13	10.00000	8.58128	1.16533		
		14	40.00000	35.06312	1.14080		
		15	100.00000	90.63422	1.10334		
2.807	2	31	1.66700	3.67302e-1	4.53850		ethylene oxide
		32	5.00000	1.07741	4.64075		
		33	25.00000	5.41642	4.61559		
		34	100.00000	22.75741	4.39417		
		35	250.00000	56.61475	4.41581		

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
3.671	2	20	2.57000	1.14100	2.25242		acetone
		21	5.14000	1.99726	2.57353		
		22	10.28000	4.56241	2.25319		
		23	25.70000	11.81515	2.17517		
		24	102.80000	48.10380	2.13705		
		25	257.00000	122.00743	2.10643		
4.162	2	11	2.00000	2.69561	7.41948e-1		Pentane
		12	5.00000	5.45146	9.17185e-1		
		13	10.00000	10.98279	9.10515e-1		
		14	40.00000	43.79561	9.13333e-1		
		15	100.00000	112.97583	8.85145e-1		
5.770	2	11	2.00000	2.75425	7.26150e-1		Hexane
		12	5.00000	6.55496	7.62781e-1		
		13	10.00000	12.98720	7.69989e-1		
		14	40.00000	52.31417	7.64611e-1		
		15	100.00000	134.94518	7.41042e-1		
6.922	2	11	2.00000	2.64096	7.57301e-1		Heptane
		12	5.00000	7.28390	6.86445e-1		
		13	10.00000	14.54173	6.87676e-1		
		14	40.00000	59.65615	6.70509e-1		
		15	100.00000	154.47769	6.47343e-1		

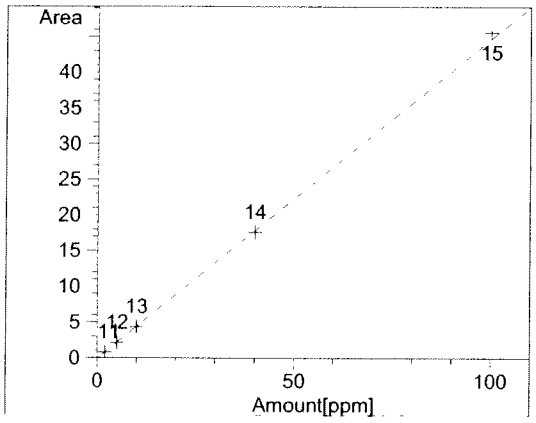
Peak Sum Table

Name	StartTime [min]	EndTime [min]	Use Reference	Response factor	Multiplier	ISTD Peak
as Ethane	1.400	1.650	None	2.3186	1.0000	None
as Propane	1.650	2.300	None	1.5520	1.0000	None
as Butane	2.300	3.400	None	1.1704	1.0000	None
as Pentane	3.400	5.000	None	8.7360e-1	1.0000	None
as Hexane	5.000	6.400	None	7.5290e-1	1.0000	None
as Heptane	6.400	13.000	None	6.8985e-1	1.0000	None

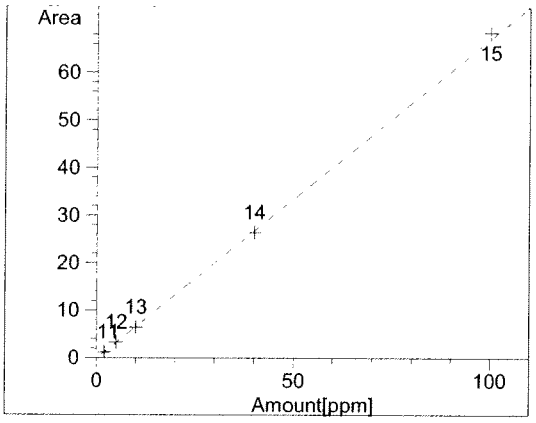
Calibration Curves



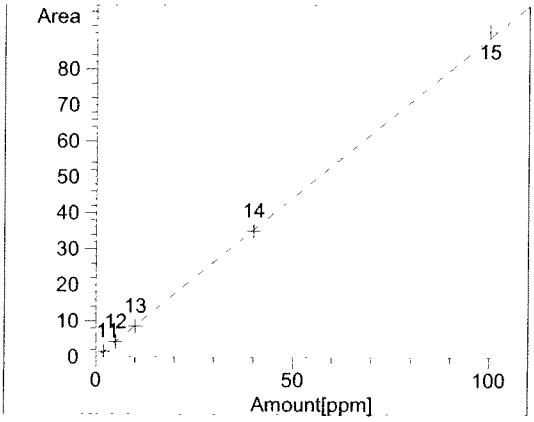
Methane at exp. RT: 1.398
FID2 B,
Correlation: 0.99973
Residual Std. Dev.: 0.36110
Formula: y = mx + b
m: 2.39777e-1
b: -1.17997e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



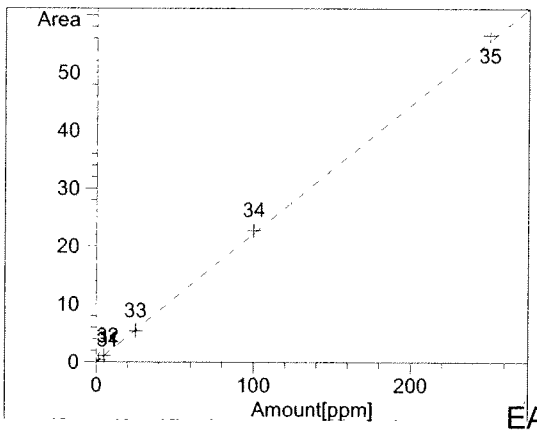
Ethane at exp. RT: 1.533
FID2 B,
Correlation: 0.99986
Residual Std. Dev.: 0.54562
Formula: y = mx + b
m: 4.48436e-1
b: -9.77117e-2
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



Propane at exp. RT: 1.839
FID2 B,
Correlation: 0.99981
Residual Std. Dev.: 0.79687
Formula: y = mx + b
m: 6.72587e-1
b: -1.67358e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

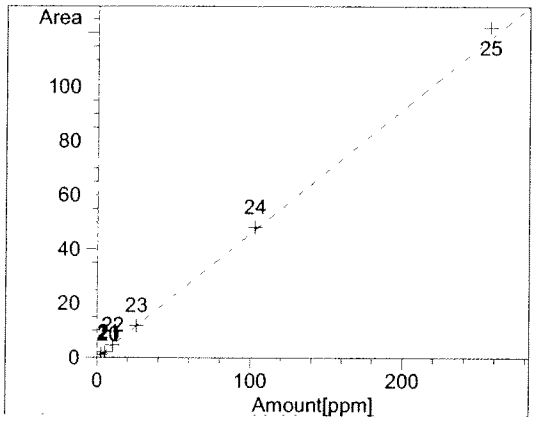


Butane at exp. RT: 2.663
FID2 B,
Correlation: 0.99987
Residual Std. Dev.: 1.03508
Formula: y = mx + b
m: 8.90913e-1
b: -2.08174e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

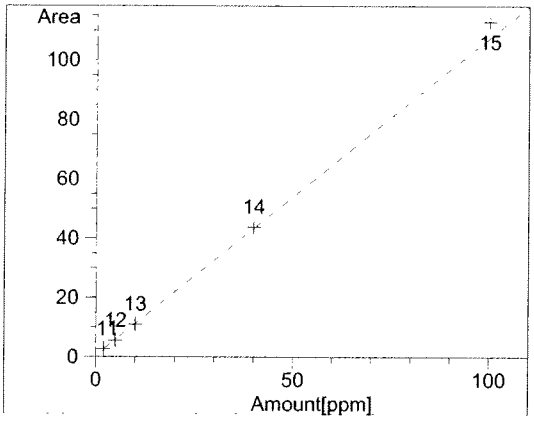


ethylene oxide at exp. RT: 2.807
FID2 B,
Correlation: 0.99965
Residual Std. Dev.: 0.64775
Formula: y = mx + b
m: 2.22534e-1
b: -7.21418e-3
x: Amount
y: Area
Calibration Level Weights:
Level 31 : 1
Level 32 : 0.111156
Level 33 : 0.004446
Level 34 : 0.000278

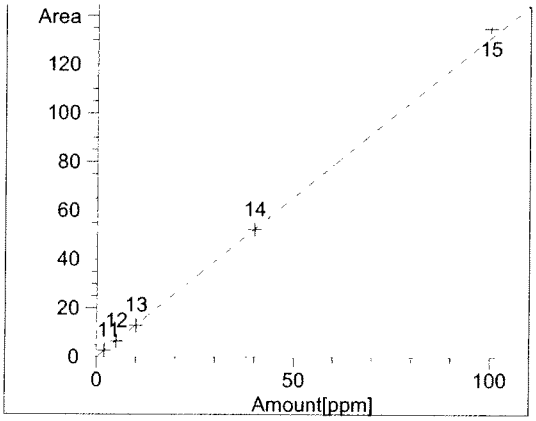
Level 35 : 0.000044



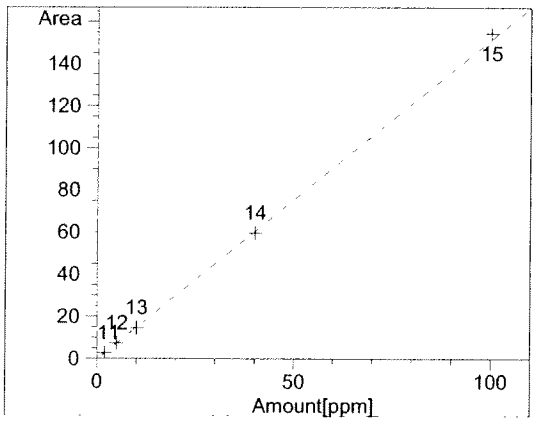
acetone at exp. RT: 3.671
FID2 B,
Correlation: 0.99745
Residual Std. Dev.: 2.09683
Formula: y = mx + b
m: 4.59332e-1
b: -1.05296e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



Pentane at exp. RT: 4.162
FID2 B,
Correlation: 0.99826
Residual Std. Dev.: 3.13097
Formula: y = mx + b
m: 1.07106
b: 4.85907e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

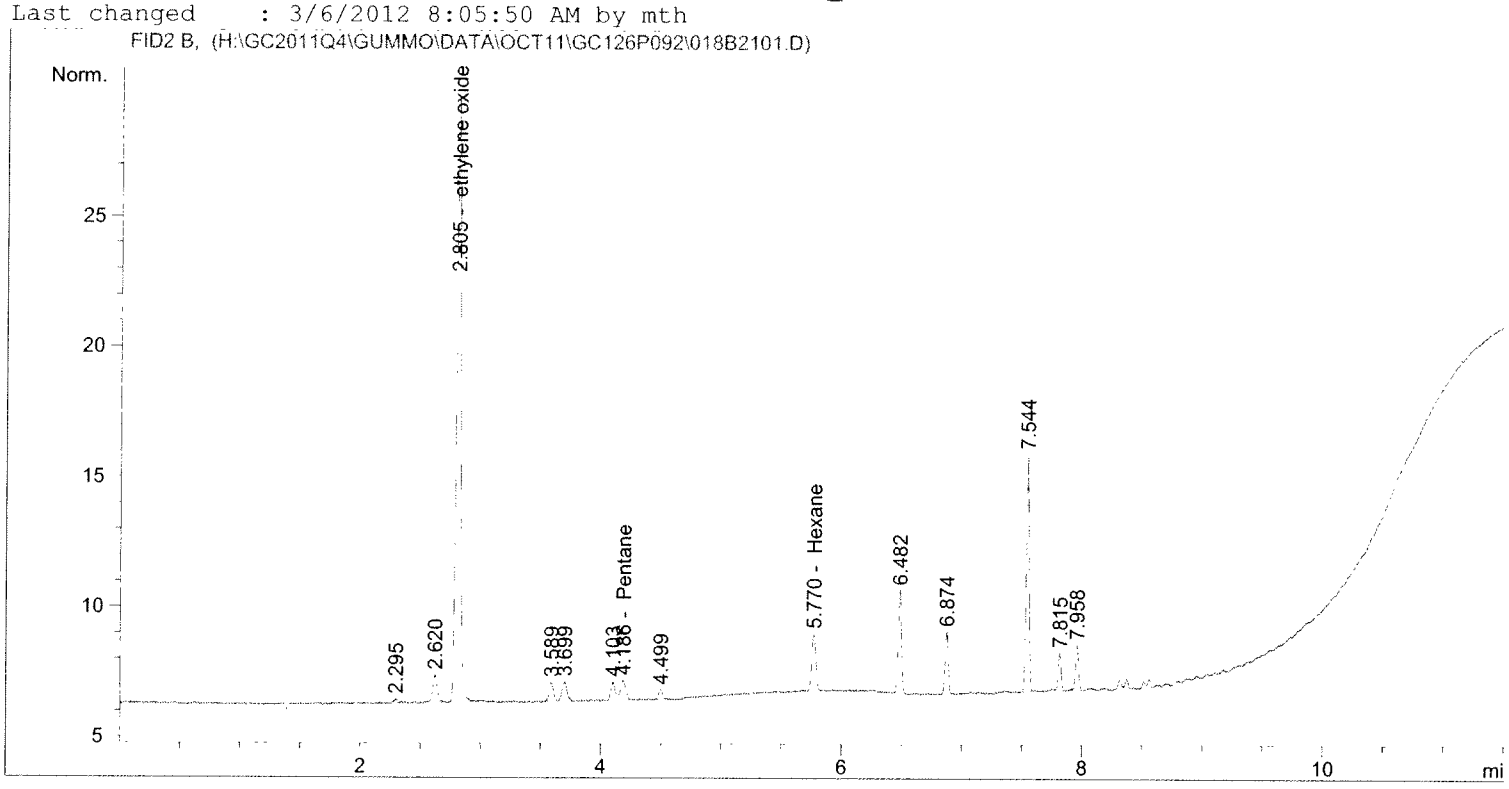


Hexane at exp. RT: 5.770
FID2 B,
Correlation: 0.99972
Residual Std. Dev.: 2.16938
Formula: y = mx + b
m: 1.31096
b: 1.06969e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



Heptane at exp. RT: 6.922
FID2 B,
Correlation: 0.99983
Residual Std. Dev.: 1.73494
Formula: y = mx + b
m: 1.51974
b: -3.96488e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 04:19:05                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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==========================================================================
                        External Standard Report
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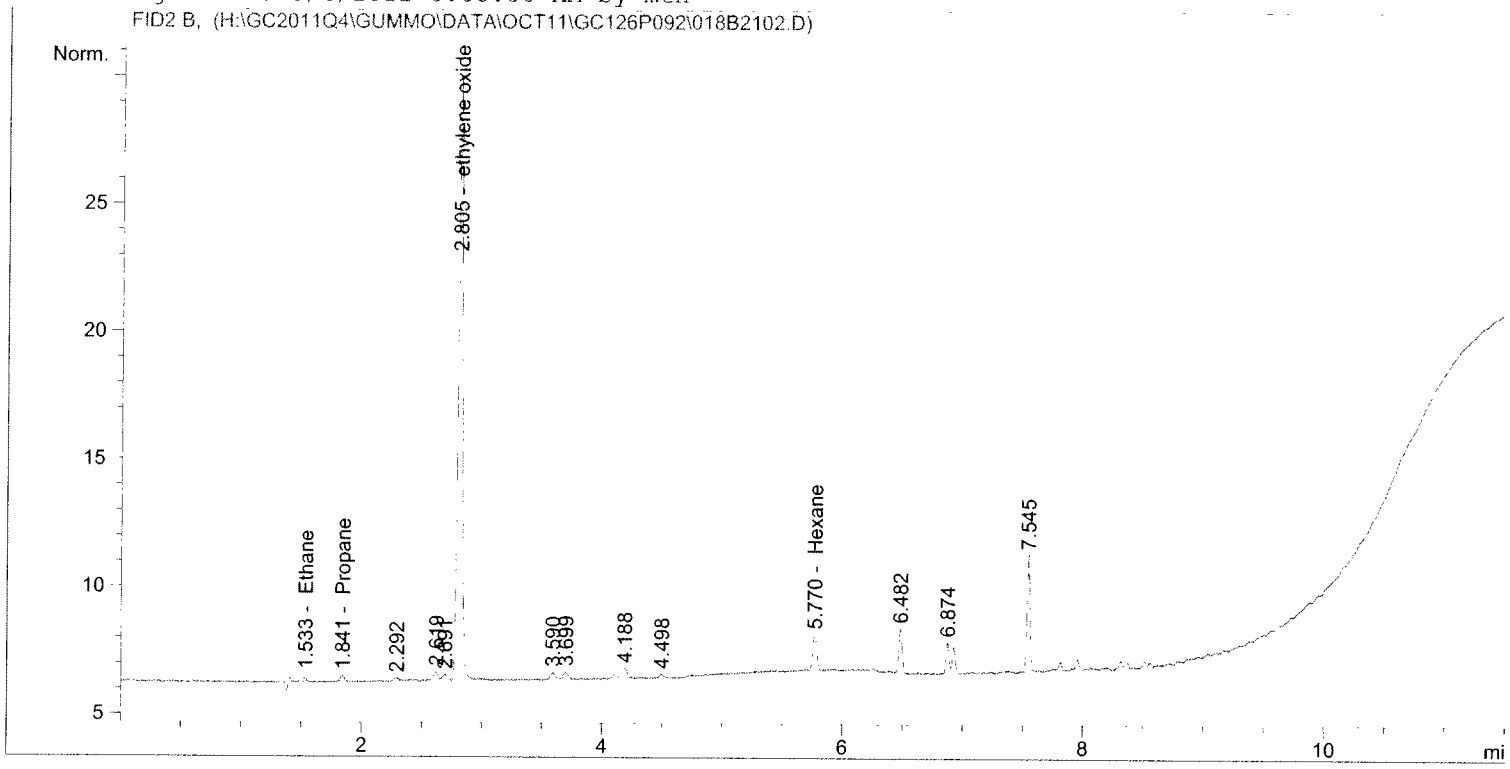
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.805 BB      56.04666    4.49427  251.88908      ethylene oxide
  3.671           -           -          -          acetone
  4.186 VB       2.35639 7.61028e-1    1.79328      Pentane
  5.770 BB       5.10137 7.46802e-1    3.80972      Hexane
  6.922           -           -          -          Heptane

Totals :                             257.49208
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 04:38:50                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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==========================================================================
                        External Standard Report
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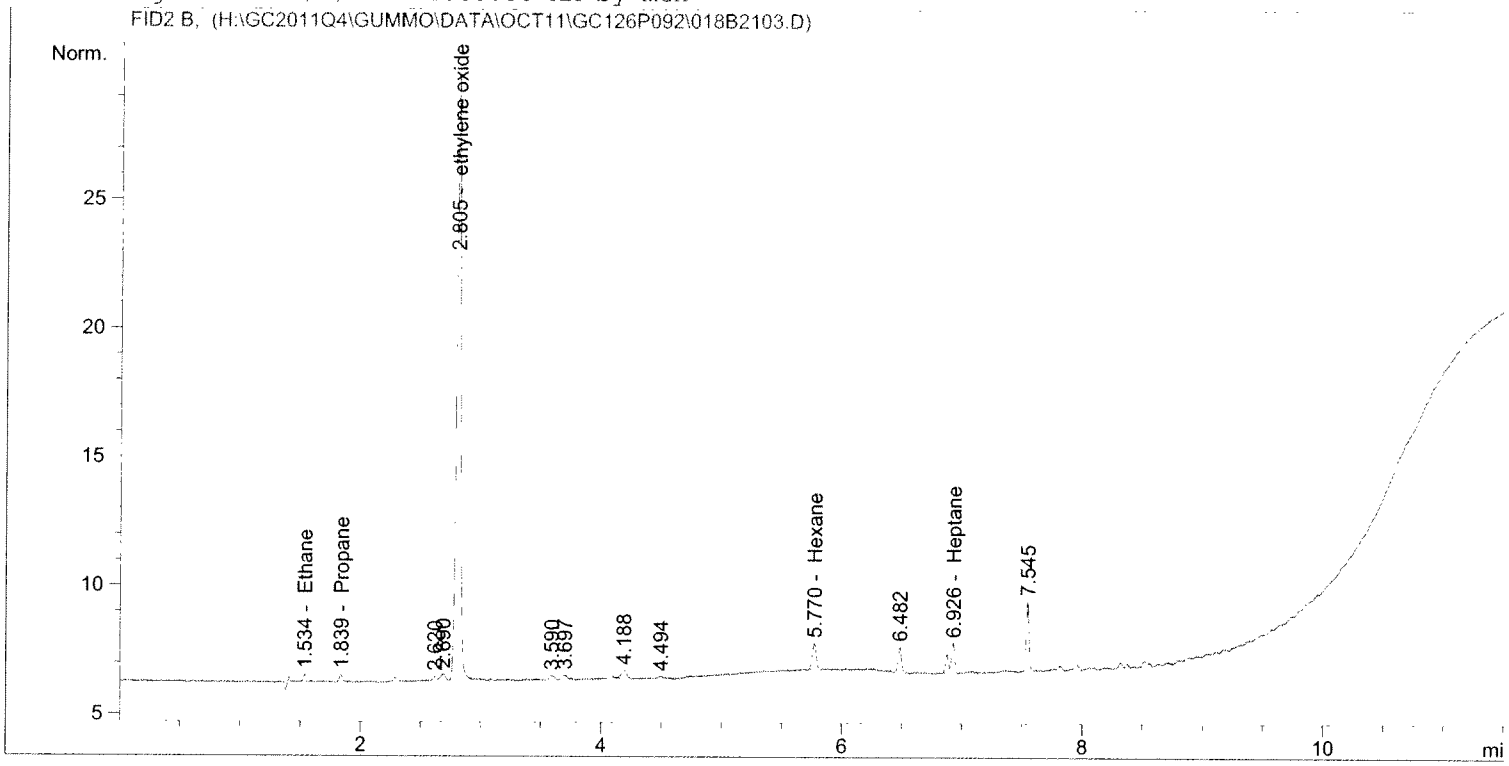
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398          -           -          -          Methane
  1.533 BP     5.54267e-1    2.50263    1.38712    Ethane
  1.841 PB     5.47119e-1    1.69806 9.29040e-1    Propane
  2.663          -           -          -          Butane
  2.805 VB       57.09554    4.49426  256.60242    ethylene oxide
  3.671          -           -          -          acetone
  4.162          -           -          -          Pentane
  5.770 BB       3.42975 7.39006e-1    2.53460    Hexane
  6.922          -           -          -          Heptane

Totals :                              261.45318
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 04:58:30                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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==========================================================================
                        External Standard Report
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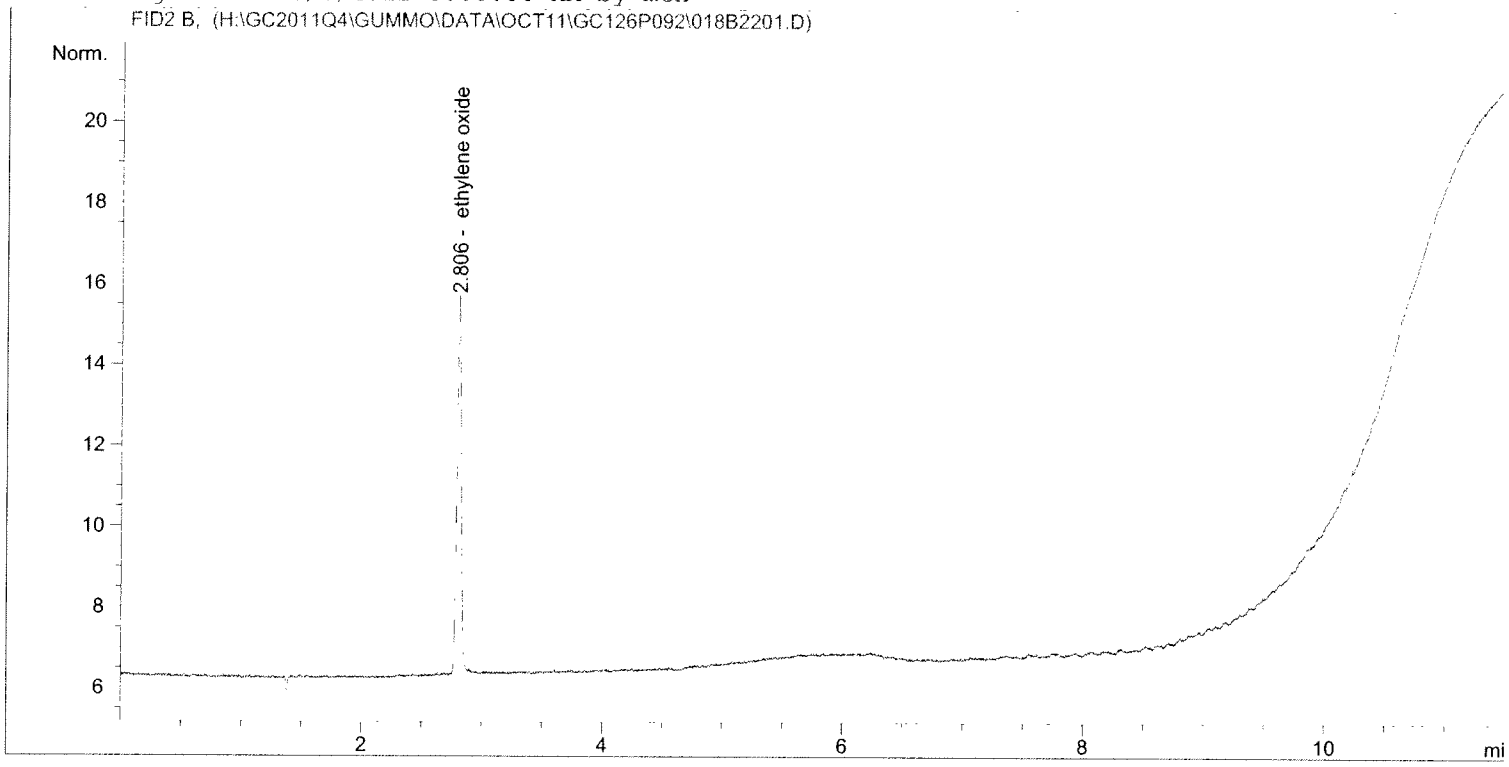
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398          -           -          -          Methane
  1.534 BB     6.24423e-1    2.50263    1.56270    Ethane
  1.839 BP     5.29103e-1    1.69806 8.98449e-1    Propane
  2.663          -           -          -          Butane
  2.805 VB       56.70205    4.49427  254.83421    ethylene oxide
  3.671          -           -          -          acetone
  4.162          -           -          -          Pentane
  5.770 BB       2.41555 7.32896e-1    1.77035    Hexane
  6.926 BB       3.41447 7.34417e-1    2.50765    Heptane

Totals :                              261.57335
```

```
Acq. Operator    : MGM                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 05:37:55                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```



External Standard Report

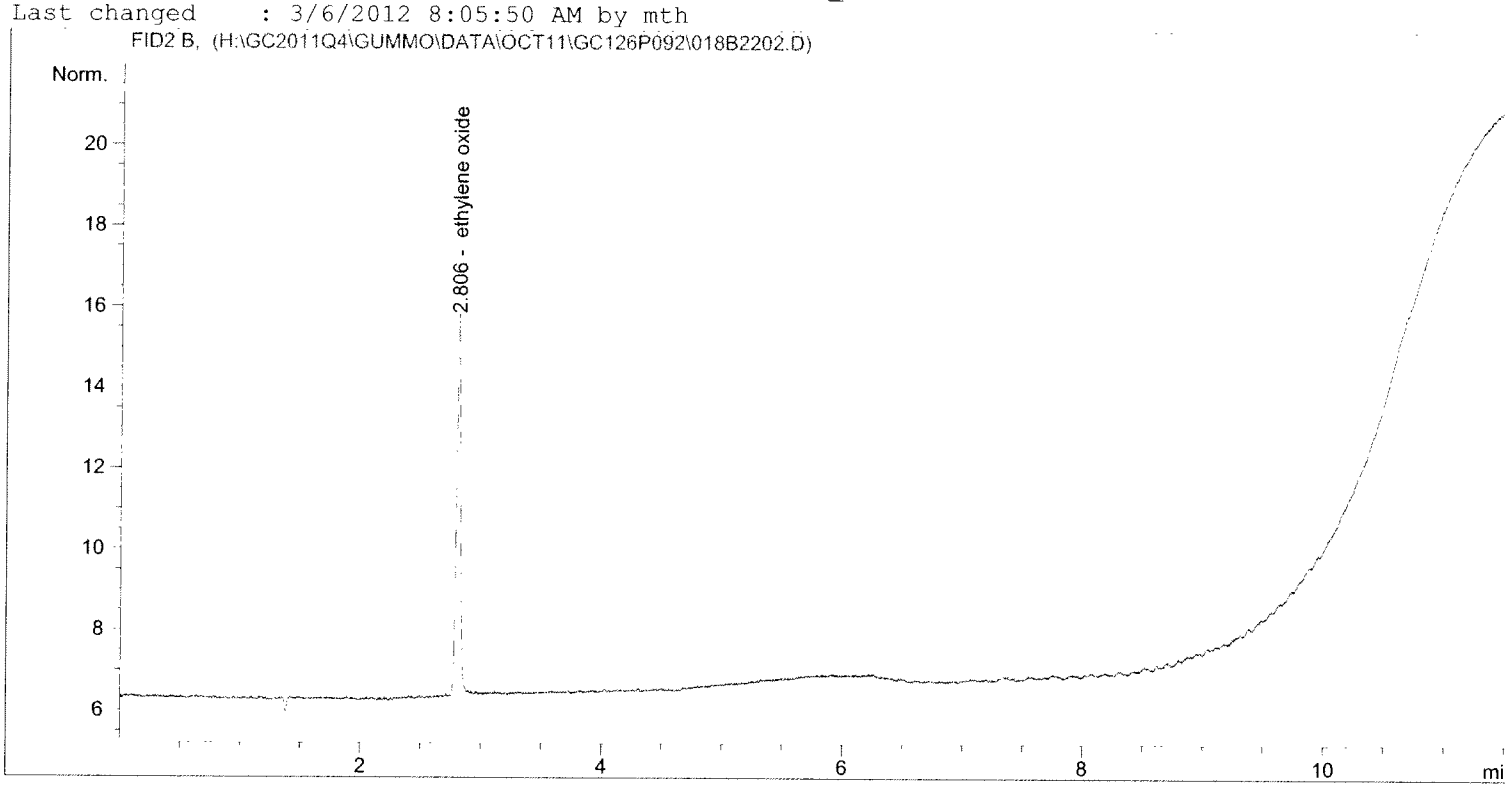
```
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.806	BB	22.62550	4.49513	101.70452		ethylene oxide
3.671		-	-	-		acetone
4.162		-	-	-		Pentane
5.770		-	-	-		Hexane
6.922		-	-	-		Heptane

Totals : 101.70452

```
================================================================================
Acq. Operator    : MGM                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 05:57:34                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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================================================================================
                        External Standard Report
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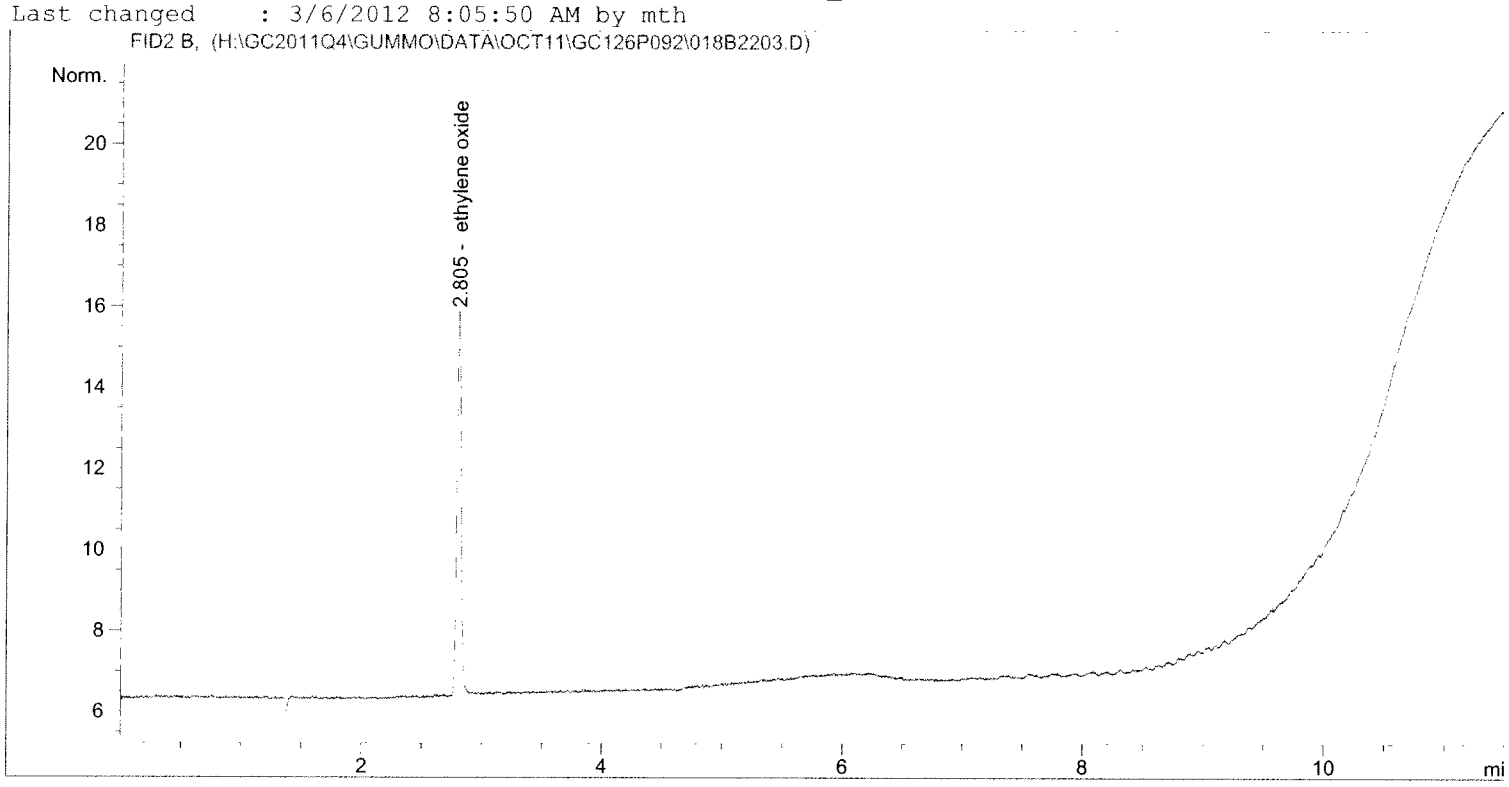
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.806 BB     22.81295     4.49512  102.54689     ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                              102.54689
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 06:17:16                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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                        External Standard Report
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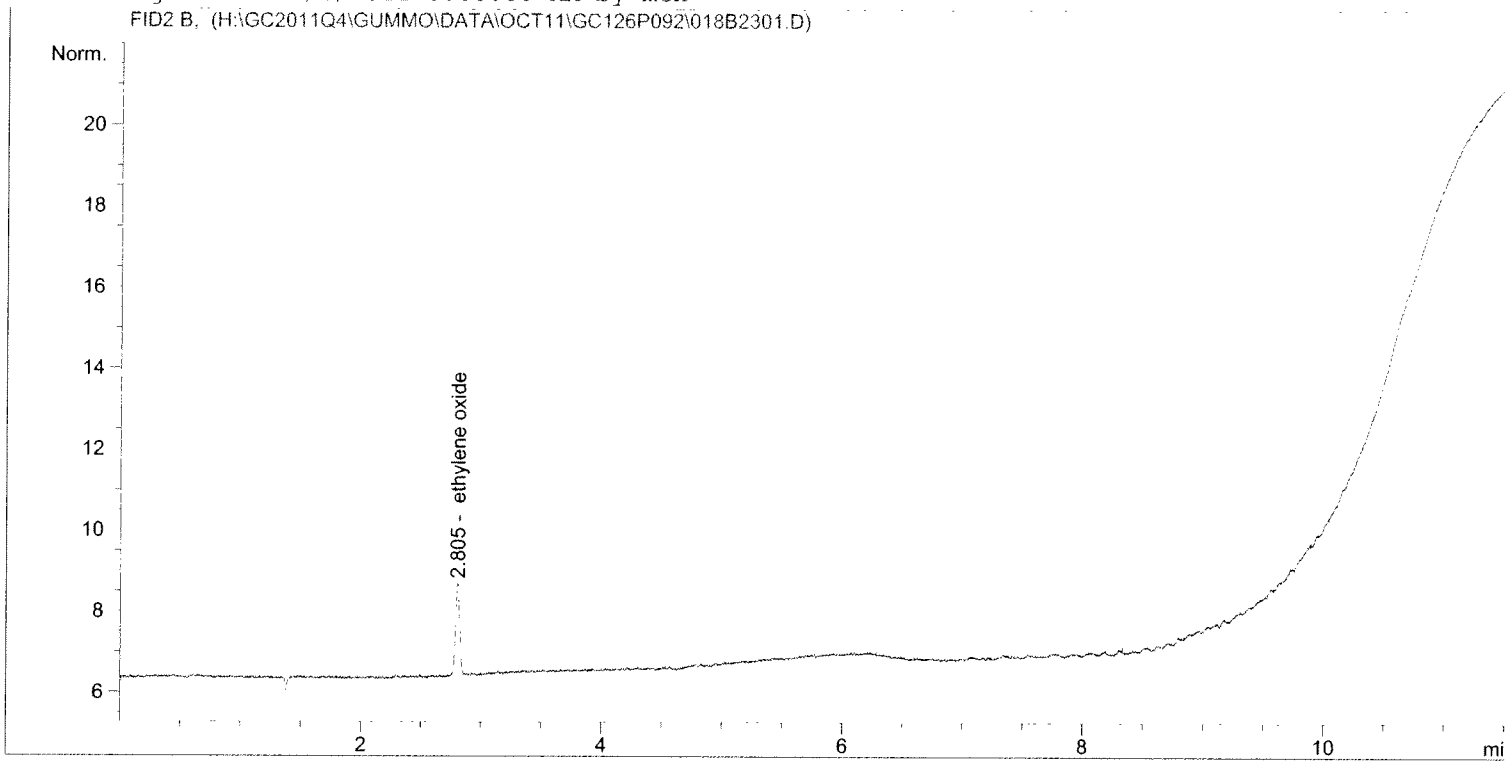
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -         Methane
  1.533           -          -          -         Ethane
  1.839           -          -          -         Propane
  2.663           -          -          -         Butane
  2.805 BB      22.83379   4.49512  102.64052     ethylene oxide
  3.671           -          -          -         acetone
  4.162           -          -          -         Pentane
  5.770           -          -          -         Hexane
  6.922           -          -          -         Heptane

Totals :                              102.64052
```

```
================================================================================
Acq. Operator    : MGM                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 06:36:59                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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================================================================================
                        External Standard Report
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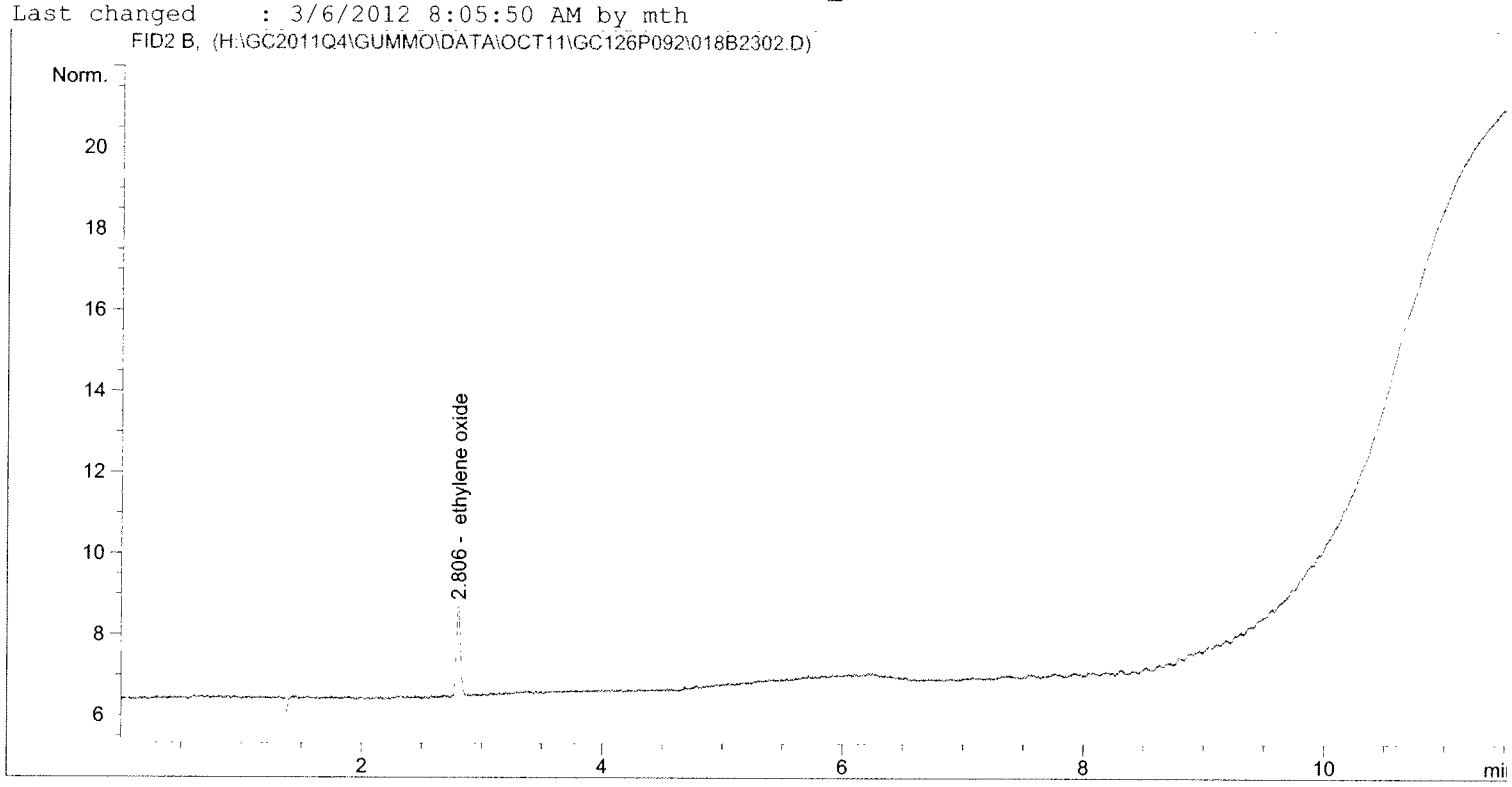
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.533           -          -          -          Ethane
  1.839           -          -          -          Propane
  2.663           -          -          -          Butane
  2.805 BB      5.41600    4.49968   24.37026      ethylene oxide
  3.671           -          -          -          acetone
  4.162           -          -          -          Pentane
  5.770           -          -          -          Hexane
  6.922           -          -          -          Heptane

Totals :                                24.37026
```

```
================================================================================
Acq. Operator    : MGM                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 06:56:40                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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================================================================================
                        External Standard Report
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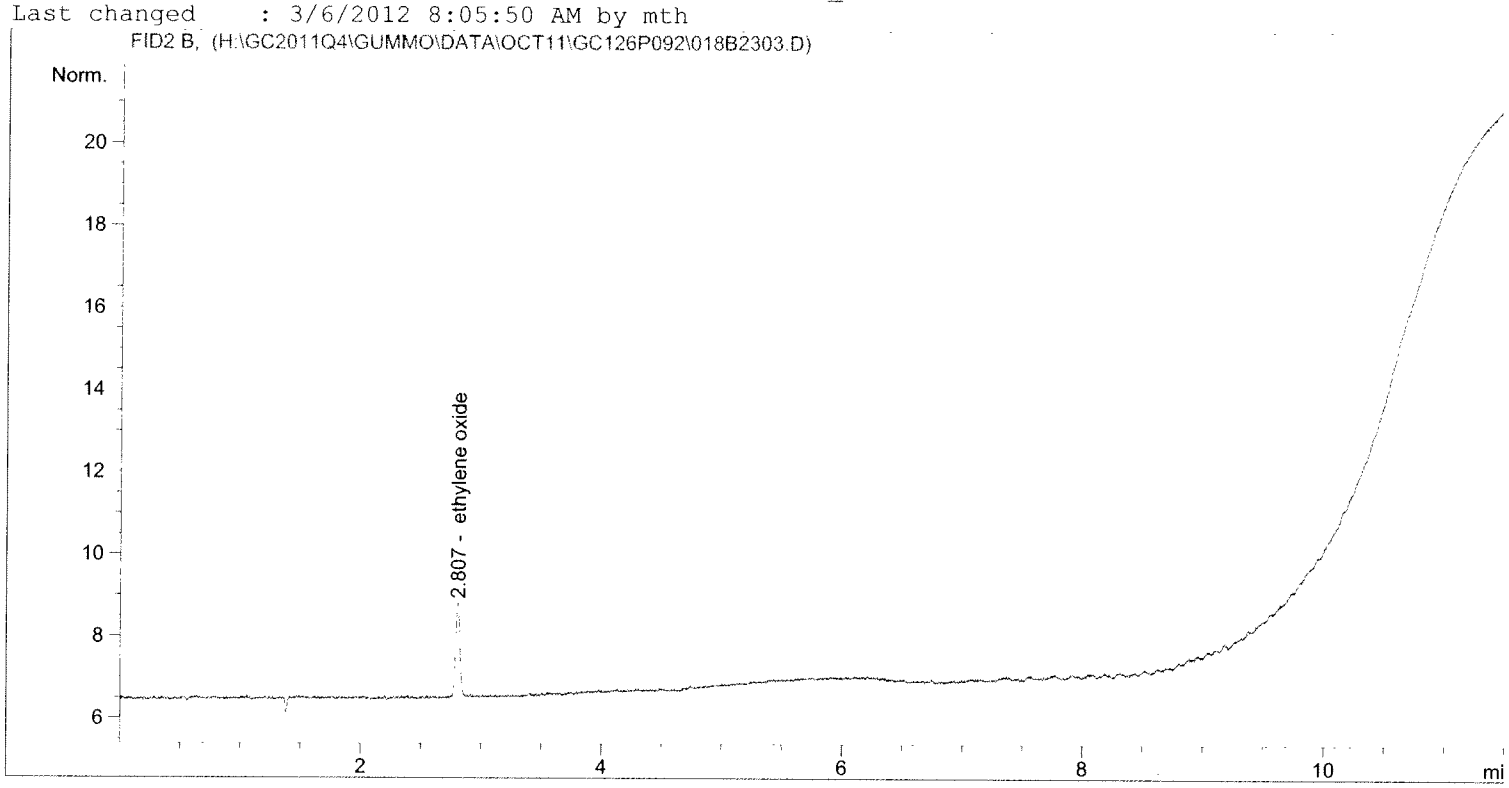
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.806 BB      5.38642     4.49971    24.23734     ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                 24.23734
```

```
================================================================================
Acq. Operator    : MGM                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 07:16:20                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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================================================================================
                        External Standard Report
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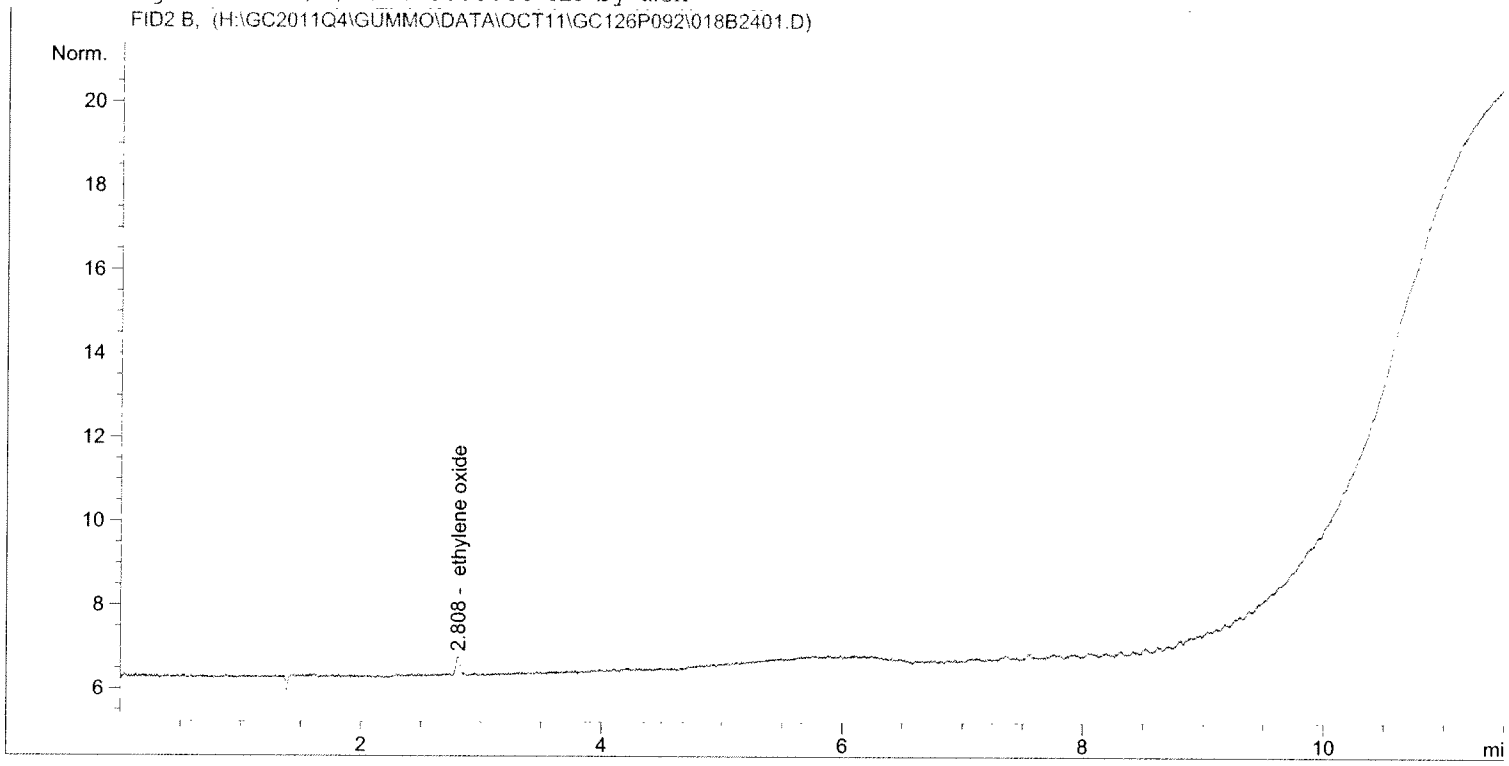
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.807 BB      5.44685     4.49965   24.50890      ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                24.50890
```

```
================================================================================
Acq. Operator    : MGM                                  Seq. Line :  24
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 07:35:58                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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================================================================================
                        External Standard Report
================================================================================

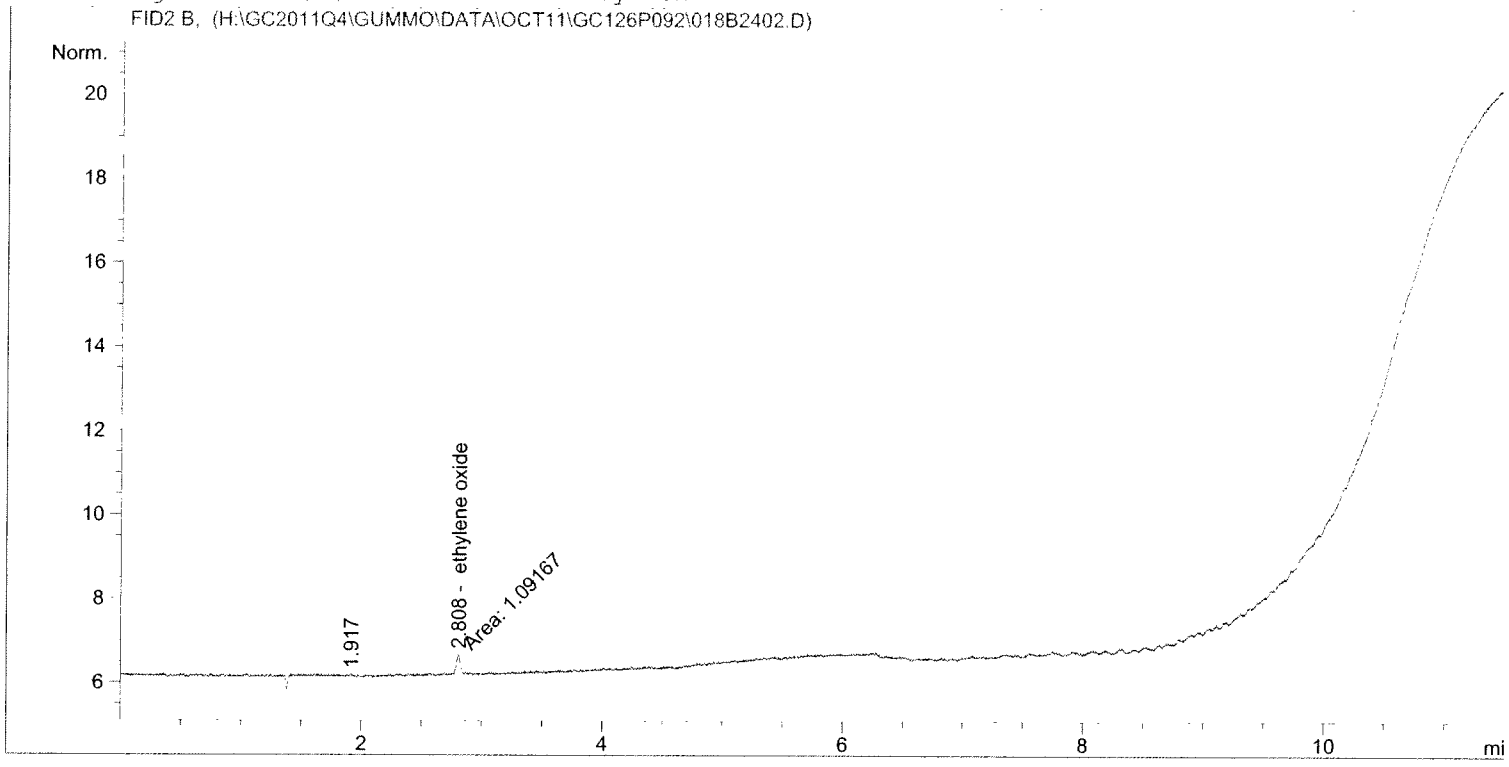
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.808 BB        1.10359     4.52307    4.99160    ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                 4.99160
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  24
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 07:55:36                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




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==========================================================================
                        External Standard Report
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Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

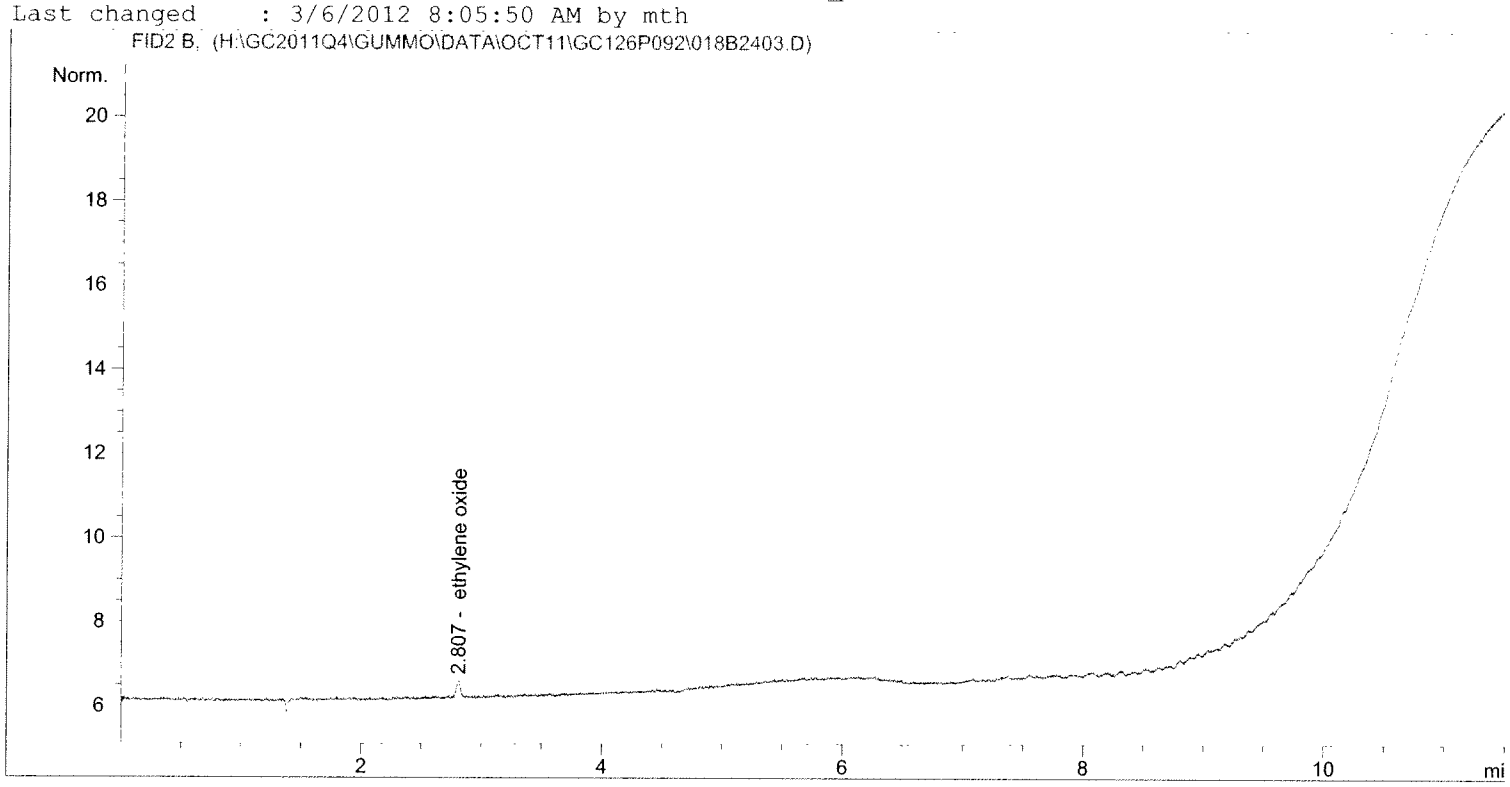
Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -         Methane
  1.533           -          -          -         Ethane
  1.839           -          -          -         Propane
  2.663           -          -          -         Butane
  2.808 MM      1.09167    4.52339    4.93806     ethylene oxide
  3.671           -          -          -         acetone
  4.162           -          -          -         Pentane
  5.770           -          -          -         Hexane
  6.922           -          -          -         Heptane

Totals :                                4.93806
```

Maual Integration
"II" (MTH)

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  24
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 08:15:17                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




```
==========================================================================
                        External Standard Report
==========================================================================

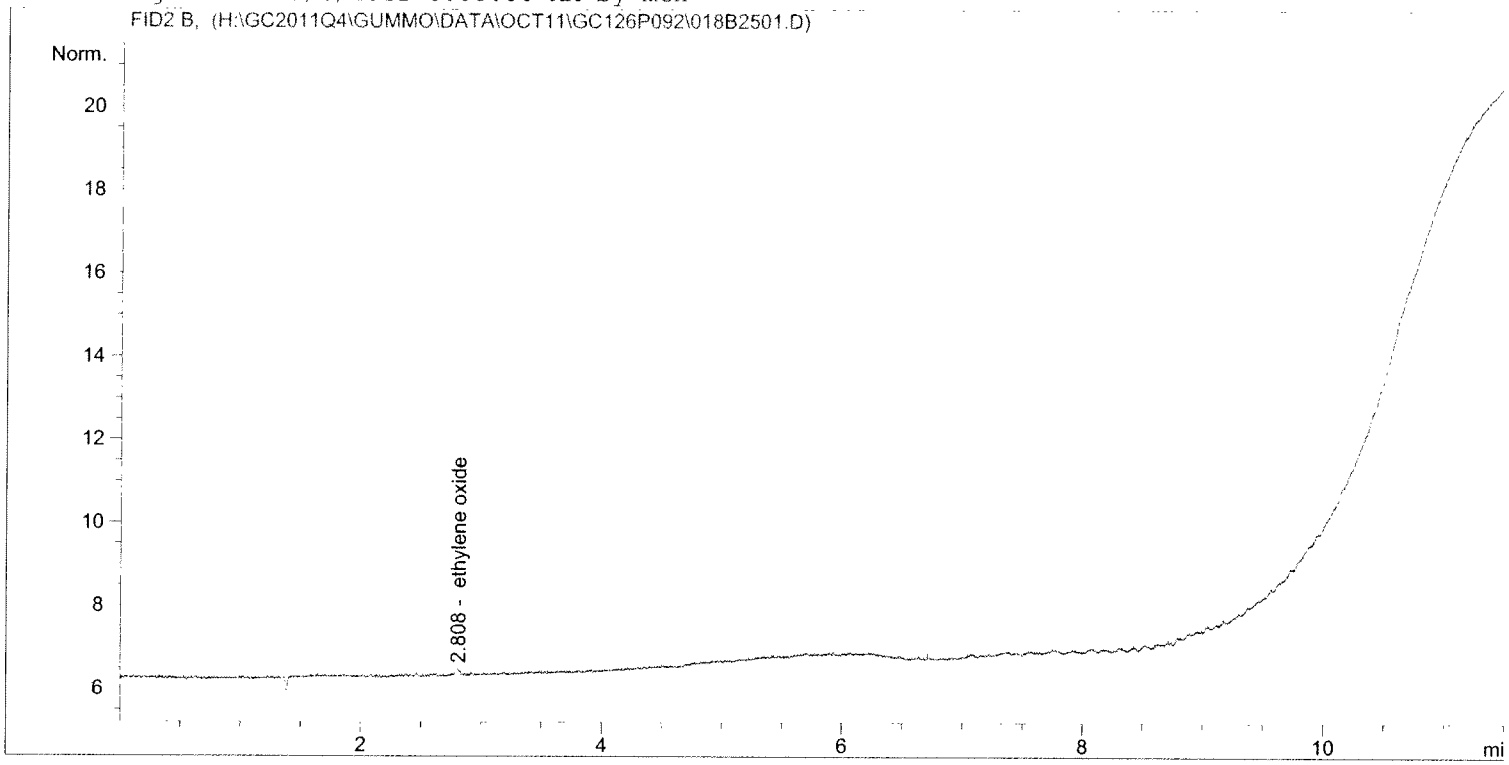
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.533           -          -          -          Ethane
  1.839           -          -          -          Propane
  2.663           -          -          -          Butane
  2.807 BB        1.03698    4.52496    4.69230    ethylene oxide
  3.671           -          -          -          acetone
  4.162           -          -          -          Pentane
  5.770           -          -          -          Hexane
  6.922           -          -          -          Heptane

Totals :                                 4.69230
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  25
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 08:35:01                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




```
==========================================================================
                        External Standard Report
==========================================================================

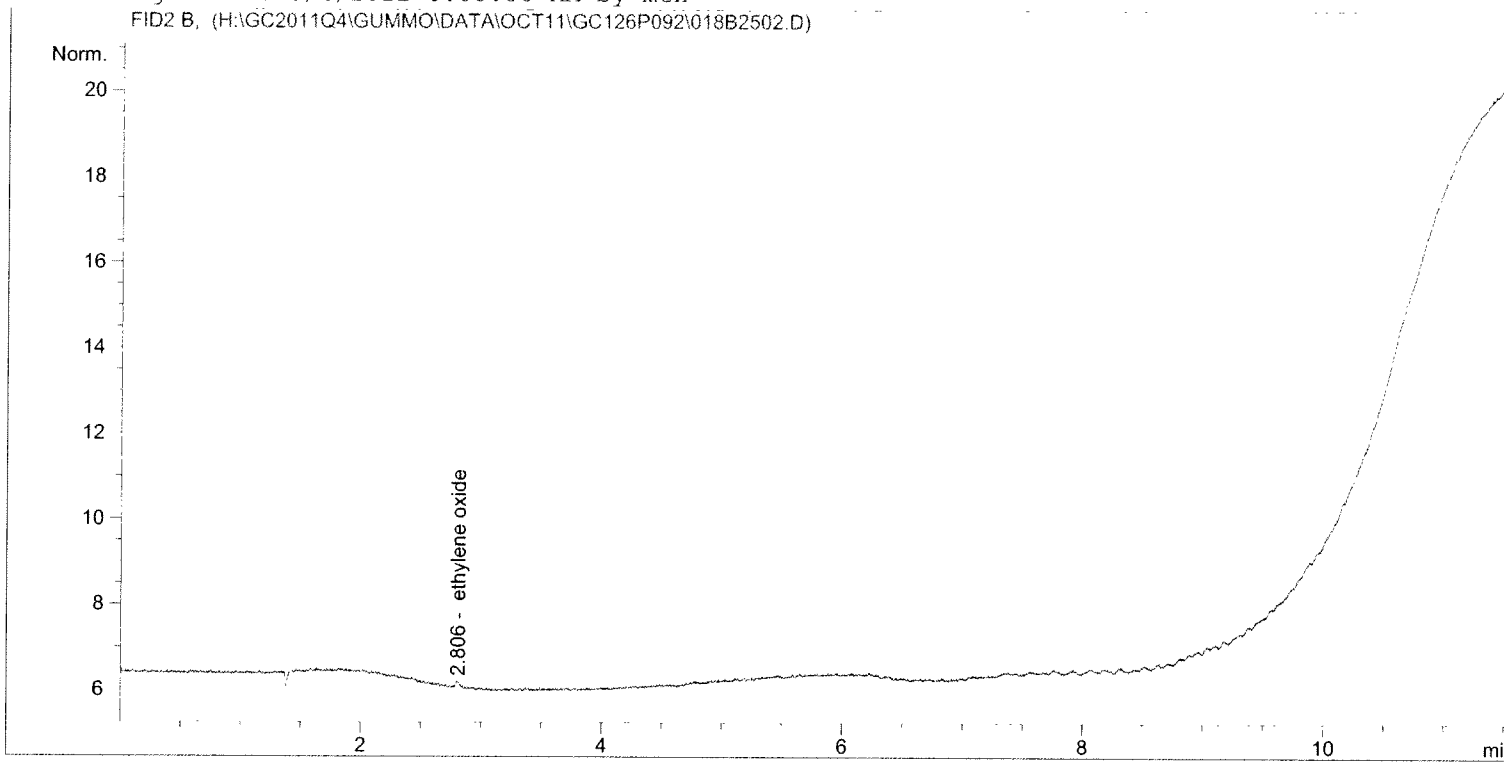
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.808 BB     3.85233e-1    4.57785    1.76354    ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                 1.76354
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  25
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 08:54:45                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




```
==========================================================================
                        External Standard Report
==========================================================================

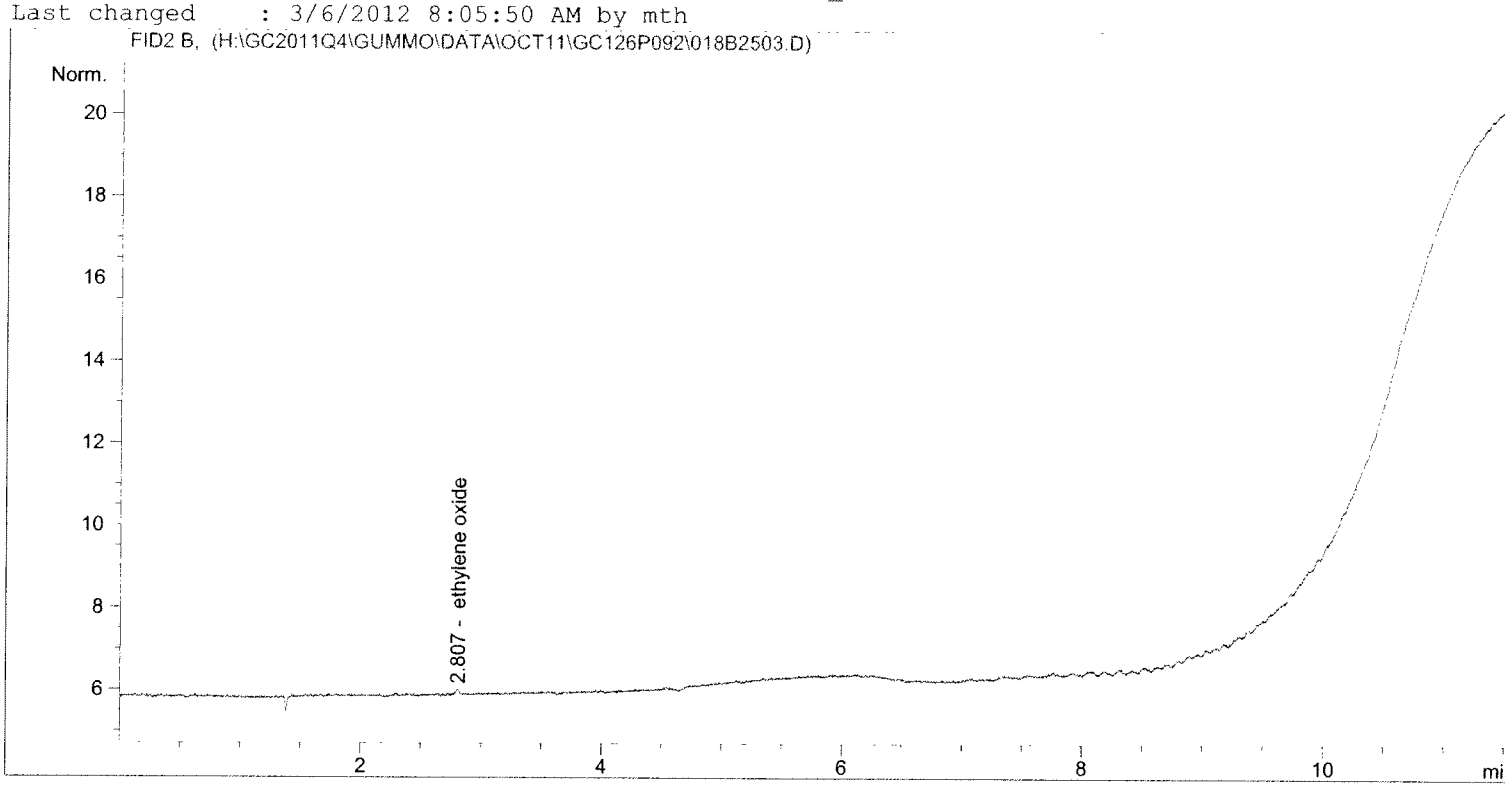
Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398            -           -          -          Methane
  1.533            -           -          -          Ethane
  1.839            -           -          -          Propane
  2.663            -           -          -          Butane
  2.806 BB     3.75461e-1    4.58004    1.71962     ethylene oxide
  3.671            -           -          -          acetone
  4.162            -           -          -          Pentane
  5.770            -           -          -          Hexane
  6.922            -           -          -          Heptane

Totals :                                  1.71962
```

```
==========================================================================
Acq. Operator    : MGM                                  Seq. Line :  25
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 27-Oct-11, 09:14:30                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P057.M
Last changed     : 9/15/2011 10:51:39 AM by JBB
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/6/2012 8:05:50 AM by mth
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Tuesday, March 06, 2012 8:05:19 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.807 BB     3.41214e-1    4.58282    1.56372    ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                 1.56372
```

6890 GC METHOD

OVEN
- Initial temp: 35 'C (On)
- Initial time: 2.20 min
- Ramps:

#	Rate	Final temp	Final time
1	15.00	70	0.07
2	30.00	250	1.00
3	0.0	(Off)	

- Post temp: 50 'C
- Post time: 0.00 min
- Run time: 11.60 min
- Maximum temp: 250 'C
- Equilibration time: 0.20 min

FRONT INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 160 'C (On)
- Pressure: 5.00 psi (On)
- Split ratio: 5:1
- Split flow: 10.6 mL/min
- Total flow: 18.9 mL/min
- Gas saver: Off
- Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 160 'C (On)
- Pressure: 5.12 psi (On)
- Split ratio: 5:1
- Split flow: 10.3 mL/min
- Total flow: 18.7 mL/min
- Gas saver: Off
- Gas type: Hydrogen

COLUMN 1
- Capillary Column
- Model Number: Restek 10970
- Rtx-624 30m x 0.32mm x 1.8um SN 92682
- Max temperature: 240 'C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 1.80 um
- Mode: constant flow
- Initial flow: 2.1 mL/min
- Nominal init pressure: 5.00 psi
- Average velocity: 40 cm/sec
- Inlet: Front Inlet
- Outlet: Front Detector
- Outlet pressure: ambient

COLUMN 2
- Capillary Column
- Model Number: Restek 10198
- Rtx-1 30m x 0.32mm x 4.0um
- Max temperature: 280 'C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 4.00 um
- Mode: constant flow
- Initial flow: 2.1 mL/min
- Nominal init pressure: 5.12 psi
- Average velocity: 39 cm/sec
- Inlet: Back Inlet
- Outlet: Back Detector
- Outlet pressure: ambient

FRONT DETECTOR (FID)
- Temperature: 250 'C (On)
- Hydrogen flow: 40.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 45.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

BACK DETECTOR (FID)
- Temperature: 250 'C (On)
- Hydrogen flow: 40.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 45.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

SIGNAL 1
- Data rate: 50 Hz
- Type: front detector
- Save Data: On
- Zero: 0.0 (Off)
- Range: 0
- Fast Peaks: Off
- Attenuation: 0

SIGNAL 2
- Data rate: 50 Hz
- Type: back detector
- Save Data: On
- Zero: 0.0 (Off)
- Range: 0
- Fast Peaks: Off
- Attenuation: 0

method: G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Modified on: 12/14/2011 at 11:21:49 PM

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

THERMAL AUX 1
Use: Valve Box Heater
Description:
Initial temp: 100 'C (On)
Initial time: 0.00 min

#	Rate	Final temp	Final time
1	0.0	(Off)	

VALVES
Valve 1 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Front Inlet
Valve 2 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Back Inlet
Valve 7 Multiposition 1
Description:
BCD input: inverted
Switch Time: 1.0 sec

POST RUN
Post Time: 0.00 min

TIME TABLE

Time	Specifier	Parameter & Setpoint	
0.10		Multi-Valve Position:	1

CUSTOMGAS
SOLUTIONS

1750 East Club Boulevard
Durham, NC 27704
Phone: (919) 220-2570
Fax: (919) 220-4540

Certificate of Analysis

Customer:
Enthalpy Analytical, Inc.
800-1 Capitola Drive
Durham, NC 27713

Tel: (919) 850-4392

Cylinder Number: CC93856
Cylinder Size/CGA: AL150/350
Fill Pressure: 2015 PSIA
Gas Volume: 3700 liters
Date of Mfg: 09/26/11
Expiration Date: 09/26/12

Customer Number	Ship VIA	Job No.	Customer PO	Mixture Type
00327713NC	Pick up	092611-001	C09201102GAT	Gravimetric

Component	Nominal Concentration	Actual Concentration*	Mixture Type
Ethylene Oxide	250 ppm	250 ppm +/- 5 ppm	Gravimetric Master Gas
Nitrogen	balance	balance	

NOTES:
Blend Tolerance: +/-2%
Analytical Tolerance: +/-2%
Traceability: NIST by weight set / Internal Standards by analysis
Reactive Mixtures: Analyzed twice with required agreement between analyses of 2%. Required wait time between analyses of >7 days.
Caution: Do not use below 150 PSIG.

Authorized Signature:

Joseph A. Ernst

*Every effort has been made to establish the actual concentration of the components using master gas blending technology however, Custom Gas Solutions shall have no liability in excess of the established charge for this material.

Calibration Table

Calib. Data Modified : Monday, September 12, 2011 3:10:59 PM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.050 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A,
Signal 2: FID2 B,

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref	Grp	Name
1.398	2	11	2.00000	3.60403e-1	5.54935			Methane
		12	5.00000	1.09586	4.56263			
		13	10.00000	2.25799	4.42872			
		14	40.00000	9.23279	4.33238			
		15	100.00000	24.43655	4.09223			
1.459	1	1	2.00000	2.49667e-1	8.01066			Methane
		2	5.00000	8.55418e-1	5.84509			
		3	10.00000	1.91795	5.21390			
		4	40.00000	8.46683	4.72432			
		5	100.00000	22.48088	4.44823			
1.496	1	1	2.00000	6.97685e-1	2.86662			Ethane
		2	5.00000	2.06209	2.42473			
		3	10.00000	4.21651	2.37163			
		4	40.00000	16.88680	2.36871			
		5	100.00000	43.06429	2.32211			
1.526	2	11	2.00000	8.00332e-1	2.49896			Ethane
		12	5.00000	2.15098	2.32452			
		13	10.00000	4.33735	2.30556			
		14	40.00000	17.59659	2.27317			
		15	100.00000	45.65772	2.19021			
1.625	1	1	2.00000	1.13144	1.76766			Propane
		2	5.00000	3.00378	1.66457			
		3	10.00000	6.07862	1.64511			
		4	40.00000	24.77712	1.61439			
		5	100.00000	63.59947	1.57234			
1.835	2	11	2.00000	1.17621	1.70038			Propane
		12	5.00000	3.23714	1.54457			

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
		13	10.00000	6.44193	1.55233		
		14	40.00000	26.37184	1.51677		
		15	100.00000	68.41683	1.46163		
2.005	1	1	2.00000	1.44087	1.38805		Butane
		2	5.00000	3.82539	1.30706		
		3	10.00000	7.83077	1.27701		
		4	40.00000	32.67319	1.22425		
		5	100.00000	84.01934	1.19020		
2.195	1	41	2.00000	2.80873e-1	7.12065		Acetaldehyde
		42	3.75000	5.76367e-1	6.50627		
		43	25.00000	4.57255	5.46741		
		44	100.00000	18.71194	5.34418		
		45	250.00000	47.75469	5.23509		
2.296	2	31	2.00000	4.35267e-1	4.59488		Acetaldehyde
		32	3.75000	7.44583e-1	5.03638		
		33	25.00000	5.01945	4.98063		
		34	100.00000	19.79376	5.05210		
		35	250.00000	50.76446	4.92471		
2.675	2	11	2.00000	1.57720	1.26807		Butane
		12	5.00000	4.25545	1.17496		
		13	10.00000	8.58128	1.16533		
		14	40.00000	35.06312	1.14080		
		15	100.00000	90.63422	1.10334		
2.906	1	1	2.00000	2.27772	8.78069e-1		Pentane
		2	5.00000	5.03192	9.93657e-1		
		3	10.00000	10.20942	9.79488e-1		
		4	40.00000	40.74392	9.81741e-1		
		5	100.00000	104.36326	9.58192e-1		
4.175	2	11	2.00000	2.69561	7.41948e-1		Pentane
		12	5.00000	5.45146	9.17185e-1		
		13	10.00000	10.98279	9.10515e-1		
		14	40.00000	43.79561	9.13333e-1		
		15	100.00000	112.97583	8.85145e-1		
4.369	1	1	2.00000	2.76060	7.24480e-1		Hexane
		2	5.00000	6.16805	8.10629e-1		
		3	10.00000	12.28027	8.14314e-1		
		4	40.00000	48.70609	8.21252e-1		
		5	100.00000	125.13726	7.99123e-1		
5.763	2	11	2.00000	2.75425	7.26150e-1		Hexane
		12	5.00000	6.55496	7.62781e-1		
		13	10.00000	12.98720	7.69989e-1		
		14	40.00000	52.31417	7.64611e-1		
		15	100.00000	134.94518	7.41042e-1		
5.802	1	1	2.00000	2.49374	8.02007e-1		Heptane
		2	5.00000	6.89806	7.24842e-1		
		3	10.00000	13.68268	7.30851e-1		
		4	40.00000	55.67912	7.18402e-1		
		5	100.00000	143.25545	6.98054e-1		
6.924	2	11	2.00000	2.64096	7.57301e-1		Heptane
		12	5.00000	7.28390	6.86445e-1		
		13	10.00000	14.54173	6.87676e-1		
		14	40.00000	59.65615	6.70509e-1		
		15	100.00000	154.47769	6.47343e-1		

1 Warnings or Errors :

Warning : Overlapping peak time windows at 1.459 min, signal 1

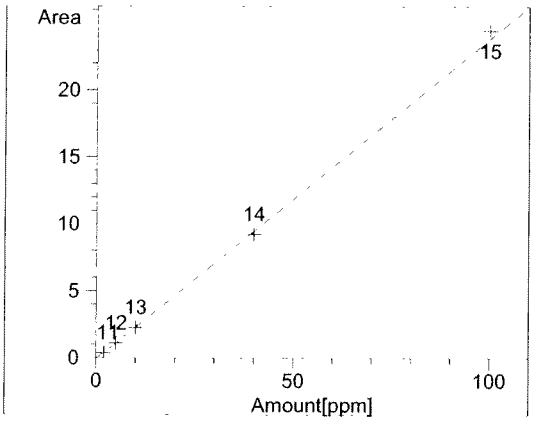
==========

Peak Sum Table

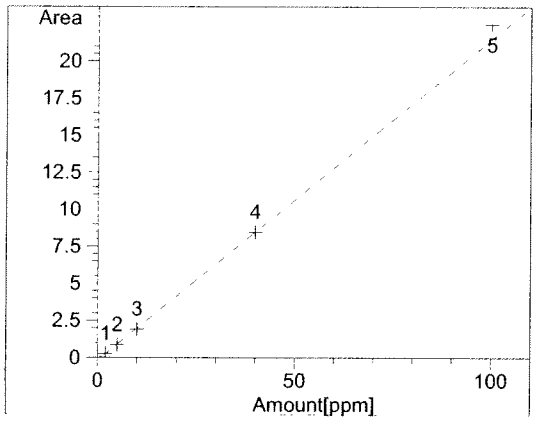
==========

No Entries in table

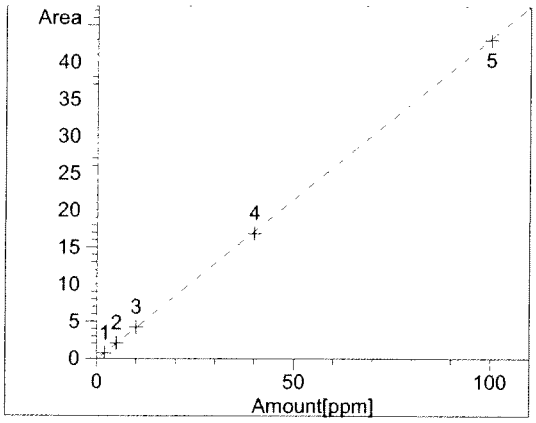
Calibration Curves



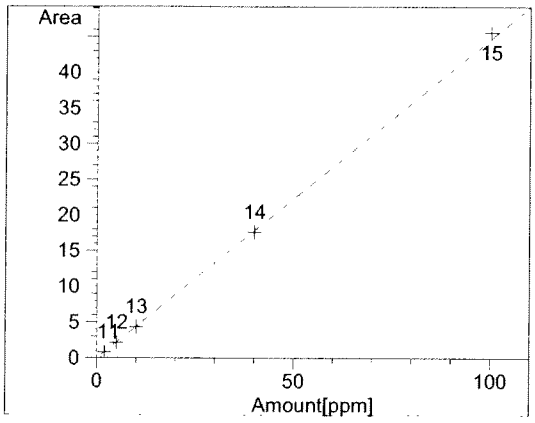
Methane at exp. RT: 1.398
FID2 B,
Correlation: 0.99973
Residual Std. Dev.: 0.36110
Formula: y = mx + b
m: 2.39777e-1
b: -1.17997e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



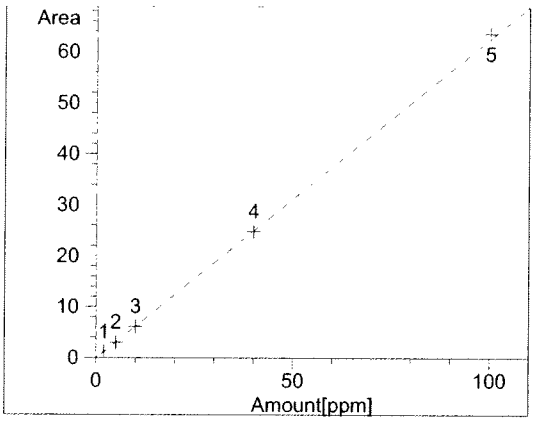
Methane at exp. RT: 1.459
FID1 A,
Correlation: 0.99920
Residual Std. Dev.: 0.56768
Formula: y = mx + b
m: 2.16924e-1
b: -1.92132e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025
Level 5 : 0.0004



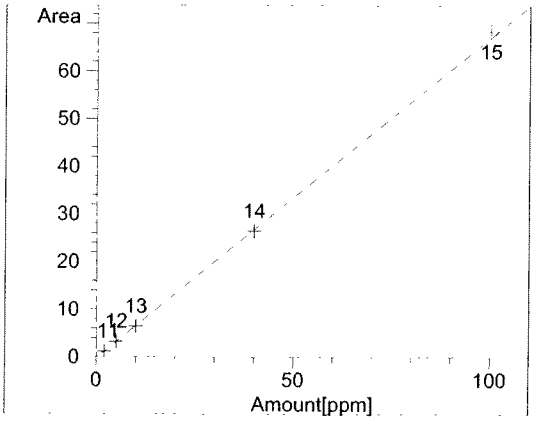
Ethane at exp. RT: 1.496
FID1 A,
Correlation: 0.99979
Residual Std. Dev.: 0.21459
Formula: y = mx + b
m: 4.34103e-1
b: -1.61429e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025
Level 5 : 0.0004



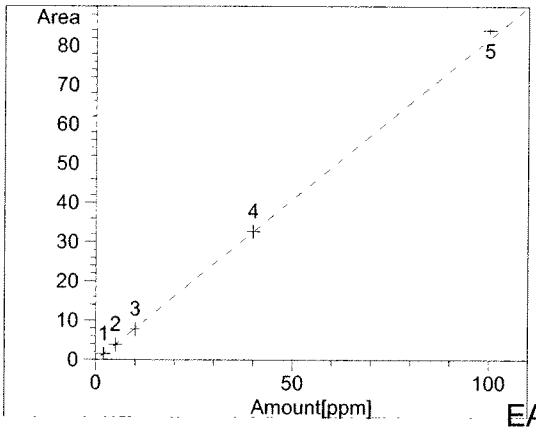
Ethane at exp. RT: 1.526
FID2 B,
Correlation: 0.99986
Residual Std. Dev.: 0.54562
Formula: y = mx + b
m: 4.48436e-1
b: -9.77117e-2
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



Propane at exp. RT: 1.625
FID1 A,
Correlation: 0.99992
Residual Std. Dev.: 0.60200
Formula: y = mx + b
m: 6.27000e-1
b: -1.26038e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025
Level 5 : 0.0004

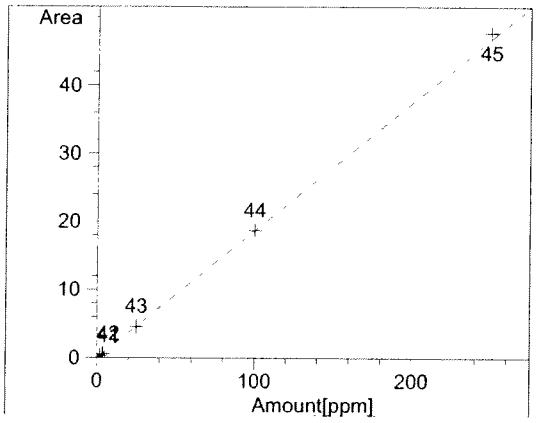


Propane at exp. RT: 1.835
FID2 B,
Correlation: 0.99981
Residual Std. Dev.: 0.79687
Formula: y = mx + b
m: 6.72587e-1
b: -1.67358e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

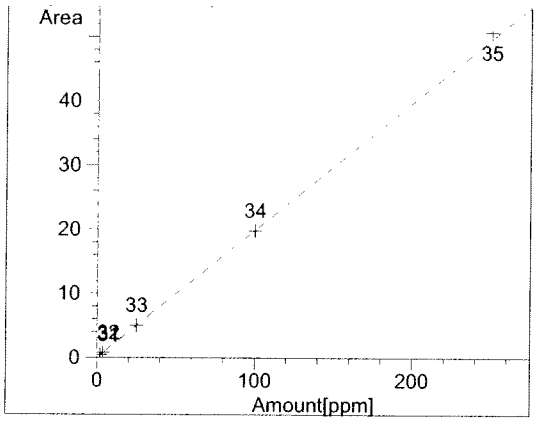


Butane at exp. RT: 2.005
FID1 A,
Correlation: 0.99974
Residual Std. Dev.: 1.20498
Formula: y = mx + b
m: 8.21585e-1
b: -2.18336e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025

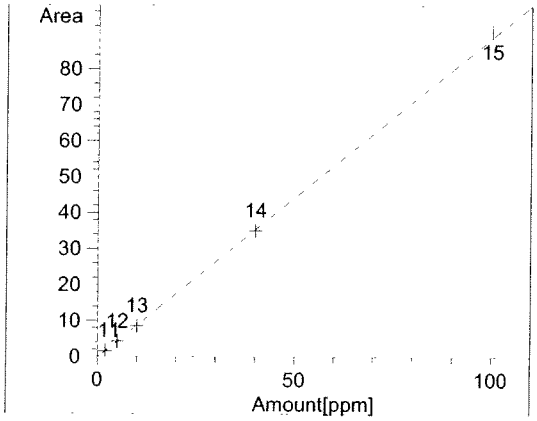
Level 5 : 0.0004



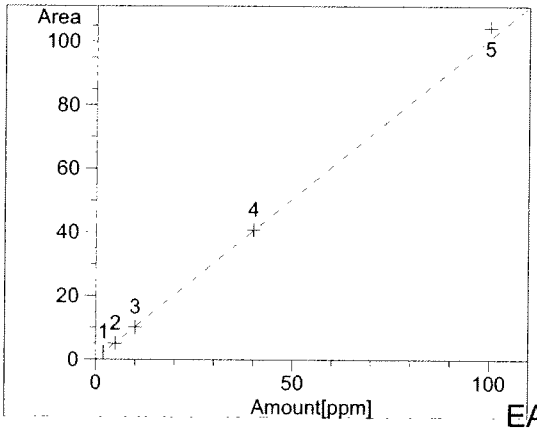
Acetaldehyde at exp. RT: 2.195
FID1 A,
Correlation: 0.99964
Residual Std. Dev.: 0.52542
Formula: y = mx + b
m: 1.87792e-1
b: -1.02095e-1
x: Amount
y: Area
Calibration Level Weights:
Level 41 : 1
Level 42 : 0.284444
Level 43 : 0.0064
Level 44 : 0.0004
Level 45 : 0.000064



Acetaldehyde at exp. RT: 2.296
FID2 B,
Correlation: 0.99956
Residual Std. Dev.: 0.60331
Formula: y = mx + b
m: 1.98789e-1
b: 2.92675e-2
x: Amount
y: Area
Calibration Level Weights:
Level 31 : 1
Level 32 : 0.284444
Level 33 : 0.0064
Level 34 : 0.0004
Level 35 : 0.000064

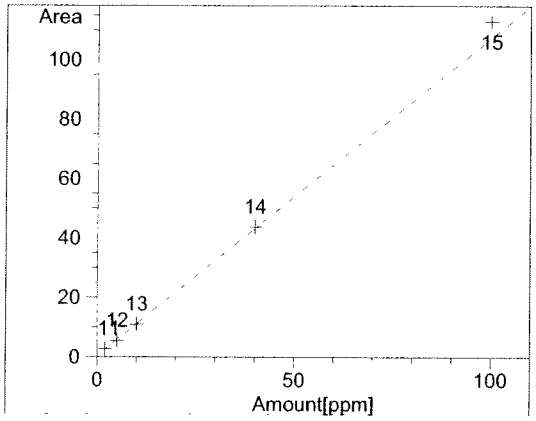


Butane at exp. RT: 2.675
FID2 B,
Correlation: 0.99987
Residual Std. Dev.: 1.03508
Formula: y = mx + b
m: 8.90913e-1
b: -2.08174e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

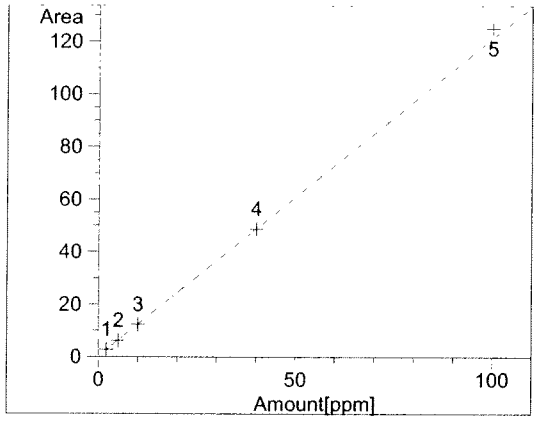


Pentane at exp. RT: 2.906
FID1 A,
Correlation: 0.99932
Residual Std. Dev.: 1.88835
Formula: y = mx + b
m: 1.00887
b: 2.20470e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025

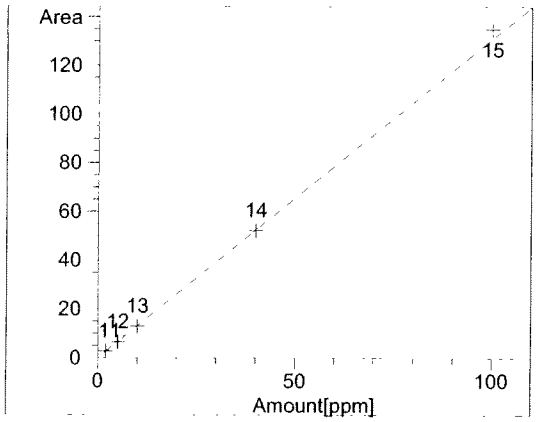
Level 5 : 0.0004



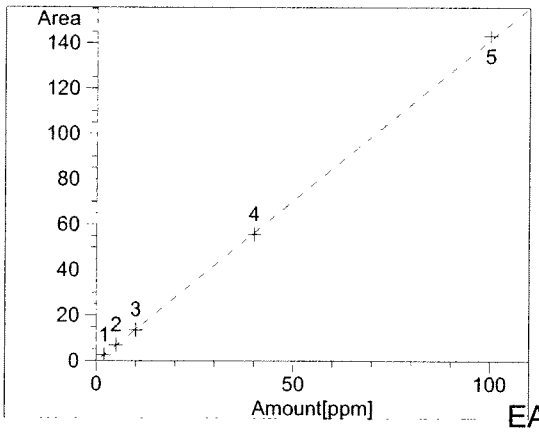
Pentane at exp. RT: 4.175
FID2 B,
Correlation: 0.99826
Residual Std. Dev.: 3.13097
Formula: y = mx + b
m: 1.07106
b: 4.85907e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



Hexane at exp. RT: 4.369
FID1 A,
Correlation: 0.99958
Residual Std. Dev.: 2.11725
Formula: y = mx + b
m: 1.21177
b: 3.01954e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025
Level 5 : 0.0004

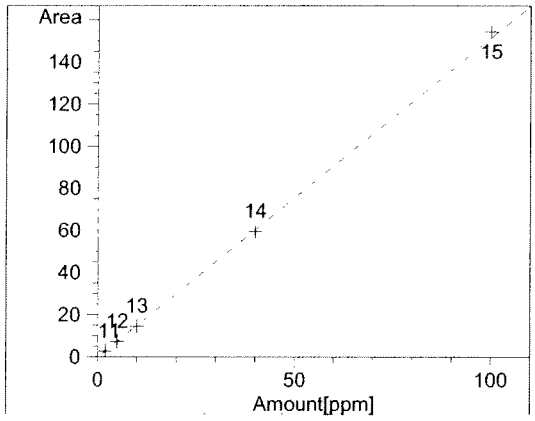


Hexane at exp. RT: 5.763
FID2 B,
Correlation: 0.99972
Residual Std. Dev.: 2.16938
Formula: y = mx + b
m: 1.31096
b: 1.06969e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004



Heptane at exp. RT: 5.802
FID1 A,
Correlation: 0.99984
Residual Std. Dev.: 1.06221
Formula: y = mx + b
m: 1.41927
b: -3.31787e-1
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.16
Level 3 : 0.04
Level 4 : 0.0025

Level 5 : 0.0004

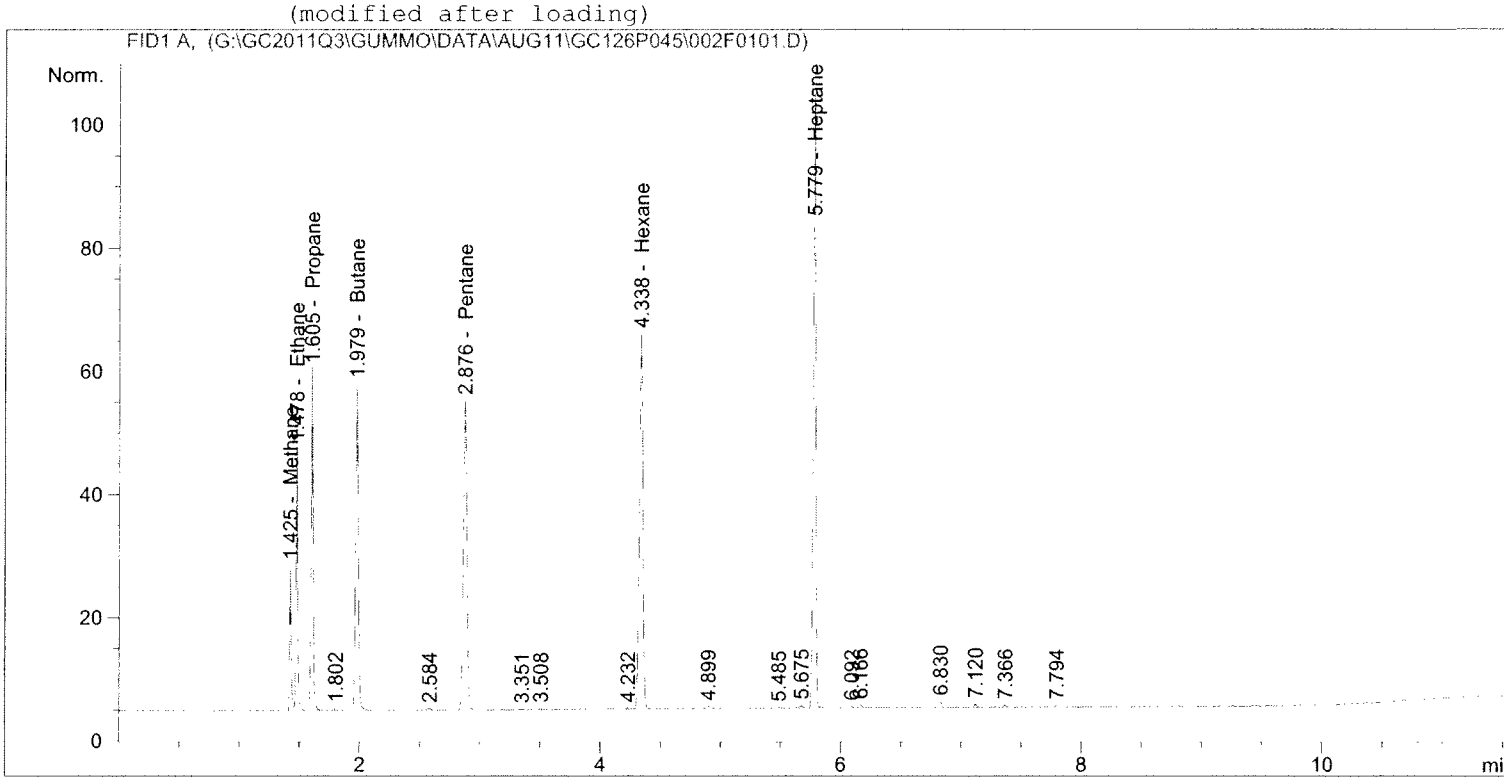


Heptane at exp. RT: 6.924
FID2 B,
Correlation: 0.99983
Residual Std. Dev.: 1.73494
Formula: y = mx + b
m: 1.51974
b: -3.96488e-1
x: Amount
y: Area
Calibration Level Weights:
Level 11 : 1
Level 12 : 0.16
Level 13 : 0.04
Level 14 : 0.0025
Level 15 : 0.0004

==========

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0101.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 09:43:16                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:46:25 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.425	PV	22.91455	4.64855	106.51952		Methane
1.478	VV	43.44969	2.31216	100.46250		Ethane
1.605	VV	64.42813	1.59802	102.95718		Propane
1.979	BV	85.46486	1.22027	104.29012		Butane
2.194		-	-	-		Acetaldehyde
2.876	BB	106.25610	9.89156e-1	105.10388		Pentane
4.338	VB	127.38520	8.23286e-1	104.87441		Hexane
5.779	VB	146.03343	7.06191e-1	103.12747		Heptane
Totals :				727.33508		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

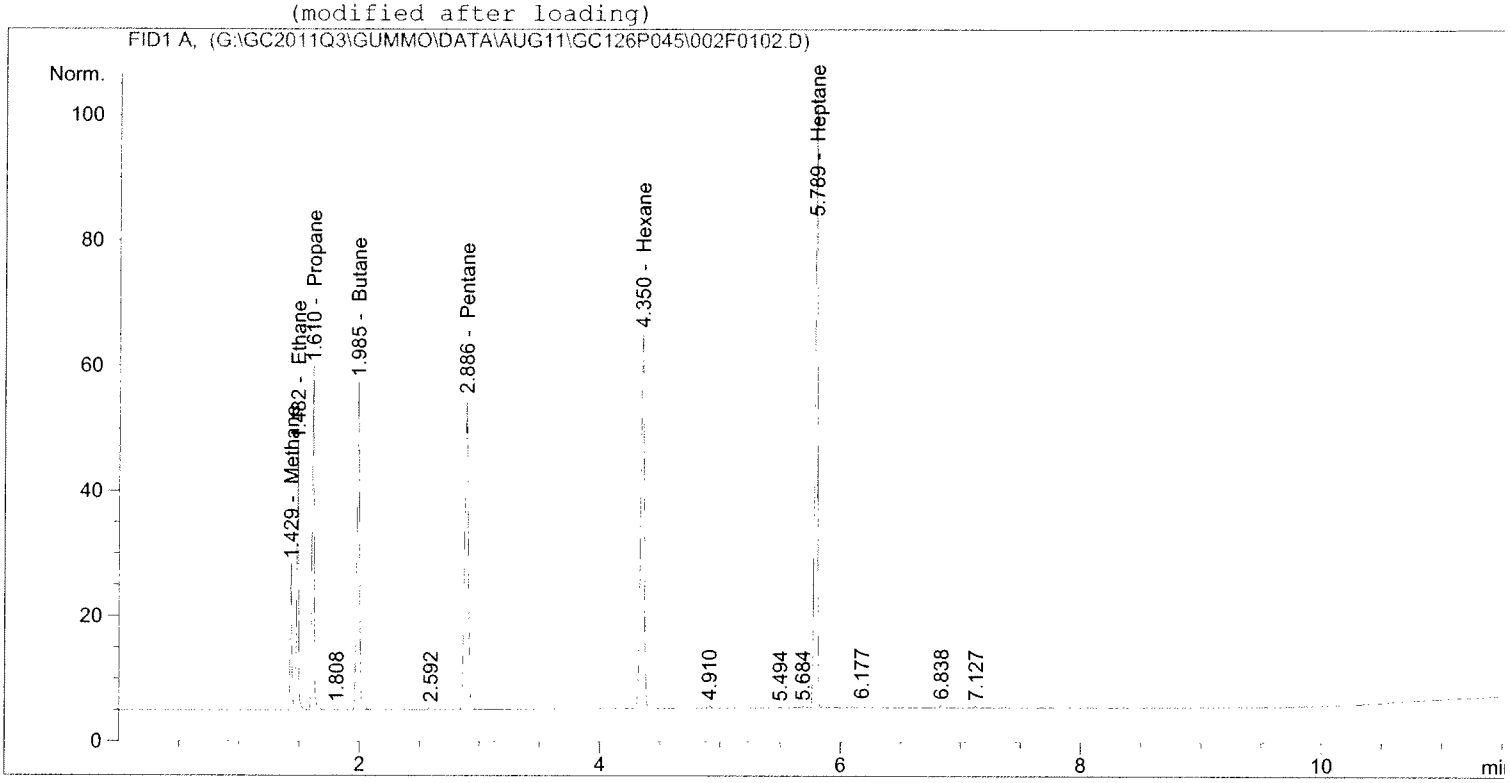
Warning : Calibrated compound(s) not found
Warning : Elution order of calibrated compounds may have changed

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0102.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 10:02:03                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:46:25 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.429	PV	22.69738	4.64892	105.51840		Methane
1.482	VV	43.23079	2.31220	99.95824		Ethane
1.610	VB	63.95915	1.59804	102.20921		Propane
1.985	BB	84.57175	1.22030	103.20307		Butane
2.194		-	-	-		Acetaldehyde
2.886	BB	105.16528	9.89135e-1	104.02264		Pentane
4.350	VB	125.80844	8.23261e-1	103.57320		Hexane
5.789	VB	144.37605	7.06209e-1	101.95970		Heptane
Totals :				720.44445		

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

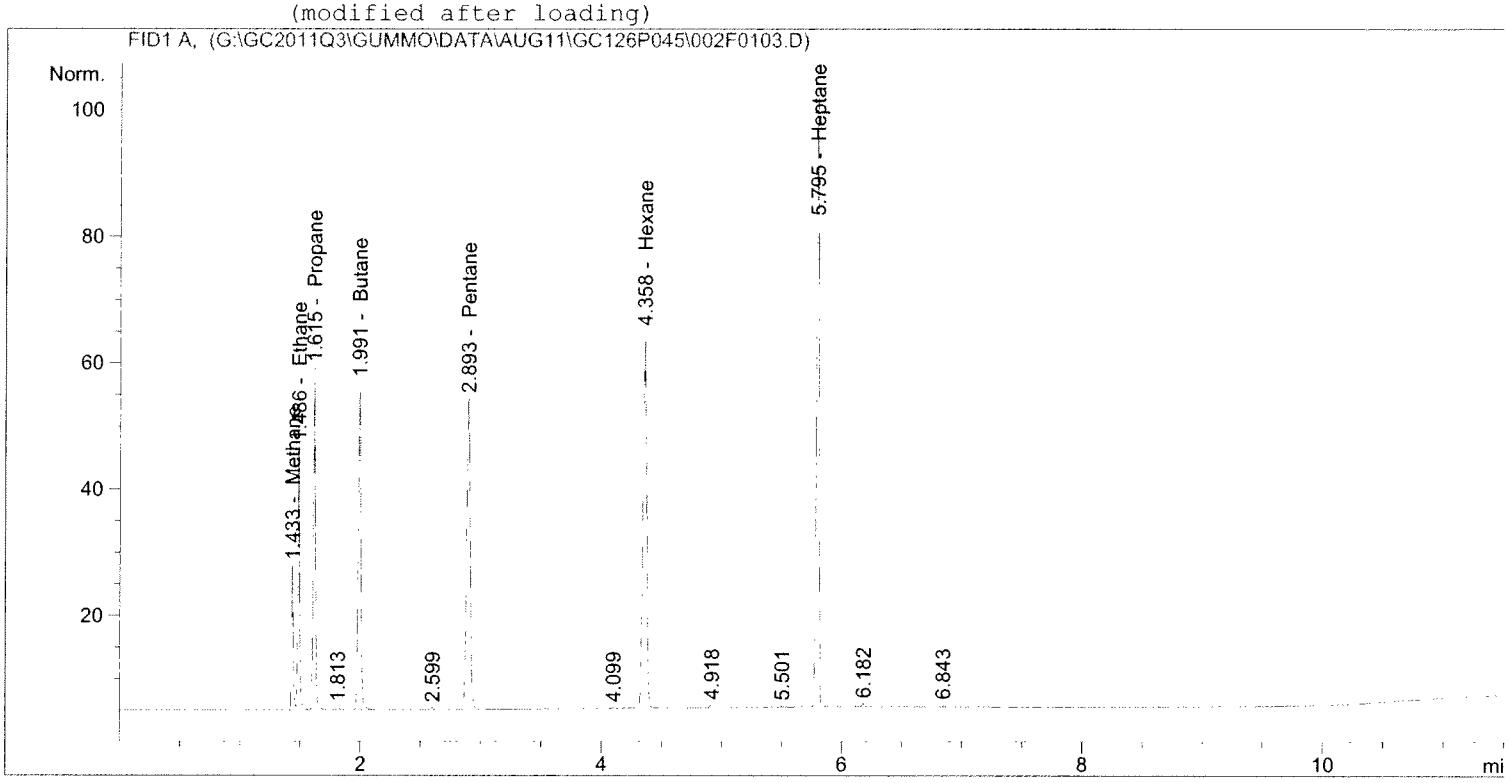
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0103.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 10:20:54                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:46:25 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.433	BV	22.58712	4.64911	105.01009		Methane
1.486	VV	43.21146	2.31220	99.91370		Ethane
1.615	VB	63.86153	1.59804	102.05352		Propane
1.991	BB	84.42930	1.22031	103.02968		Butane
2.194		-	-	-		Acetaldehyde
2.893	BV	104.80025	9.89128e-1	103.66081		Pentane
4.358	VB	125.73505	8.23260e-1	103.51264		Hexane
5.795	VB	143.92842	7.06214e-1	101.64430		Heptane
Totals :				718.82474		

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

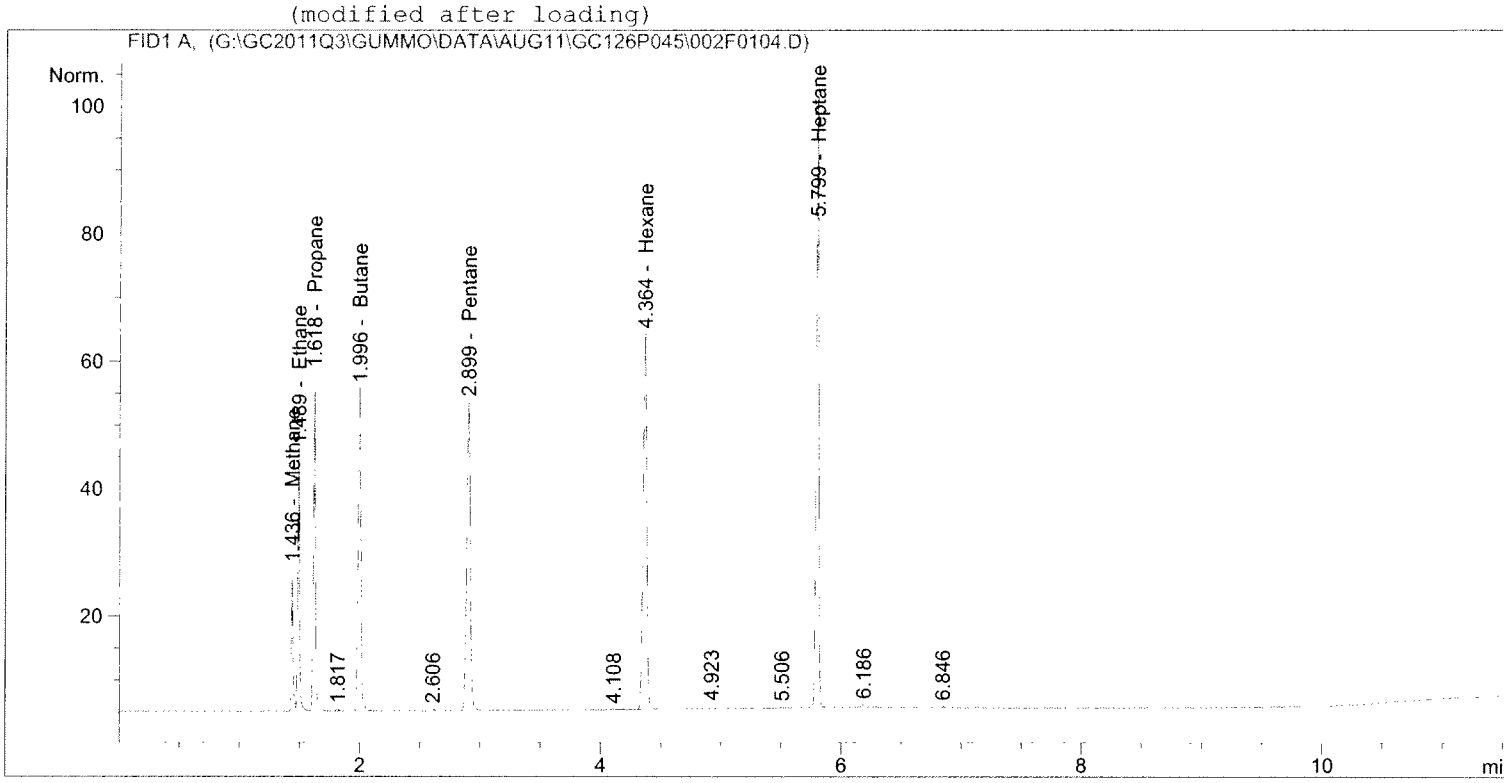
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0104.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 10:39:47                       Inj :   4
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:47:43 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.436	PV	22.15813	4.64987	103.03248		Methane
1.489	VV	42.75061	2.31230	98.85211		Ethane
1.618	VB	62.97771	1.59809	100.64392		Propane
1.996	BB	83.05695	1.22036	101.35931		Butane
2.194		-	-	-		Acetaldehyde
2.899	VB	103.12424	9.89094e-1	101.99953		Pentane
4.364	VV	123.86828	8.23230e-1	101.97210		Hexane
5.799	VB	141.46188	7.06243e-1	99.90640		Heptane

Totals : 707.76584

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

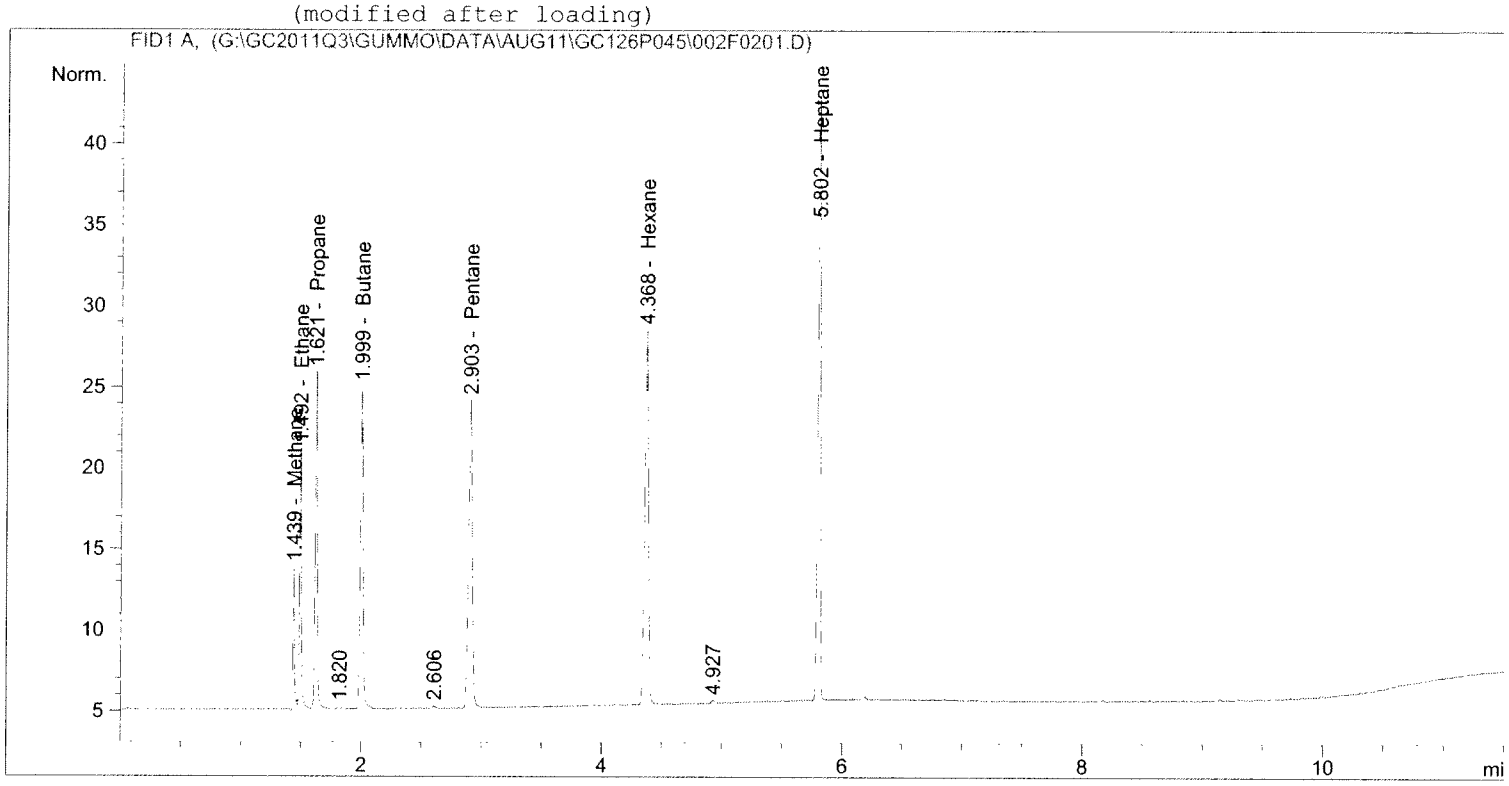
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0201.D
Sample Name: gc119p172 #C4 ENV(1=600,2=400)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 10:58:44                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:50:31 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.439 PV        8.50784    4.71401   40.10600     Methane
  1.492 VV       16.95542    2.32553   39.43035     Ethane
  1.621 VB       24.87259    1.60298   39.87022     Propane
  1.999 BB       32.89106    1.22524   40.29942     Butane
  2.194            -           -         -          Acetaldehyde
  2.903 VB       40.80993 9.85858e-1   40.23279     Pentane
  4.368 BB       49.13424 8.20170e-1   40.29844     Hexane
  5.802 VV       56.10302 7.08757e-1   39.76340     Heptane

Totals :                              280.00062
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

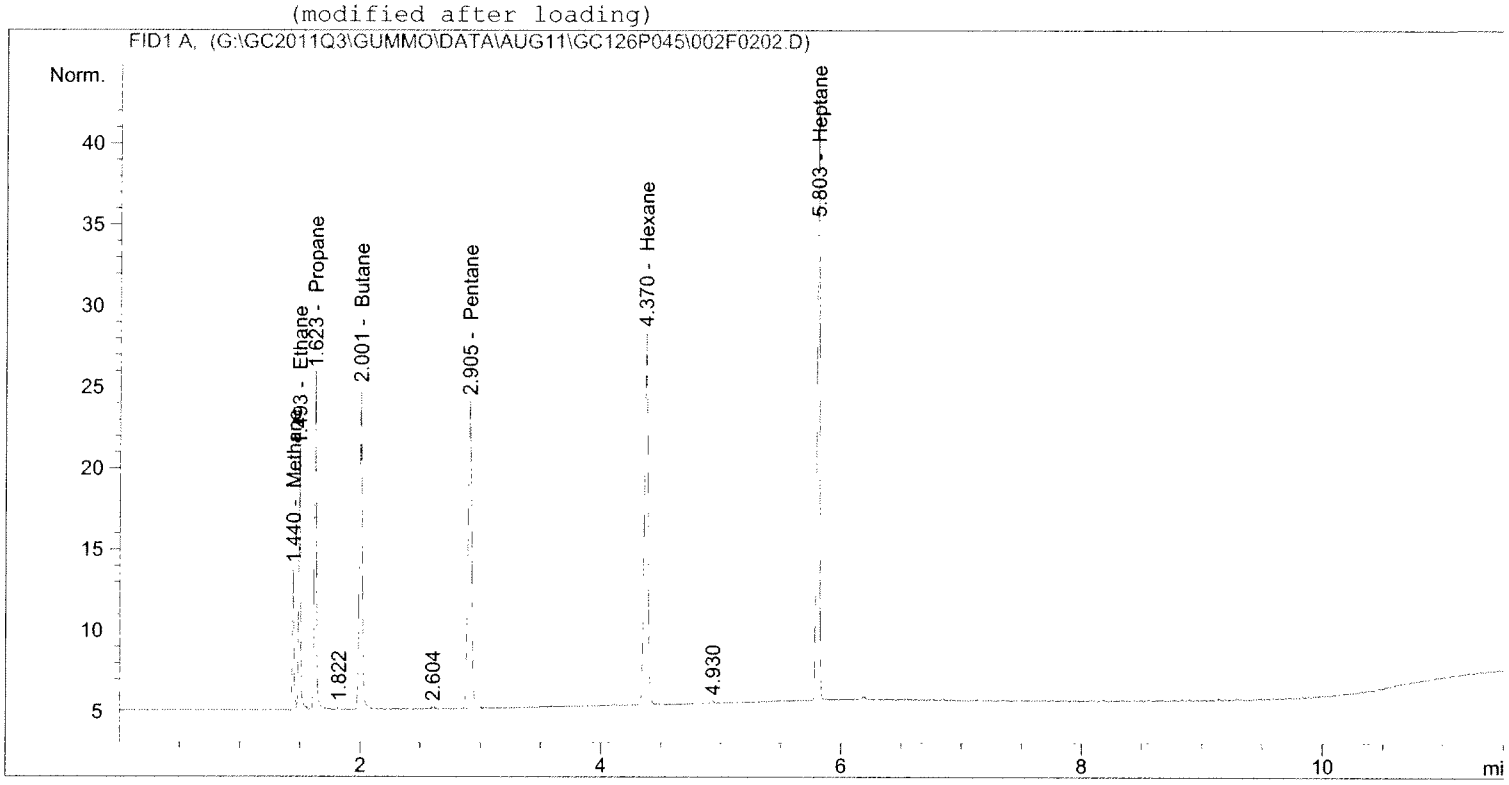
Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 11:17:42                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:50:31 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.440	PV	8.47776	4.71438	39.96734		Methane
1.493	VB	16.89544	2.32561	39.29218		Ethane
1.623	BB	24.77069	1.60301	39.70769		Propane
2.001	BB	32.61188	1.22531	39.95961		Butane
2.194		-	-	-		Acetaldehyde
2.905	VV	40.88009	9.85867e-1	40.30233		Pentane
4.370	VB	48.54288	8.20109e-1	39.81043		Hexane
5.803	VB	55.73943	7.08784e-1	39.50722		Heptane
Totals :				278.54680		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

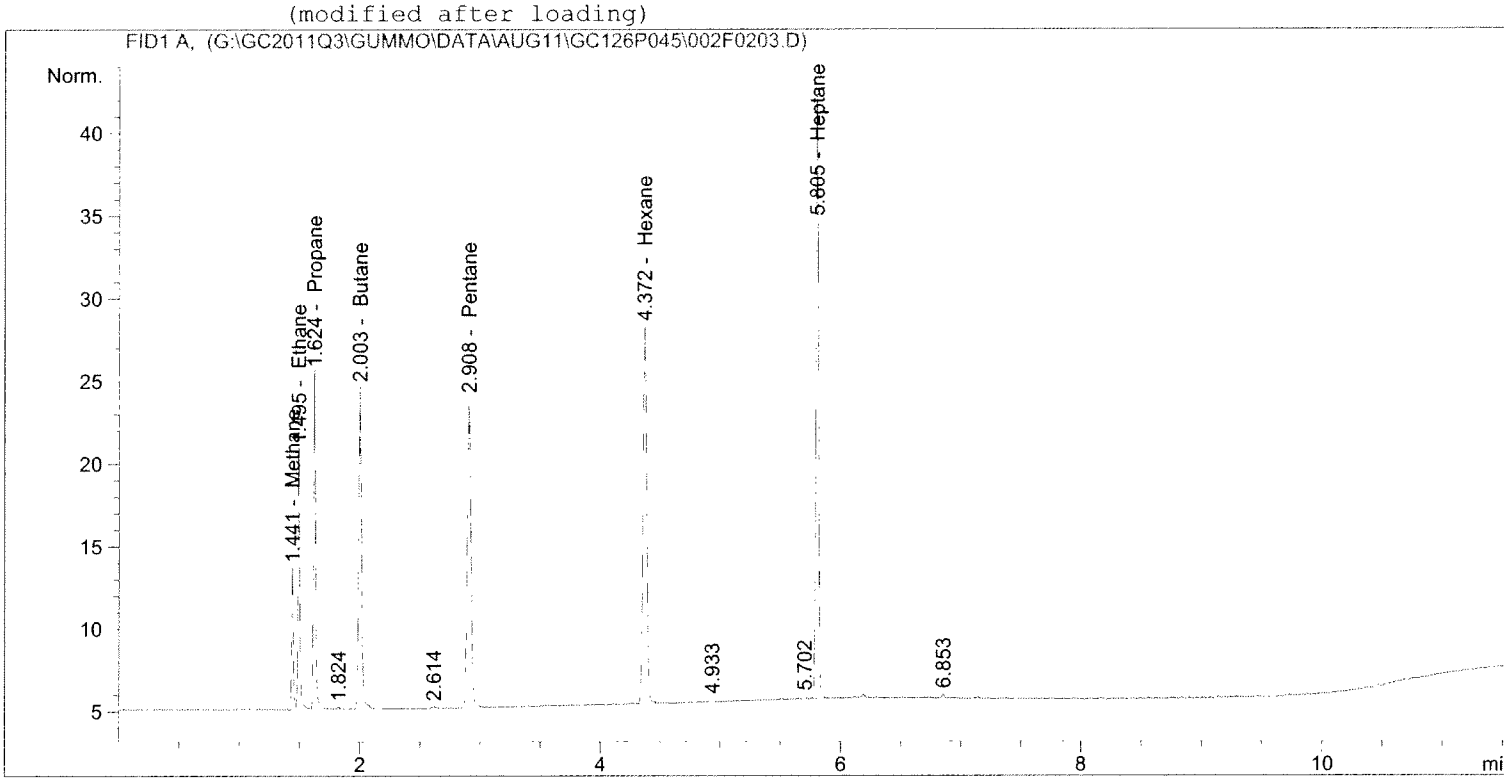
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :   2
Acq. Instrument : Gummo                                 Location : Vial 2
Injection Date  : 18-Aug-11, 11:38:01                       Inj :   3
                                                      Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:08:00 PM by JBB
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.441	PV	8.41489	4.71516	39.67751		Methane
1.495	VB	16.80954	2.32572	39.09429		Ethane
1.624	BB	24.68809	1.60304	39.57595		Propane
2.003	VB	32.51662	1.22533	39.84367		Butane
2.194		-	-	-		Acetaldehyde
2.908	BB	40.54175	9.85822e-1	39.96697		Pentane
4.372	VB	48.44116	8.20098e-1	39.72648		Hexane
5.805	VB	55.19491	7.08825e-1	39.12355		Heptane

Totals : 277.00842

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.388		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.144		-	-	-		Pentane
5.735		-	-	-		Hexane
6.899		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

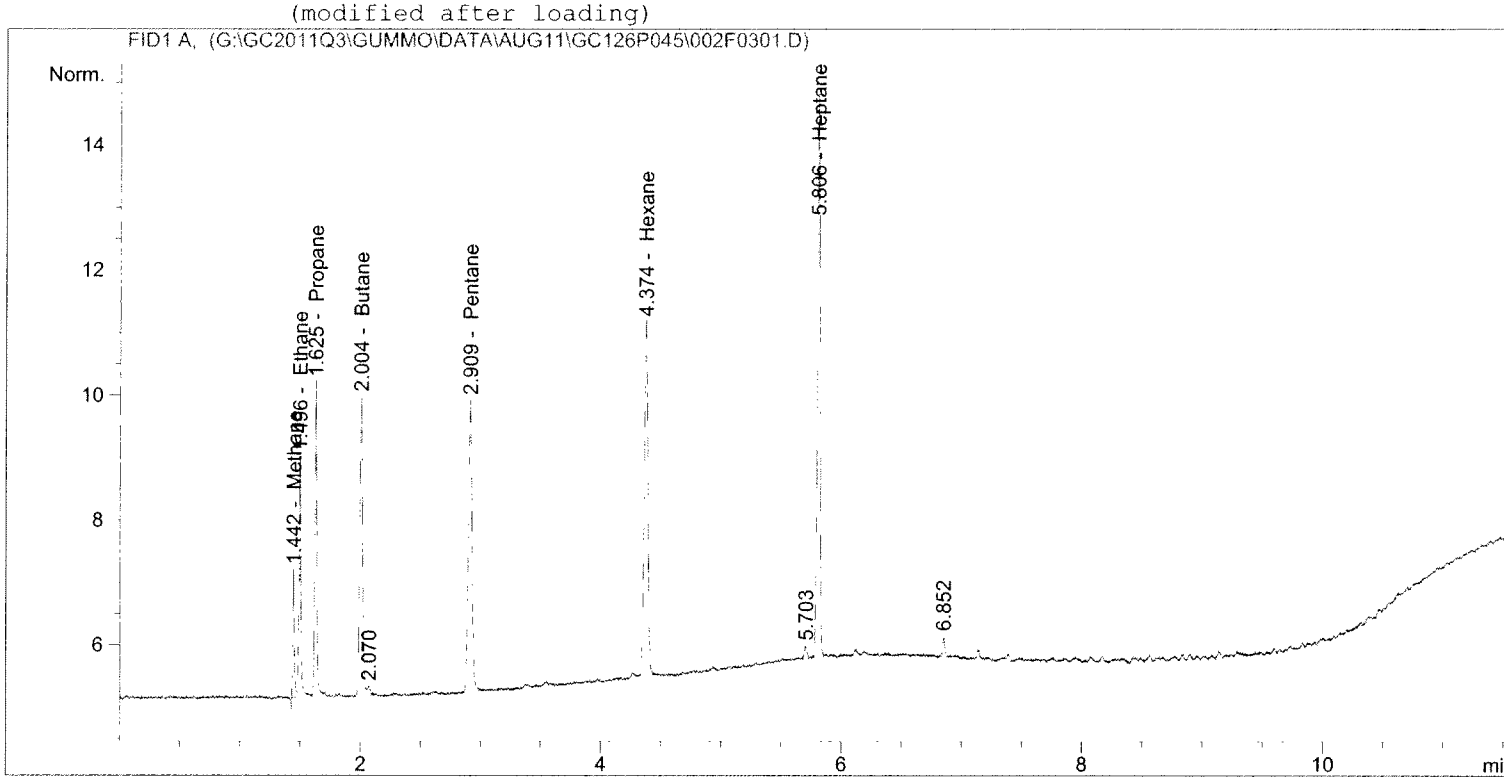
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0301.D
Sample Name: gc119p172 #C3 ENV(1=900,2=100)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   3
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 11:59:19                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.442	PV	1.90950	5.07374	9.68832		Methane
1.496	VV	4.21655	2.39179	10.08510		Ethane
1.625	VV	6.02900	1.62824	9.81664		Propane
2.004	VV	7.77353	1.25135	9.72737		Butane
2.194		-	-	-		Acetaldehyde
2.909	BB	10.04693	9.69462e-1	9.74011		Pentane
4.374	BB	12.00752	8.04489e-1	9.65992		Hexane
5.806	VB	13.50244	7.21903e-1	9.74746		Heptane
Totals :				68.46493		

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

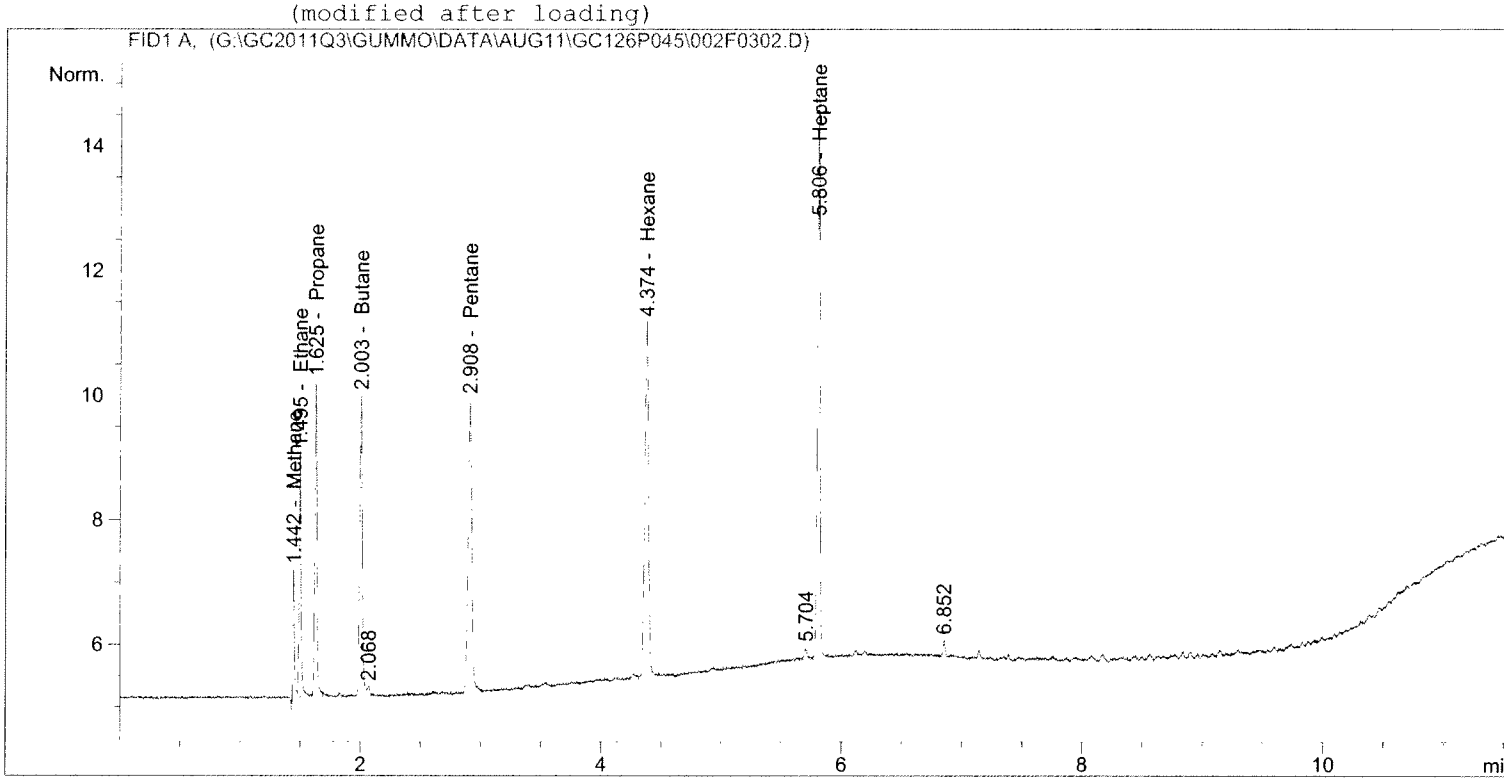
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :   3
Acq. Instrument : Gummo                                 Location : Vial 2
Injection Date  : 18-Aug-11, 12:19:30                       Inj :   2
                                                      Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 1:52:05 PM by JBB
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.442 PV        1.91724    5.07187    9.72402    Methane
  1.495 VV        4.23512    2.39140   10.12788    Ethane
  1.625 VB        6.06845    1.62802    9.87956    Propane
  2.003 BV        7.88765    1.25085    9.86627    Butane
  2.194            -          -          -        Acetaldehyde
  2.908 VB       10.39746 9.70195e-1   10.08756    Pentane
  4.374 VB       12.60293 8.05470e-1   10.15128    Hexane
  5.806 VB       13.89843 7.21410e-1   10.02647    Heptane

Totals :                               69.86304
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

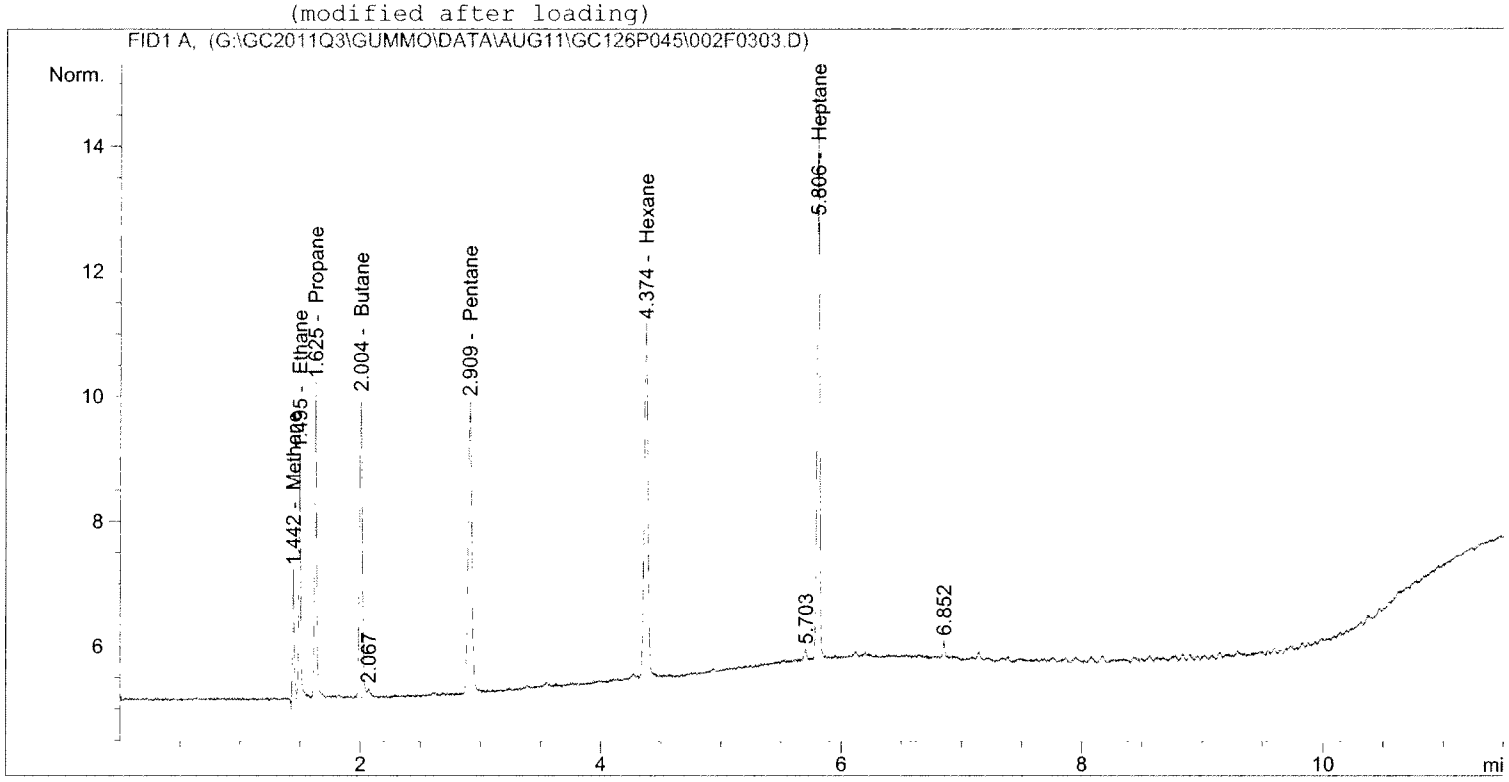
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   3
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 12:39:42                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.442	PV	1.92710	5.06951	9.76944		Methane
1.495	VB	4.19785	2.39218	10.04203		Ethane
1.625	PB	6.13840	1.62764	9.99112		Propane
2.004	PV	7.83113	1.25109	9.79748		Butane
2.194		-	-	-		Acetaldehyde
2.909	BB	10.18388	9.69754e-1	9.87586		Pentane
4.374	VB	12.23035	8.04868e-1	9.84381		Hexane
5.806	VB	13.64718	7.21720e-1	9.84944		Heptane
Totals :				69.16919		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

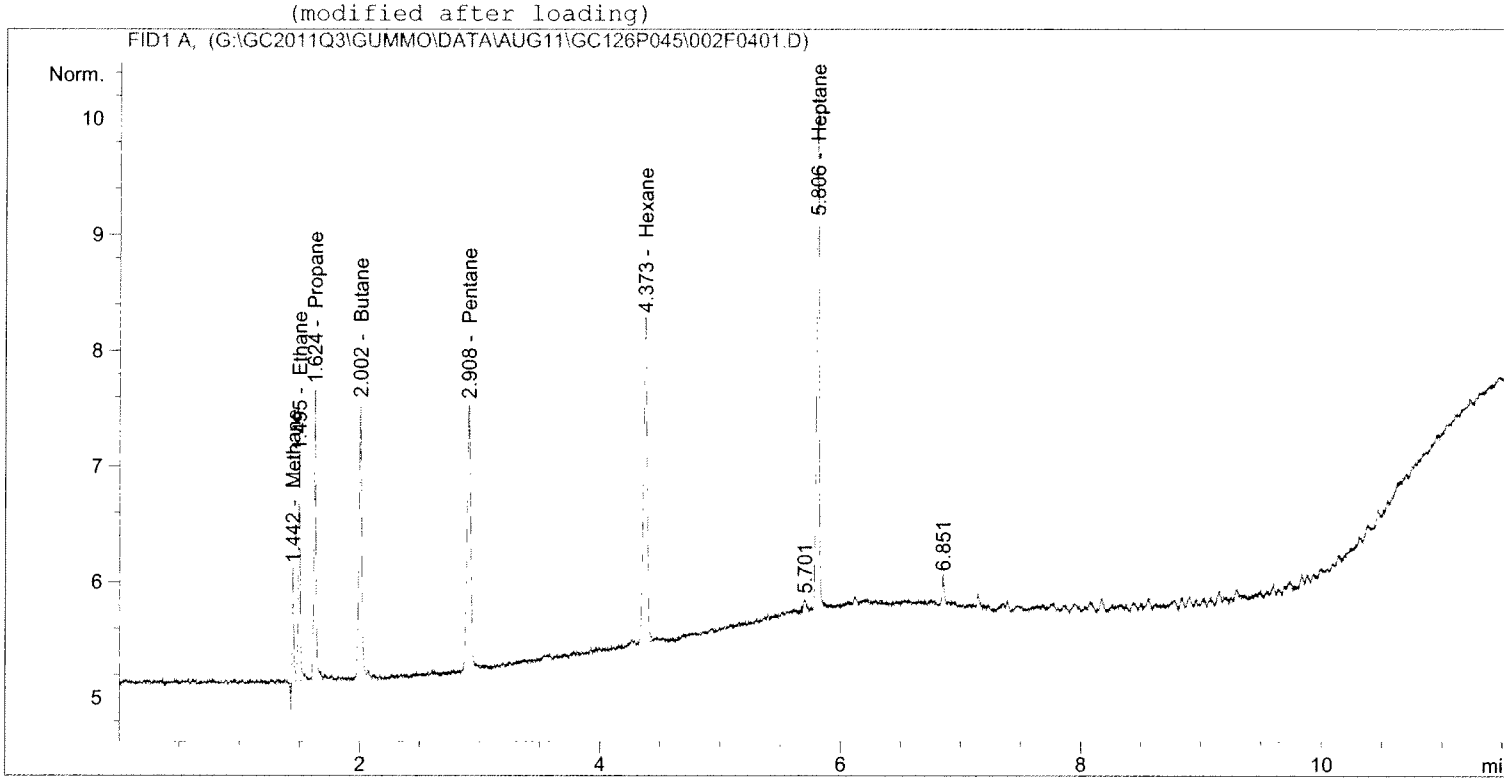
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0401.D
Sample Name: gc119p172 #C2 ENV(1=950,2=50)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 12:58:39                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.442	PV	8.84505e-1	5.61126	4.96319		Methane
1.495	VB	2.12459	2.47863	5.26608		Ethane
1.624	BV	3.06600	1.66046	5.09097		Propane
2.002	BV	3.87589	1.28572	4.98332		Butane
2.194		-	-	-		Acetaldehyde
2.908	BB	4.94801	9.47047e-1	4.68600		Pentane
4.373	BV	5.94394	7.83319e-1	4.65601		Hexane
5.806	BB	6.79214	7.39008e-1	5.01945		Heptane
Totals :				34.66502		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

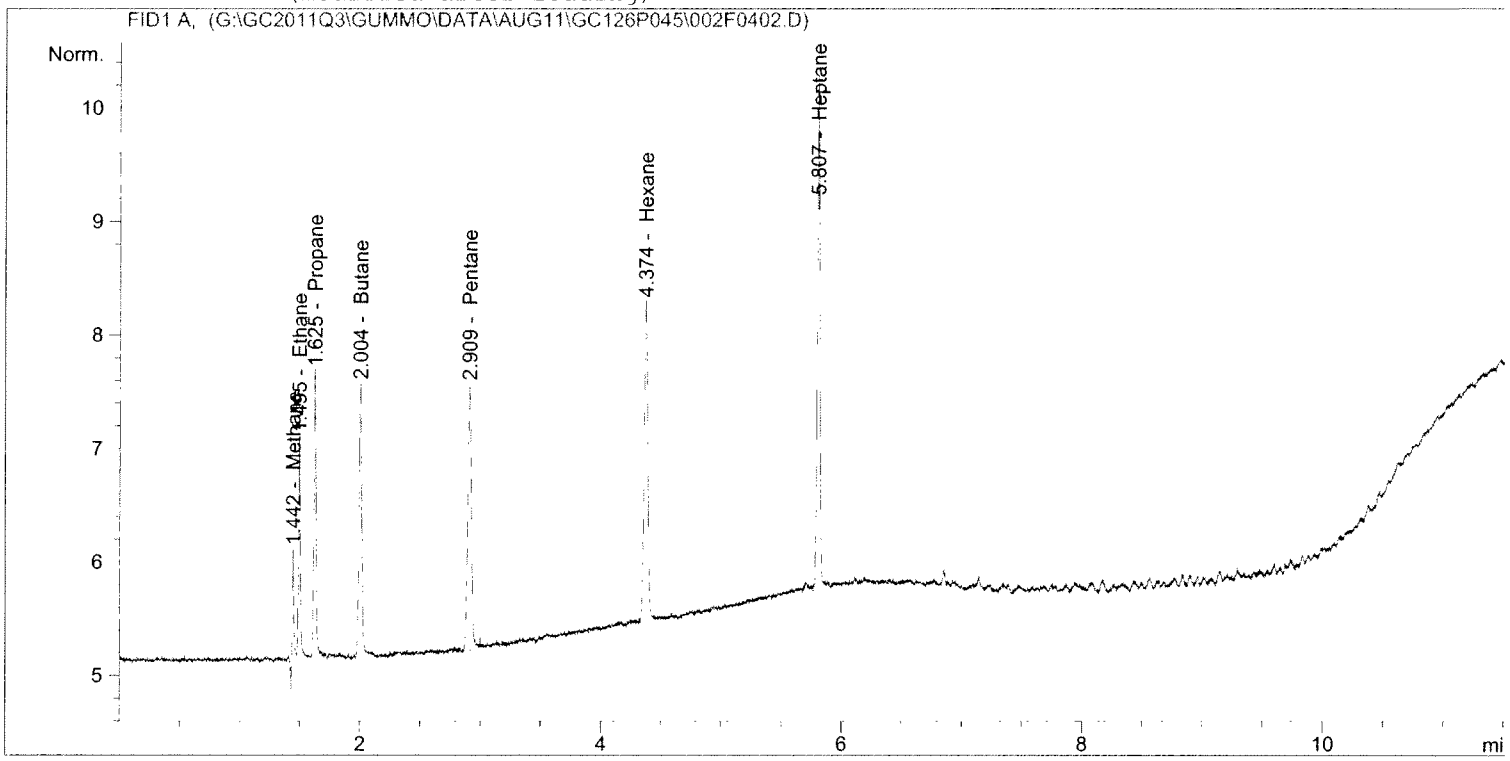
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 13:17:41                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.442 PV     8.16875e-1    5.69417    4.65142    Methane
  1.495 VB        1.99638    2.48987    4.97073    Ethane
  1.625 BP        2.93861    1.66330    4.88779    Propane
  2.004 PB        3.77301    1.28759    4.85811    Butane
  2.194              -          -          -       Acetaldehyde
  2.909 BB        5.15088 9.48787e-1    4.88708    Pentane
  4.374 BB        6.19173 7.84997e-1    4.86049    Hexane
  5.807 VB        7.10483 7.37494e-1    5.23976    Heptane

Totals :                                34.35540
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

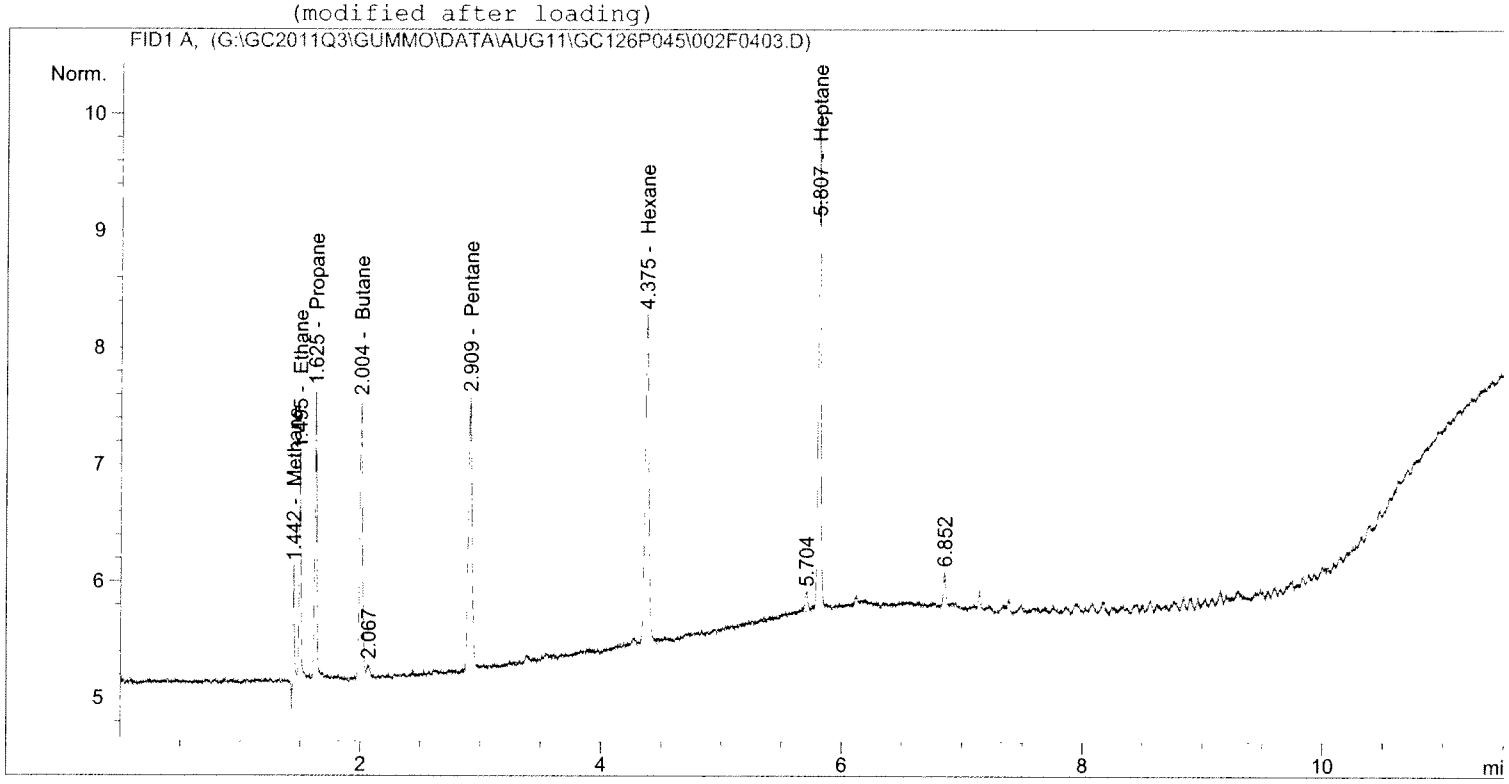
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0403.D
Sample Name: gc119p172 #C2 ENV(1=950,2=50)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 13:36:44                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.442	PV	8.64874e-1	5.63399	4.87270		Methane
1.495	VB	2.06529	2.48365	5.12947		Ethane
1.625	PB	3.00673	1.66175	4.99645		Propane
2.004	PV	3.82727	1.28660	4.92414		Butane
2.194		-	-	-		Acetaldehyde
2.909	BB	4.99685	9.47479e-1	4.73441		Pentane
4.375	VB	6.36847	7.86114e-1	5.00634		Hexane
5.807	VV	6.79720	7.38983e-1	5.02301		Heptane
Totals :				34.68652		

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

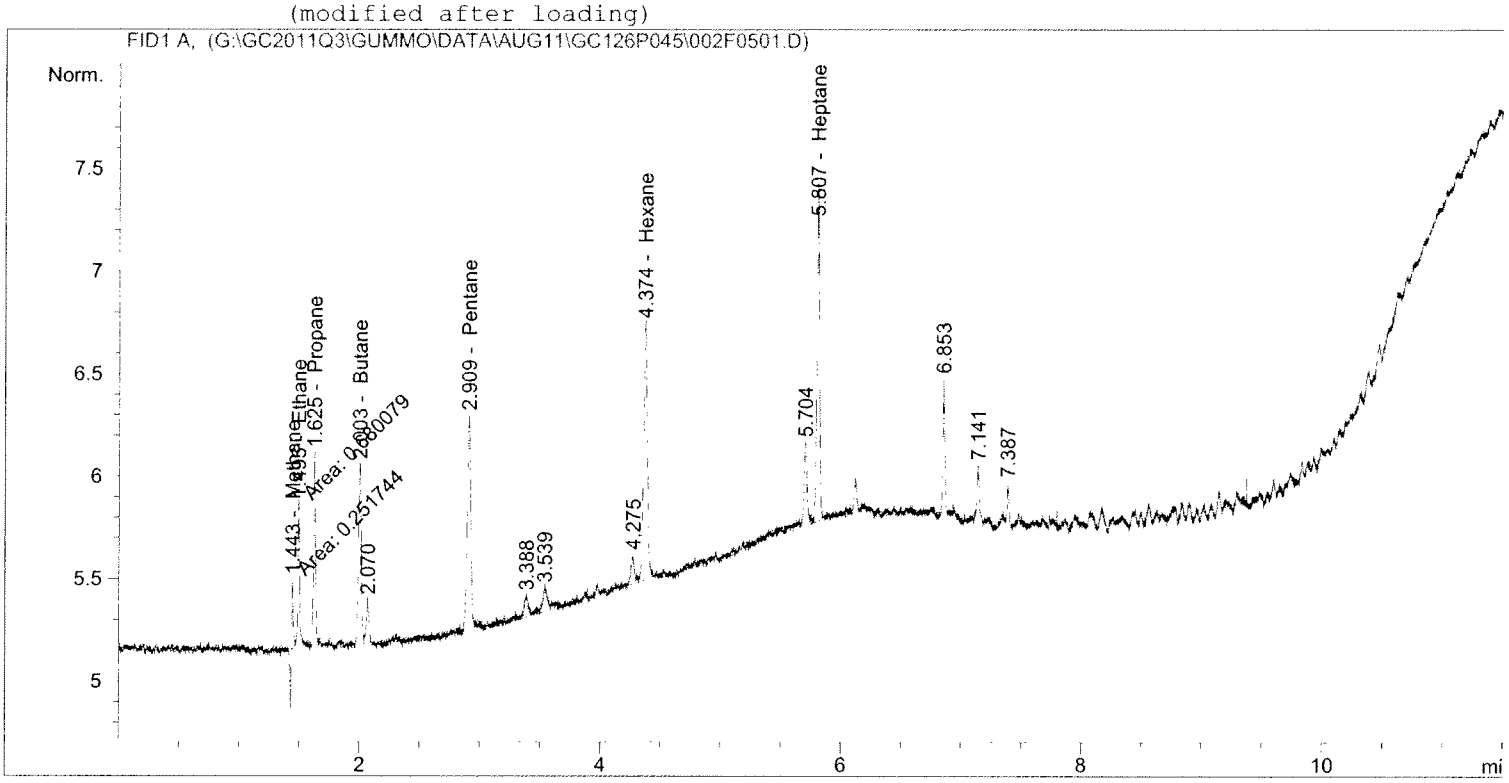
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0501.D
Sample Name: gc119p172 #C1 ENV(1=980,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 13:56:49                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.443	MM	2.51744e-1	8.12819	2.04623		Methane
1.495	MM	6.80079e-1	2.82974	1.92445		Ethane
1.625	PB	1.15805	1.76848	2.04799		Propane
2.003	BV	1.42432	1.40367	1.99928		Butane
2.194		-	-	-		Acetaldehyde
2.909	BB	2.29668	8.96061e-1	2.05796		Pentane
4.374	VB	2.73535	7.34144e-1	2.00814		Hexane
5.807	VB	2.48274	7.97848e-1	1.98085		Heptane
Totals :				14.06491		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

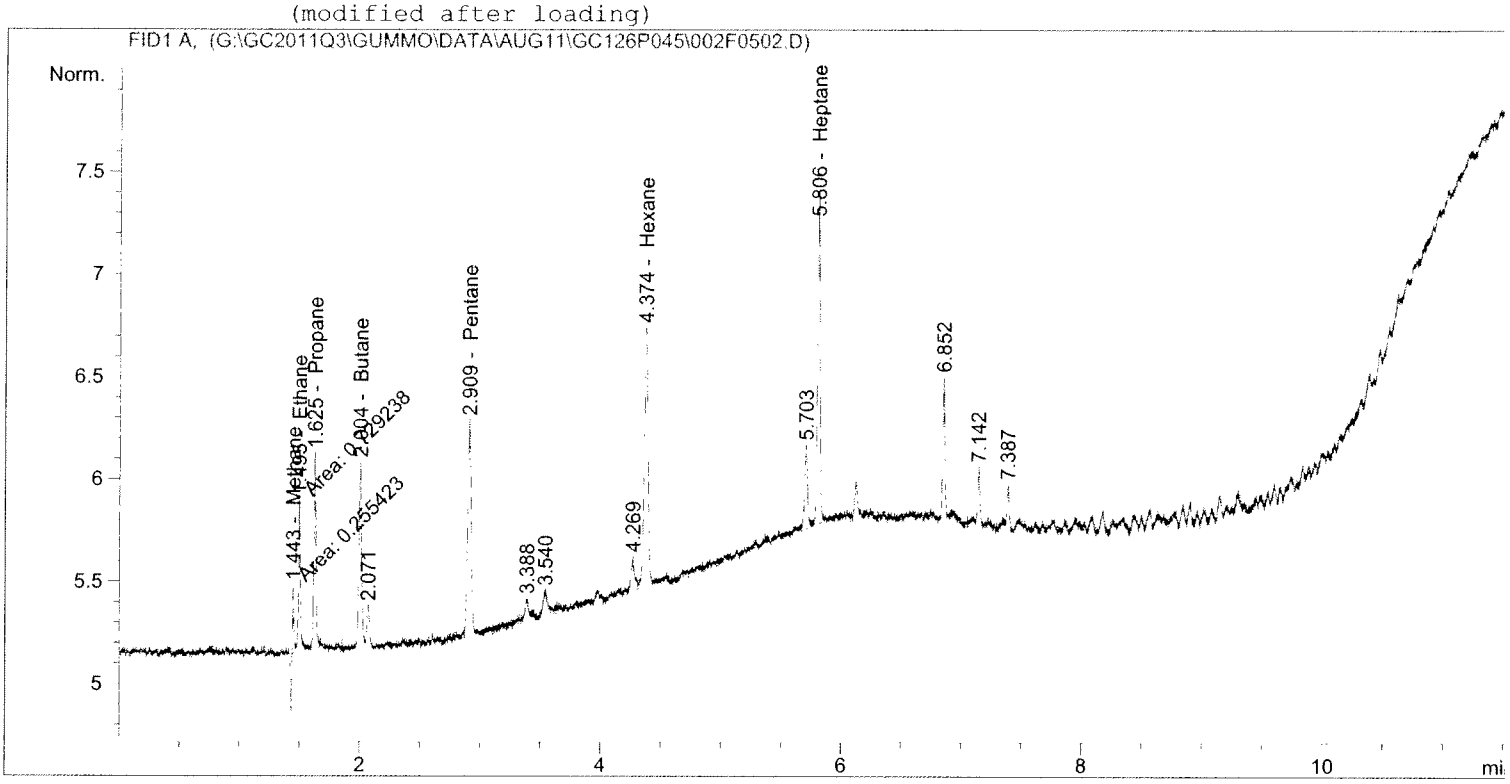
Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 14:17:02                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.443	MM	2.55423e-1	8.07752	2.06319		Methane
1.495	MM	7.29238e-1	2.81354	2.05174		Ethane
1.625	BB	1.12418	1.77311	1.99330		Propane
2.004	PV	1.46355	1.39874	2.04712		Butane
2.194		-	-	-		Acetaldehyde
2.909	VB	2.29657	8.96057e-1	2.05786		Pentane
4.374	VB	2.76821	7.35225e-1	2.03526		Hexane
5.806	VB	2.51979	7.97365e-1	2.00919		Heptane
Totals :				14.25766		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

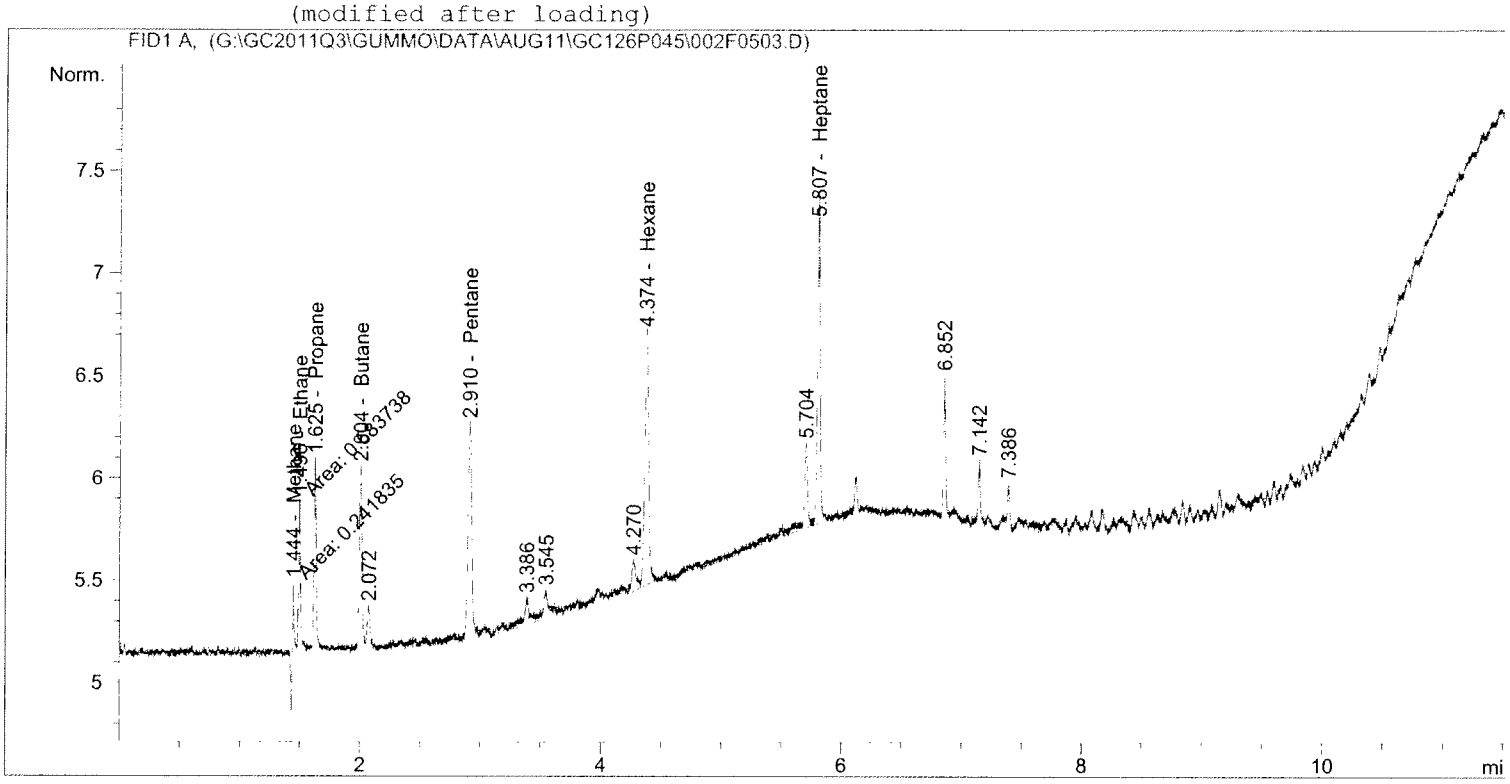
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0503.D
Sample Name: gc119p172 #C1 ENV(1=980,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 14:37:29                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.444	MM	2.41835e-1	8.27236	2.00055		Methane
1.496	MM	6.83738e-1	2.82974	1.93480		Ethane
1.625	PB	1.11207	1.77311	1.97183		Propane
2.004	PV	1.43475	1.40238	2.01207		Butane
2.194		-	-	-		Acetaldehyde
2.910	BV	2.23992	8.93650e-1	2.00171		Pentane
4.374	VB	2.77824	7.35550e-1	2.04353		Hexane
5.807	VB	2.47869	7.97848e-1	1.97762		Heptane
Totals :				13.94210		

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

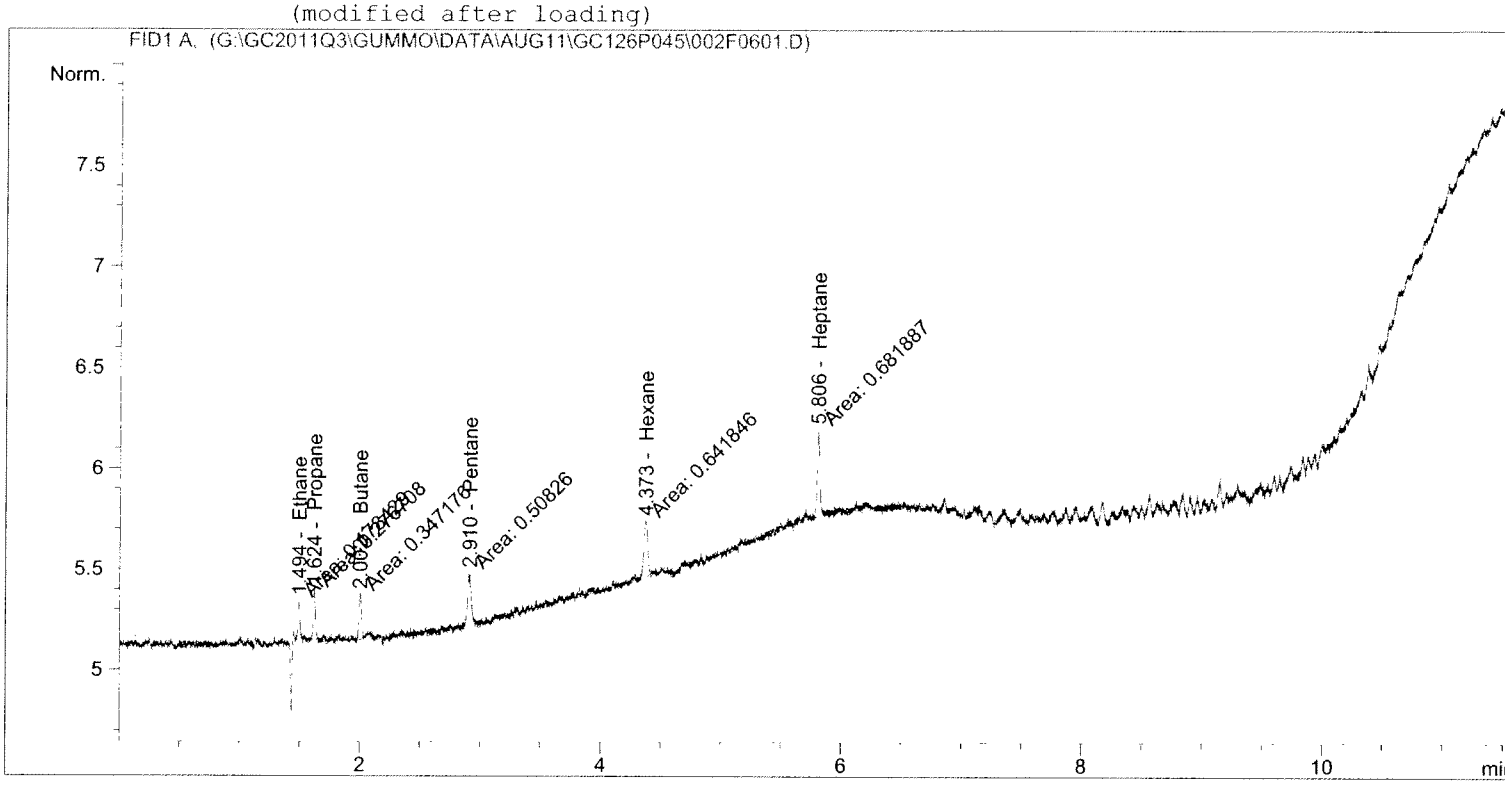
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0601.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 14:56:28                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.429		-	-	-		Methane
1.494	MM	1.78429e-1	2.82974	5.04909e-1		Ethane
1.624	MM	2.76708e-1	1.77311	4.90632e-1		Propane
2.002	MM	3.47176e-1	1.40367	4.87321e-1		Butane
2.194		-	-	-		Acetaldehyde
2.910	MM	5.08260e-1	8.93575e-1	4.54169e-1		Pentane
4.373	MM	6.41846e-1	7.33814e-1	4.70996e-1		Hexane
5.806	MM	6.81887e-1	7.97848e-1	5.44042e-1		Heptane

Totals : 2.95207

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

1 Warnings or Errors :

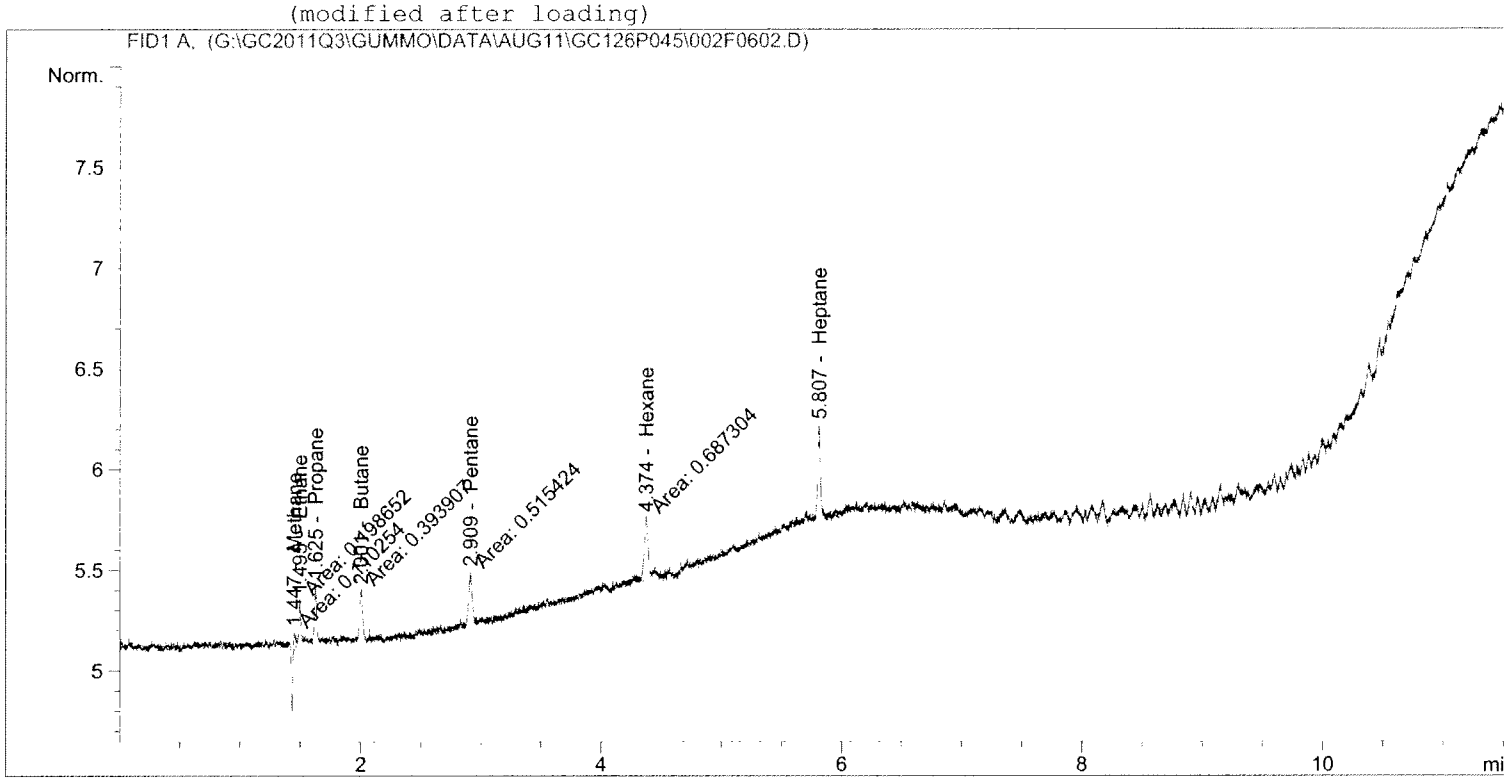
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0602.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 15:15:23                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:52:05 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.447 MM     1.10254e-1    8.27415 9.12259e-1    Methane
  1.495 MM     1.98652e-1    2.82974 5.62135e-1    Ethane
  1.625 BP     3.19289e-1    1.77311 5.66133e-1    Propane
  2.001 MM     3.93907e-1    1.40367 5.52917e-1    Butane
  2.194           -             -          -       Acetaldehyde
  2.909 MM     5.15424e-1 8.93575e-1 4.60570e-1    Pentane
  4.374 MM     6.87304e-1 7.33814e-1 5.04354e-1    Hexane
  5.807 BB     7.50083e-1 7.97848e-1 5.98452e-1    Heptane

Totals :                                 4.15682
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

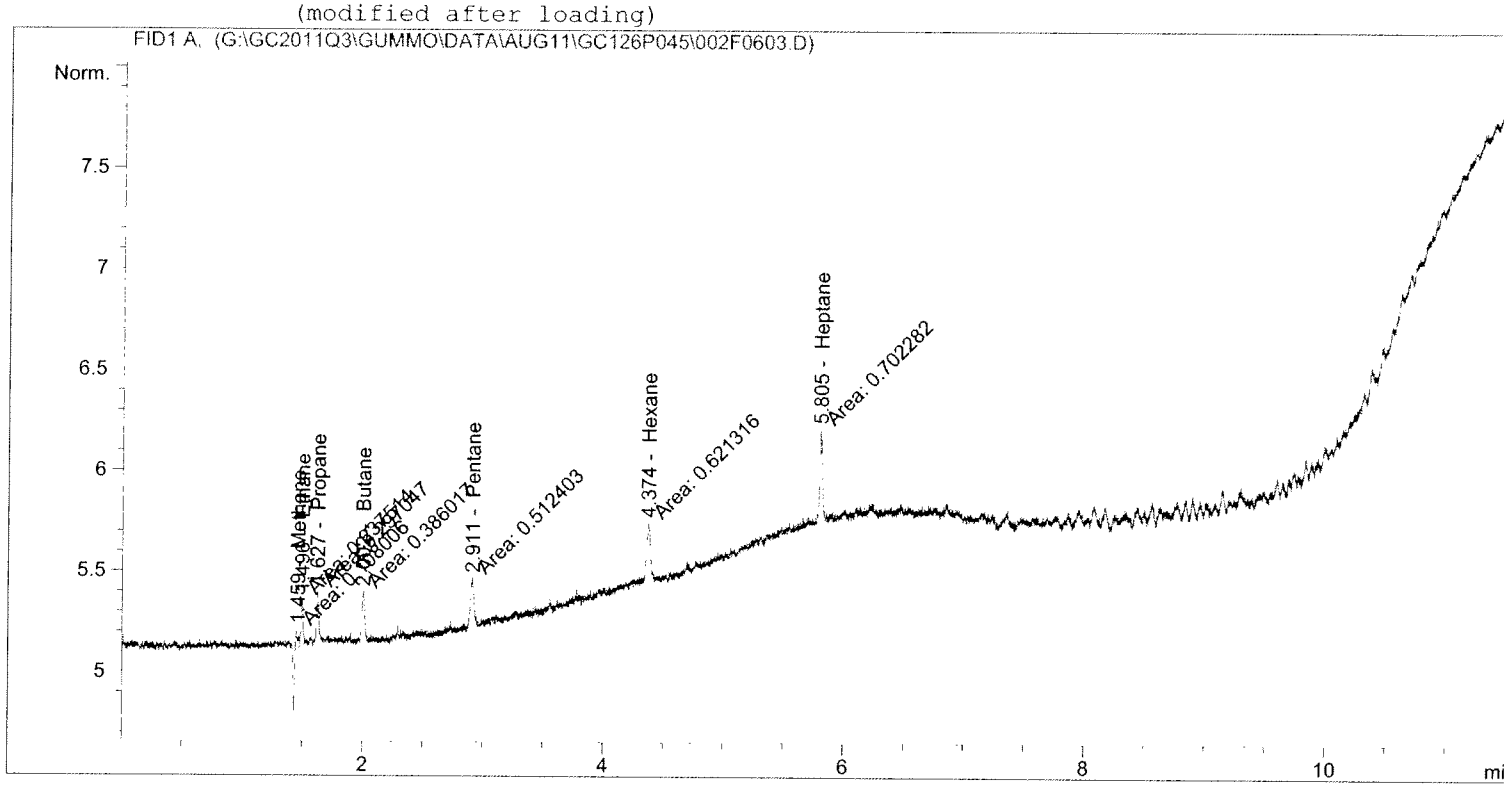
1 Warnings or Errors :

Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0603.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 15:34:24                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:56:33 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:45:41 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459	MF	1.08006e-1	8.27415	8.93662e-1		Methane
1.496	FM	2.37514e-1	2.82974	6.72104e-1		Ethane
1.627	MM	2.97047e-1	1.77311	5.26696e-1		Propane
2.002	MM	3.86017e-1	1.40367	5.41842e-1		Butane
2.194		-	-	-		Acetaldehyde
2.911	MM	5.12403e-1	8.93575e-1	4.57871e-1		Pentane
4.374	MM	6.21316e-1	7.33814e-1	4.55930e-1		Hexane
5.805	MM	7.02282e-1	7.97848e-1	5.60314e-1		Heptane

Totals : 4.10842

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

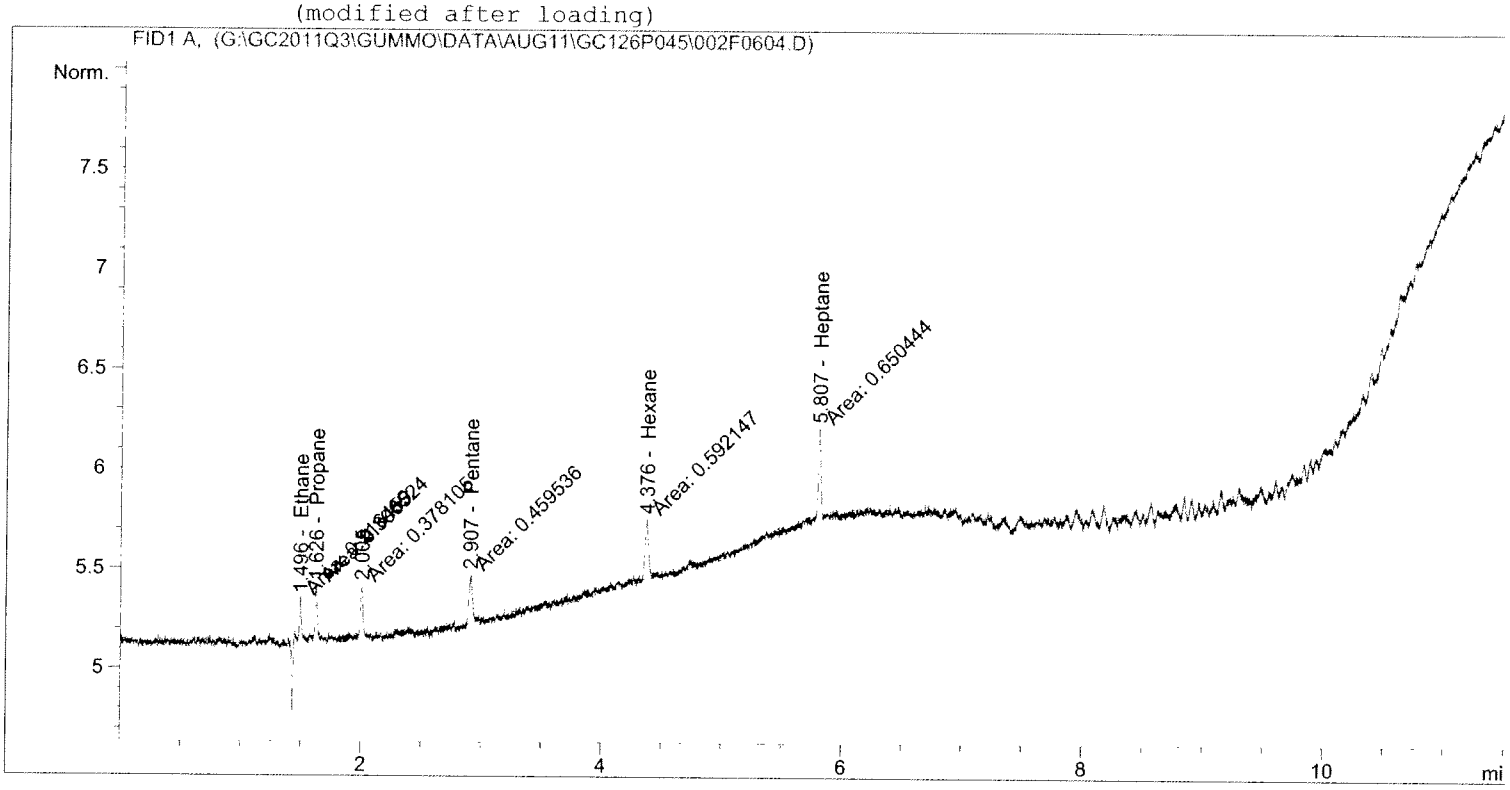
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0604.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 15:53:23                       Inj :   4
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:56:33 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:57:15 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496	MM	2.16459e-1	2.82974	6.12525e-1		Ethane
1.626	MM	3.06524e-1	1.77311	5.43500e-1		Propane
1.979		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.907	MM	4.59536e-1	8.93575e-1	4.10630e-1		Pentane
4.376	MM	5.92147e-1	7.33814e-1	4.34526e-1		Hexane
5.807	MM	6.50444e-1	7.97848e-1	5.18956e-1		Heptane
Totals :				2.52014		

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

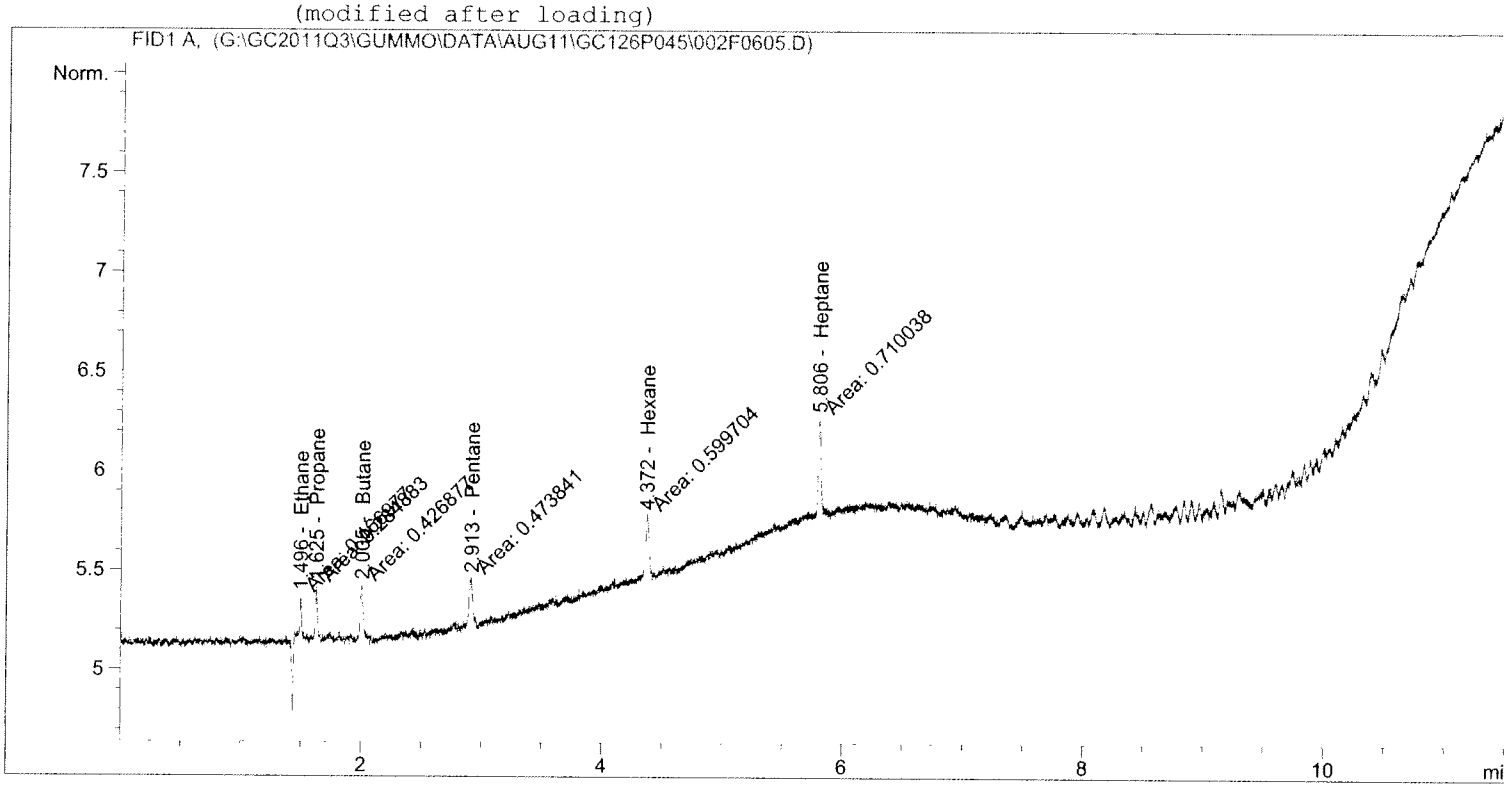
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0605.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 16:13:43                       Inj :   5
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:02:37 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:02:36 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496	MM	1.66977e-1	2.82974	4.72502e-1		Ethane
1.625	MM	2.84883e-1	1.77311	5.05128e-1		Propane
2.005	MM	4.26877e-1	1.40367	5.99195e-1		Butane
2.194		-	-	-		Acetaldehyde
2.913	MM	4.73841e-1	8.93575e-1	4.23412e-1		Pentane
4.372	MM	5.99704e-1	7.33814e-1	4.40071e-1		Hexane
5.806	MM	7.10038e-1	7.97848e-1	5.66502e-1		Heptane

Totals : 3.00681

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

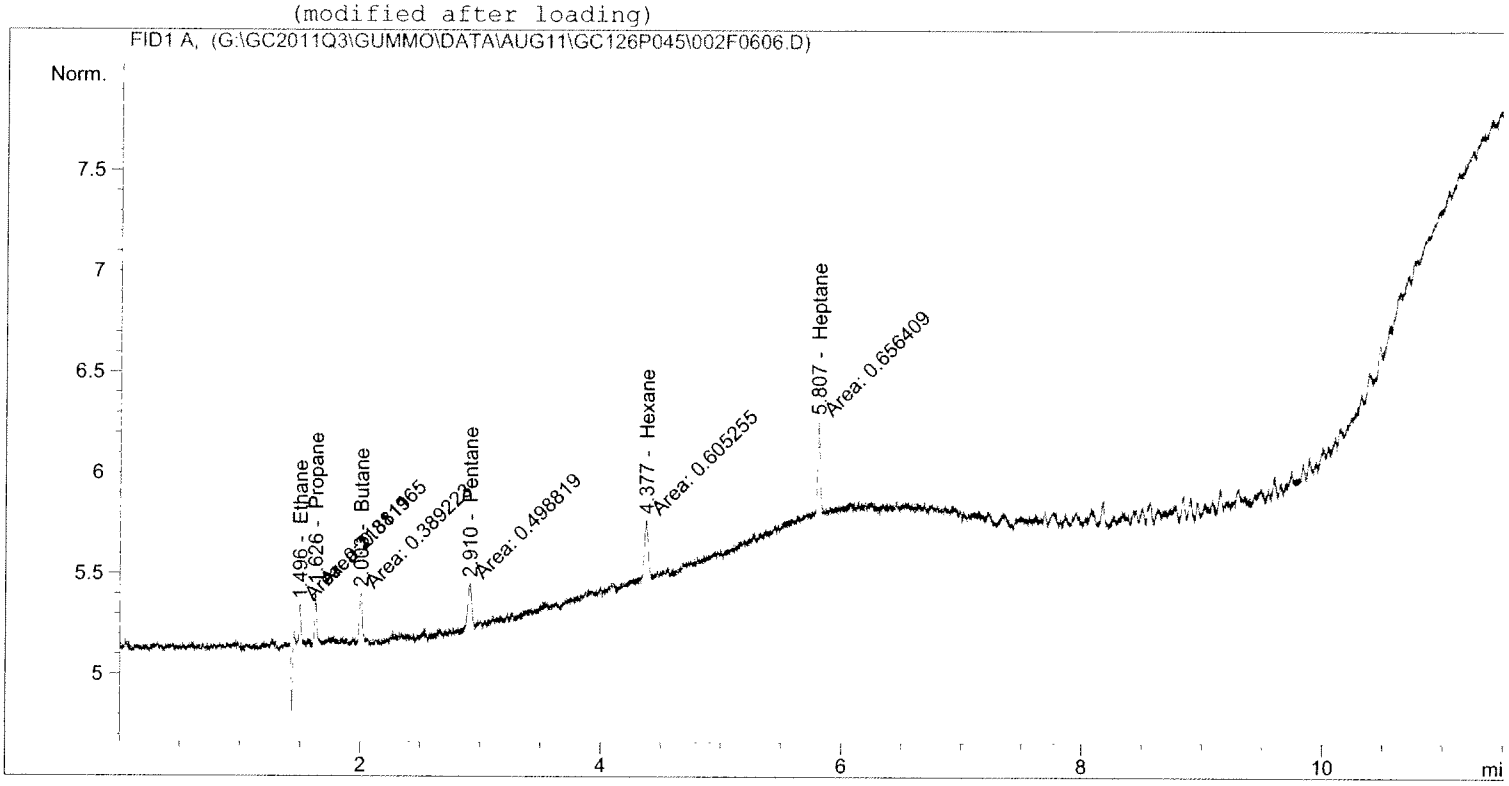
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0606.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 16:34:00                       Inj :   6
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 1:56:33 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 1:57:15 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496	MM	2.18811e-1	2.82974	6.19179e-1		Ethane
1.626	MM	3.11965e-1	1.77311	5.53149e-1		Propane
2.003	MM	3.89223e-1	1.40367	5.46342e-1		Butane
2.194		-	-	-		Acetaldehyde
2.910	MM	4.98819e-1	8.93575e-1	4.45733e-1		Pentane
4.377	MM	6.05255e-1	7.33814e-1	4.44145e-1		Hexane
5.807	MM	6.56409e-1	7.97848e-1	5.23714e-1		Heptane

Totals : 3.13226

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

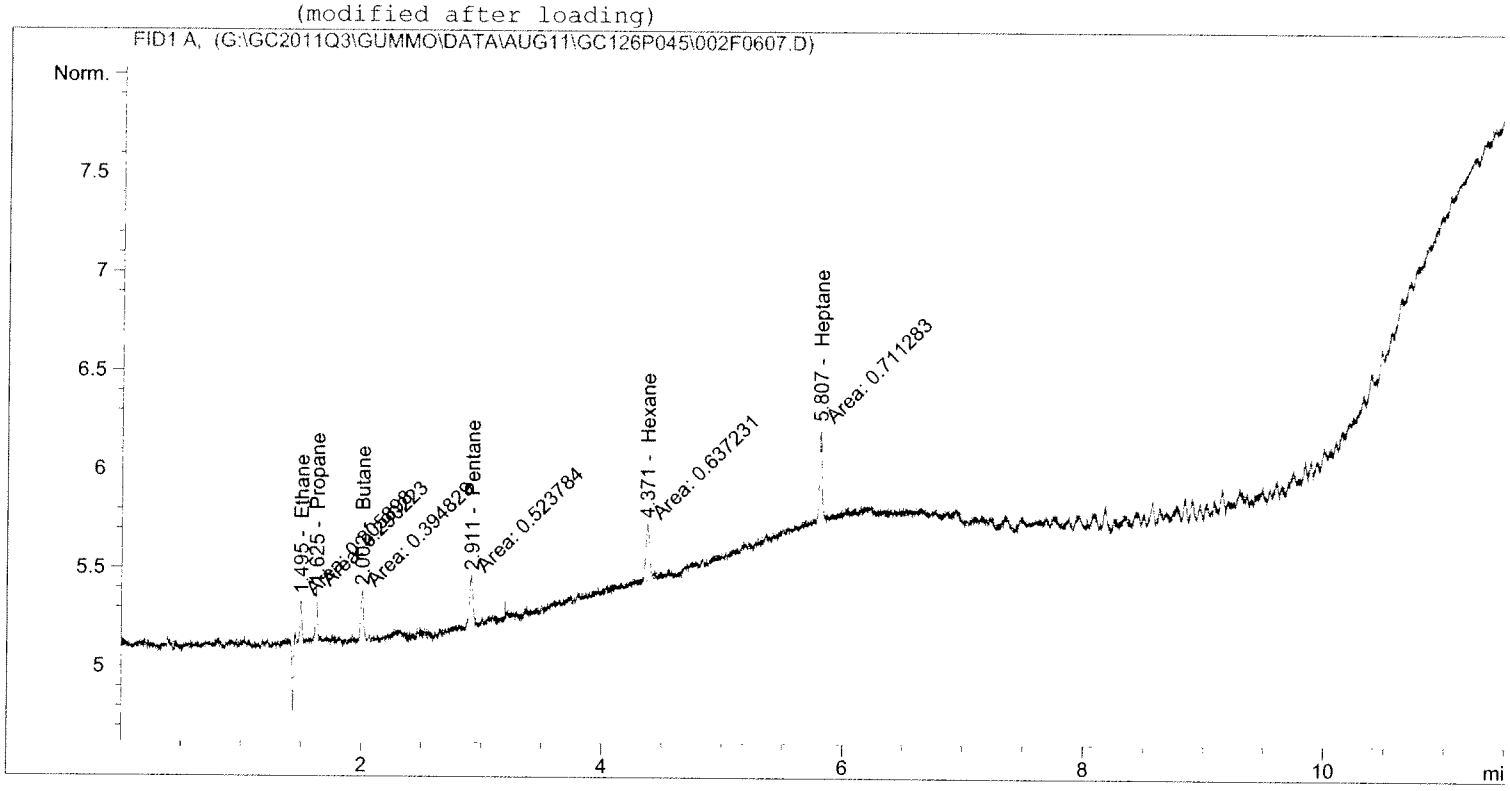
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\002F0607.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 18-Aug-11, 16:53:01                       Inj :   7
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:02:37 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:03:02 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.495	MM	2.05898e-1	2.82974	5.82639e-1		Ethane
1.625	MM	2.90223e-1	1.77311	5.14598e-1		Propane
2.002	MM	3.94829e-1	1.40367	5.54211e-1		Butane
2.194		-	-	-		Acetaldehyde
2.911	MM	5.23784e-1	8.93575e-1	4.68040e-1		Pentane
4.371	MM	6.37231e-1	7.33814e-1	4.67609e-1		Hexane
5.807	MM	7.11283e-1	7.97848e-1	5.67496e-1		Heptane

Totals : 3.15459

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.425		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.183		-	-	-		Pentane
5.767		-	-	-		Hexane
6.909		-	-	-		Heptane

Totals : 0.00000

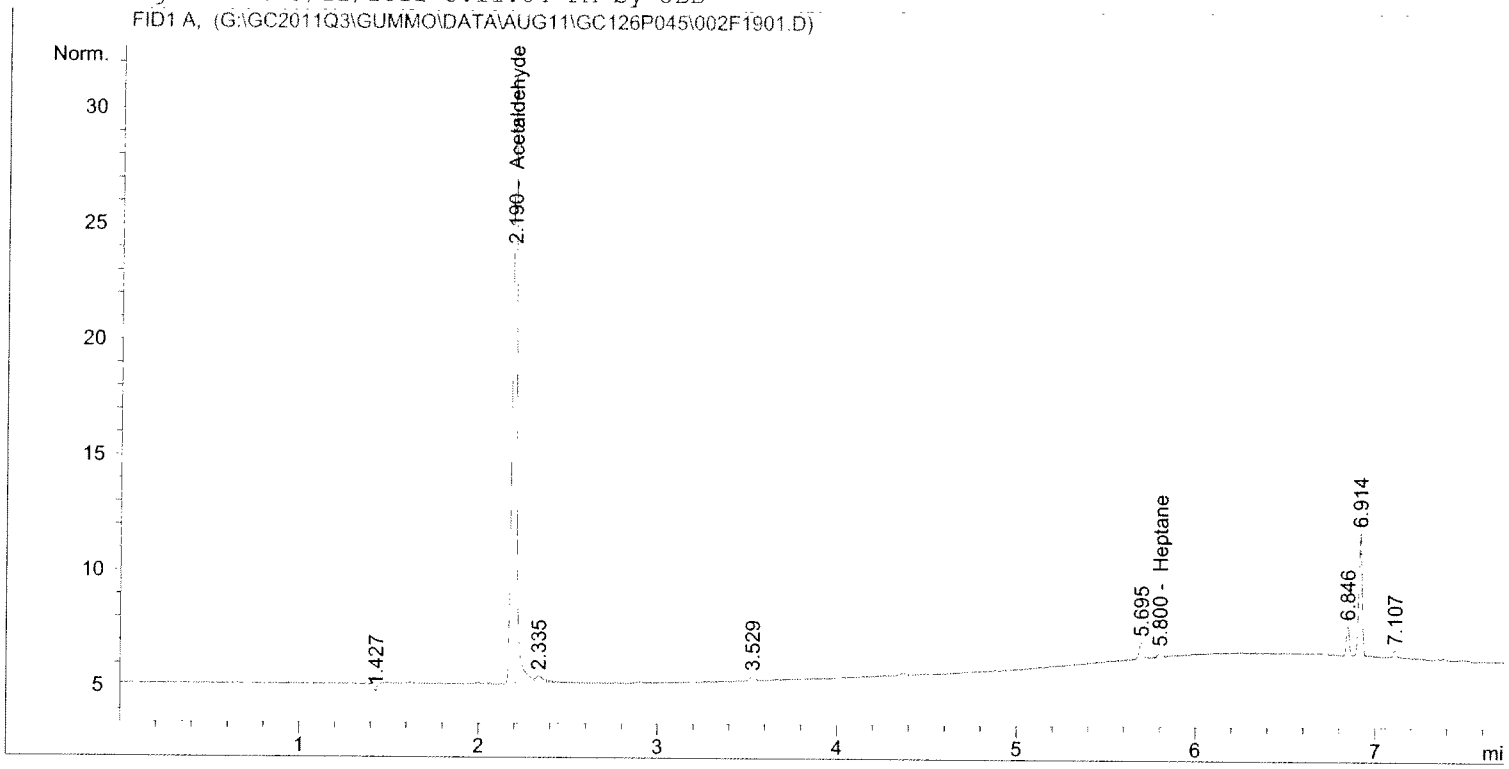
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 09:58:36                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.190	VV	45.57650	5.33697	243.24032		Acetaldehyde
2.906		-	-	-		Pentane
4.369		-	-	-		Hexane
5.800	VV	5.09429e-1	7.97848e-1	4.06447e-1		Heptane

Totals : 243.64677

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398	-	-	-			Methane
1.526	-	-	-			Ethane
1.835	-	-	-			Propane
2.296	-	-	-			Acetaldehyde
2.675	-	-	-			Butane
4.175	-	-	-			Pentane
5.763	-	-	-			Hexane
6.924	-	-	-			Heptane

Totals : 0.00000

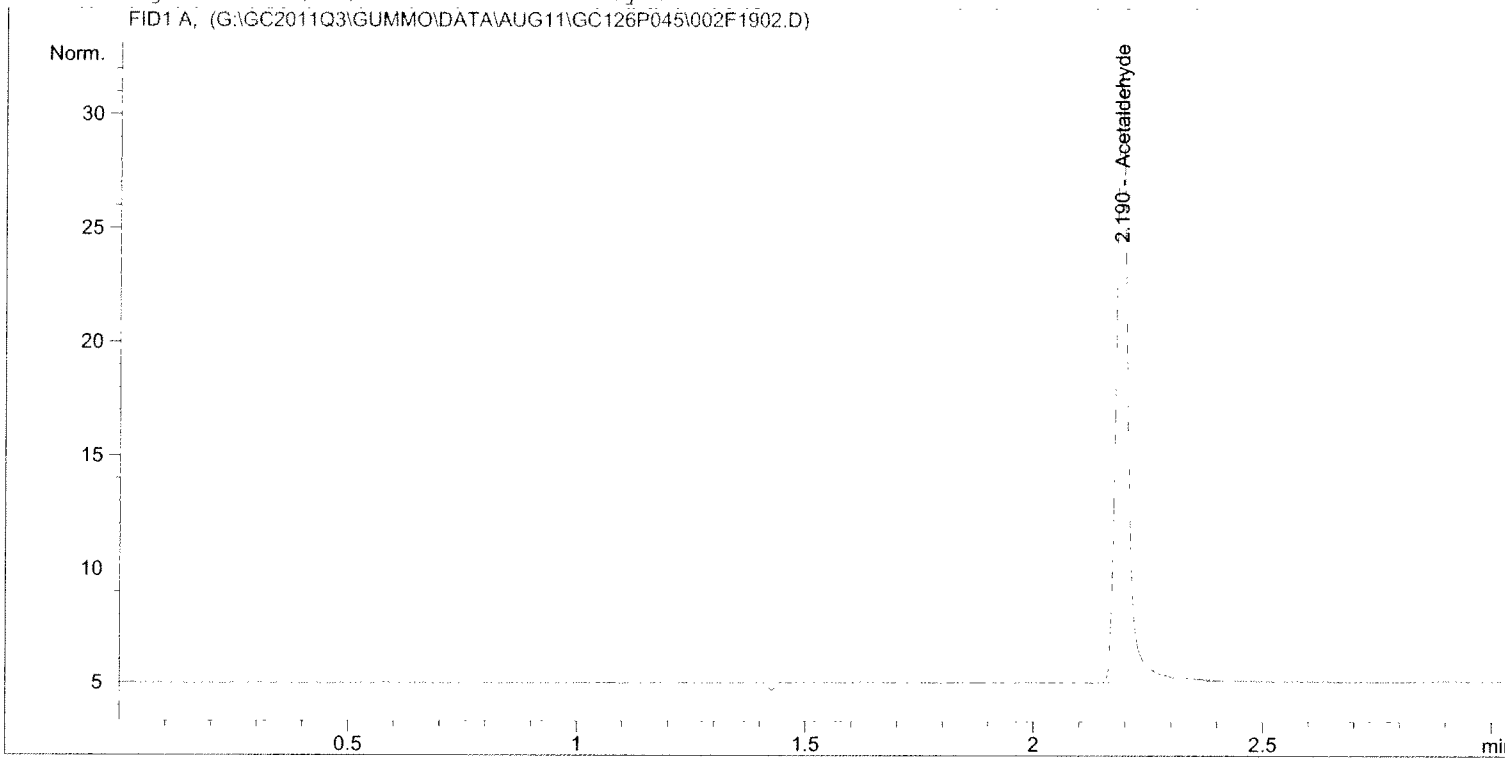
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument : Gummo                                  Location : Vial 2
Injection Date  : 19-Aug-11, 10:12:48                        Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -          -          -         Methane
  1.496           -          -          -         Ethane
  1.625           -          -          -         Propane
  2.005           -          -          -         Butane
  2.190 BB      47.70863    5.33643  254.59398    Acetaldehyde
  2.906           -          -          -         Pentane
  4.369           -          -          -         Hexane
  5.802           -          -          -         Heptane

Totals :                              254.59398
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

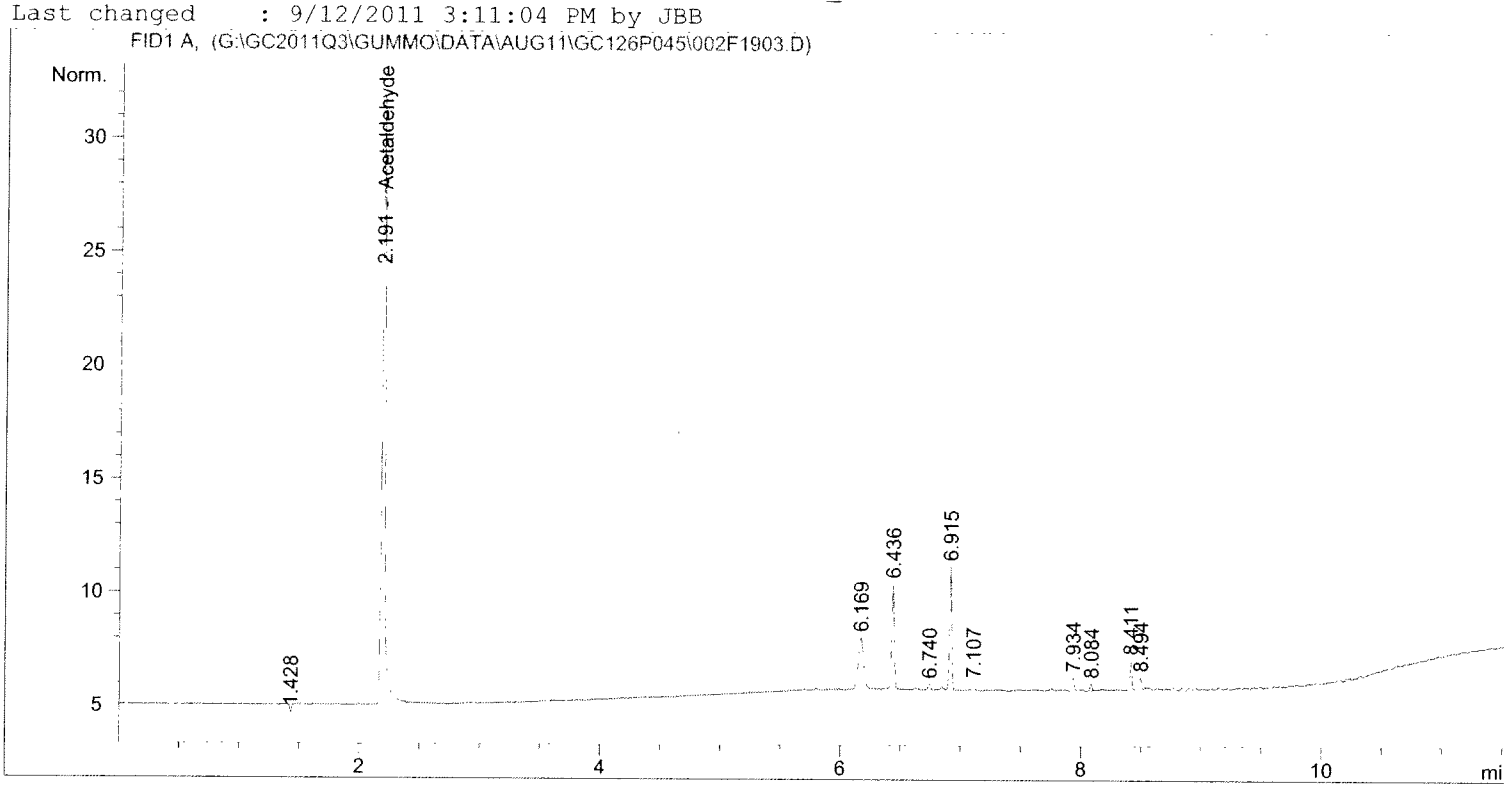
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 10:20:17                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.191	BB	48.01619	5.33636	256.23173		Acetaldehyde
2.906		-	-	-		Pentane
4.369		-	-	-		Hexane
5.802		-	-	-		Heptane

Totals : 256.23173

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

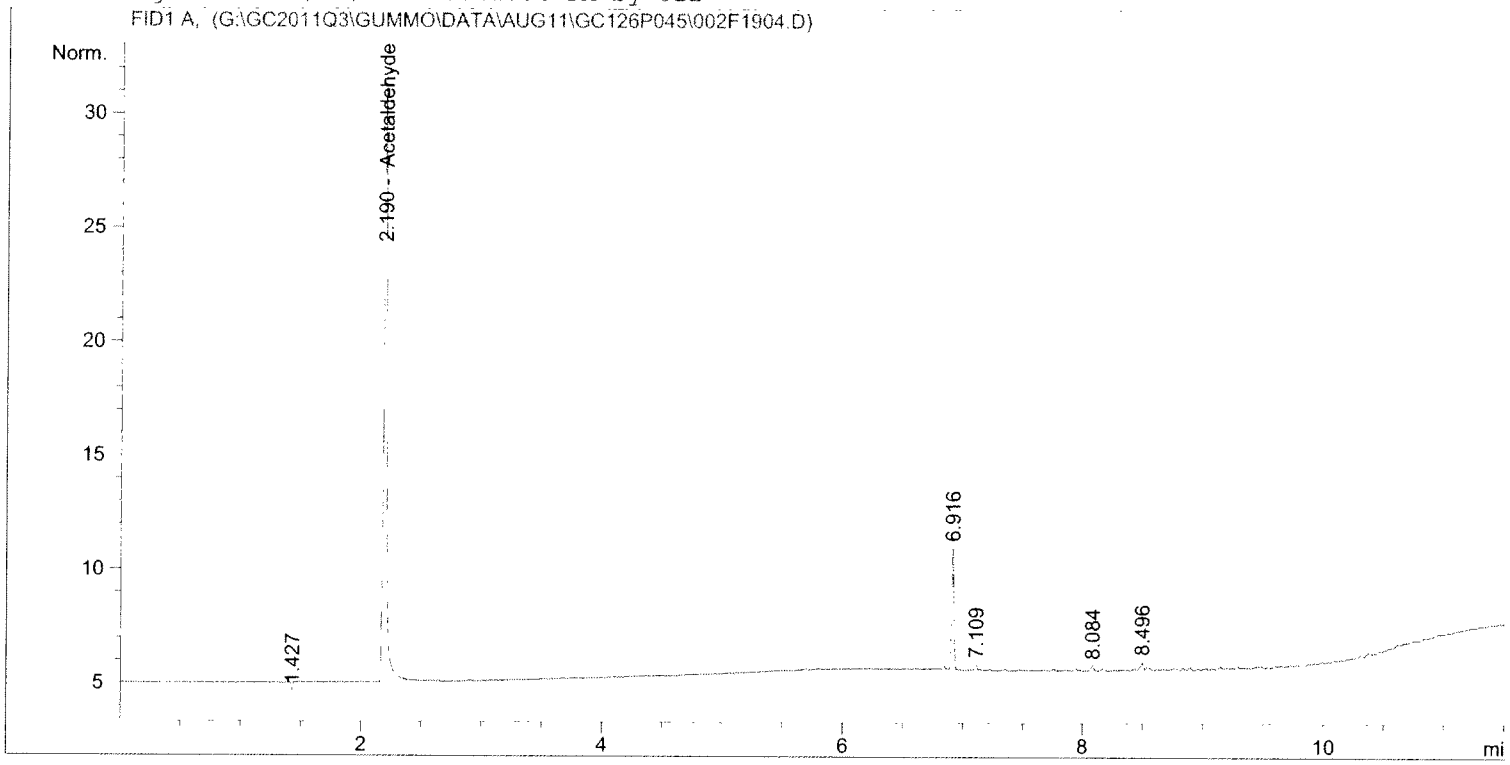
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 10:39:10                       Inj :   4
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -          -          -          Methane
  1.496           -          -          -          Ethane
  1.625           -          -          -          Propane
  2.005           -          -          -          Butane
  2.190 BB      47.53924    5.33648  253.69198     Acetaldehyde
  2.906           -          -          -          Pentane
  4.369           -          -          -          Hexane
  5.802           -          -          -          Heptane

Totals :                              253.69198
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

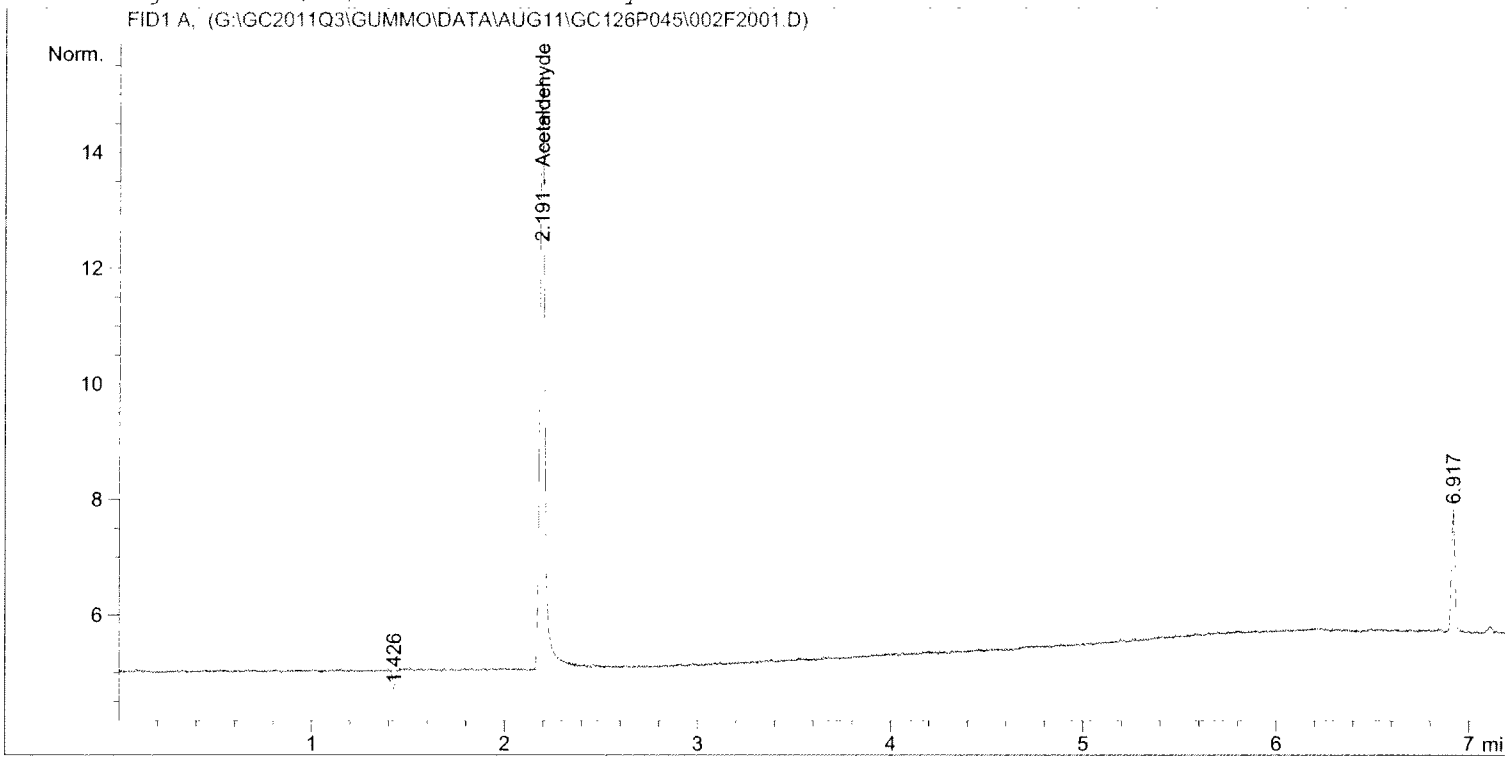
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 10:58:02                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -           -          -          Methane
  1.496           -           -          -          Ethane
  1.625           -           -          -          Propane
  2.005           -           -          -          Butane
  2.191 VB     18.85737    5.35387  100.95988       Acetaldehyde
  2.906           -           -          -          Pentane
  4.369           -           -          -          Hexane
  5.802           -           -          -          Heptane

Totals :                              100.95988
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

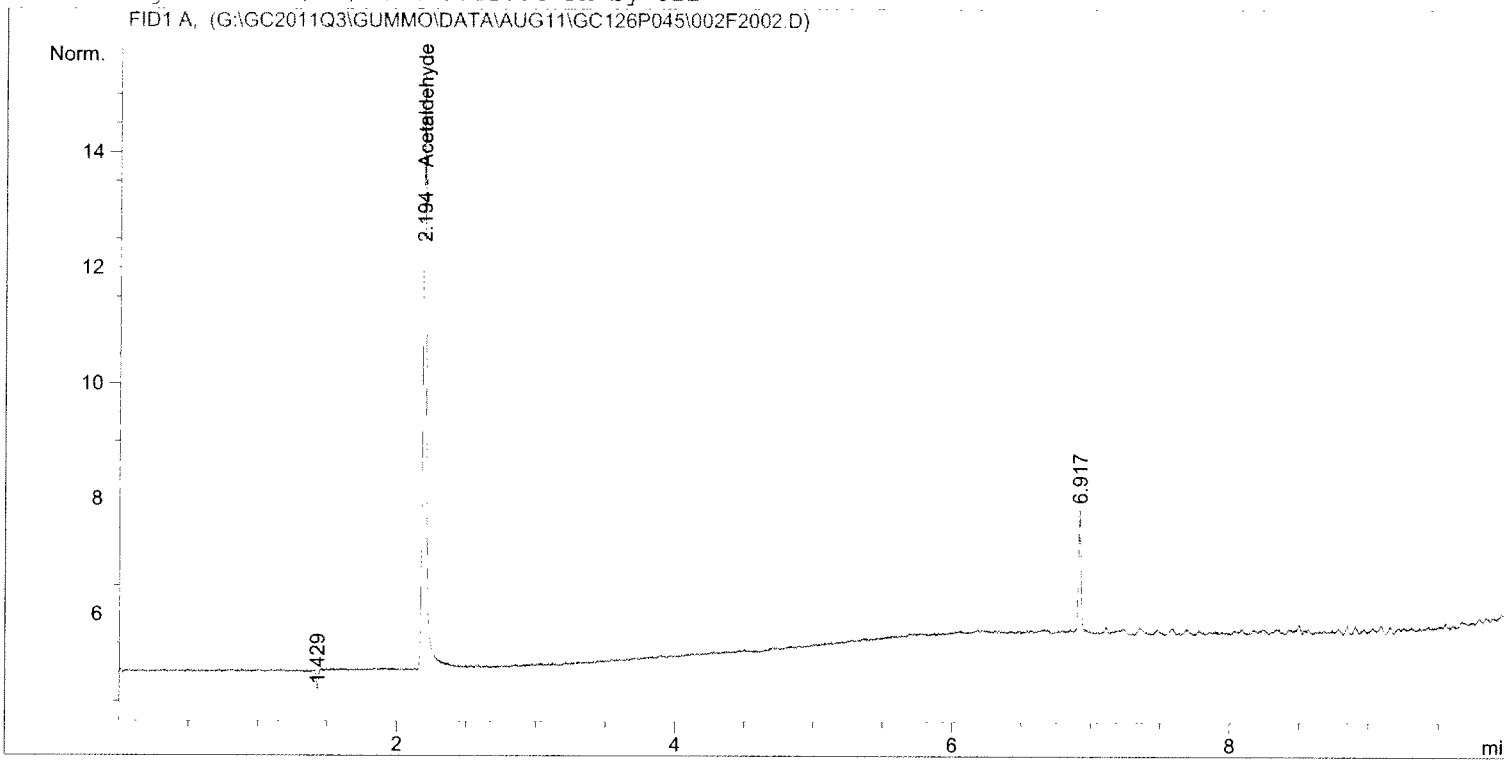
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 11:11:18                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194	BB	18.75826	5.35402	100.43214		Acetaldehyde
2.906		-	-	-		Pentane
4.369		-	-	-		Hexane
5.802		-	-	-		Heptane

Totals : 100.43214

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

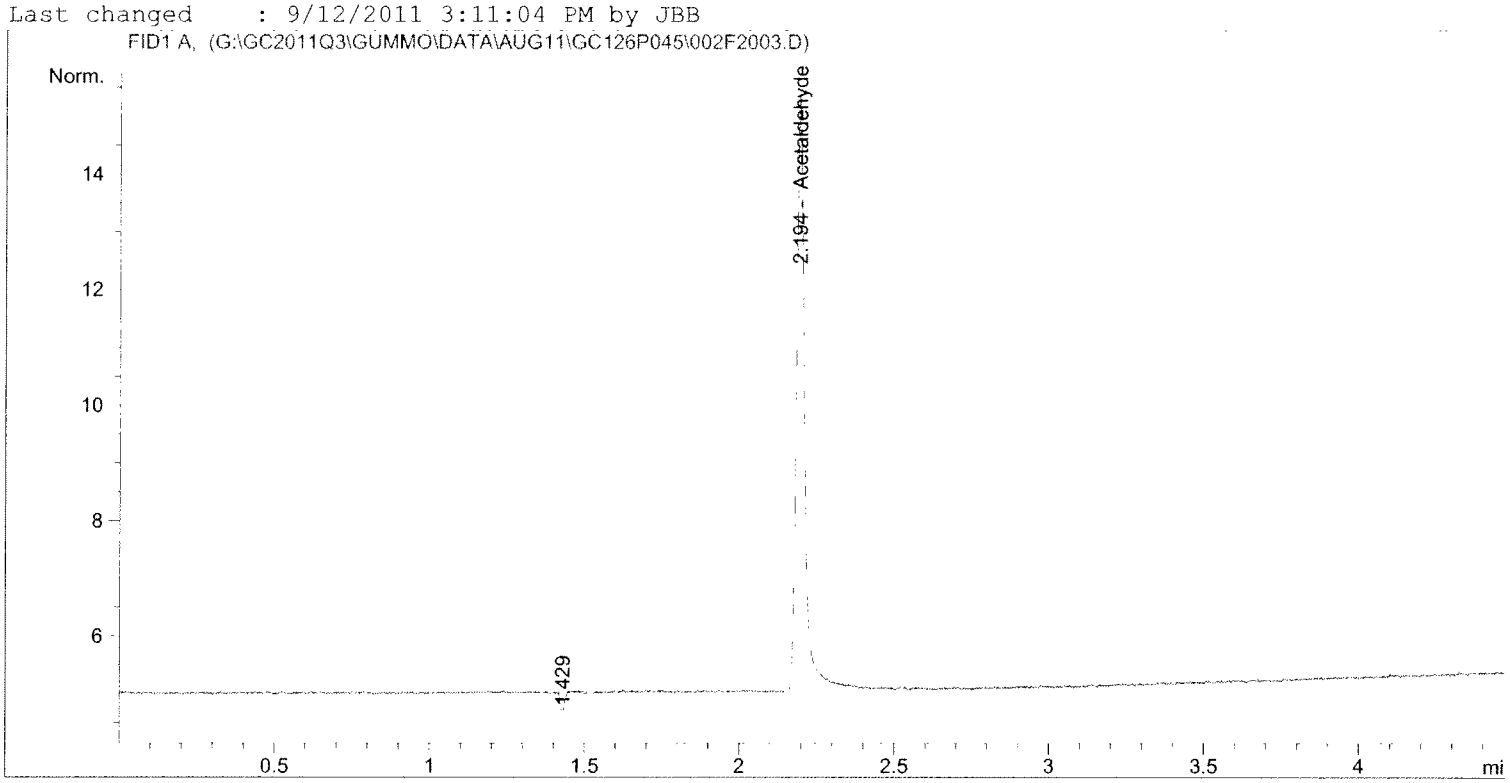
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  20
Acq. Instrument : Gummo                                 Location : Vial 2
Injection Date  : 19-Aug-11, 11:28:19                       Inj :   3
                                                      Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -           -          -          Methane
  1.496           -           -          -          Ethane
  1.625           -           -          -          Propane
  2.005           -           -          -          Butane
  2.194 BB    18.52019    5.35439   99.16437        Acetaldehyde
  2.906           -           -          -          Pentane
  4.369           -           -          -          Hexane
  5.802           -           -          -          Heptane

Totals :                              99.16437
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

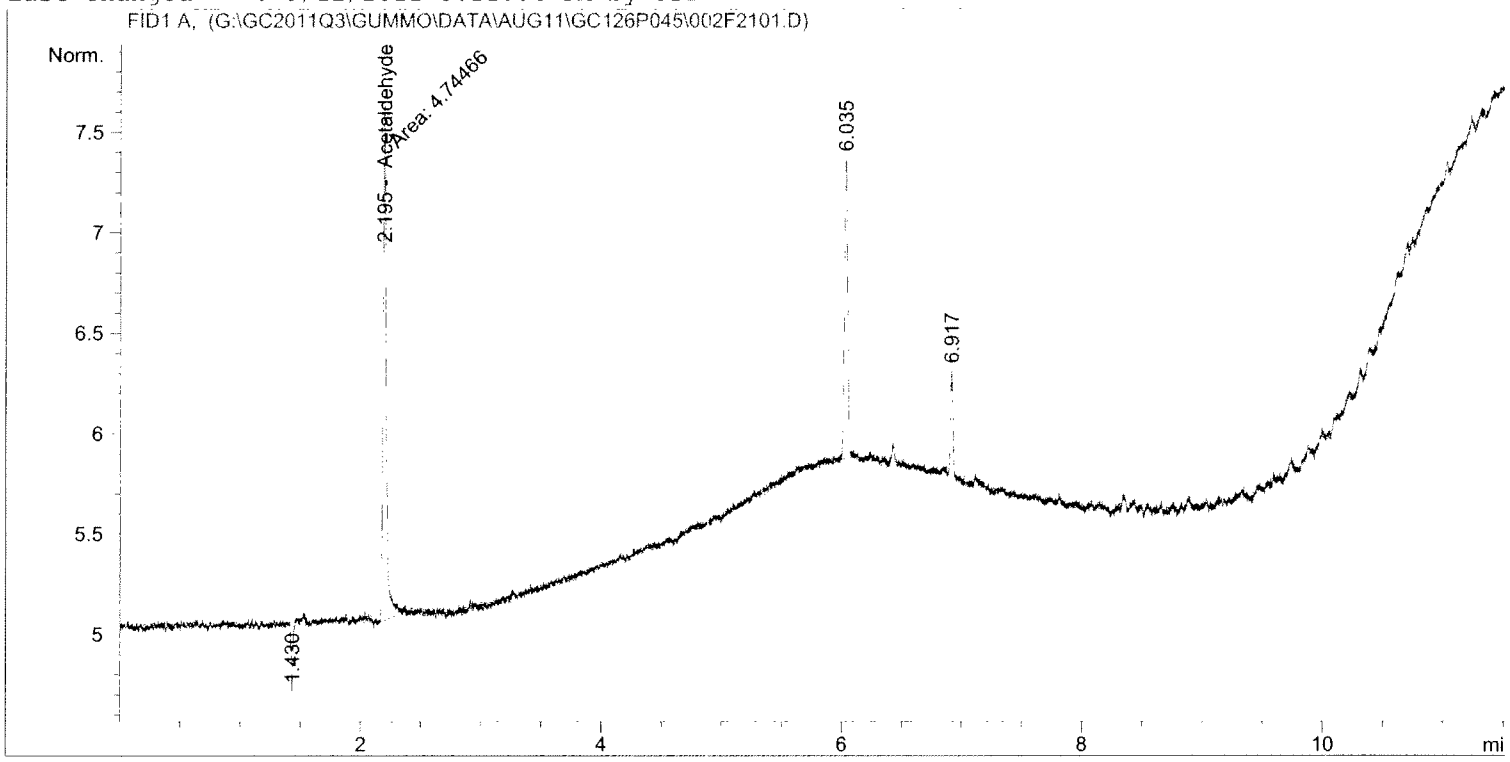
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  21
Acq. Instrument  : Gummo                             Location : Vial 2
Injection Date   : 19-Aug-11, 11:37:56                    Inj :   1
                                                   Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459            -           -          -          Methane
  1.496            -           -          -          Ethane
  1.625            -           -          -          Propane
  2.005            -           -          -          Butane
  2.195 MM       4.74466     5.43962   25.80917      Acetaldehyde
  2.906            -           -          -          Pentane
  4.369            -           -          -          Hexane
  5.802            -           -          -          Heptane

Totals :                                 25.80917
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

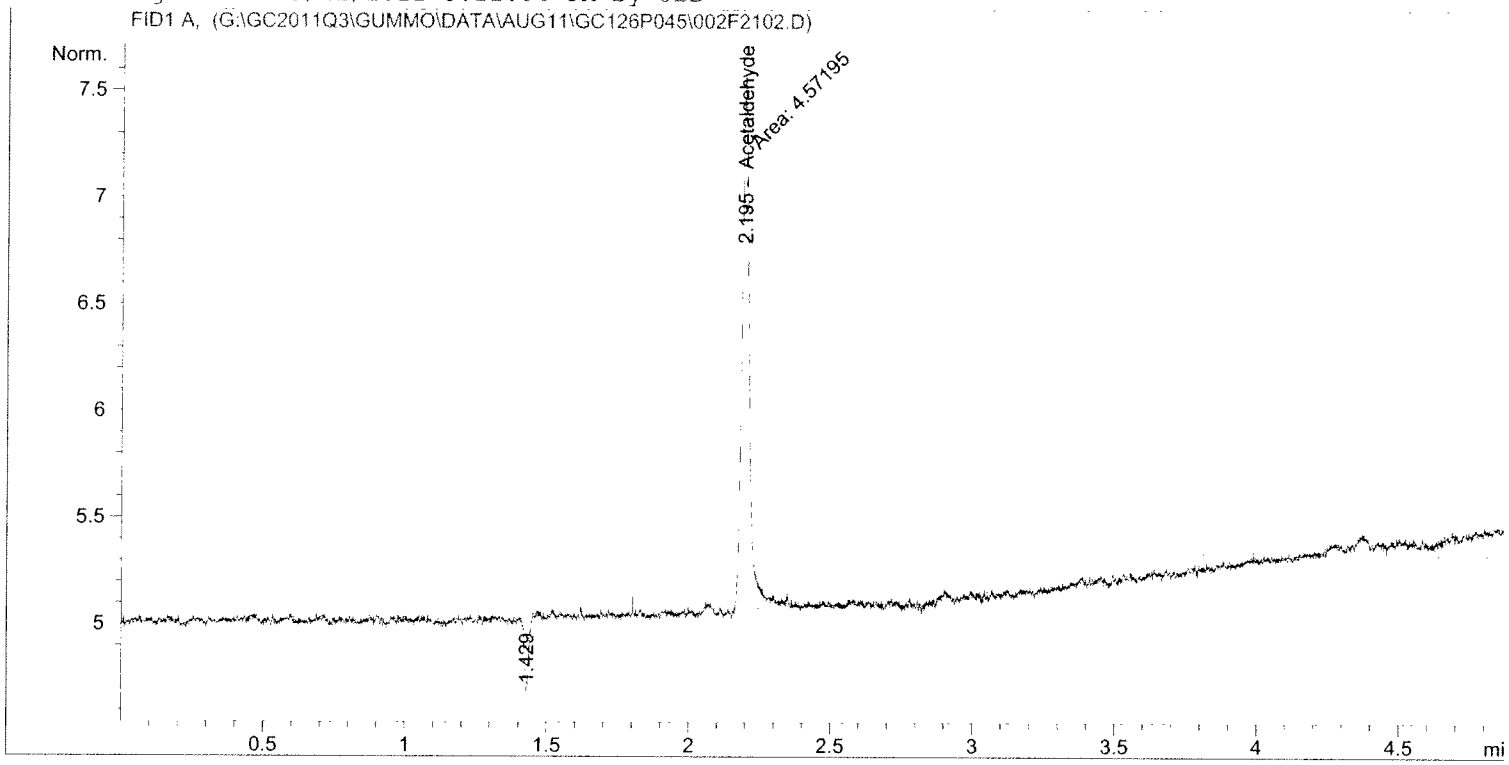
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 11:56:50                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.195	MM	4.57195	5.44395	24.88946		Acetaldehyde
2.906		-	-	-		Pentane
4.369		-	-	-		Hexane
5.802		-	-	-		Heptane

Totals : 24.88946

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

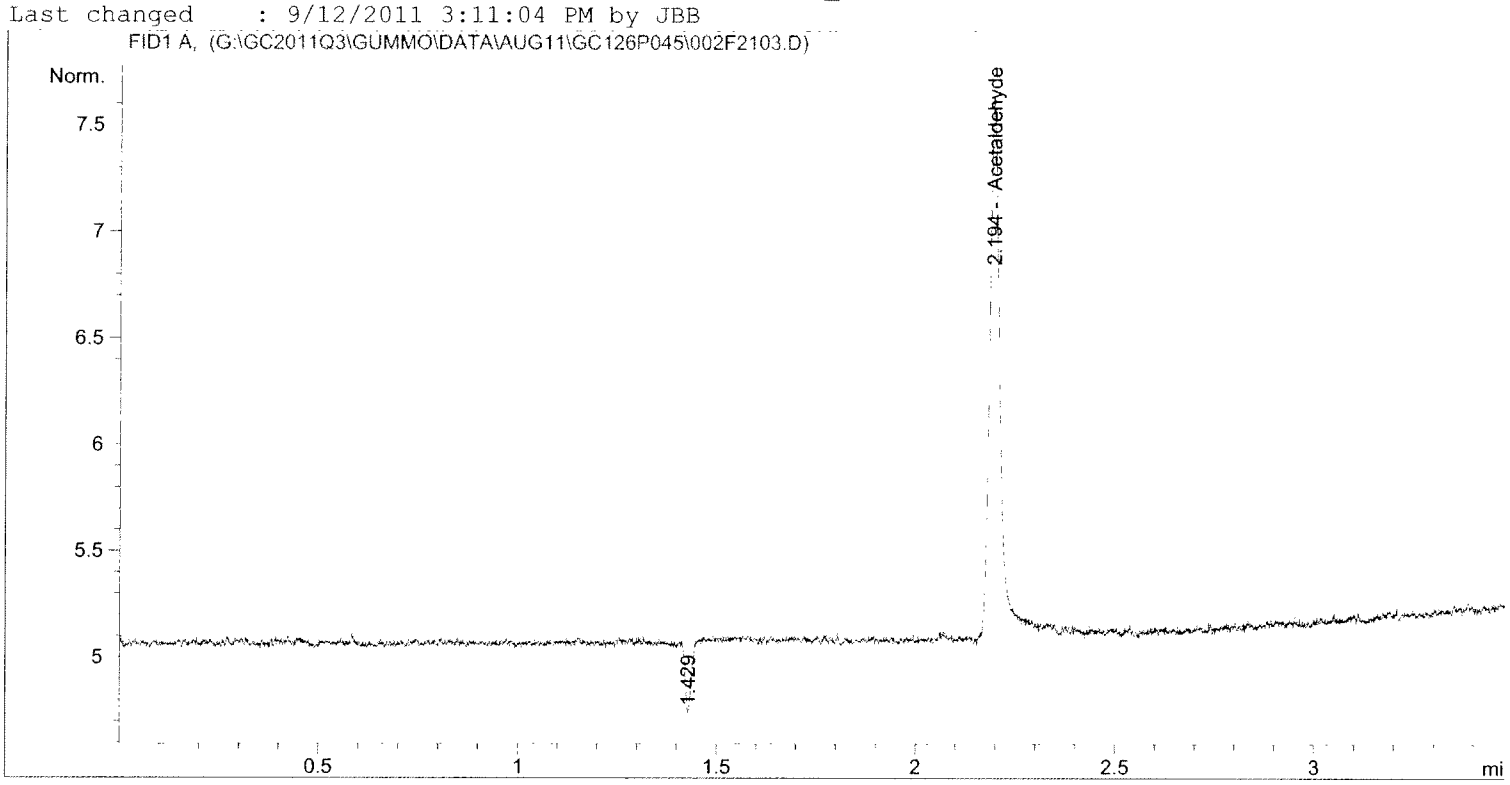
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 12:07:02                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -          -          -         Methane
  1.496           -          -          -         Ethane
  1.625           -          -          -         Propane
  2.005           -          -          -         Butane
  2.194 BB      4.40103    5.44857   23.97933     Acetaldehyde
  2.906           -          -          -         Pentane
  4.369           -          -          -         Hexane
  5.802           -          -          -         Heptane

Totals :                               23.97933
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

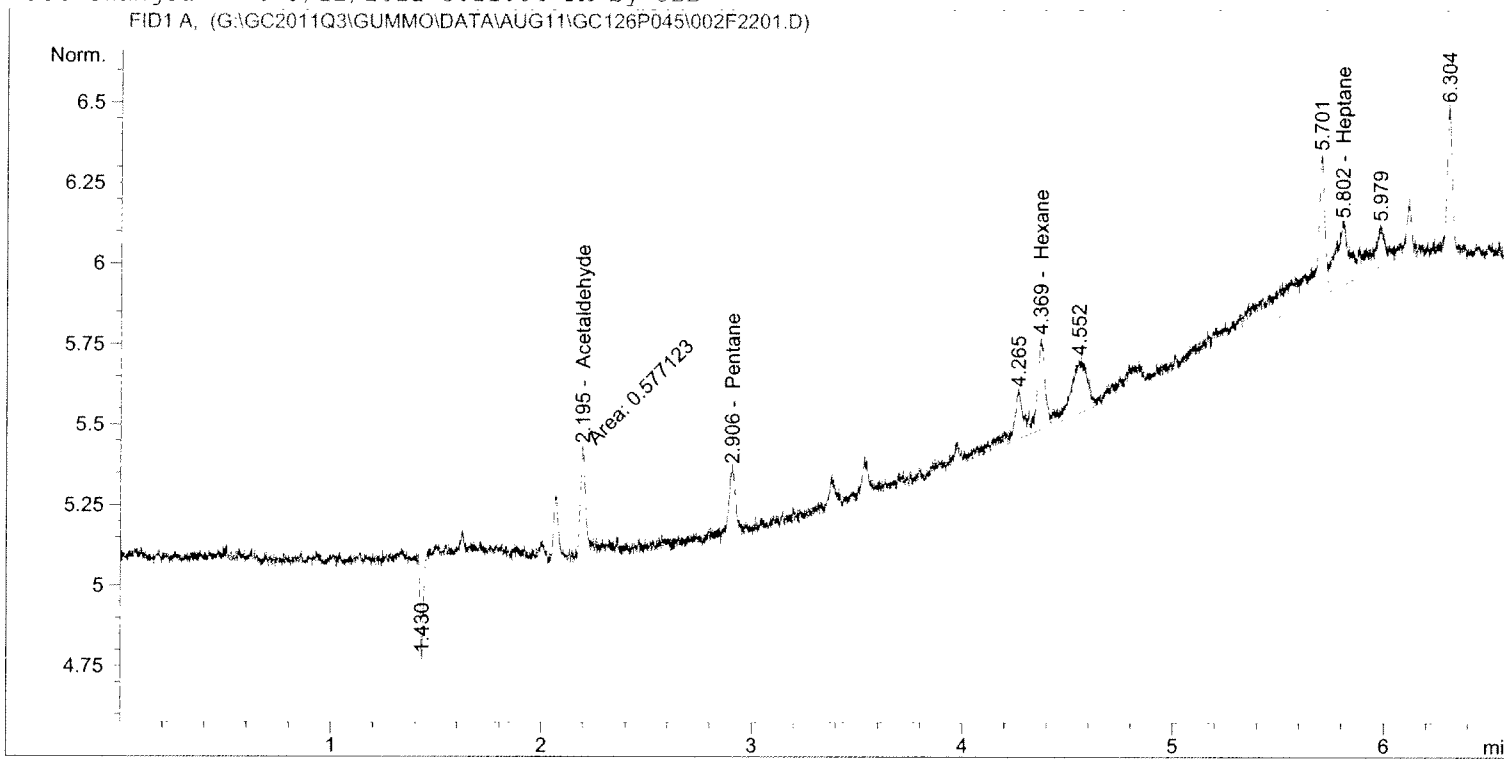
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 12:15:54                        Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -           -          -          Methane
  1.496           -           -          -          Ethane
  1.625           -           -          -          Propane
  2.005           -           -          -          Butane
  2.195 MM     5.77123e-1    6.26705    3.61686    Acetaldehyde
  2.906 BV     4.96604e-1 8.93575e-1 4.43753e-1    Pentane
  4.369 VV     6.82927e-1 7.33814e-1 5.01142e-1    Hexane
  5.802 VV     8.84552e-1 7.97848e-1 7.05738e-1    Heptane

Totals :                                5.26749
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

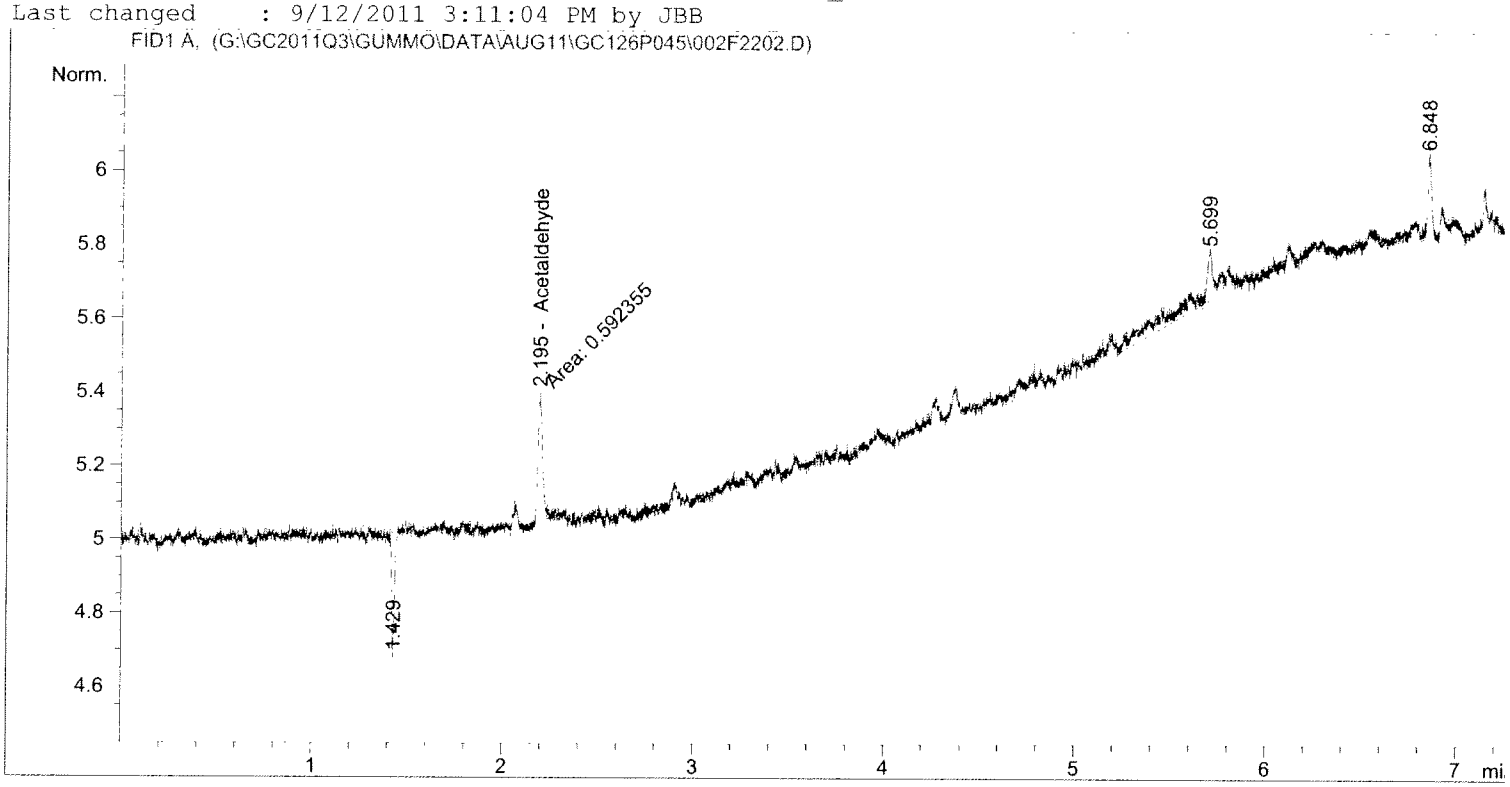
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 12:28:21                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.195	MM	5.92355e-1	6.24283	3.69797		Acetaldehyde
2.906		-	-	-		Pentane
4.369		-	-	-		Hexane
5.802		-	-	-		Heptane

Totals : 3.69797

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

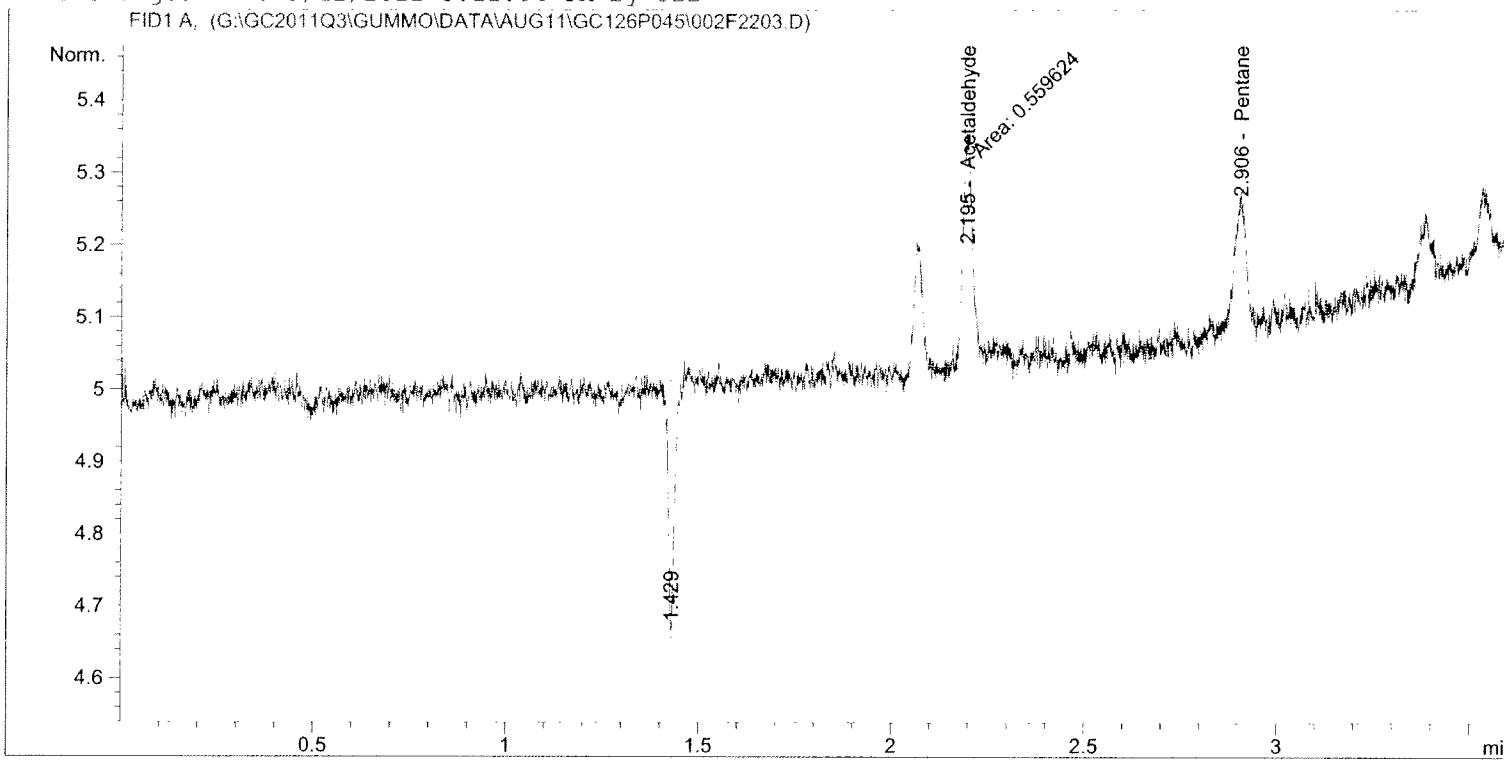
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 12:41:39                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -          -          -          Methane
  1.496           -          -          -          Ethane
  1.625           -          -          -          Propane
  2.005           -          -          -          Butane
  2.195 MM     5.59624e-1    6.29651    3.52368    Acetaldehyde
  2.906 VV     6.09072e-1 8.93575e-1 5.44252e-1    Pentane
  4.369           -          -          -          Hexane
  5.802           -          -          -          Heptane

Totals :                                 4.06793
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

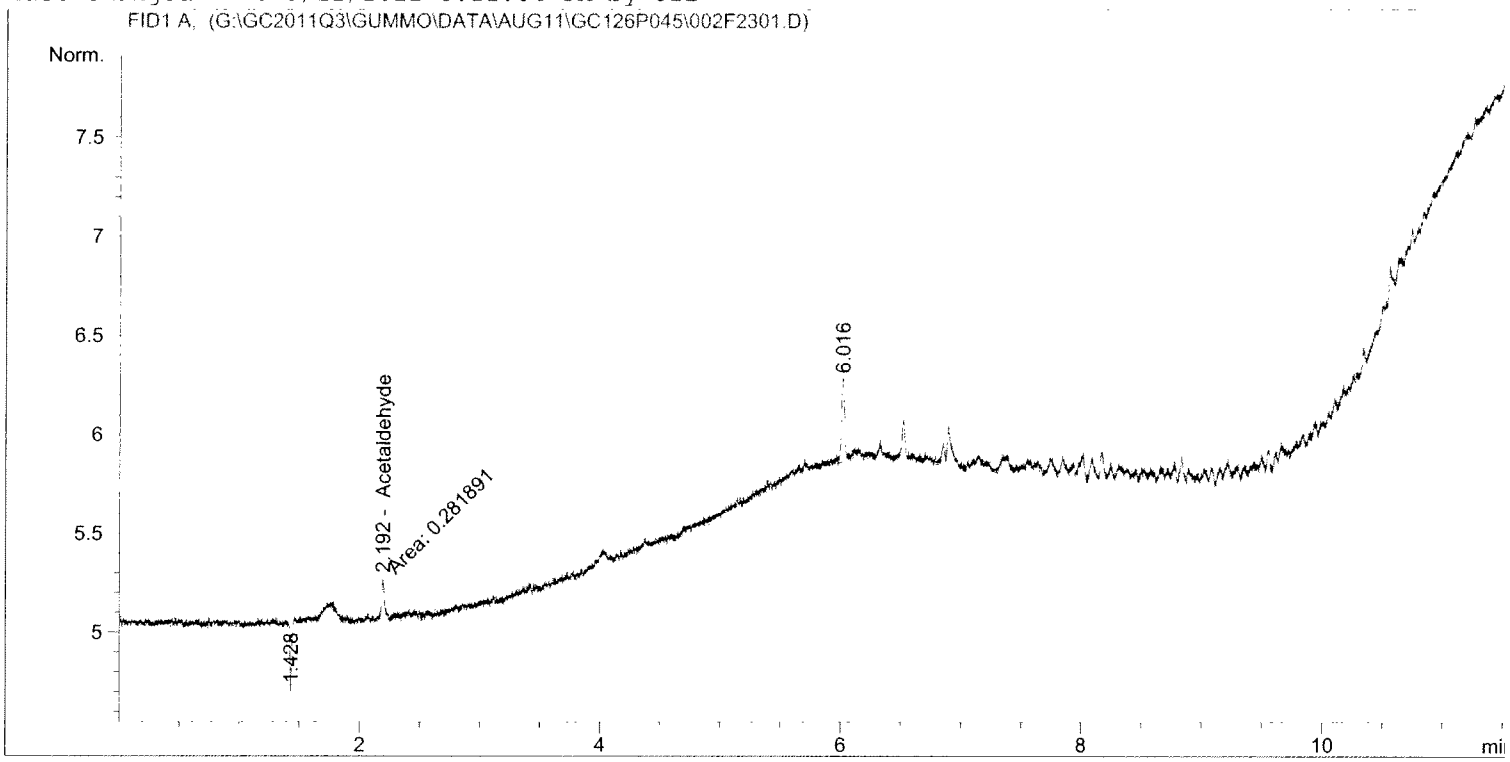
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 12:49:59                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -           -          -          Methane
  1.496           -           -          -          Ethane
  1.625           -           -          -          Propane
  2.005           -           -          -          Butane
  2.192 MM     2.81891e-1    7.25365    2.04474    Acetaldehyde
  2.906           -           -          -          Pentane
  4.369           -           -          -          Hexane
  5.802           -           -          -          Heptane

Totals :                                 2.04474
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

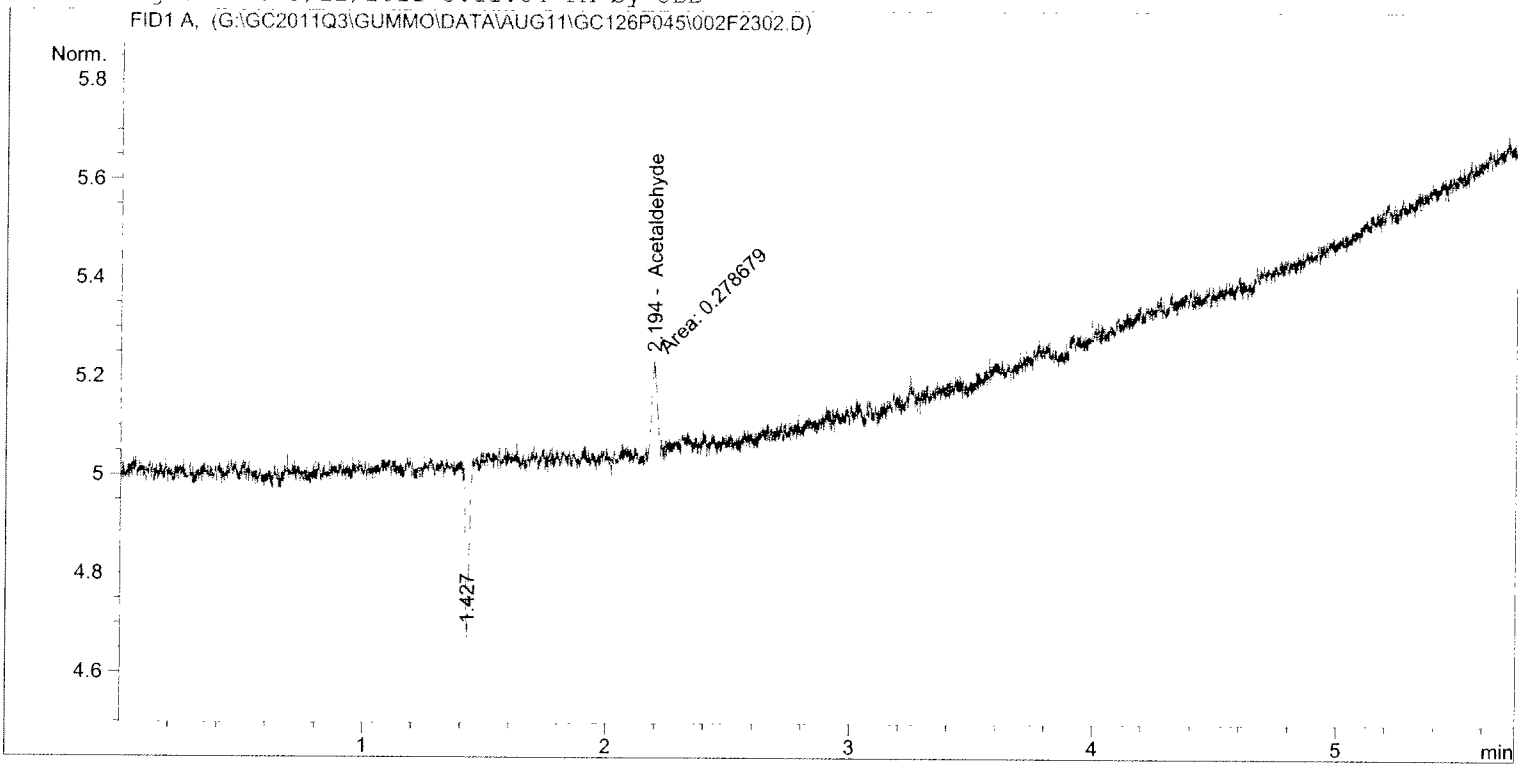
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 13:08:48                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.459           -          -          -          Methane
  1.496           -          -          -          Ethane
  1.625           -          -          -          Propane
  2.005           -          -          -          Butane
  2.194 MM     2.78679e-1    7.27588    2.02763    Acetaldehyde
  2.906           -          -          -          Pentane
  4.369           -          -          -          Hexane
  5.802           -          -          -          Heptane

Totals :                                 2.02763
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

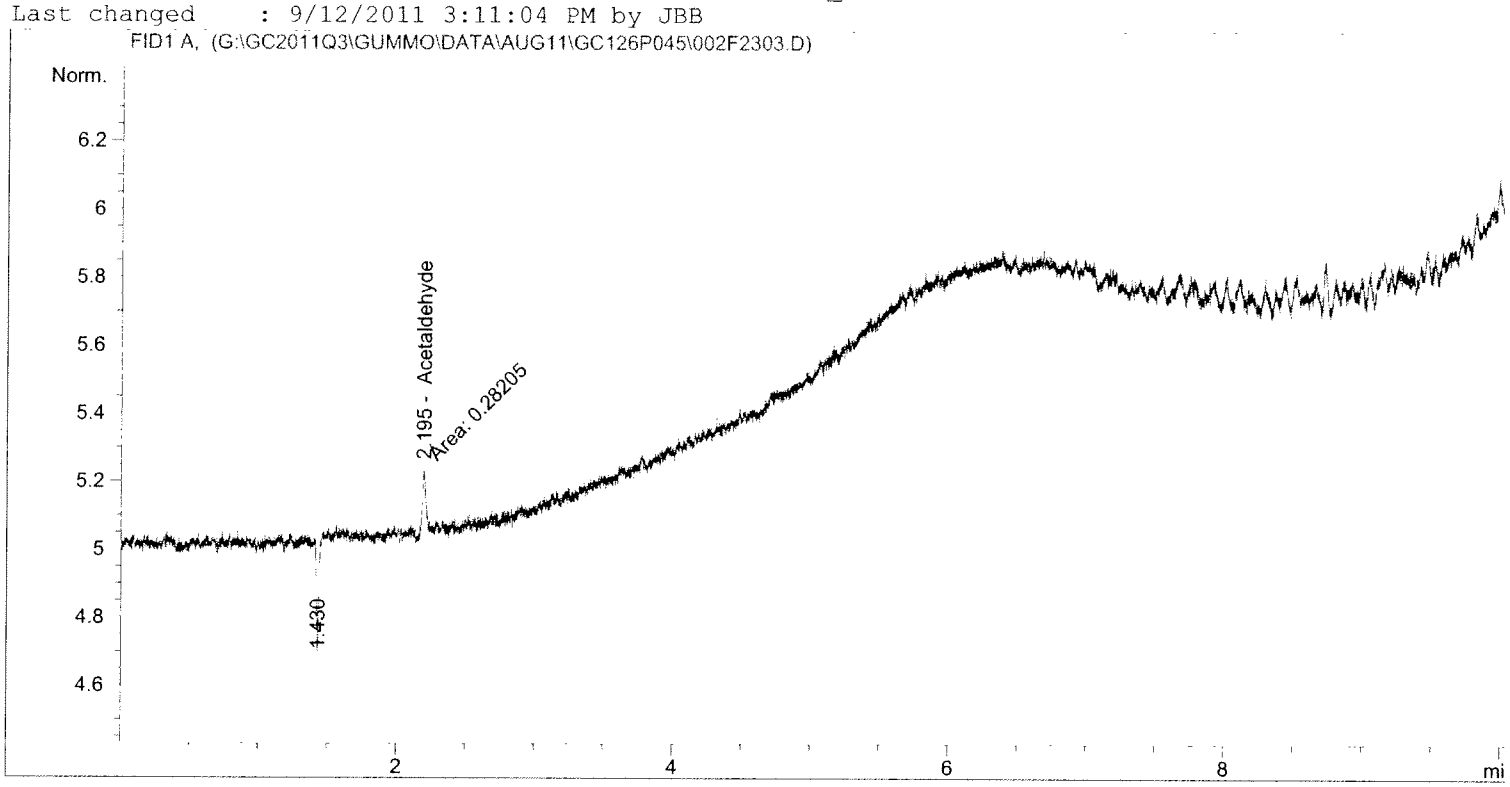
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 13:20:18                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.195	MM	2.82050e-1	7.25256	2.04559		Acetaldehyde
2.906		-	-	-		Pentane
4.369		-	-	-		Hexane
5.802		-	-	-		Heptane

Totals : 2.04559

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

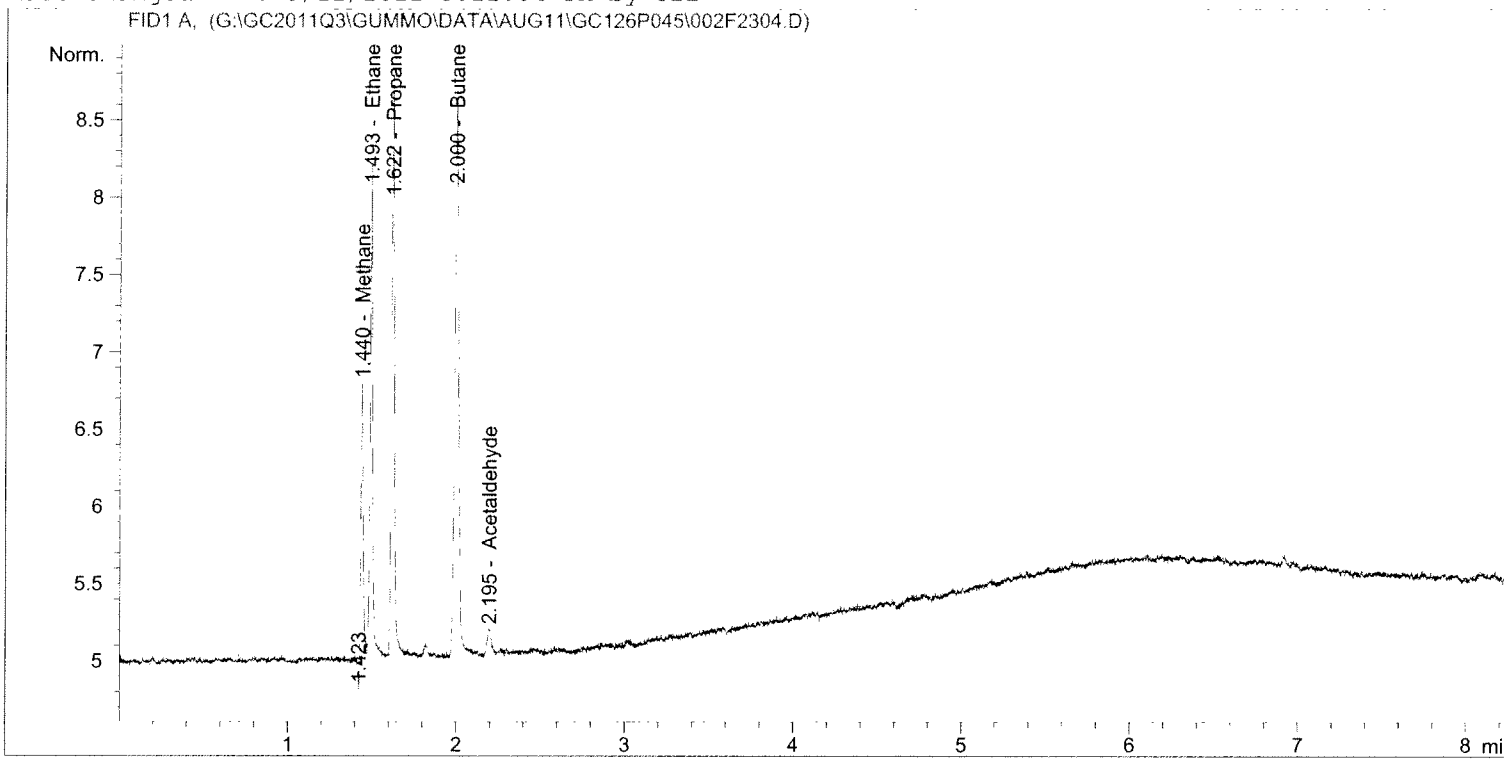
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 13:37:27                       Inj :   4
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.440 PV        1.64838    5.14722    8.48456    Methane
  1.493 VB        3.35964    2.41429    8.11113    Ethane
  1.622 PB        4.41534    1.64042    7.24303    Propane
  2.000 PB        5.77797    1.26315    7.29847    Butane
  2.195 BB     3.69289e-1    6.79722    2.51013    Acetaldehyde
  2.906             -          -          -        Pentane
  4.369             -          -          -        Hexane
  5.802             -          -          -        Heptane

Totals :                                33.64732
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

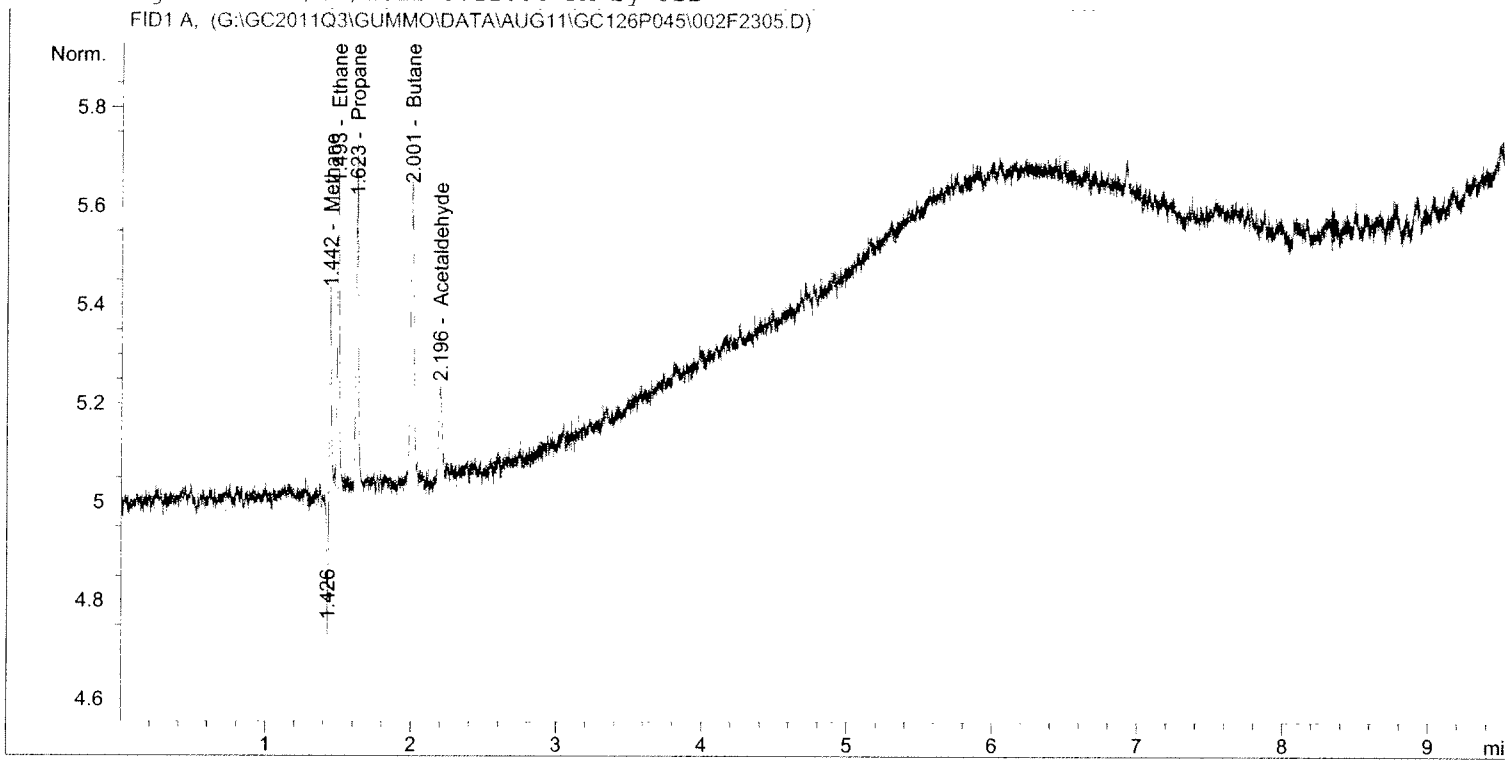
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 13:52:09                       Inj :   5
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.442 PV     3.39894e-1    7.21574    2.45259     Methane
  1.493 VB     6.53526e-1    2.82974    1.84931     Ethane
  1.623 BB     7.59112e-1    1.77311    1.34599     Propane
  2.001 VB     9.89223e-1    1.40367    1.38854     Butane
  2.196 BV     3.24957e-1    6.99805    2.27407     Acetaldehyde
  2.906            -             -          -       Pentane
  4.369            -             -          -       Hexane
  5.802            -             -          -       Heptane

Totals :                                  9.31050
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

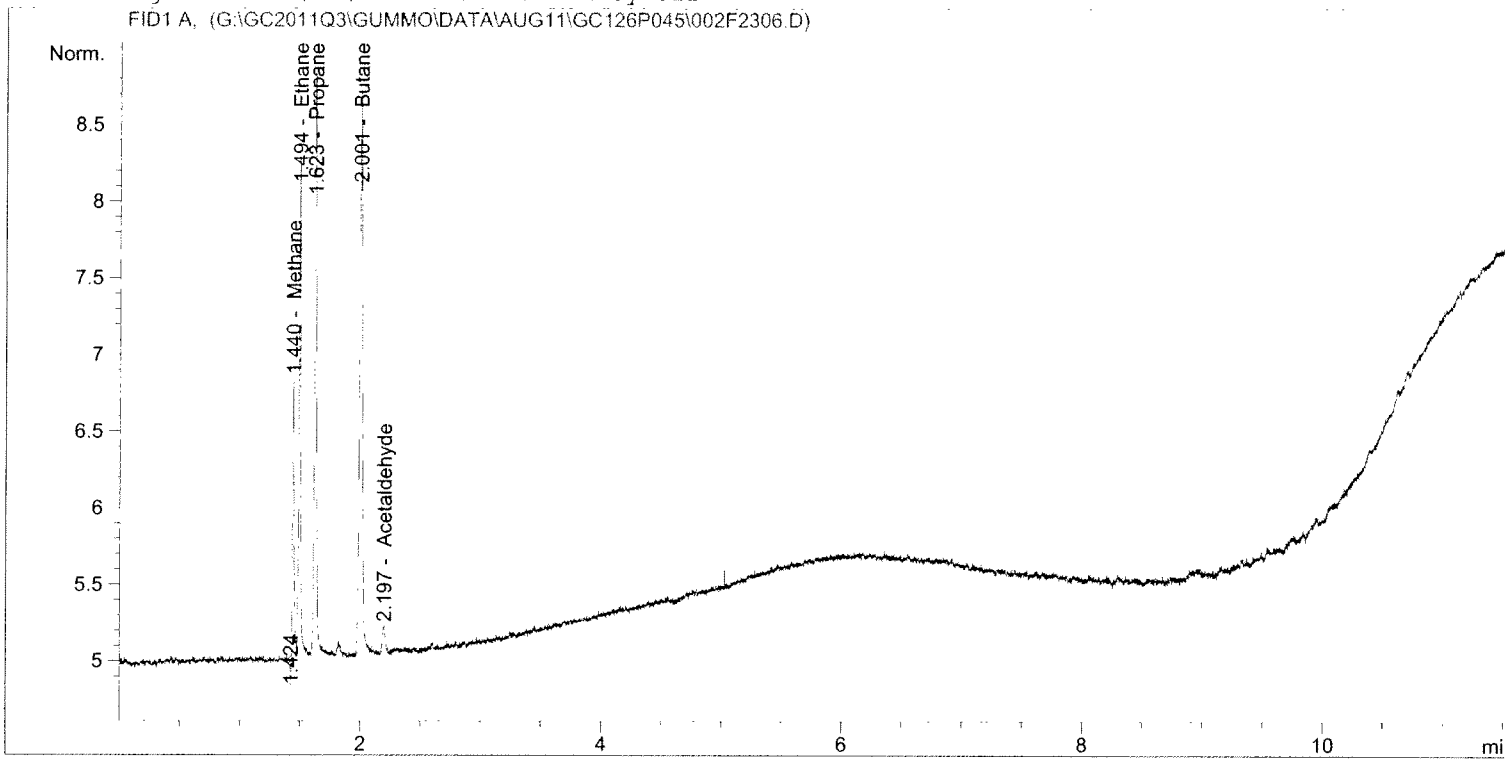
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 14:08:35                       Inj :   6
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.440 PV        1.65065    5.14648    8.49506    Methane
  1.494 VB        3.40108    2.41294    8.20659    Ethane
  1.623 PB        4.54079    1.63917    7.44311    Propane
  2.001 VV        5.99520    1.26149    7.56286    Butane
  2.197 VV     2.43065e-1    7.31290    1.77751    Acetaldehyde
  2.906             -          -          -        Pentane
  4.369             -          -          -        Hexane
  5.802             -          -          -        Heptane

Totals :                                 33.48513
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

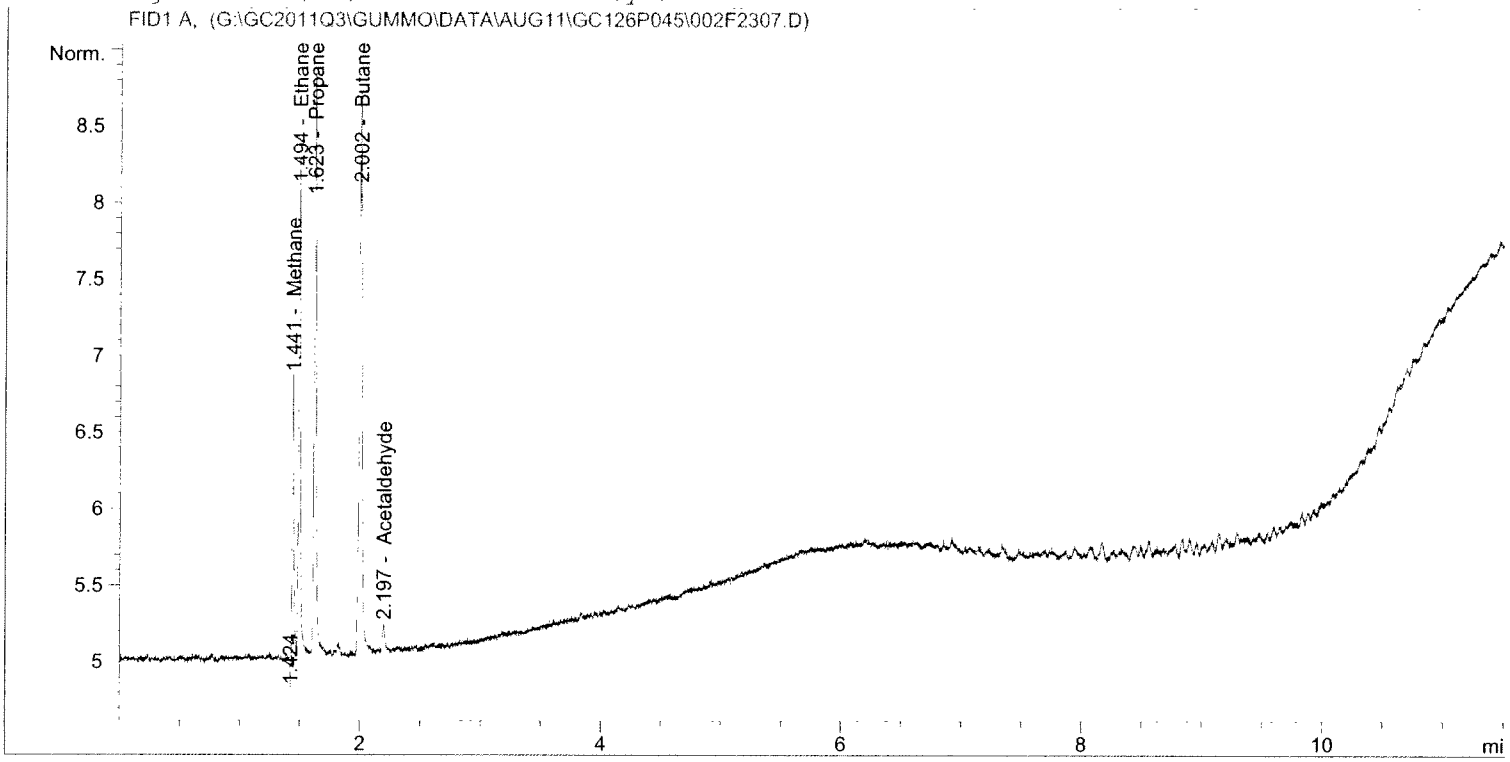
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 14:27:31                       Inj :   7
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.441 PV        1.71227    5.12717    8.77910    Methane
  1.494 VB        3.46749    2.41084    8.35958    Ethane
  1.623 PV        4.60584    1.63854    7.54686    Propane
  2.002 BB        5.83686    1.26269    7.37014    Butane
  2.197 BV     1.21273e-1    7.31290 8.86854e-1    Acetaldehyde
  2.906           -          -          -          Pentane
  4.369           -          -          -          Hexane
  5.802           -          -          -          Heptane

Totals :                                32.94253
```

Signal 2: FID2 B, not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

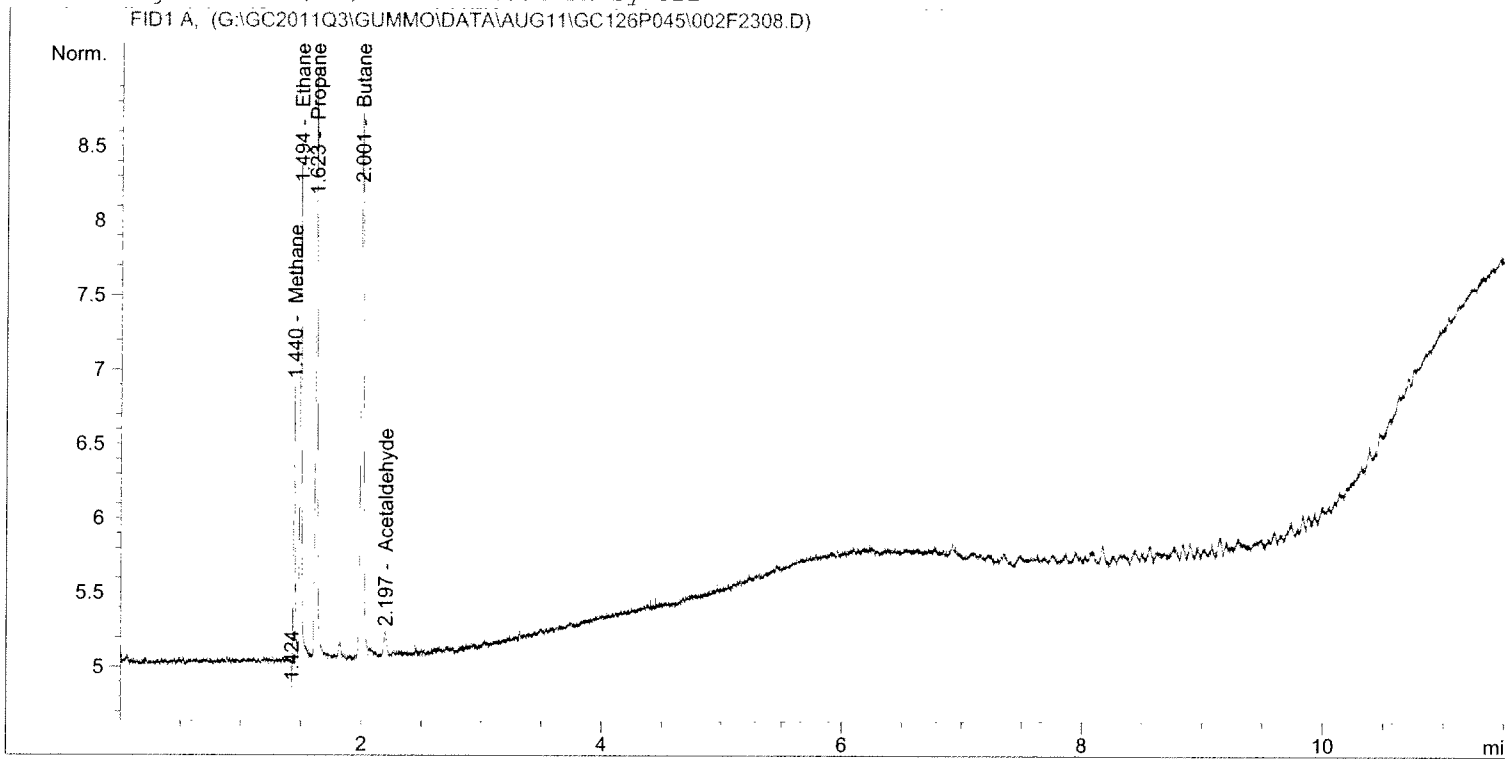
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 2
Injection Date   : 19-Aug-11, 14:46:24                       Inj :   8
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 3:11:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:10:59 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.440 PV        1.73286    5.12103    8.87403    Methane
  1.494 VV        3.53705    2.40873    8.51981    Ethane
  1.623 VB        4.59219    1.63867    7.52508    Propane
  2.001 VB        6.03262    1.26121    7.60841    Butane
  2.197 BB     2.37924e-1    7.31290    1.73991    Acetaldehyde
  2.906             -          -          -        Pentane
  4.369             -          -          -        Hexane
  5.802             -          -          -        Heptane

Totals :                                34.26724
```

Signal 2: FID2 B,   not found

RetTime [min]	Type	Area	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.296		-	-	-		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 0.00000

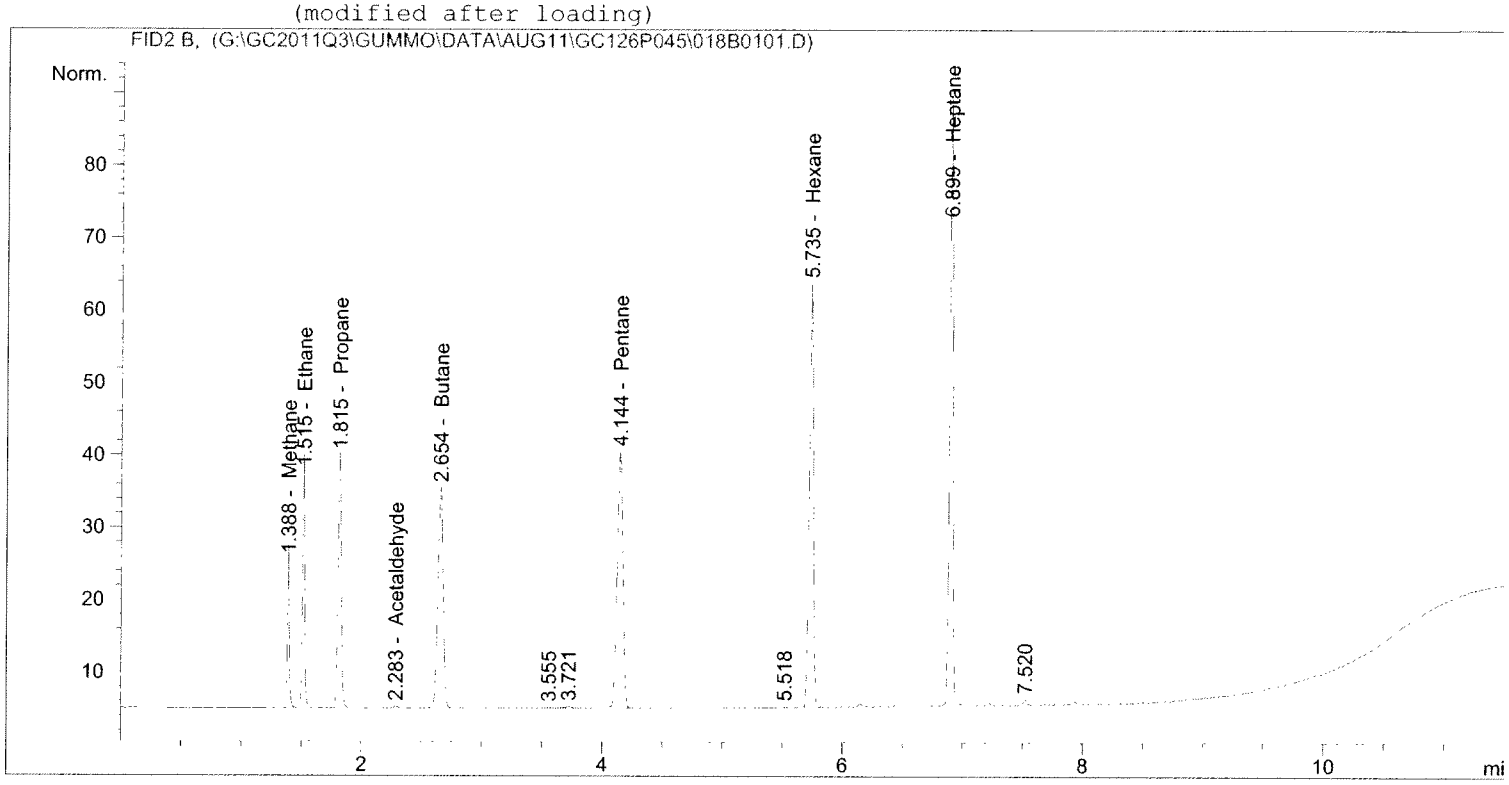
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0101.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 09:43:16                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:08:00 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.388	BV	24.93548	4.19028	104.48655		Methane
1.515	VB	46.74957	2.23464	104.46824		Ethane
1.815	BB	69.92266	1.49036	104.20963		Propane
2.283	BB	7.00548e-1	4.82030	3.37686		Acetaldehyde
2.654	BB	93.06882	1.12495	104.69822		Butane
4.144	BB	116.09824	9.29748e-1	107.94213		Pentane
5.735	BB	138.48666	7.62208e-1	105.55561		Hexane
6.899	BB	159.14117	6.59648e-1	104.97722		Heptane
Totals :				739.71445		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

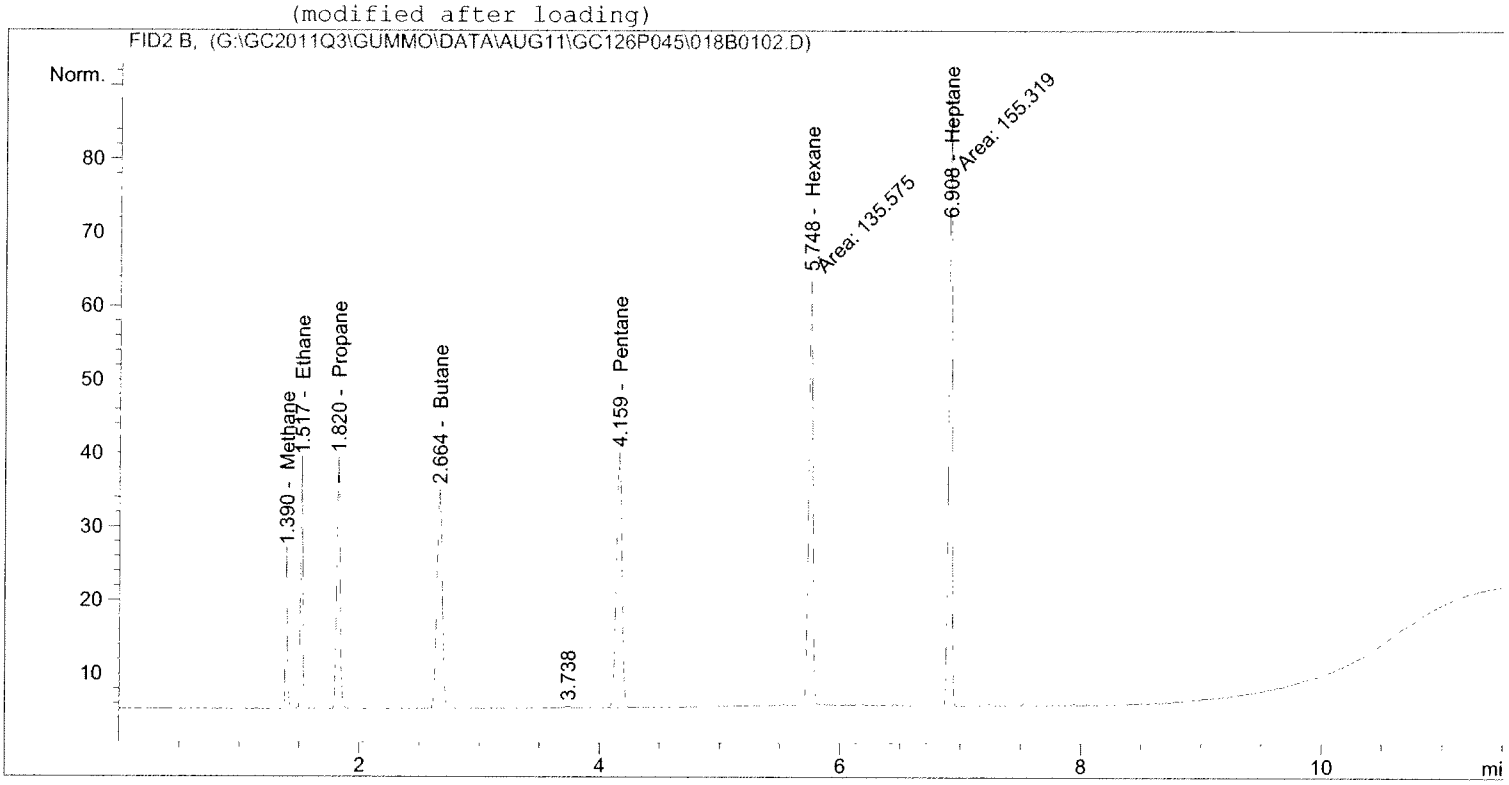
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0102.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 10:02:03                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:08:00 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.390	BV	24.44978	4.19067	102.46094		Methane
1.517	VB	45.80924	2.23473	102.37134		Ethane
1.820	BP	68.65617	1.49042	102.32661		Propane
2.296		-	-	-		Acetaldehyde
2.664	BB	90.91292	1.12501	102.27834		Butane
4.159	BB	113.56082	9.29661e-1	105.57306		Pentane
5.748	MM	135.57465	7.62195e-1	103.33433		Hexane
6.908	MM	155.31898	6.59689e-1	102.46218		Heptane
Totals :				720.80680		

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

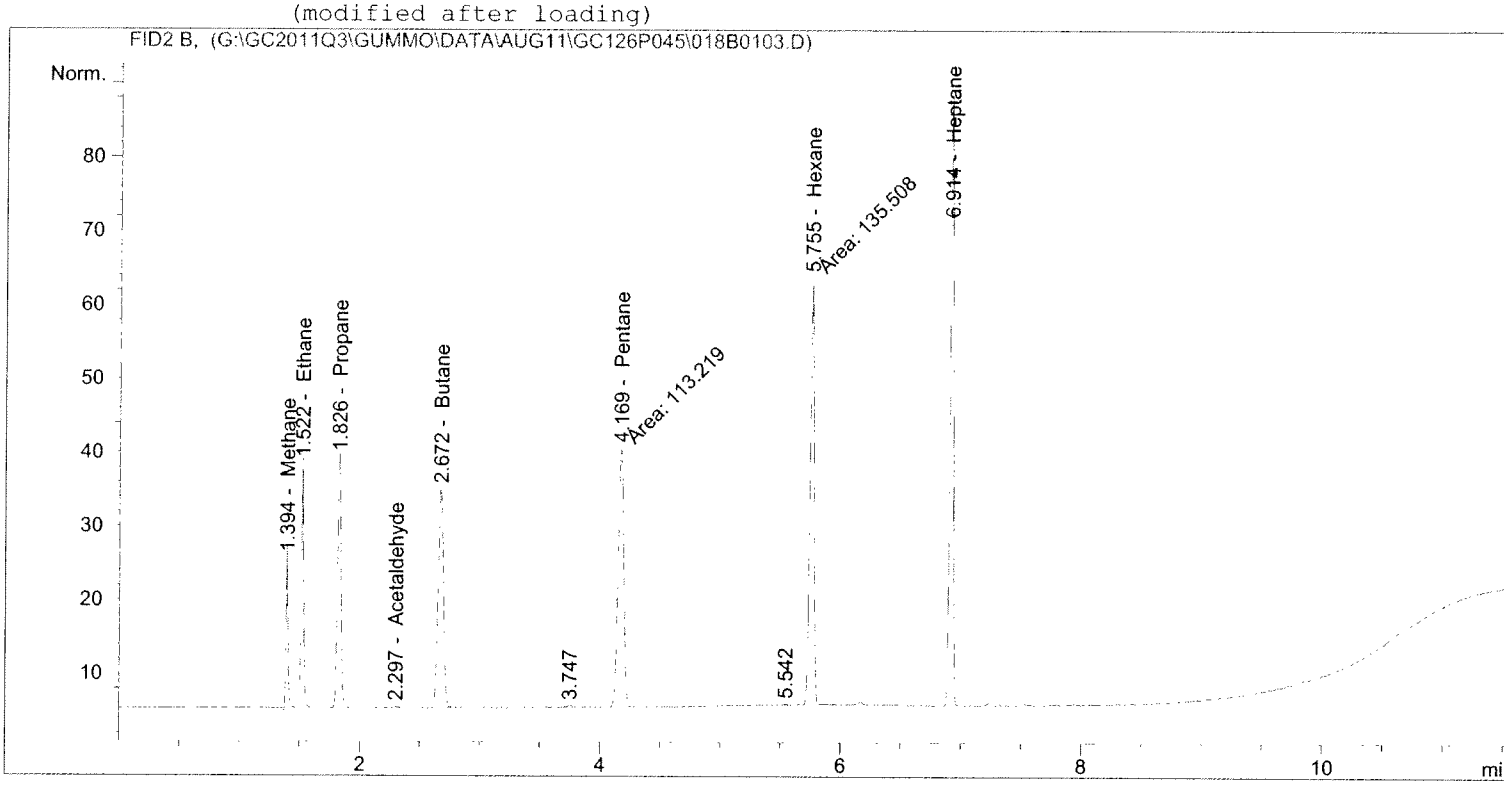
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0103.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 10:20:54                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:08:00 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.394	BV	24.46029	4.19066	102.50474		Methane
1.522	VB	45.86945	2.23472	102.50559		Ethane
1.826	BB	68.71354	1.49042	102.41191		Propane
2.297	BB	7.16278e-1	4.82492	3.45598		Acetaldehyde
2.672	BB	91.04301	1.12501	102.42436		Butane
4.169	MM	113.21941	9.29649e-1	105.25430		Pentane
5.755	MM	135.50842	7.62195e-1	103.28381		Hexane
6.914	BB	154.96629	6.59693e-1	102.23011		Heptane
Totals :				724.07081		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

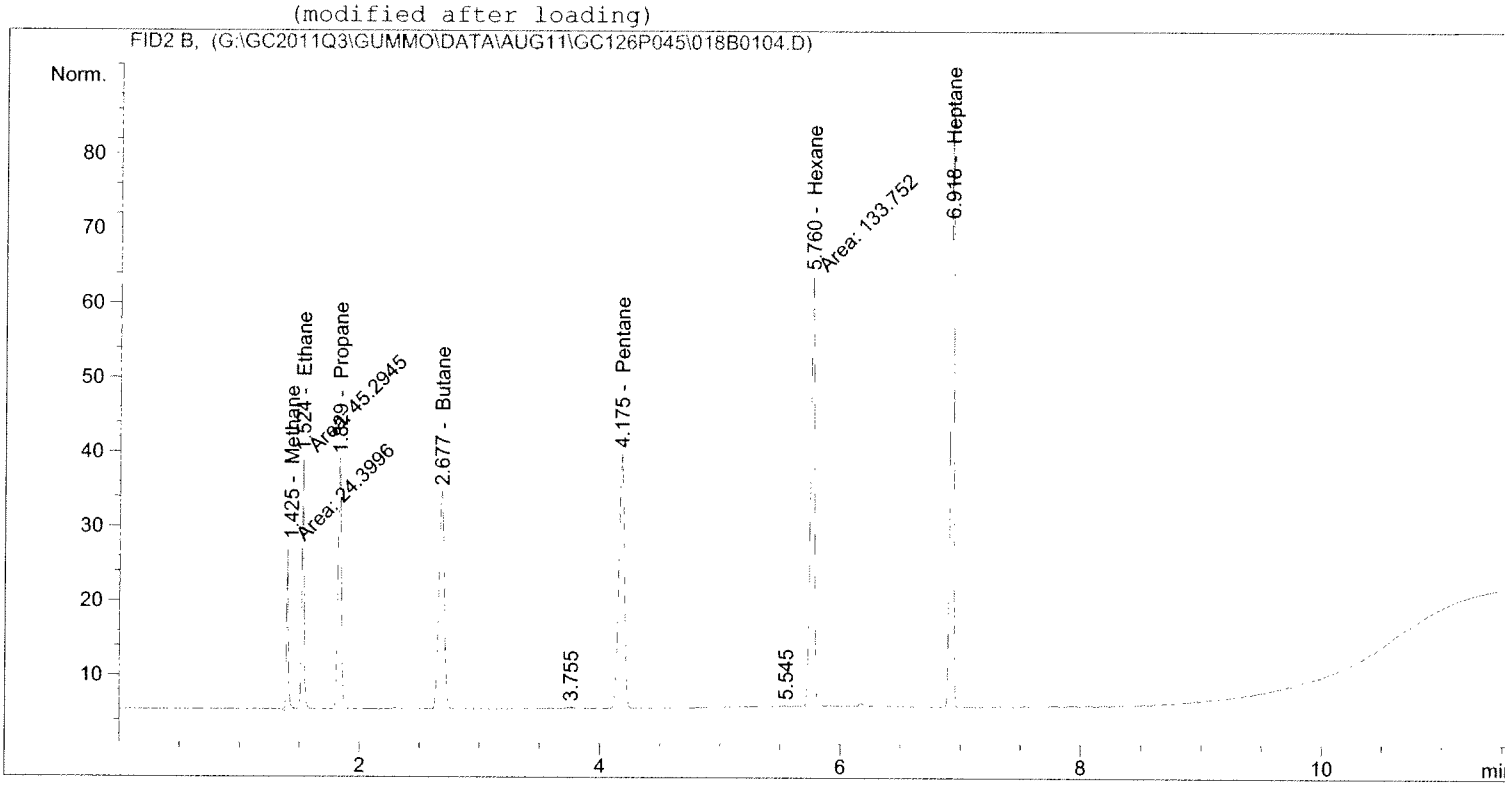
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0104.D
Sample Name: gc119p172 #C5 ENV(1=0,2=450)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 10:39:47                       Inj :   4
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:12:40 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.425	MF	24.39957	4.19071	102.25151		Methane
1.524	FM	45.29447	2.23479	101.22341		Ethane
1.829	BP	67.88078	1.49046	101.17377		Propane
2.296		-	-	-		Acetaldehyde
2.677	BB	89.94672	1.12504	101.19384		Butane
4.175	BB	112.14725	9.29611e-1	104.25327		Pentane
5.760	MM	133.75246	7.62187e-1	101.94437		Hexane
6.918	BB	153.14778	6.59713e-1	101.03351		Heptane

Totals : 713.07368

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

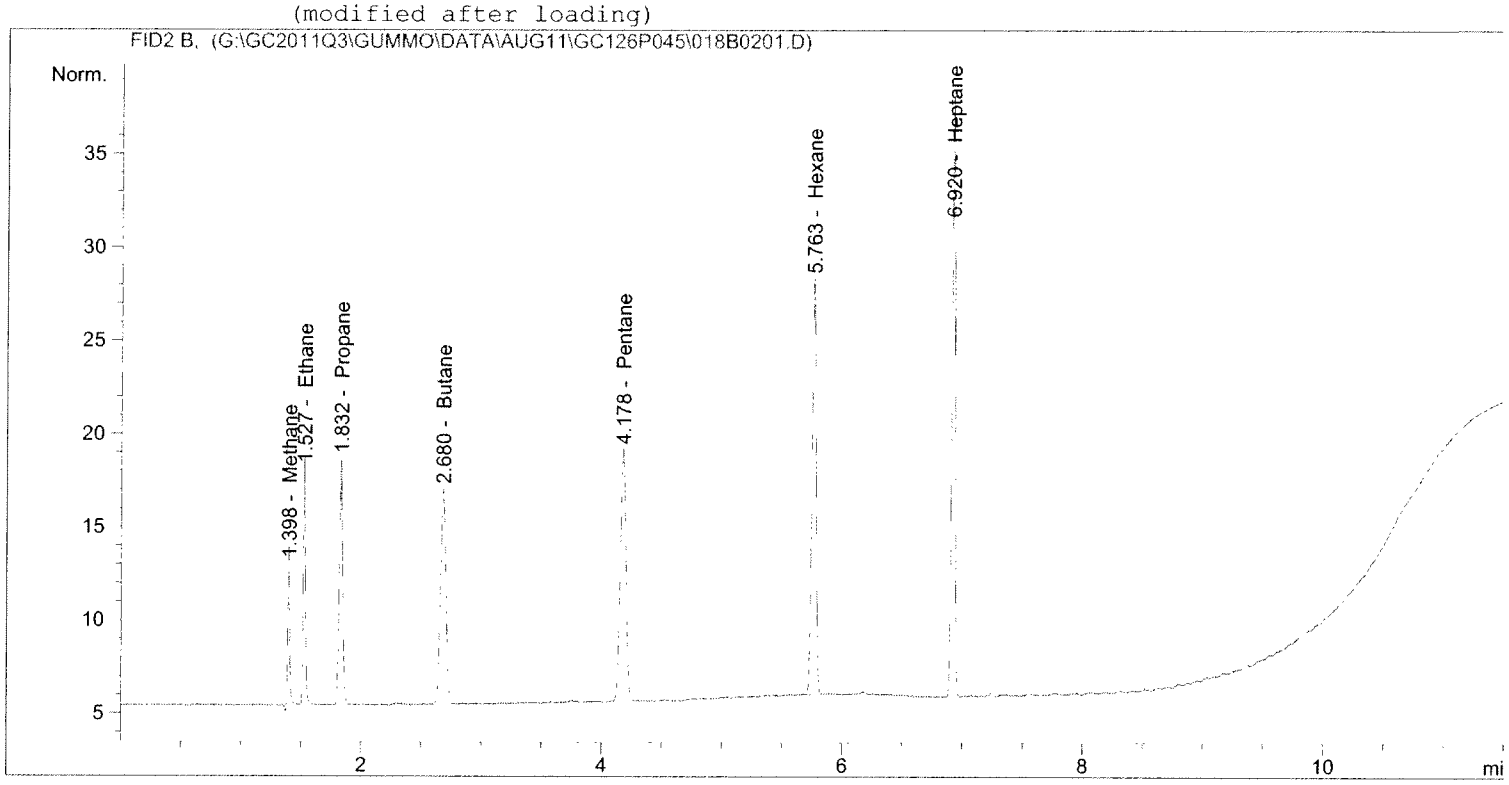
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0201.D
Sample Name: gc119p172 #C4 ENV(1=600,2=400)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 10:58:44                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398	BV	9.38580	4.22297	39.63597		Methane
1.527	VB	17.74934	2.24225	39.79847		Ethane
1.832	BB	26.62455	1.49614	39.83413		Propane
2.296		-	-	-		Acetaldehyde
2.680	BB	35.35956	1.12905	39.92279		Butane
4.178	BB	44.25425	9.23404e-1	40.86457		Pentane
5.763	BB	52.87624	7.61254e-1	40.25224		Hexane
6.920	BB	60.30816	6.62335e-1	39.94420		Heptane
Totals :				280.25237		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

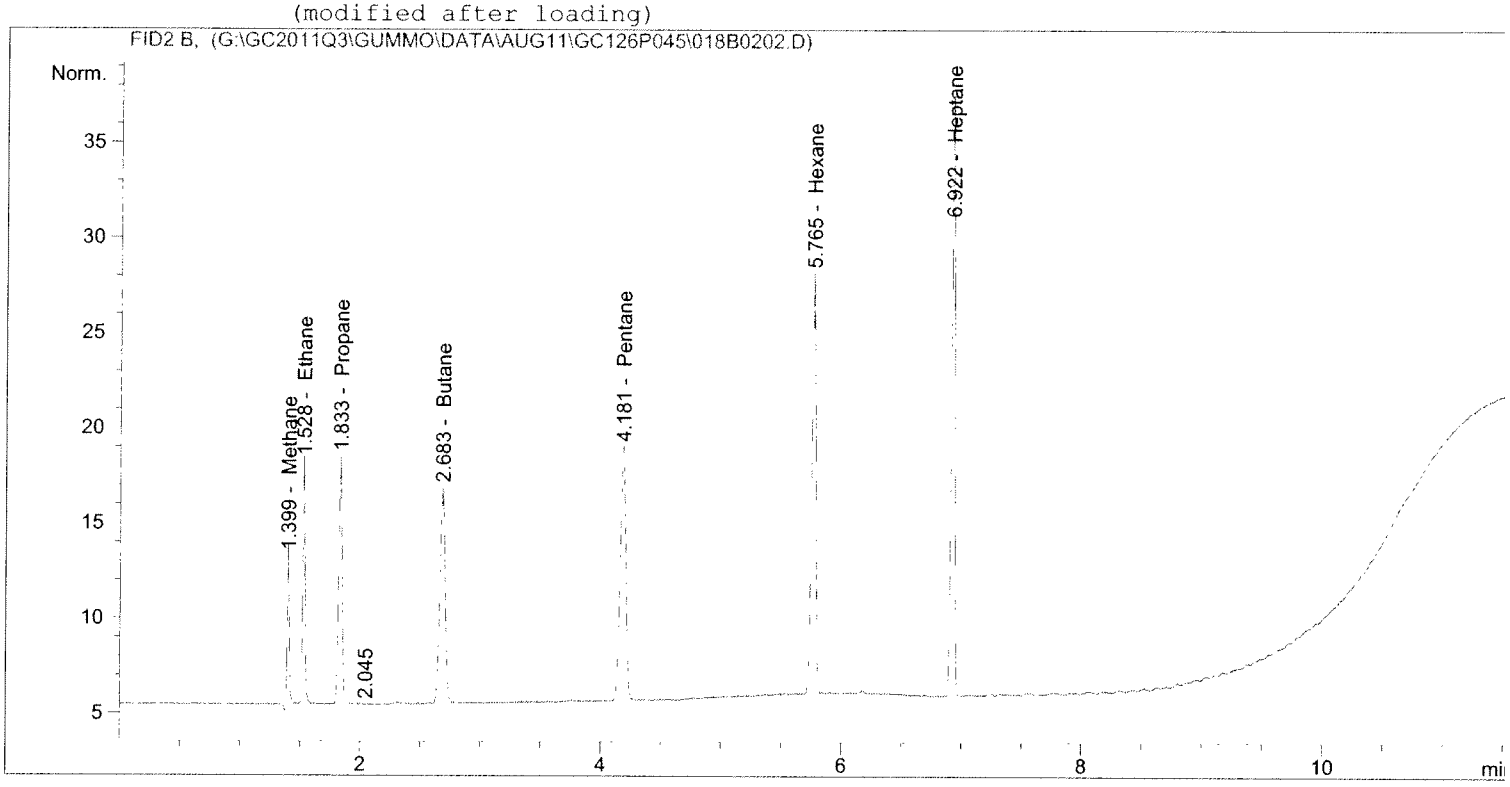
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0202.D
Sample Name: gc119p172 #C4 ENV(1=600,2=400)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 11:17:42                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.399	BV	9.19529	4.22406	38.84146		Methane
1.528	VB	17.56888	2.24238	39.39605		Ethane
1.833	BP	26.28557	1.49626	39.33014		Propane
2.296		-	-	-		Acetaldehyde
2.683	BB	34.94514	1.12913	39.45764		Butane
4.181	BB	43.56213	9.23242e-1	40.21837		Pentane
5.765	BB	52.09937	7.61231e-1	39.65965		Hexane
6.922	BB	59.41887	6.62400e-1	39.35904		Heptane

Totals : 276.26234

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

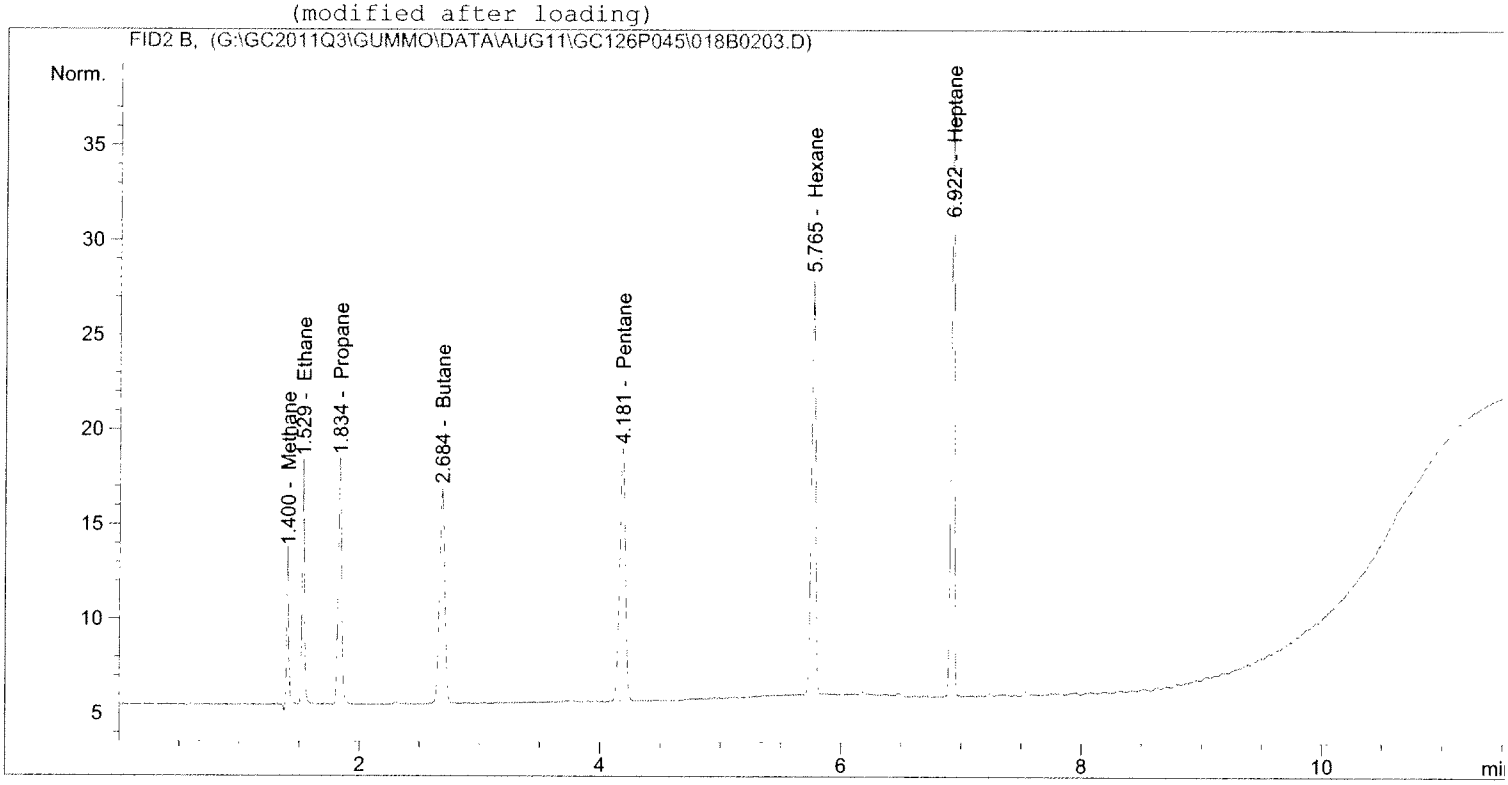
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0203.D
Sample Name: gc119p172 #C4 ENV(1=600,2=400)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 11:38:01                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	BV	9.11729	4.22452	38.51616		Methane
1.529	VB	17.47155	2.24245	39.17901		Ethane
1.834	BP	26.20541	1.49629	39.21096		Propane
2.296		-	-	-		Acetaldehyde
2.684	BB	34.88464	1.12914	39.38973		Butane
4.181	BB	43.57047	9.23244e-1	40.22615		Pentane
5.765	BB	51.96689	7.61227e-1	39.55859		Hexane
6.922	BB	59.24142	6.62413e-1	39.24228		Heptane
Totals :				275.32288		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

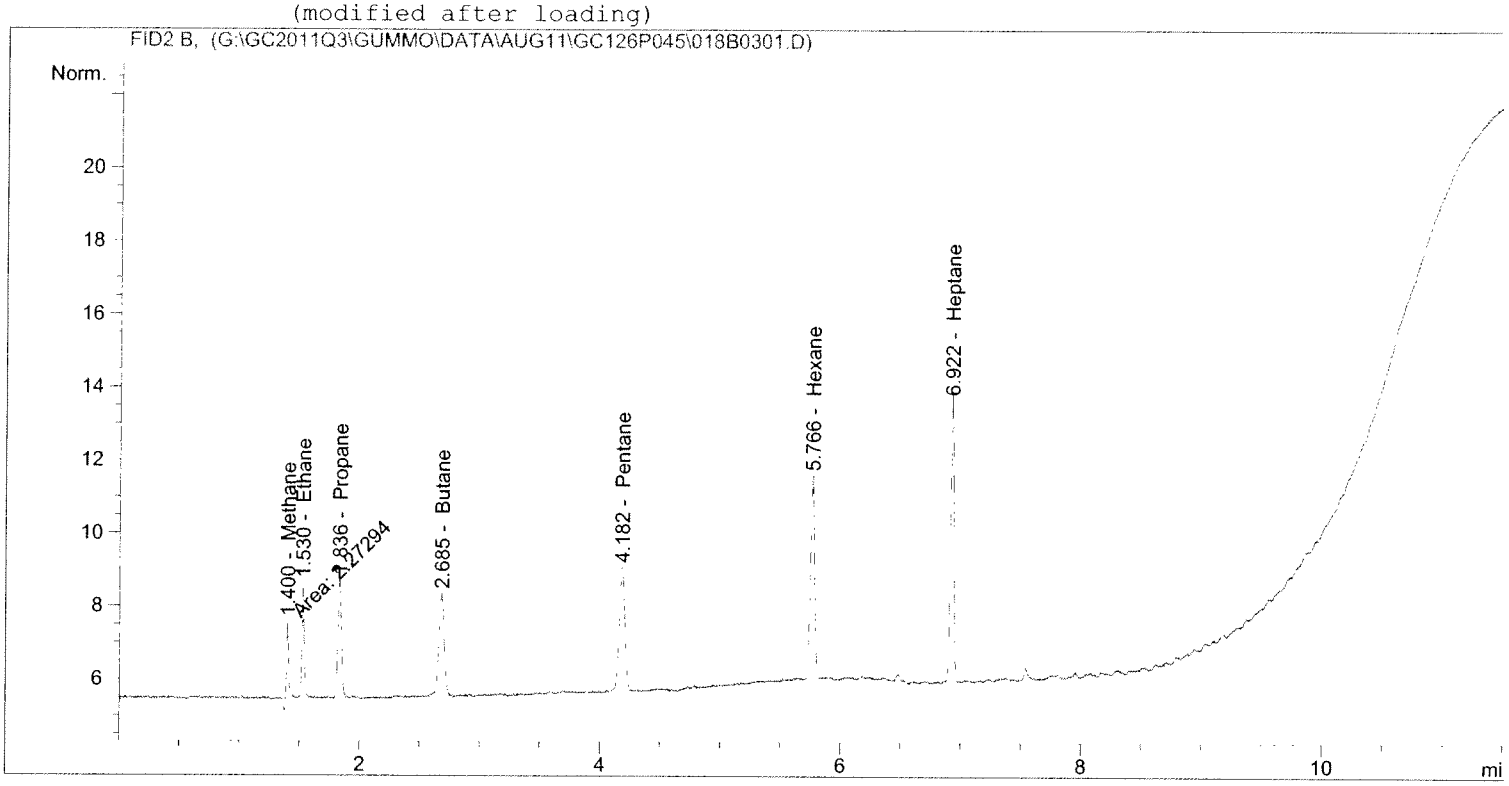
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0301.D
Sample Name: gc119p172 #C3 ENV(1=900,2=100)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   3
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 11:59:19                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	2.27294	4.38705	9.97149		Methane
1.530	BB	4.33972	2.28018	9.89536		Ethane
1.836	BP	6.44984	1.52538	9.83843		Propane
2.296		-	-	-		Acetaldehyde
2.685	BB	8.72842	1.14921	10.03082		Butane
4.182	BB	11.08680	8.92736e-1	9.89759		Pentane
5.766	BB	12.99480	7.56518e-1	9.83080		Hexane
6.922	BB	14.54602	6.75945e-1	9.83230		Heptane
Totals :				69.29678		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

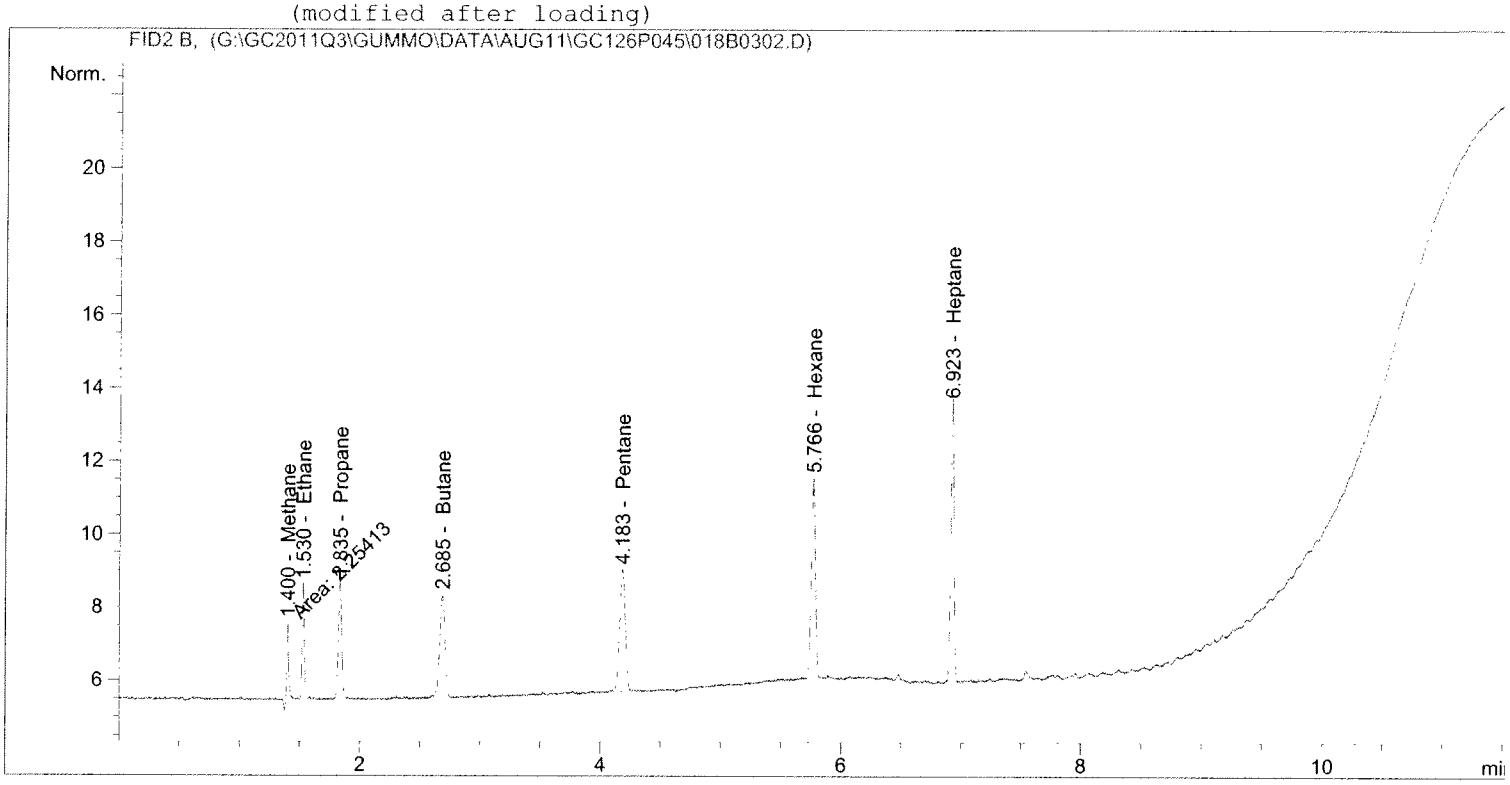
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0302.D
Sample Name: gc119p172 #C3 ENV(1=900,2=100)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   3
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 12:19:30                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	2.25413	4.38886	9.89305		Methane
1.530	BB	4.34644	2.28011	9.91035		Ethane
1.835	BB	6.43981	1.52544	9.82351		Propane
2.296		-	-	-		Acetaldehyde
2.685	BB	8.70989	1.14927	10.01002		Butane
4.183	BB	10.92350	8.92124e-1	9.74512		Pentane
5.766	BB	12.96572	7.56504e-1	9.80862		Hexane
6.923	BB	14.48477	6.76020e-1	9.79200		Heptane
Totals :				68.98267		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

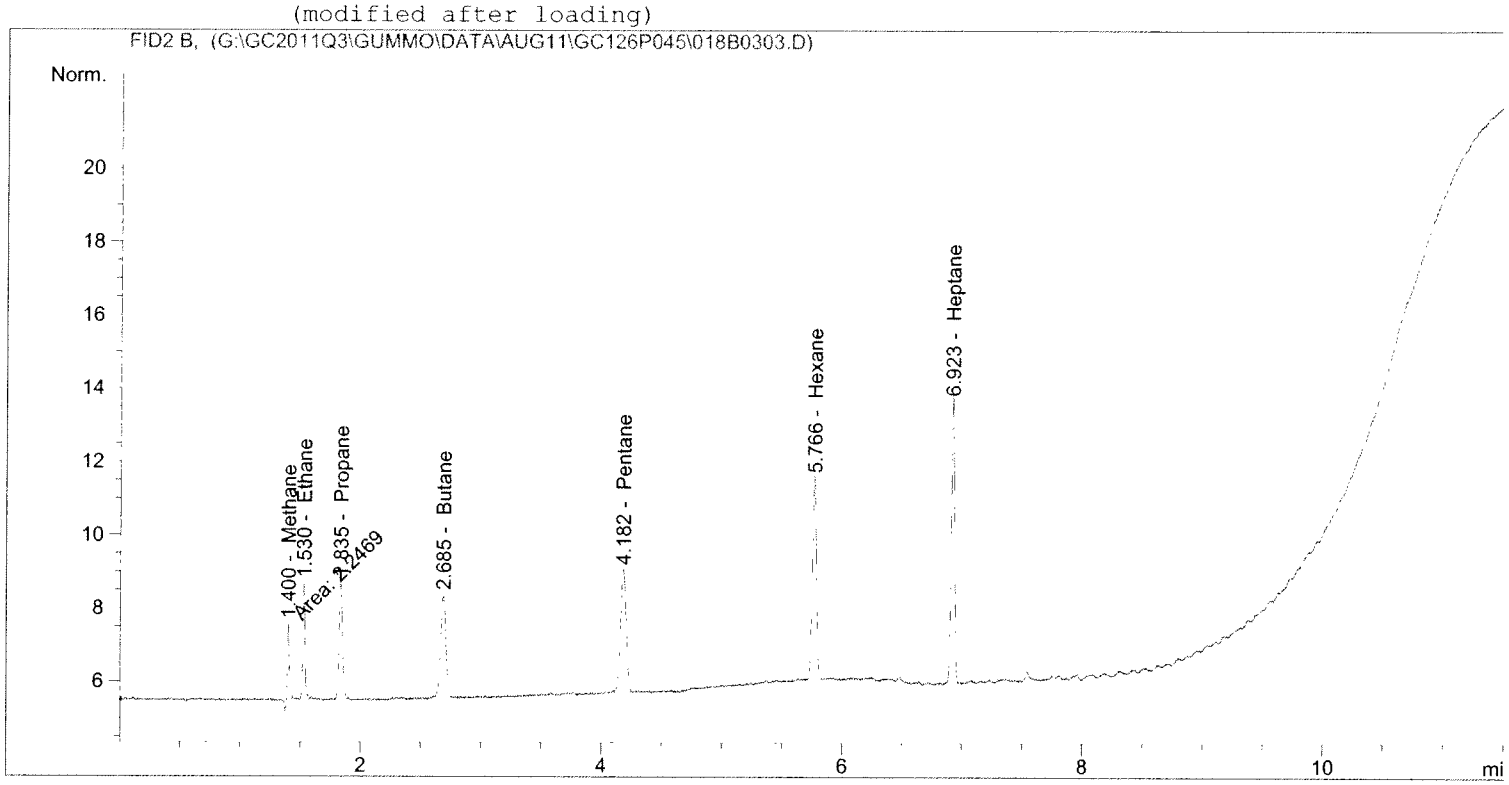
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0303.D
Sample Name: gc119p172 #C3 ENV(1=900,2=100)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   3
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 12:39:42                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	2.24690	4.38956	9.86289		Methane
1.530	BB	4.32588	2.28034	9.86451		Ethane
1.835	BP	6.43613	1.52546	9.81805		Propane
2.296		-	-	-		Acetaldehyde
2.685	BB	8.30555	1.15058	9.55618		Butane
4.182	BB	10.93808	8.92180e-1	9.75873		Pentane
5.766	BB	13.00109	7.56521e-1	9.83560		Hexane
6.923	BB	14.59441	6.75885e-1	9.86415		Heptane
Totals :				68.56010		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

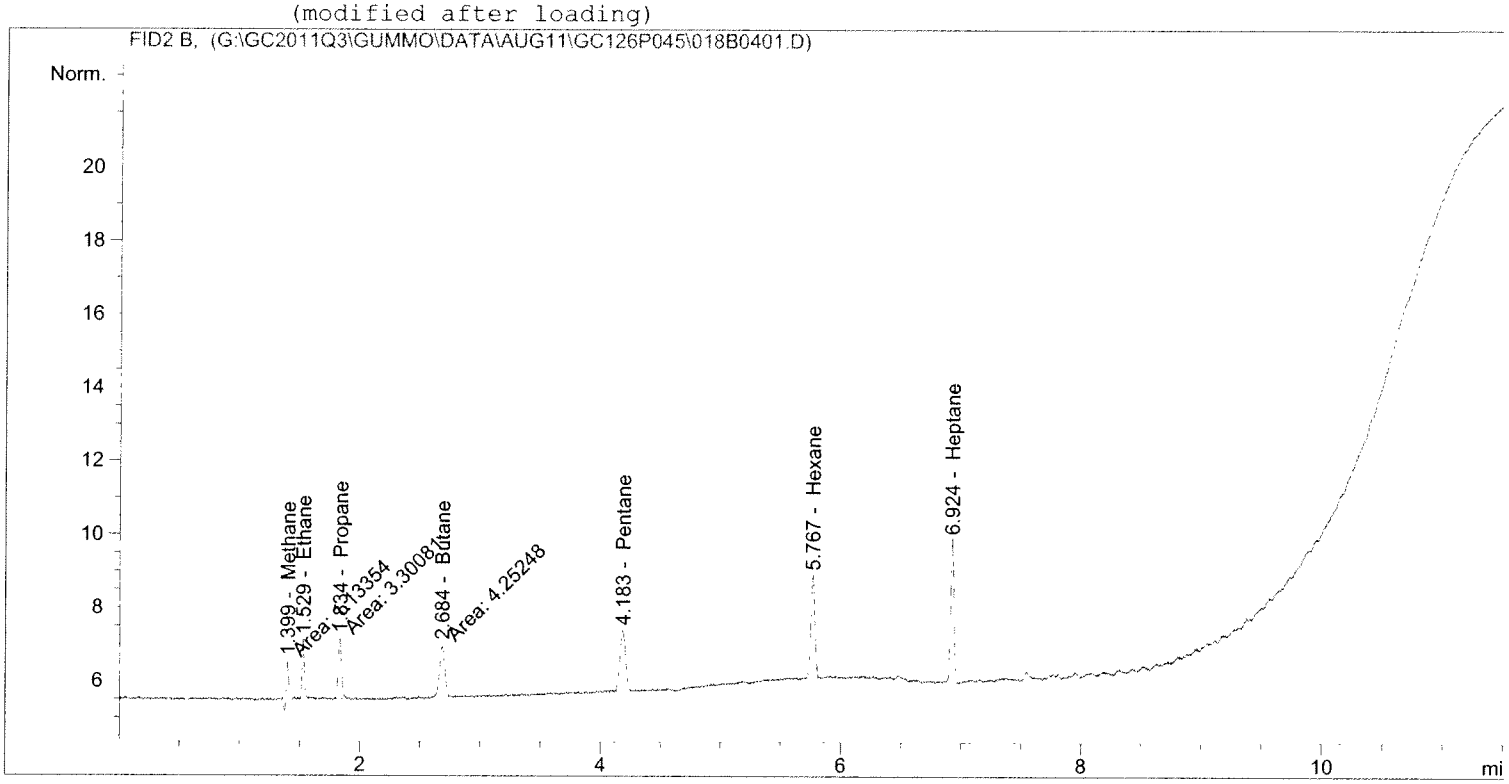
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0401.D
Sample Name: gc119p172 #C2 ENV(1=950,2=50)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 12:58:39                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:13:28 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.399	MM	1.13354	4.60468	5.21957		Methane
1.529	BB	2.15030	2.33131	5.01301		Ethane
1.834	MM	3.30081	1.56218	5.15647		Propane
2.296		-	-	-		Acetaldehyde
2.684	MM	4.25248	1.17739	5.00684		Butane
4.183	BB	5.39412	8.49551e-1	4.58259		Pentane
5.767	BB	6.55032	7.50340e-1	4.91497		Hexane
6.924	BB	7.27474	6.93872e-1	5.04774		Heptane
Totals :				34.94118		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

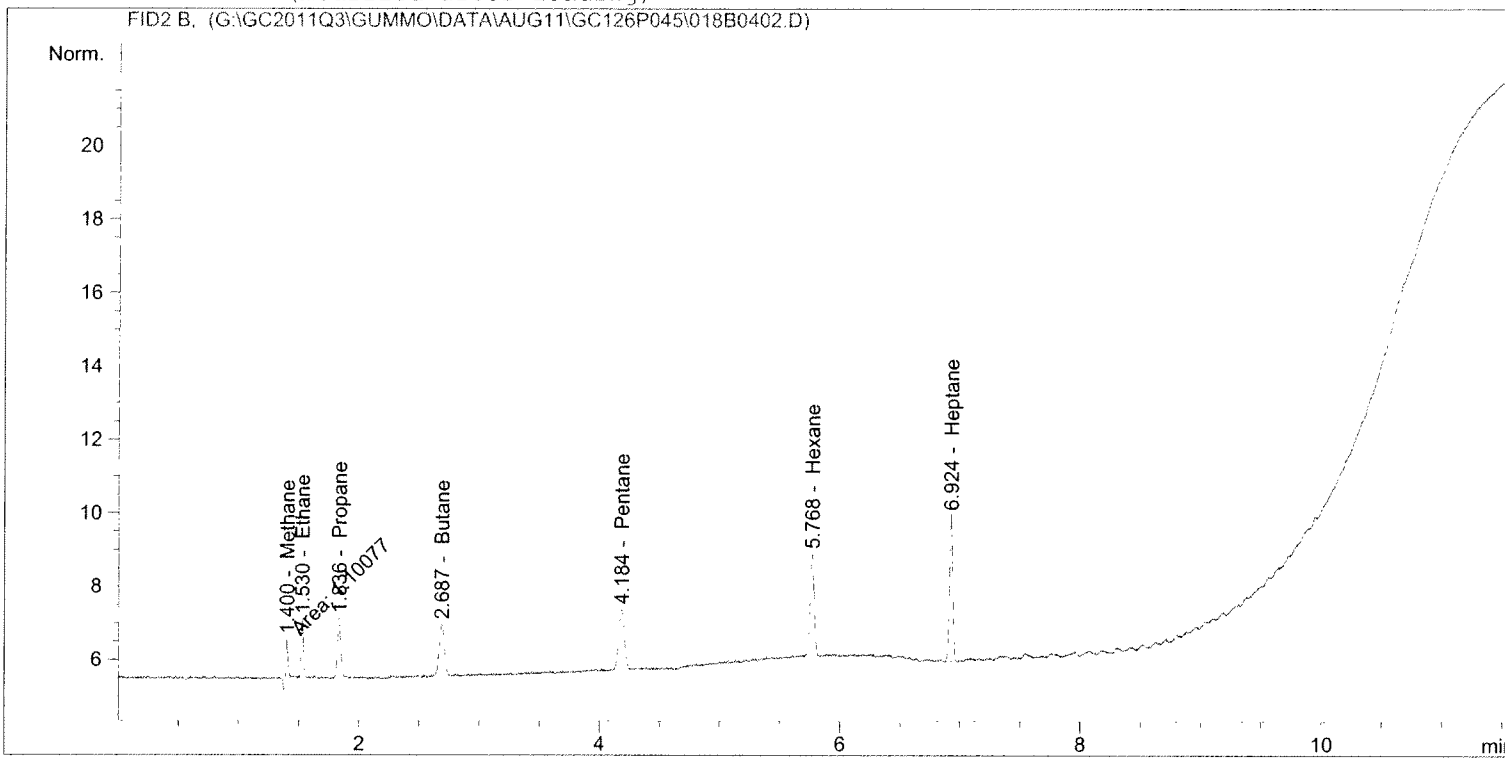
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0402.D
Sample Name: gc119p172 #C2 ENV(1=950,2=50)
gc126p045 (mgm)

Acq. Operator : JBB
Seq. Line : 4
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 13:17:41
Inj : 2
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed : 9/12/2011 2:16:06 PM by JBB
(modified after loading)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	1.10077	4.61761	5.08290		Methane
1.530	BB	2.13977	2.33181	4.98953		Ethane
1.836	BP	3.23159	1.56380	5.05355		Propane
2.296		-	-	-		Acetaldehyde
2.687	BB	4.36622	1.17596	5.13450		Butane
4.184	BB	5.33269	8.48583e-1	4.52523		Pentane
5.768	BB	6.50367	7.50251e-1	4.87938		Hexane
6.924	BB	7.38375	6.93342e-1	5.11947		Heptane

Totals : 34.78457

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

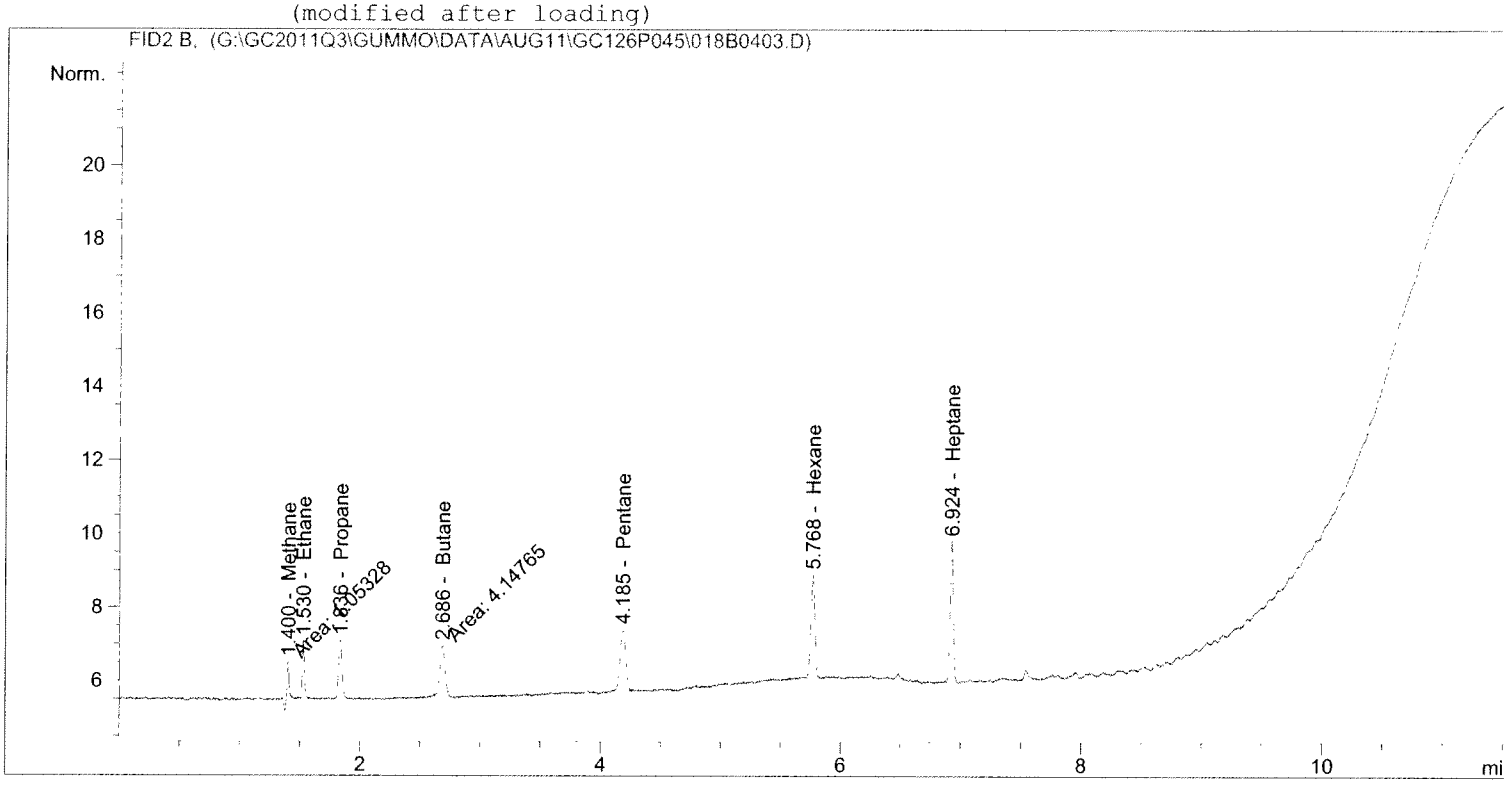
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0403.D
Sample Name: gc119p172 #C2 ENV(1=950,2=50)
gc126p045 (mgm)

Acq. Operator : JBB
Seq. Line : 4
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 13:36:44
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed : 9/12/2011 2:16:06 PM by JBB
(modified after loading)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	1.05328	4.63776	4.88485		Methane
1.530	BB	2.16287	2.33072	5.04103		Ethane
1.836	BP	3.17903	1.56507	4.97539		Propane
2.296		-	-	-		Acetaldehyde
2.686	MM	4.14765	1.17878	4.88917		Butane
4.185	BB	5.62758	8.53040e-1	4.80055		Pentane
5.768	BB	6.61089	7.50454e-1	4.96117		Hexane
6.924	BB	7.19321	6.94278e-1	4.99409		Heptane
Totals :				34.54625		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

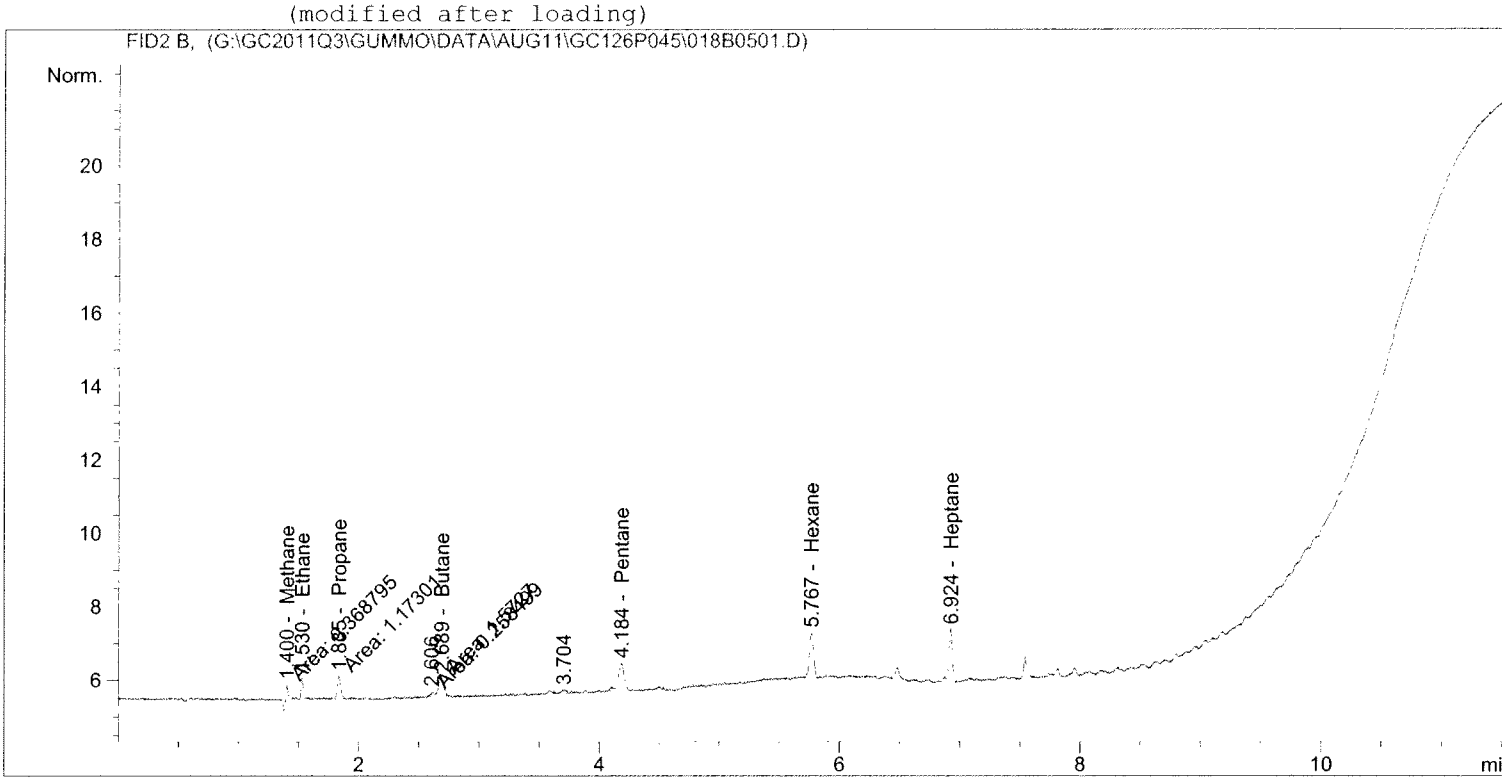
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0501.D
Sample Name: gc119p172 #C1 ENV(1=980,2=20)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 13:56:49                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	3.68795e-1	5.50492	2.03019		Methane
1.530	BB	7.93464e-1	2.50263	1.98575		Ethane
1.835	MM	1.17301	1.69806	1.99183		Propane
2.296		-	-	-		Acetaldehyde
2.689	FM	1.57270	1.27093	1.99880		Butane
4.184	BB	2.74101	7.68144e-1	2.10549		Pentane
5.767	BB	2.81494	7.33810e-1	2.06564		Hexane
6.924	BB	2.62567	7.56720e-1	1.98689		Heptane
Totals :				14.16459		

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

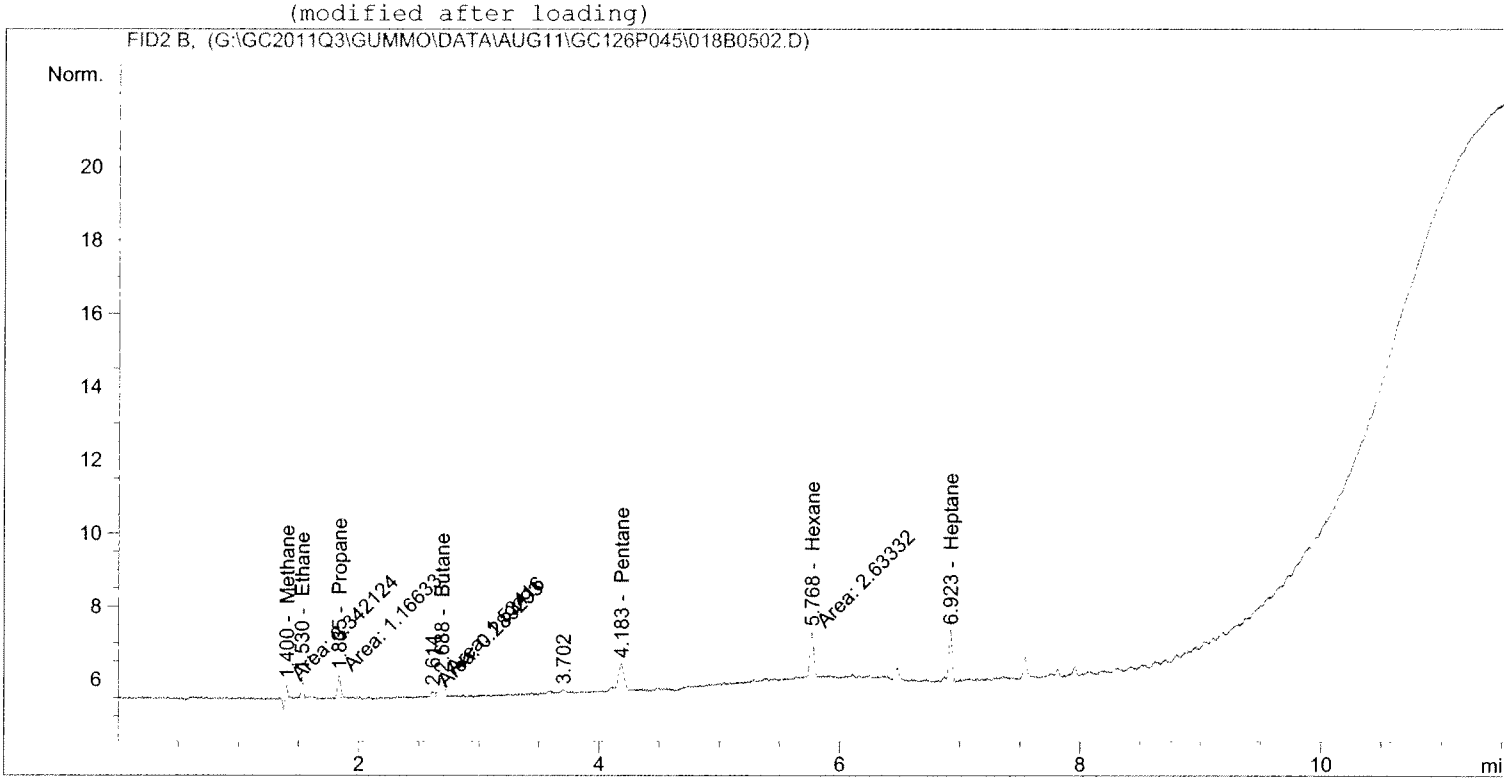
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 14:17:02                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	3.42124e-1	5.53164	1.89250		Methane
1.530	BB	7.98008e-1	2.50263	1.99712		Ethane
1.835	MM	1.16633	1.69806	1.98049		Propane
2.296		-	-	-		Acetaldehyde
2.688	FM	1.53416	1.27093	1.94981		Butane
4.183	BB	2.65049	7.62492e-1	2.02098		Pentane
5.768	MM	2.63332	7.32896e-1	1.92995		Hexane
6.923	BB	2.60941	7.56720e-1	1.97459		Heptane

Totals : 13.74544

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

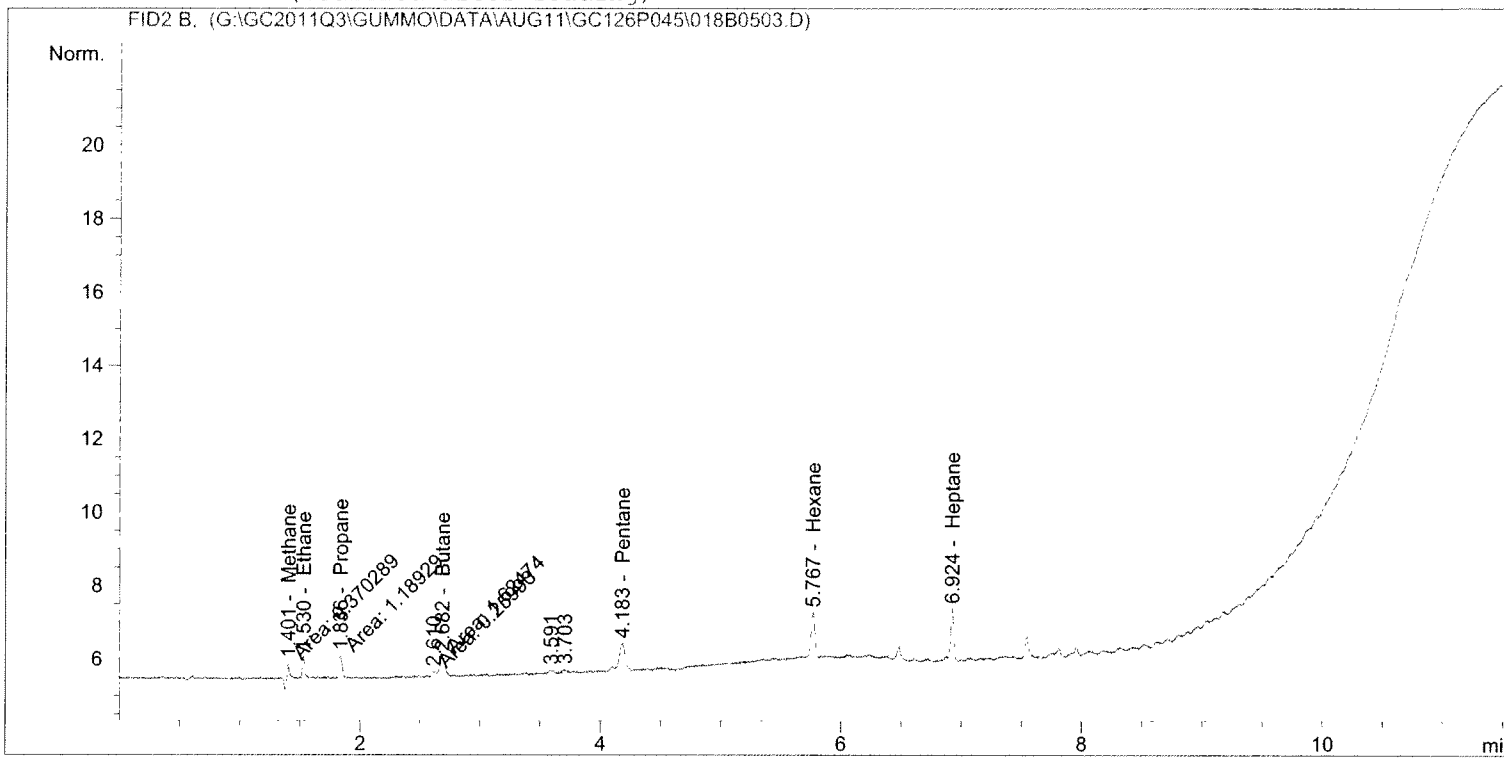
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Acq. Operator : JBB
Seq. Line : 5
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 14:37:29
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed : 9/12/2011 2:16:06 PM by JBB
(modified after loading)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	MM	3.70289e-1	5.49954	2.03642		Methane
1.530	BB	8.09525e-1	2.49914	2.02311		Ethane
1.836	MM	1.18929	1.69602	2.01706		Propane
2.296		-	-	-		Acetaldehyde
2.682	FM	1.62474	1.26626	2.05734		Butane
4.183	BB	2.69532	7.65338e-1	2.06283		Pentane
5.767	BB	2.81449	7.33806e-1	2.06529		Hexane
6.924	BB	2.68780	7.55074e-1	2.02949		Heptane

Totals : 14.29154

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

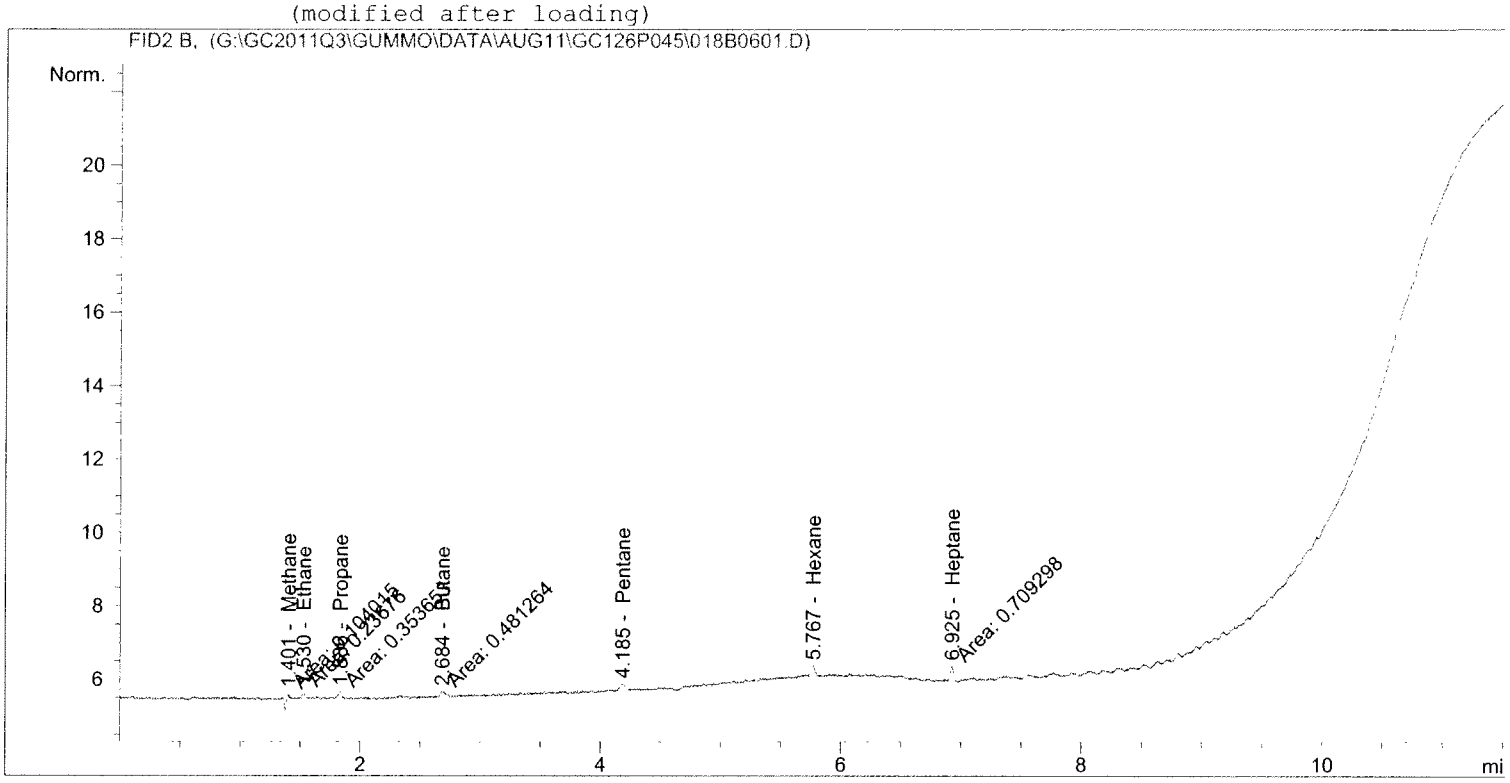
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0601.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 14:56:28                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	MM	1.04015e-1	5.53164	5.75373e-1		Methane
1.530	MM	2.36760e-1	2.50263	5.92521e-1		Ethane
1.836	MM	3.53653e-1	1.69806	6.00524e-1		Propane
2.296		-	-	-		Acetaldehyde
2.684	MM	4.81264e-1	1.27093	6.11652e-1		Butane
4.185	BB	6.24101e-1	7.61028e-1	4.74959e-1		Pentane
5.767	BB	6.98811e-1	7.32896e-1	5.12156e-1		Hexane
6.925	MM	7.09298e-1	7.56720e-1	5.36740e-1		Heptane
Totals :				3.90393		

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

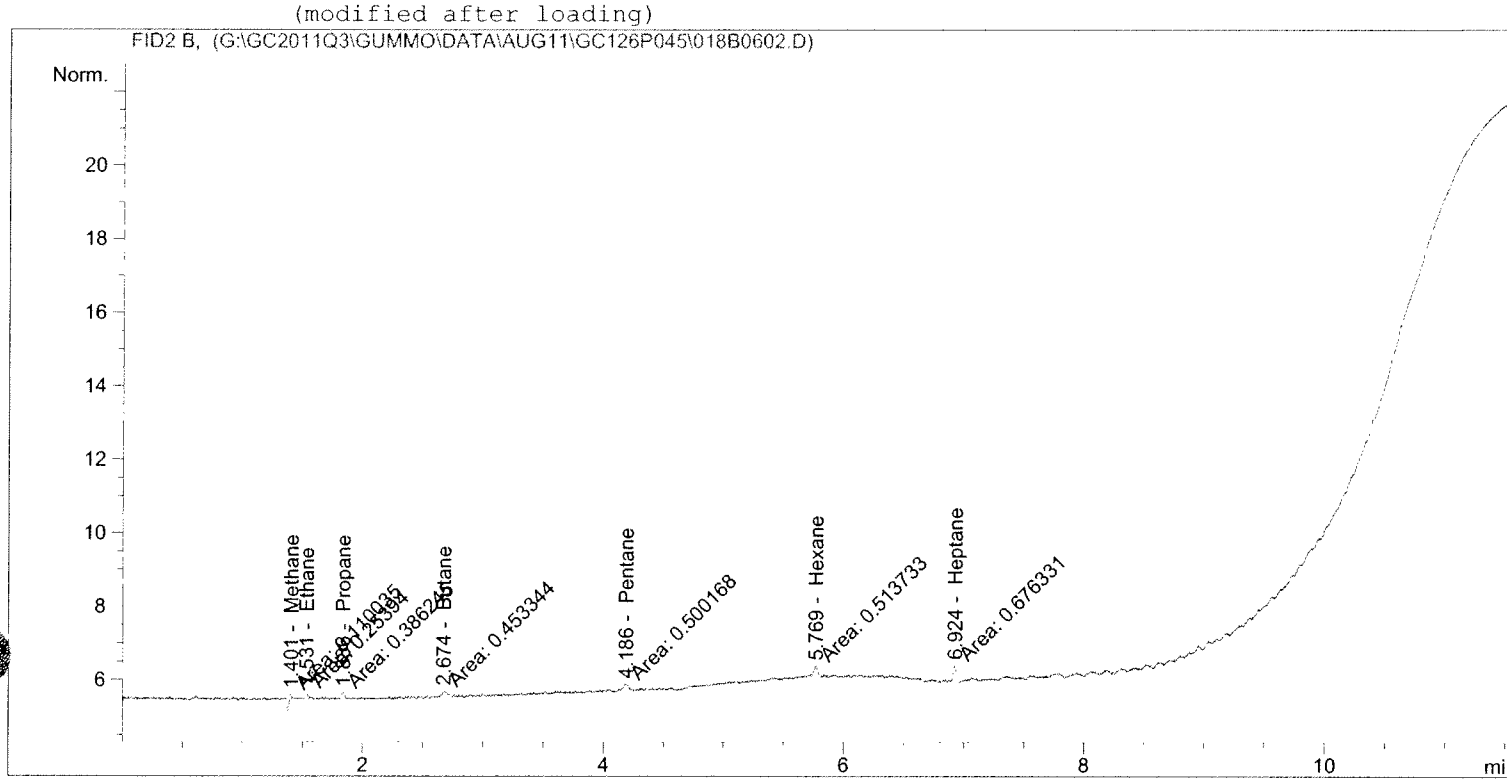
==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0602.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

Acq. Operator	: JBB	Seq. Line	: 6
Acq. Instrument	: Gummo	Location	: Vial 18
Injection Date	: 18-Aug-11, 15:15:23	Inj	: 2
		Inj Volume	: External

Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed : 9/12/2011 2:16:06 PM by JBB
(modified after loading)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	MM	1.10035e-1	5.53164	6.08673e-1		Methane
1.531	MM	2.53940e-1	2.50263	6.35518e-1		Ethane
1.836	MM	3.86245e-1	1.69806	6.55866e-1		Propane
2.296		-	-	-		Acetaldehyde
2.674	MM	4.53344e-1	1.27093	5.76168e-1		Butane
4.186	MM	5.00168e-1	7.61028e-1	3.80642e-1		Pentane
5.769	MM	5.13733e-1	7.32896e-1	3.76513e-1		Hexane
6.924	MM	6.76331e-1	7.56720e-1	5.11793e-1		Heptane

Totals : 3.74517

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

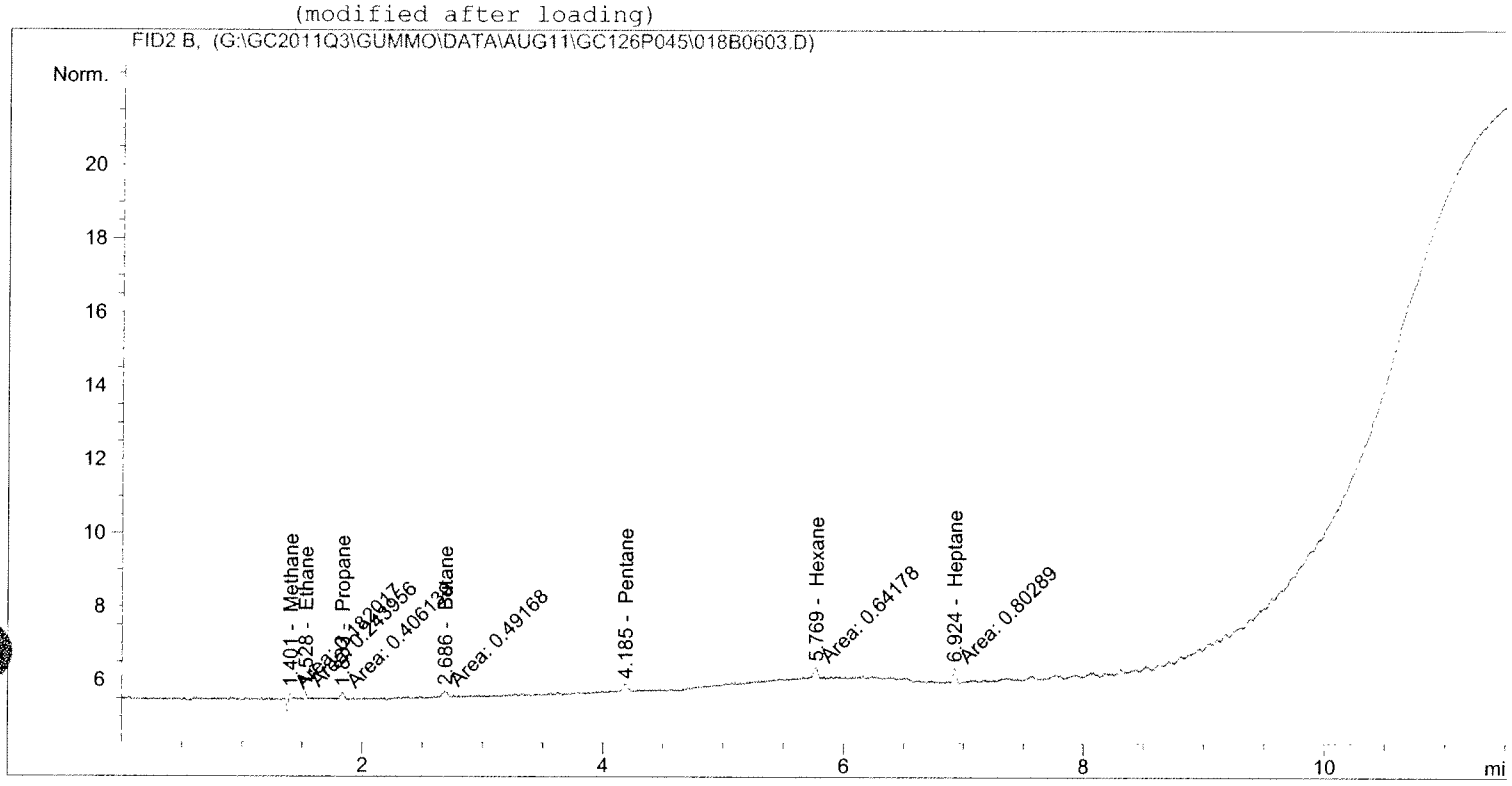
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0603.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

Acq. Operator	: JBB	Seq. Line	: 6
Acq. Instrument	: Gummo	Location	: Vial 18
Injection Date	: 18-Aug-11, 15:34:24	Inj	: 3
		Inj Volume	: External
Acq. Method	: G:\GC2011Q3\GUMMO\METHODS\GC126P045.M		
Last changed	: 8/17/2011 8:16:50 PM by JBB		
Analysis Method	: G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M		
Last changed	: 9/12/2011 2:16:06 PM by JBB (modified after loading)		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	MM	1.82017e-1	5.53164	1.00685		Methane
1.528	MM	2.43956e-1	2.50263	6.10533e-1		Ethane
1.833	MM	4.06139e-1	1.69806	6.89648e-1		Propane
2.296		-	-	-		Acetaldehyde
2.686	MM	4.91680e-1	1.27093	6.24891e-1		Butane
4.185	BB	6.21185e-1	7.61028e-1	4.72740e-1		Pentane
5.769	MM	6.41780e-1	7.32896e-1	4.70358e-1		Hexane
6.924	MM	8.02890e-1	7.56720e-1	6.07563e-1		Heptane

Totals : 4.48259

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

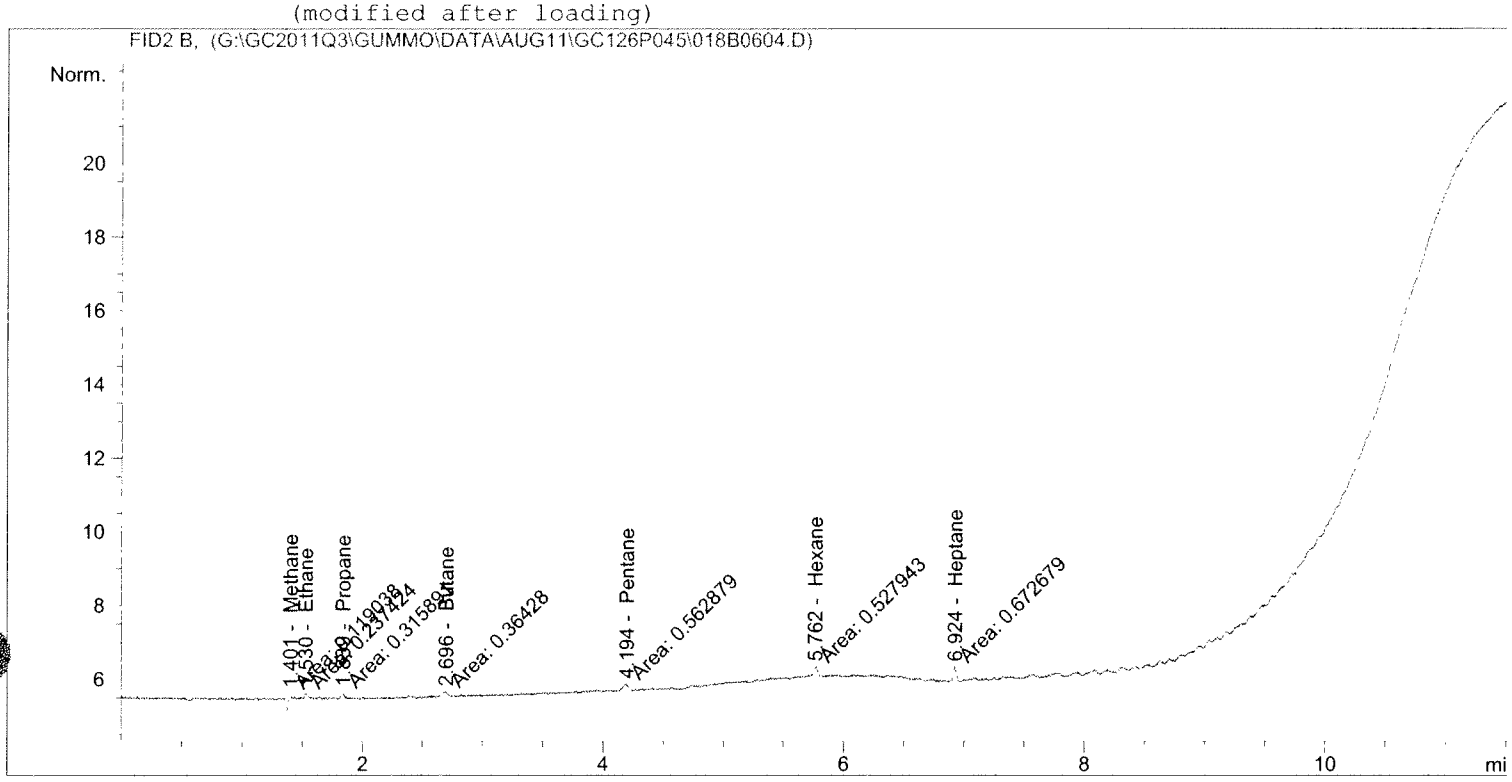
Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0604.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

Acq. Operator	: JBB	Seq. Line	: 6
Acq. Instrument	: Gummo	Location	: Vial 18
Injection Date	: 18-Aug-11, 15:53:24	Inj	: 4
		Inj Volume	: External
Acq. Method	: G:\GC2011Q3\GUMMO\METHODS\GC126P045.M		
Last changed	: 8/17/2011 8:16:50 PM by JBB		
Analysis Method	: G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M		
Last changed	: 9/12/2011 2:16:06 PM by JBB		
	(modified after loading)		



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	MM	1.19038e-1	5.53164	6.58472e-1		Methane
1.530	MM	2.37424e-1	2.50263	5.94184e-1		Ethane
1.839	MM	3.15891e-1	1.69806	5.36401e-1		Propane
2.296		-	-	-		Acetaldehyde
2.696	MM	3.64280e-1	1.27093	4.62974e-1		Butane
4.194	MM	5.62879e-1	7.61028e-1	4.28367e-1		Pentane
5.762	MM	5.27943e-1	7.32896e-1	3.86927e-1		Hexane
6.924	MM	6.72679e-1	7.56720e-1	5.09030e-1		Heptane

Totals : 3.57636

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

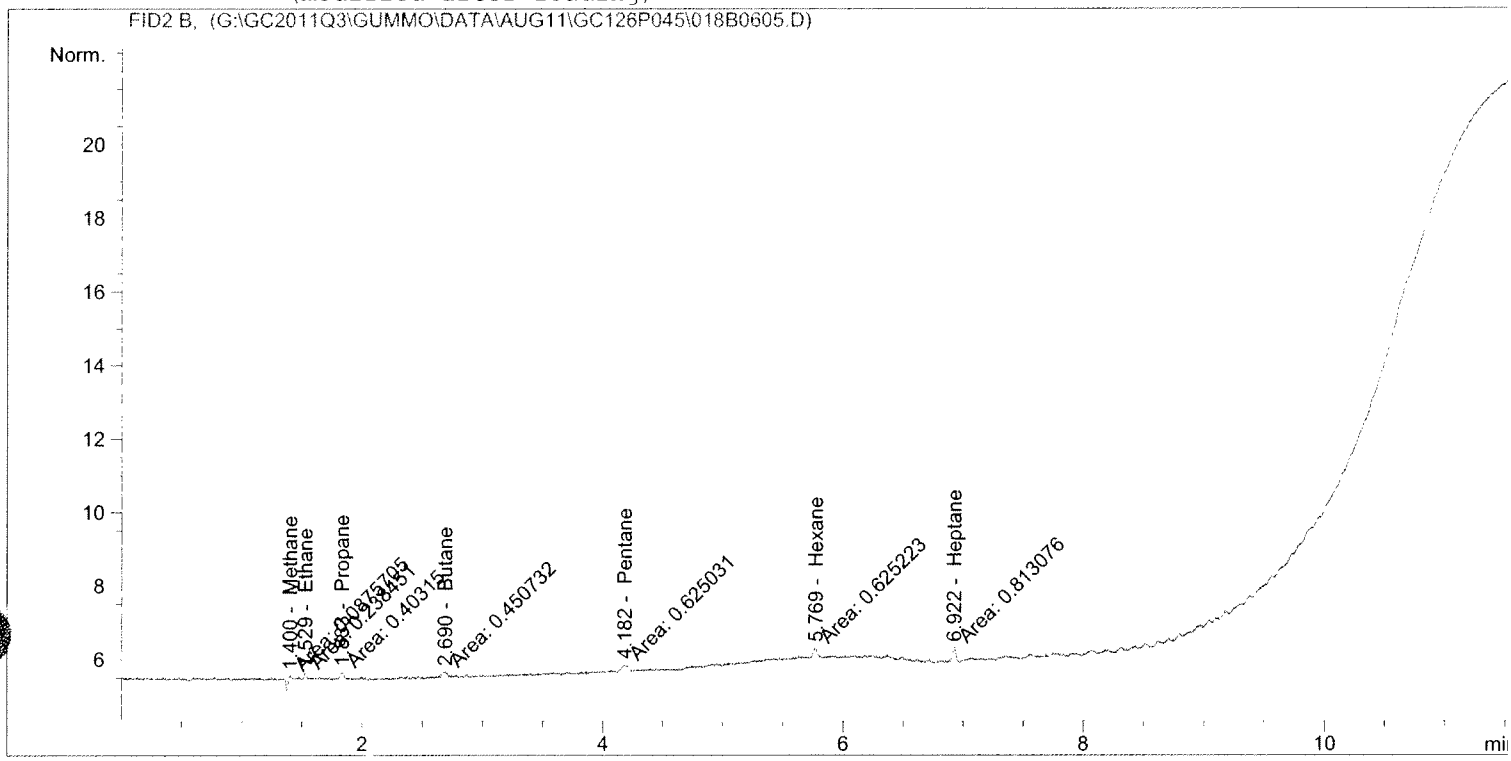
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0605.D
Sample Name: gc119p172 #C0 ENV(1=3990,2=20)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 16:13:43                       Inj :   5
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	MM	8.75705e-2	5.53164	4.84408e-1		Methane
1.529	MM	2.38451e-1	2.50263	5.96755e-1		Ethane
1.833	MM	4.03150e-1	1.69806	6.84573e-1		Propane
2.296		-	-	-		Acetaldehyde
2.690	MM	4.50732e-1	1.27093	5.72848e-1		Butane
4.182	MM	6.25031e-1	7.61028e-1	4.75666e-1		Pentane
5.769	MM	6.25223e-1	7.32896e-1	4.58224e-1		Hexane
6.922	MM	8.13076e-1	7.56720e-1	6.15271e-1		Heptane

Totals : 3.88775

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

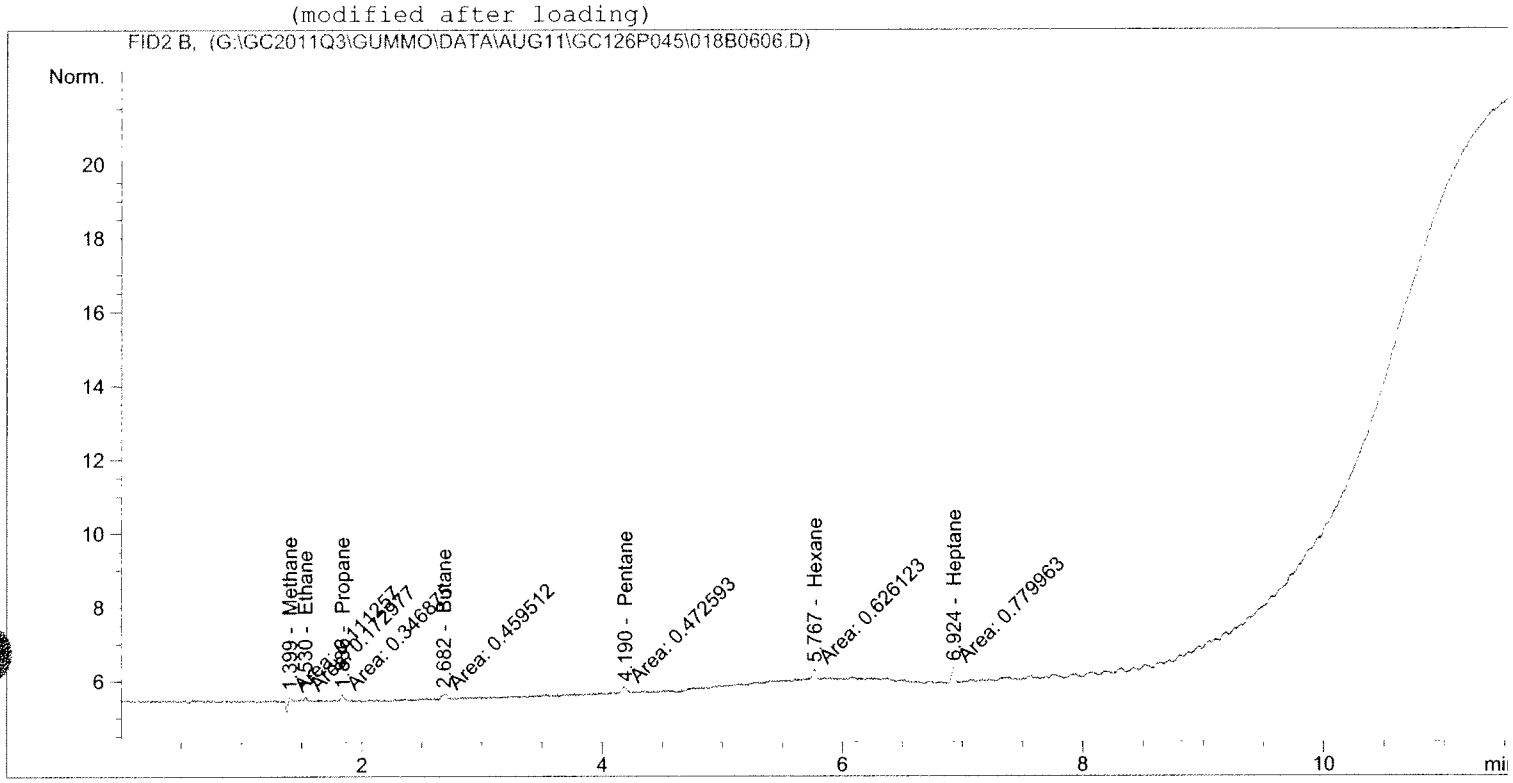
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

Acq. Operator : JBB
Seq. Line : 6
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 16:34:00
Inj : 6
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed : 9/12/2011 2:16:06 PM by JBB
(modified after loading)



External Standard Report

Sorted By : Signal
Calib. Data Modified : 9/12/2011 2:07:06 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.399	MM	1.11257e-1	5.53164	6.15431e-1		Methane
1.530	MM	1.72977e-1	2.50263	4.32898e-1		Ethane
1.836	MM	3.46875e-1	1.69806	5.89013e-1		Propane
2.296		-	-	-		Acetaldehyde
2.682	MM	4.59512e-1	1.27093	5.84008e-1		Butane
4.190	MM	4.72593e-1	7.61028e-1	3.59657e-1		Pentane
5.767	MM	6.26123e-1	7.32896e-1	4.58883e-1		Hexane
6.924	MM	7.79963e-1	7.56720e-1	5.90214e-1		Heptane

Totals : 3.63010

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

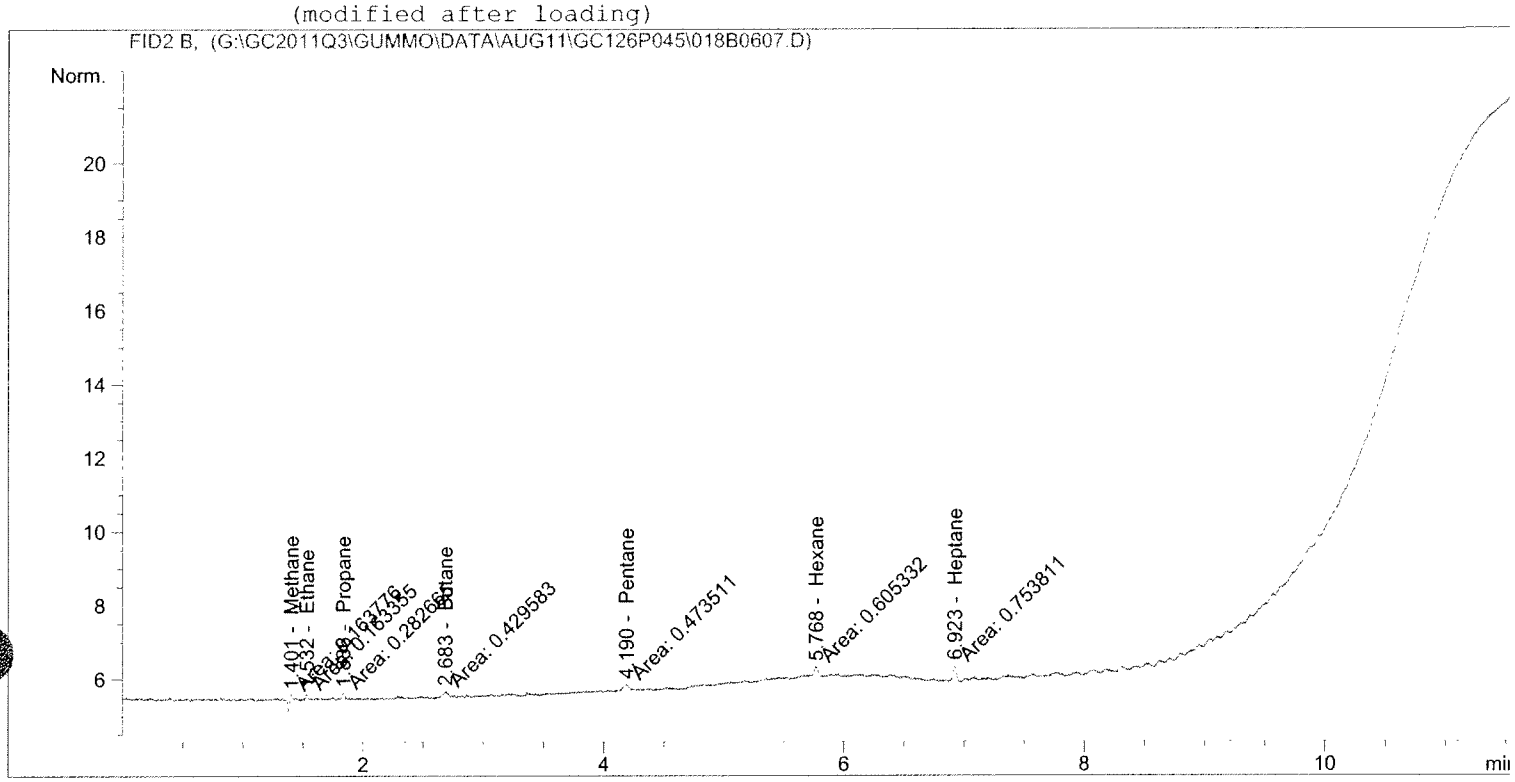
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 16:53:01                       Inj :   7
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	MM	1.63776e-1	5.53164	9.05947e-1		Methane
1.532	MM	1.63355e-1	2.50263	4.08816e-1		Ethane
1.836	MM	2.82665e-1	1.69806	4.79982e-1		Propane
2.296		-	-	-		Acetaldehyde
2.683	MM	4.29583e-1	1.27093	5.45969e-1		Butane
4.190	MM	4.73511e-1	7.61028e-1	3.60355e-1		Pentane
5.768	MM	6.05332e-1	7.32896e-1	4.43646e-1		Hexane
6.923	MM	7.53811e-1	7.56720e-1	5.70424e-1		Heptane

Totals : 3.71514

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

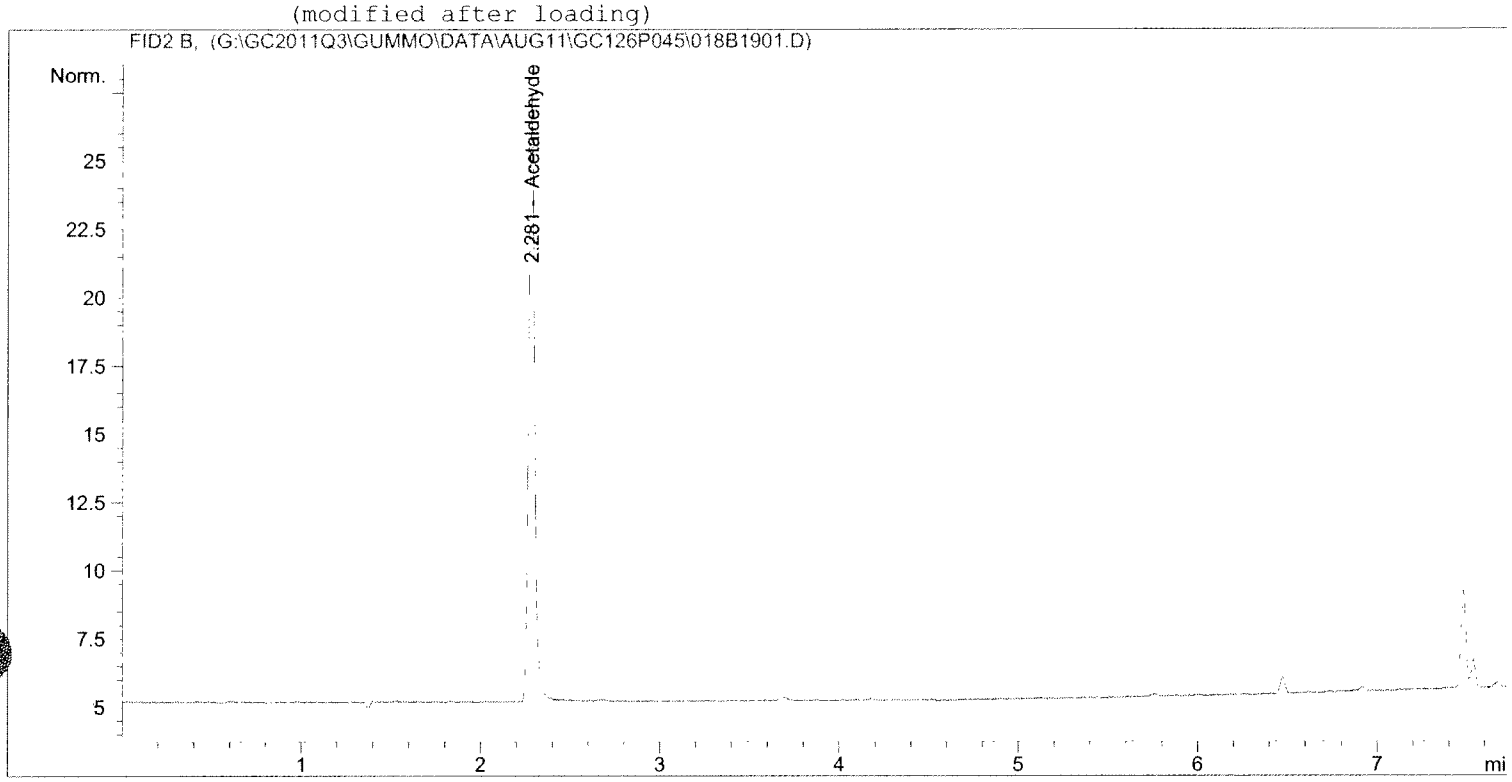
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  19
Acq. Instrument : Gummo                             Location : Vial 18
Injection Date  : 19-Aug-11, 09:58:36                    Inj :   1
                                                  Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.526           -          -          -          Ethane
  1.835           -          -          -          Propane
  2.281 BB      50.35408    5.02754  253.15726     Acetaldehyde
  2.675           -          -          -          Butane
  4.175           -          -          -          Pentane
  5.763           -          -          -          Hexane
  6.924           -          -          -          Heptane

Totals :                               253.15726
```

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

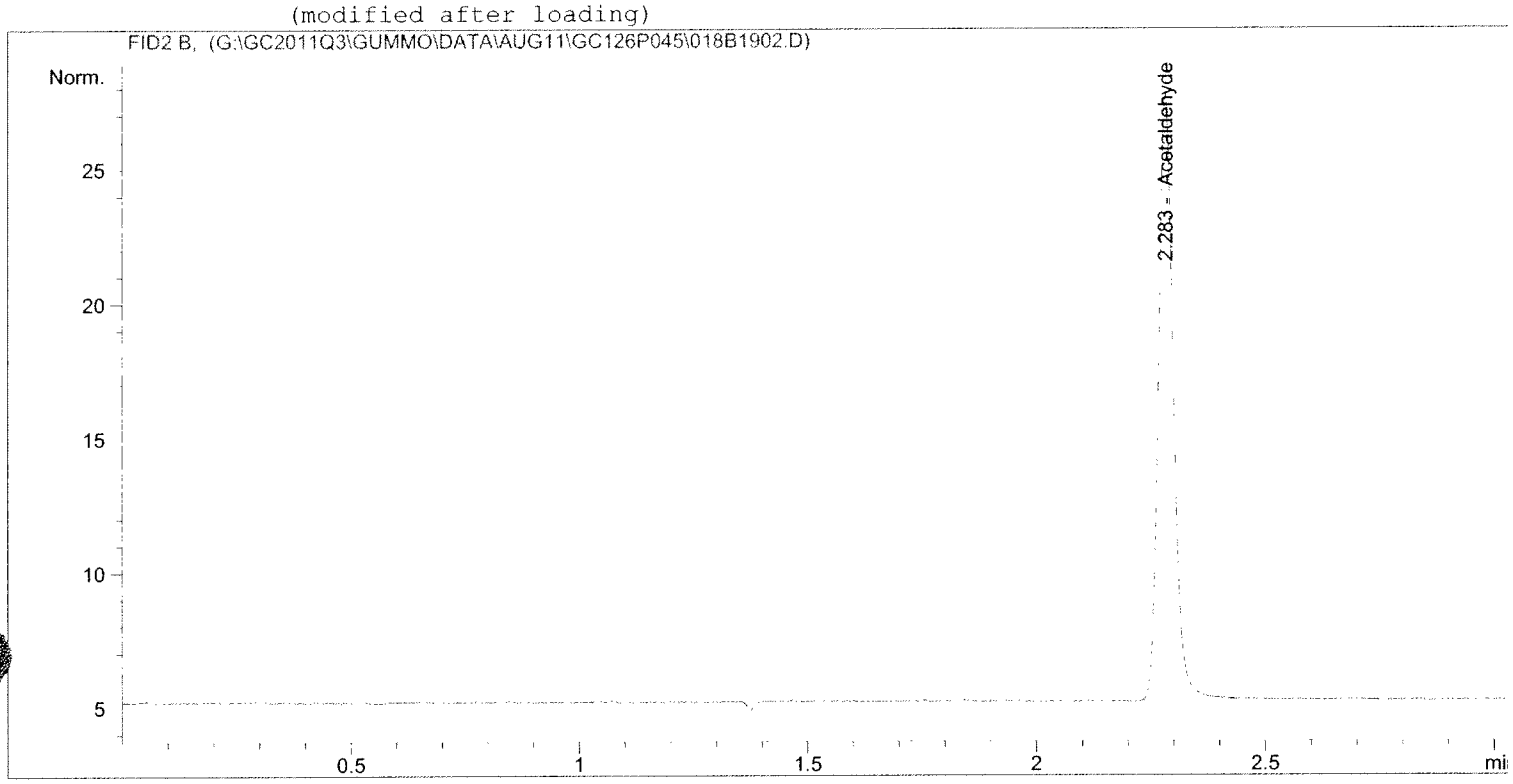
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  19
Acq. Instrument  : Gummo                             Location : Vial 18
Injection Date   : 19-Aug-11, 10:12:48                    Inj :   2
                                                   Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.283 BB      50.78757    5.02757  255.33792      Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                              255.33792
```

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

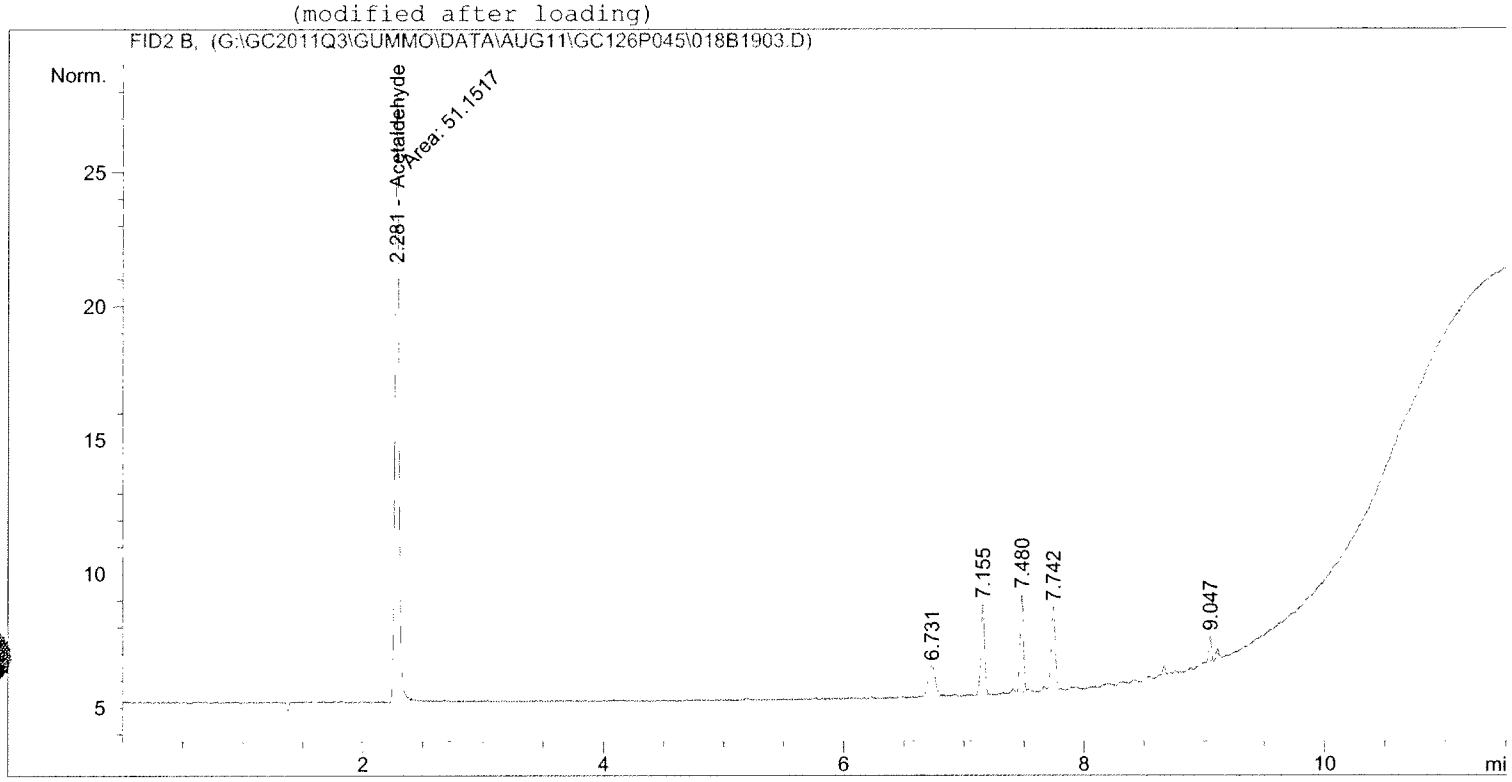
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  19
Acq. Instrument  : Gummo                             Location : Vial 18
Injection Date   : 19-Aug-11, 10:20:17                    Inj :   3
                                                   Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.281 MM      51.15173    5.02759  257.16984       Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                              257.16984
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

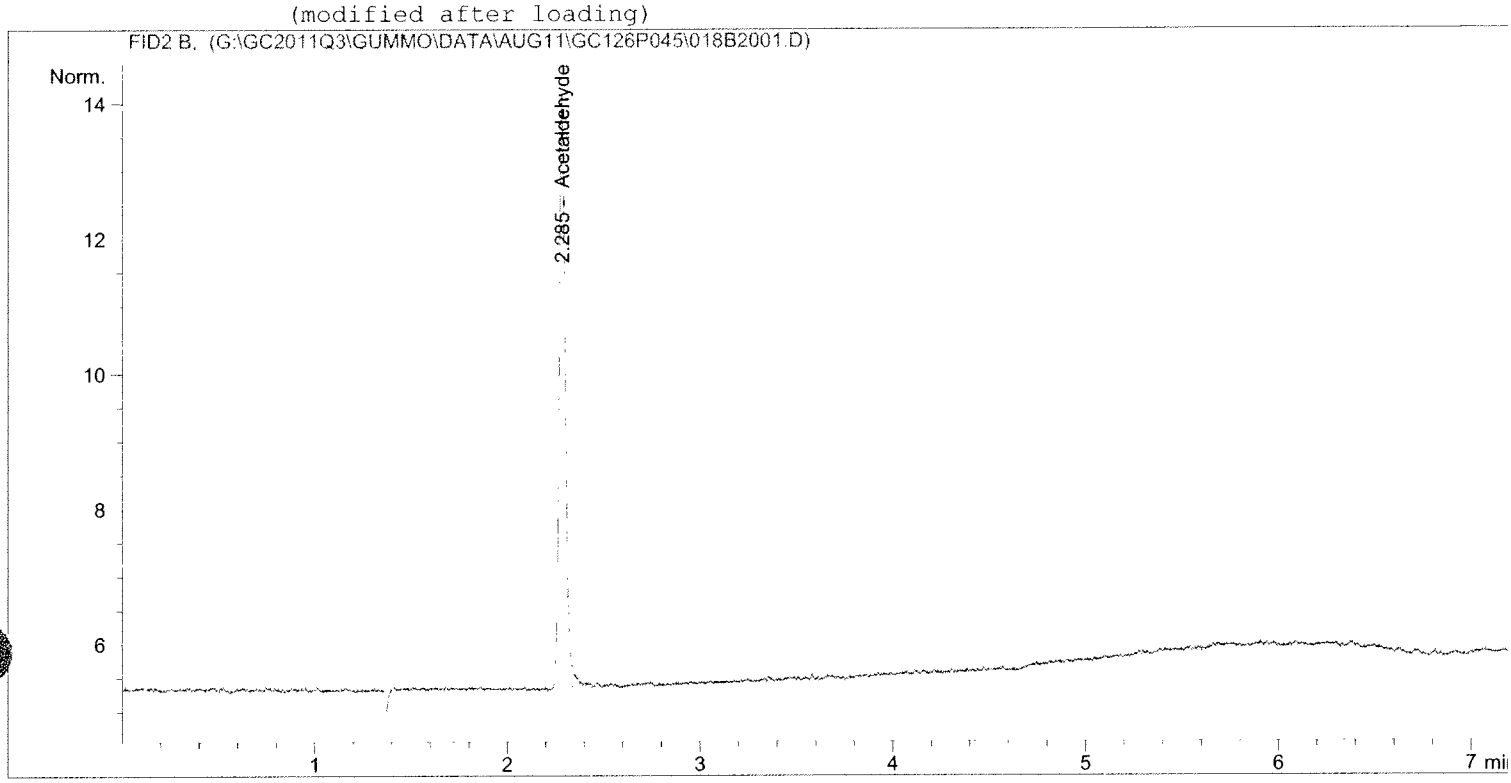
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 10:58:02                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.526           -          -          -          Ethane
  1.835           -          -          -          Propane
  2.285 BB      19.85608    5.02305   99.73809    Acetaldehyde
  2.675           -          -          -          Butane
  4.175           -          -          -          Pentane
  5.763           -          -          -          Hexane
  6.924           -          -          -          Heptane

Totals :                                 99.73809
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

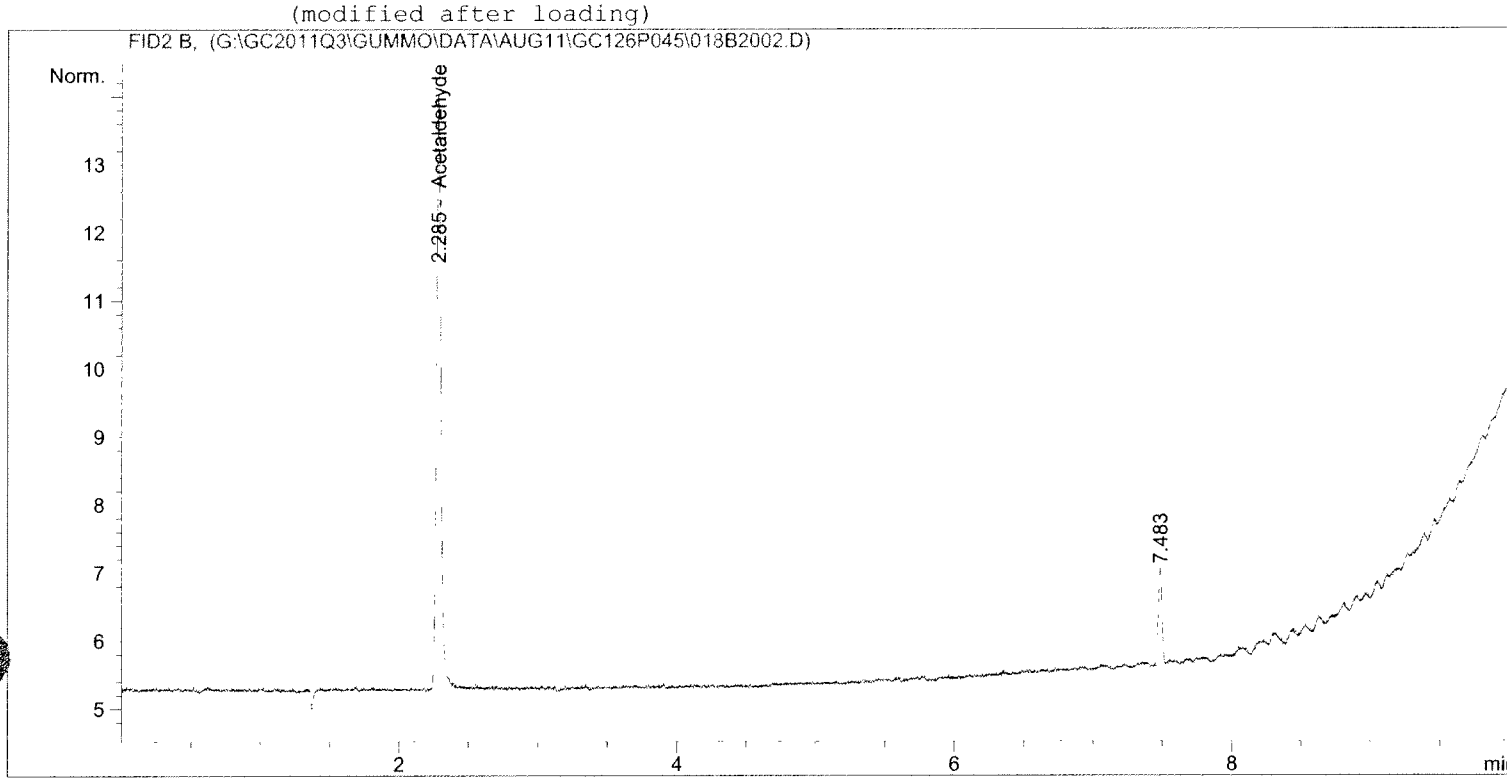
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 11:11:17                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.285 BB      19.80269    5.02303   99.46955      Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                                 99.46955
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

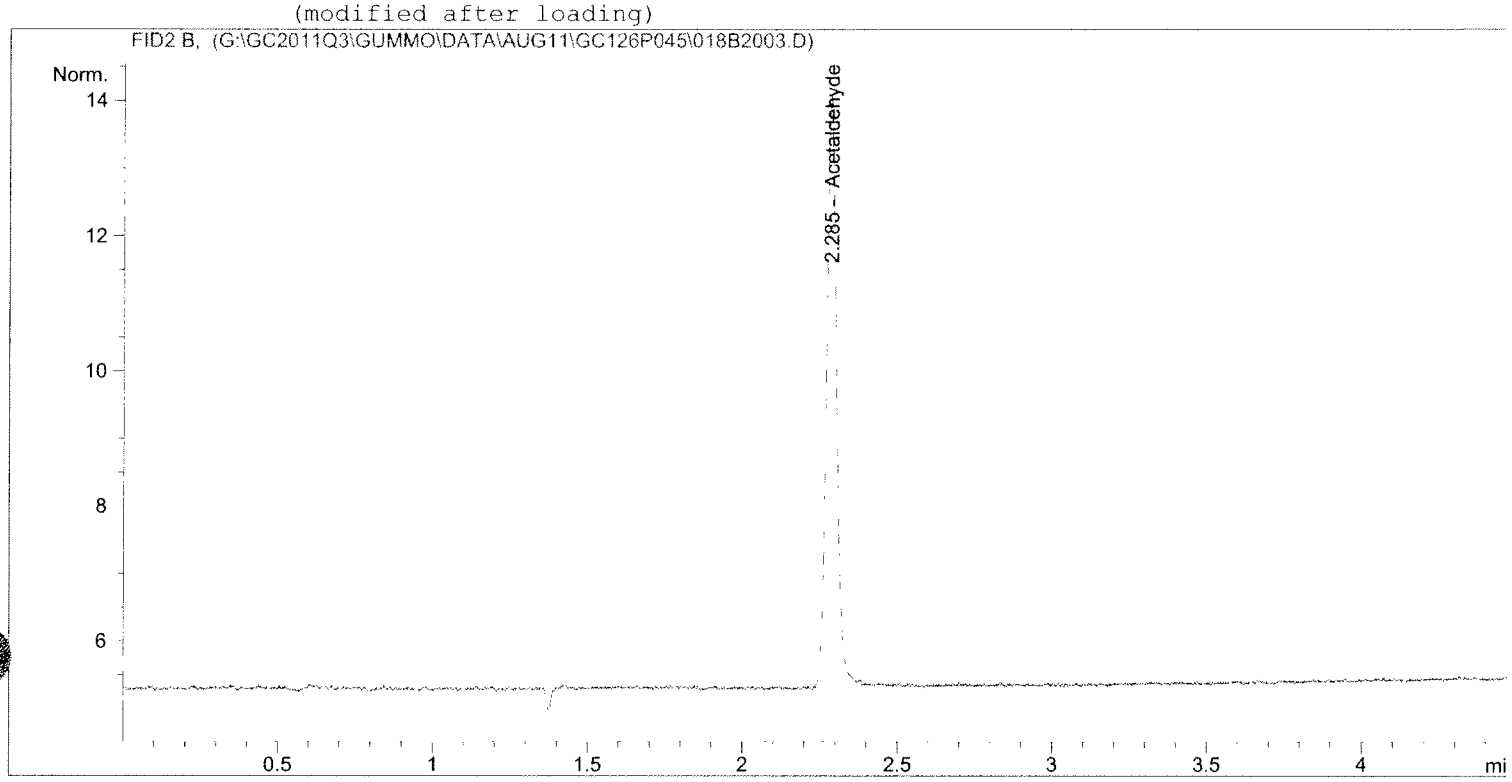
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  20
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 19-Aug-11, 11:28:19                       Inj :   3
                                                     Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -         Methane
  1.526           -          -          -         Ethane
  1.835           -          -          -         Propane
  2.285 BB       19.72253    5.02300   99.06628   Acetaldehyde
  2.675           -          -          -         Butane
  4.175           -          -          -         Pentane
  5.763           -          -          -         Hexane
  6.924           -          -          -         Heptane

Totals :                                99.06628
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

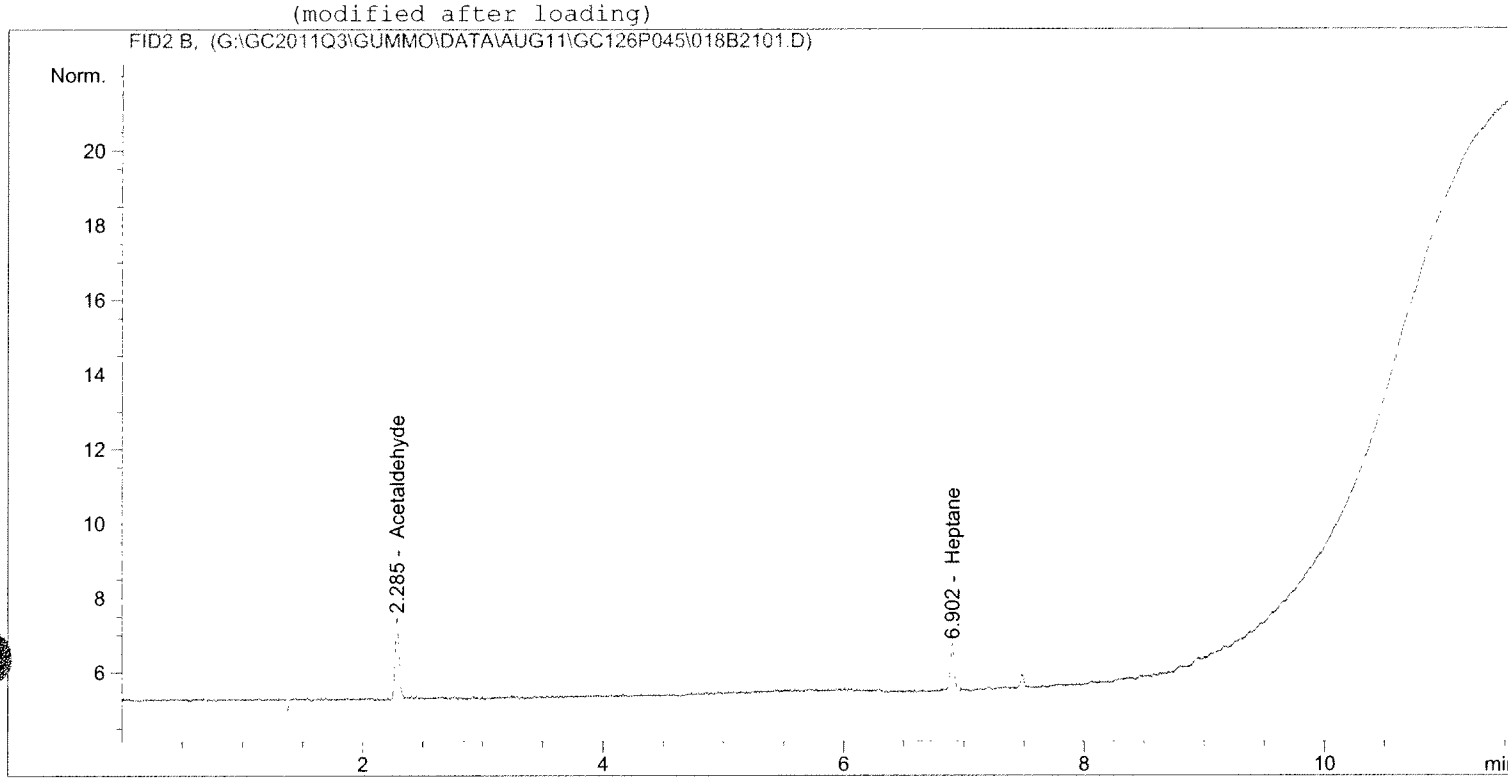
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  21
Acq. Instrument  : Gummo                             Location : Vial 18
Injection Date   : 19-Aug-11, 11:37:56                    Inj :  1
                                                   Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -         Methane
  1.526           -          -          -         Ethane
  1.835           -          -          -         Propane
  2.285 BB      5.01318    5.00110   25.07140     Acetaldehyde
  2.675           -          -          -         Butane
  4.175           -          -          -         Pentane
  5.763           -          -          -         Hexane
  6.902 BB      2.83778 7.49945e-1    2.12817     Heptane

Totals :                              27.19957
```

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

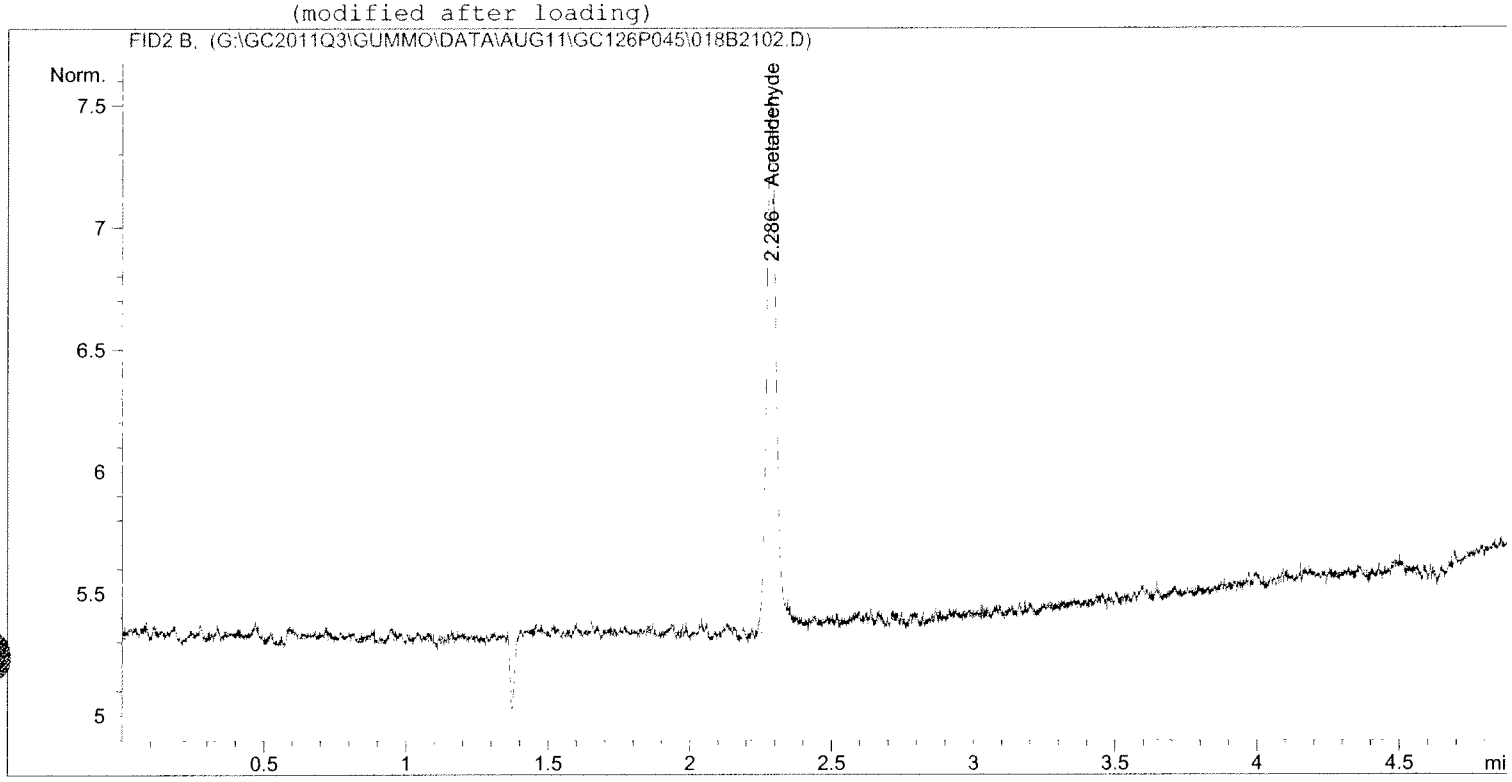
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  21
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 19-Aug-11, 11:56:50                       Inj :   2
                                                      Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.286 BB        5.01472     5.00111    25.07916   Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                                 25.07916
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

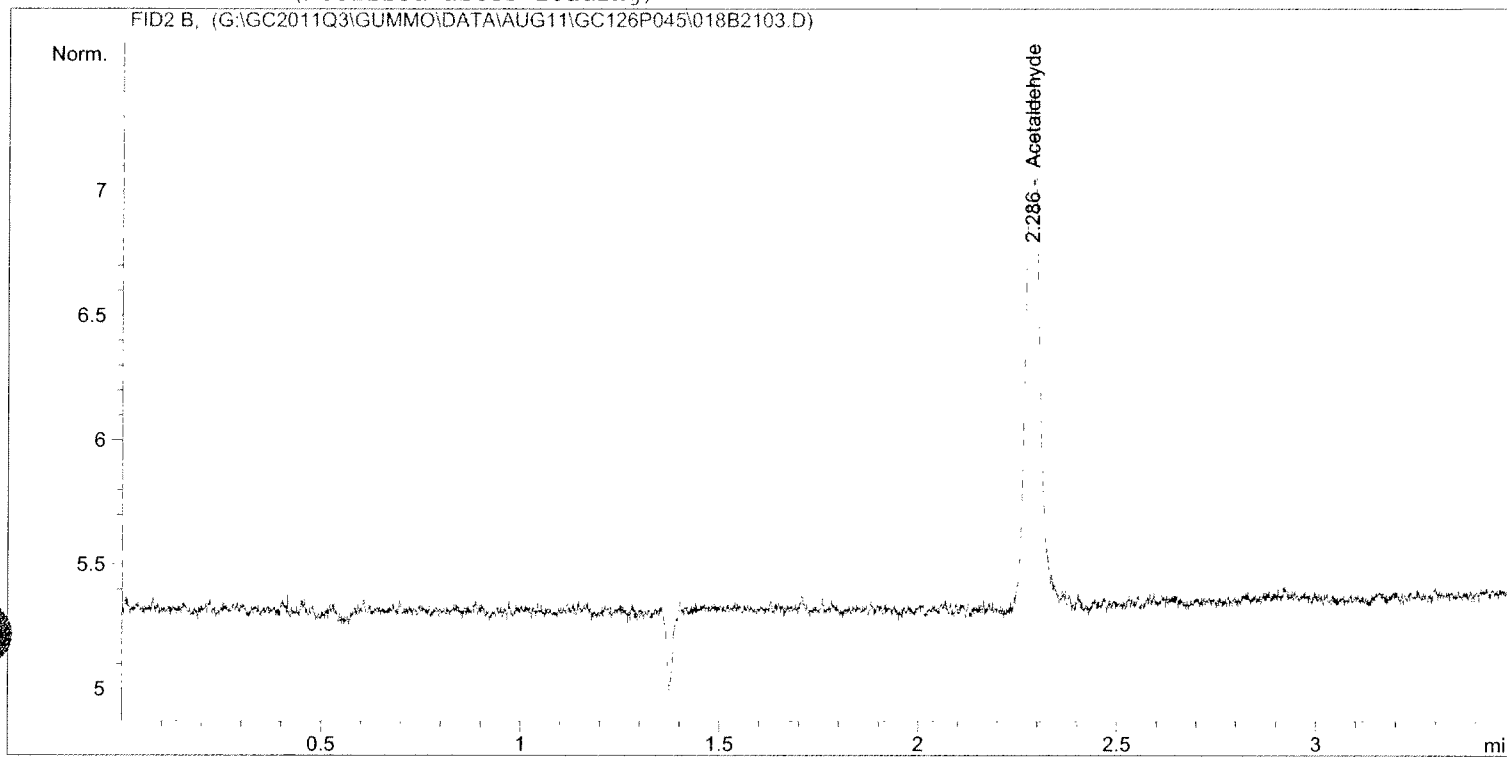
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  21
Acq. Instrument  : Gummo                             Location : Vial 18
Injection Date   : 19-Aug-11, 12:07:02                    Inj :   3
                                                   Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.286 BB        5.03045     5.00120    25.15828   Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                                 25.15828
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

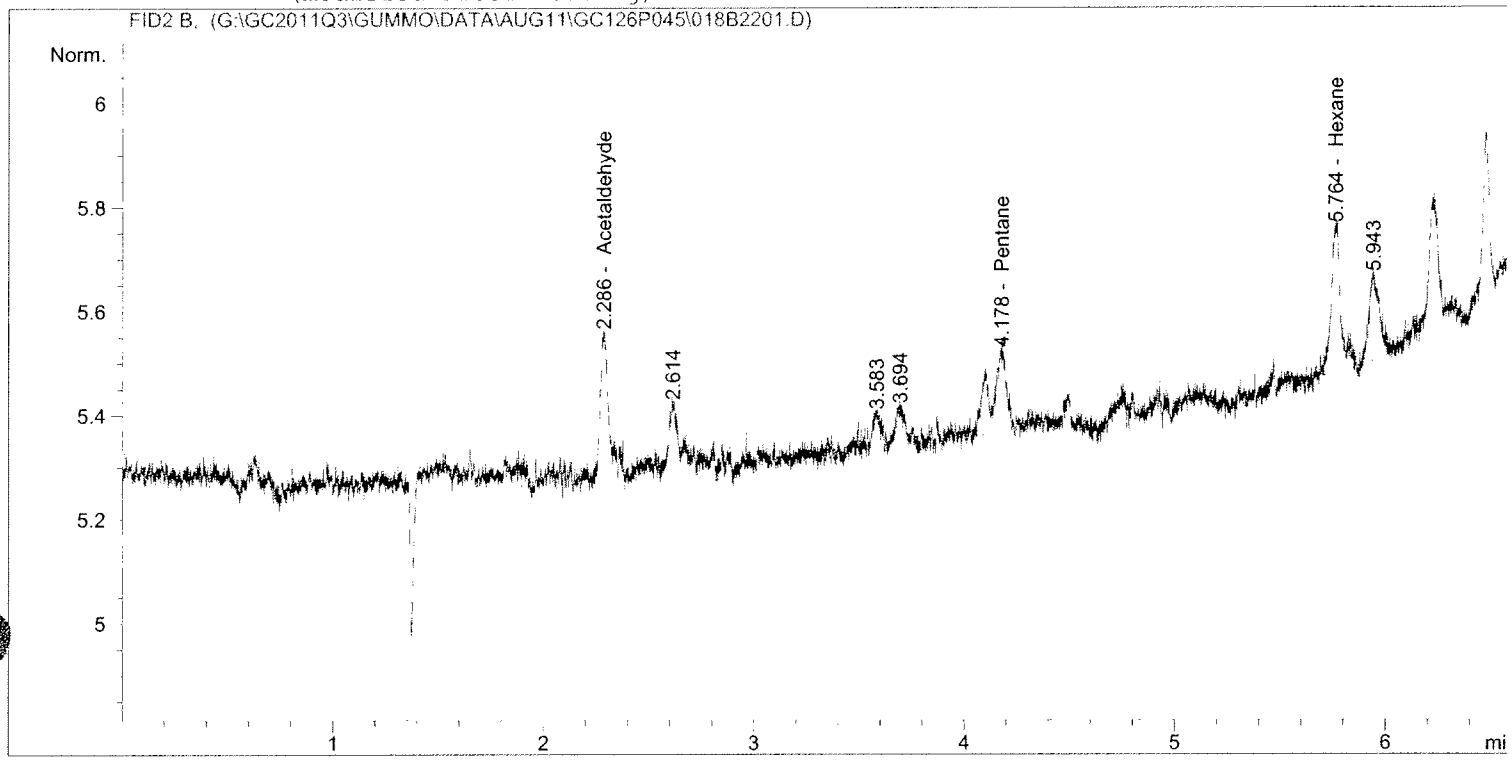
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  22
Acq. Instrument : Gummo                             Location : Vial 18
Injection Date  : 19-Aug-11, 12:15:54                    Inj :  1
                                                  Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.286 BB     7.37044e-1    4.83071    3.56044    Acetaldehyde
  2.675           -           -          -          Butane
  4.178 BB     8.30882e-1 7.61028e-1 6.32325e-1    Pentane
  5.764 BB     9.13291e-1 7.32896e-1 6.69348e-1    Hexane
  6.924           -           -          -          Heptane

Totals :                                 4.86212
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

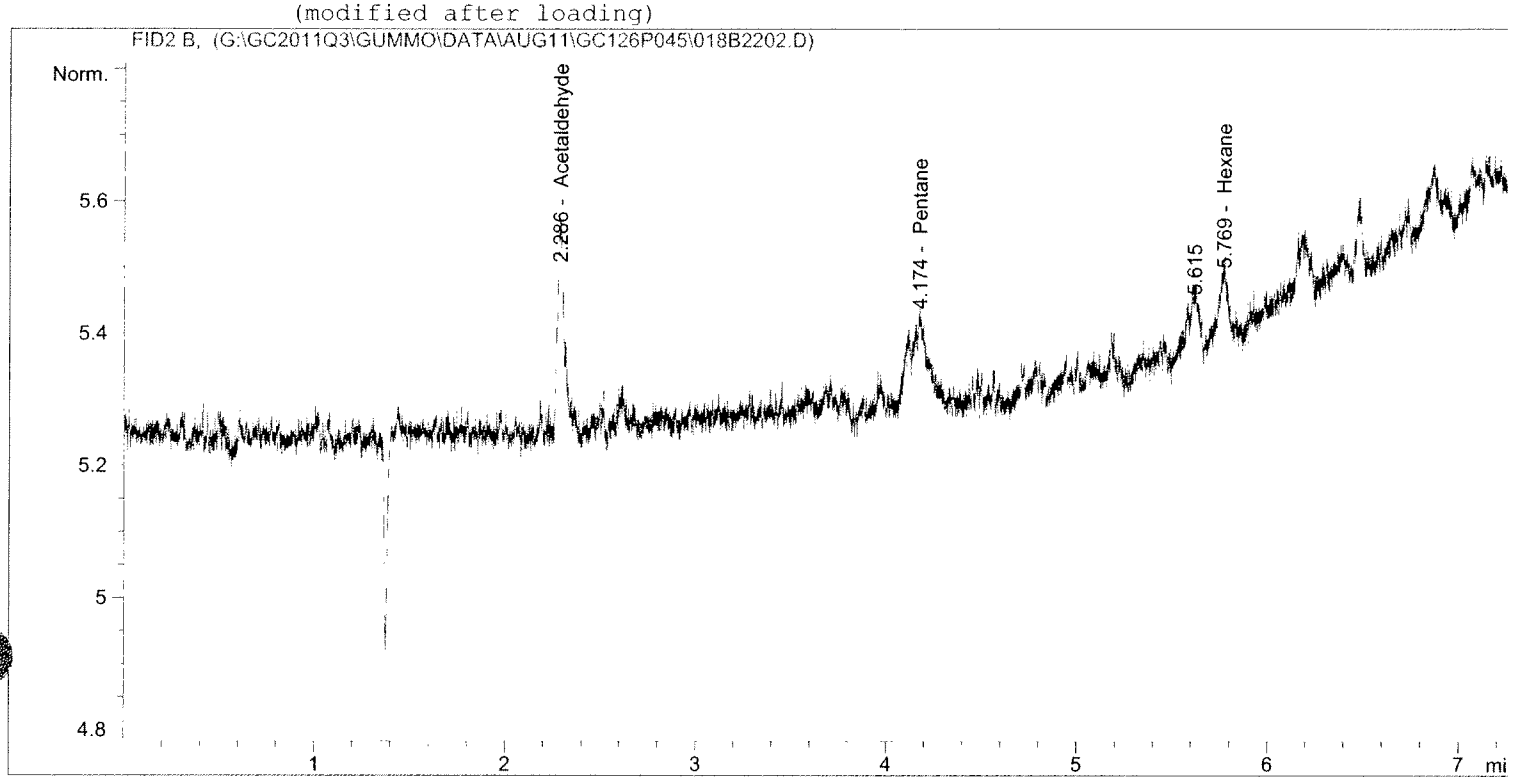
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  22
Acq. Instrument  : Gummo                             Location : Vial 18
Injection Date   : 19-Aug-11, 12:28:20                    Inj :   2
                                                  Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.286 BB     7.82986e-1    4.84243    3.79155    Acetaldehyde
  2.675           -           -          -          Butane
  4.174 BB     9.28174e-1 7.61028e-1 7.06366e-1    Pentane
  5.769 VB     4.41024e-1 7.32896e-1 3.23225e-1    Hexane
  6.924           -           -          -          Heptane

Totals :                                 4.82115
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

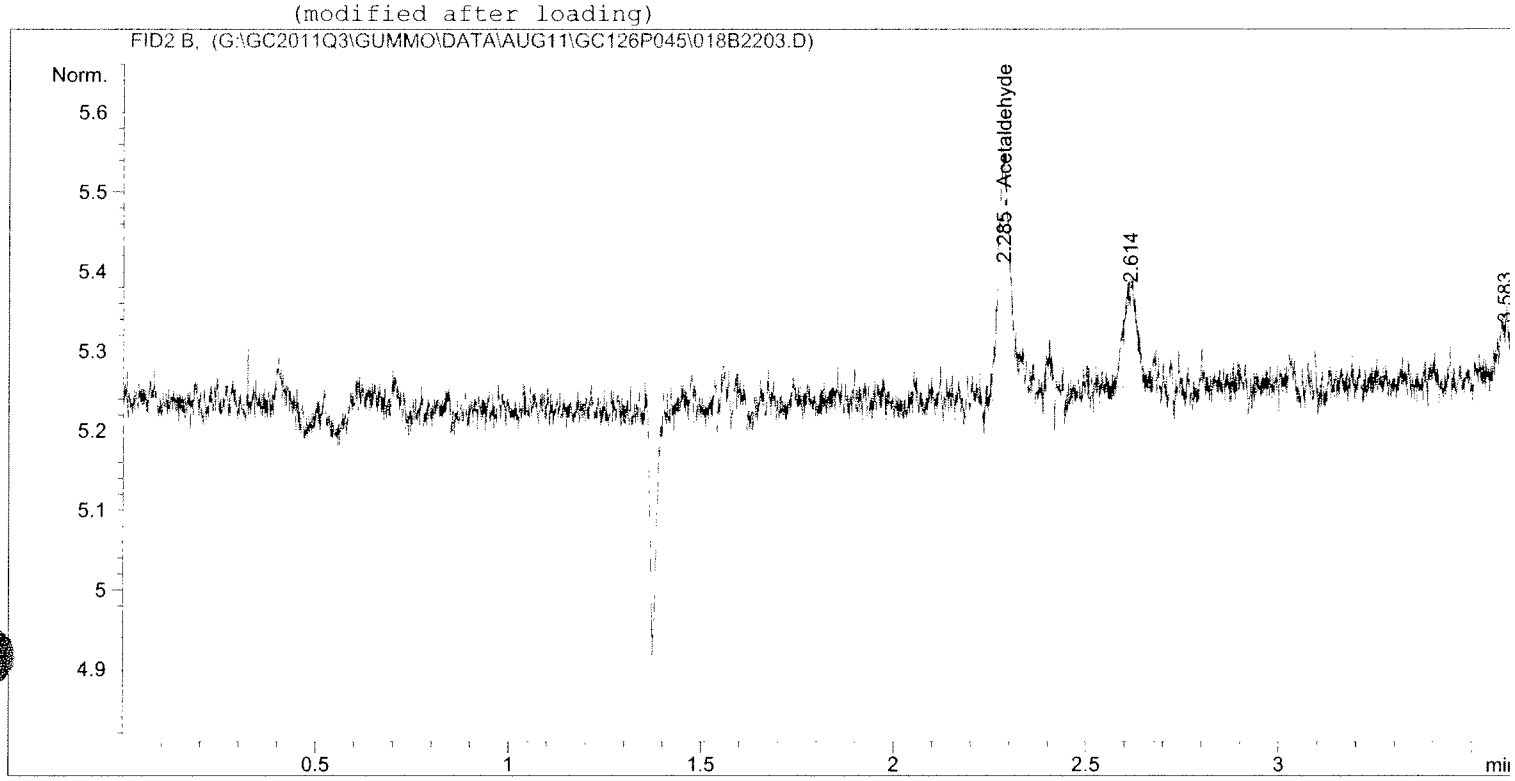
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 12:41:40                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.526		-	-	-		Ethane
1.835		-	-	-		Propane
2.285	BB	7.13720e-1	4.82418	3.44311		Acetaldehyde
2.675		-	-	-		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 3.44311

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

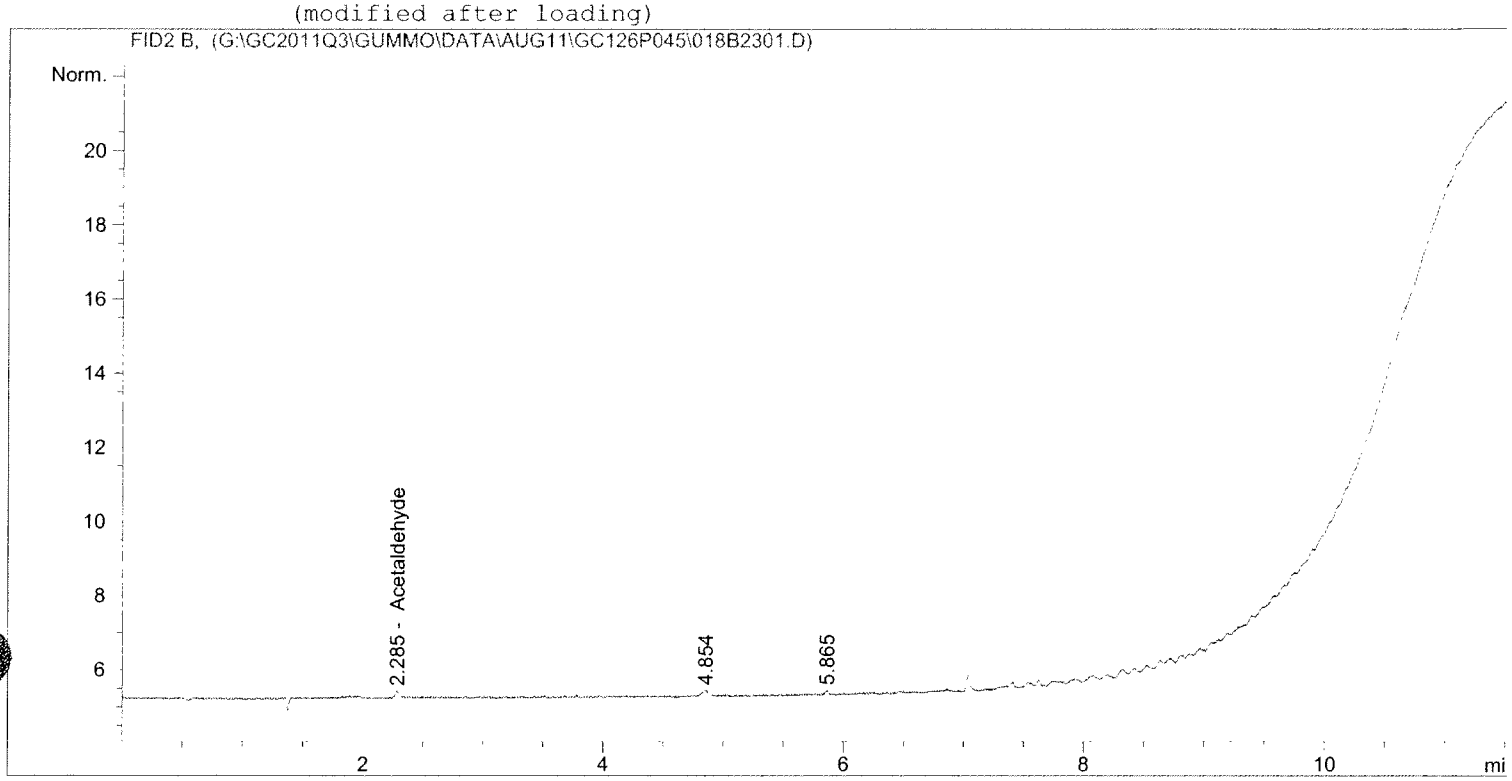
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  23
Acq. Instrument : Gummo                             Location : Vial 18
Injection Date  : 19-Aug-11, 12:49:59                    Inj :   1
                                                  Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.285 BB     4.34848e-1     4.69189    2.04026    Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                                  2.04026
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

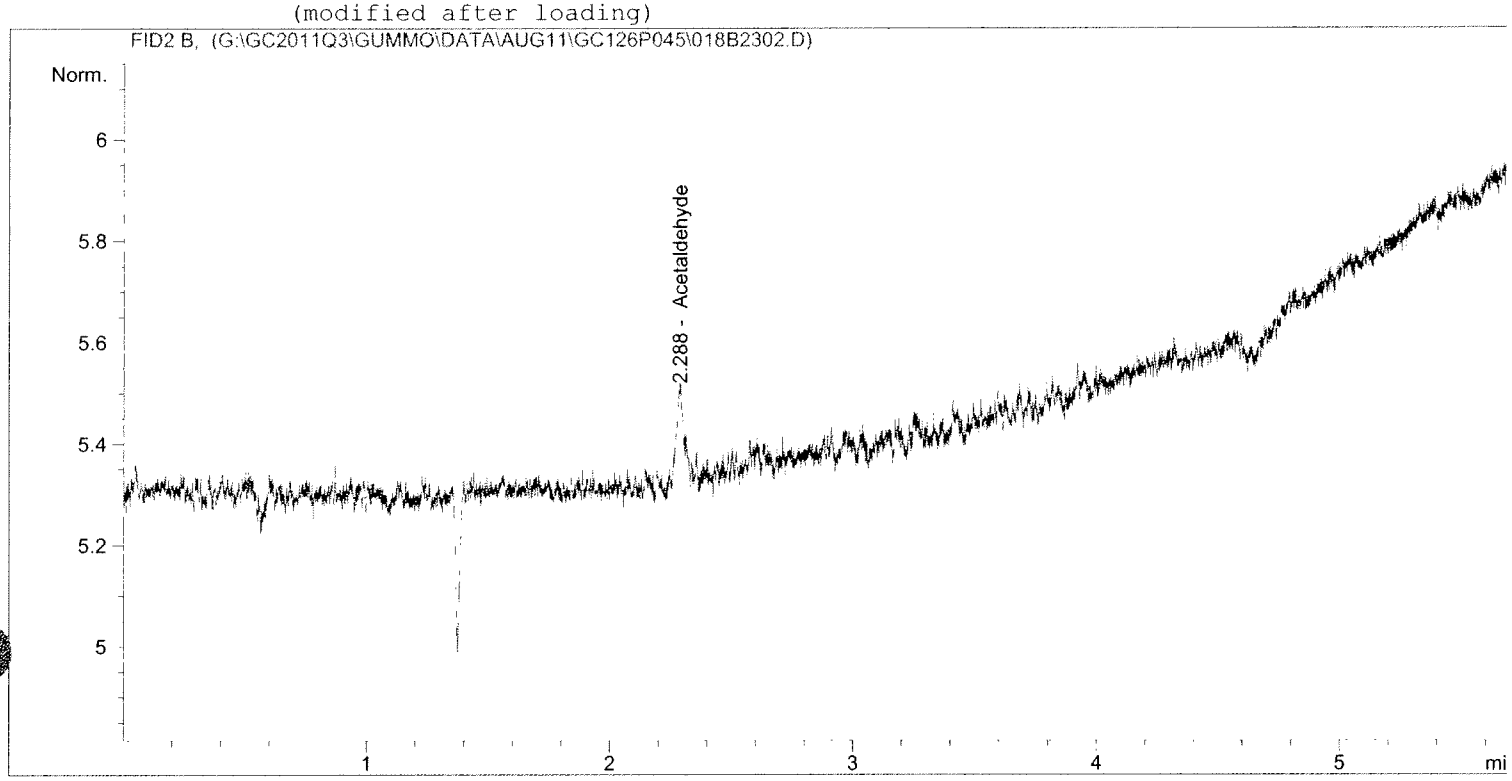
2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

==========

*** End of Report ***

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  23
Acq. Instrument : Gummo                             Location : Vial 18
Injection Date  : 19-Aug-11, 13:08:48                    Inj :   2
                                                  Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.288 BB    4.29074e-1    4.68733    2.01121     Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                                 2.01121
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

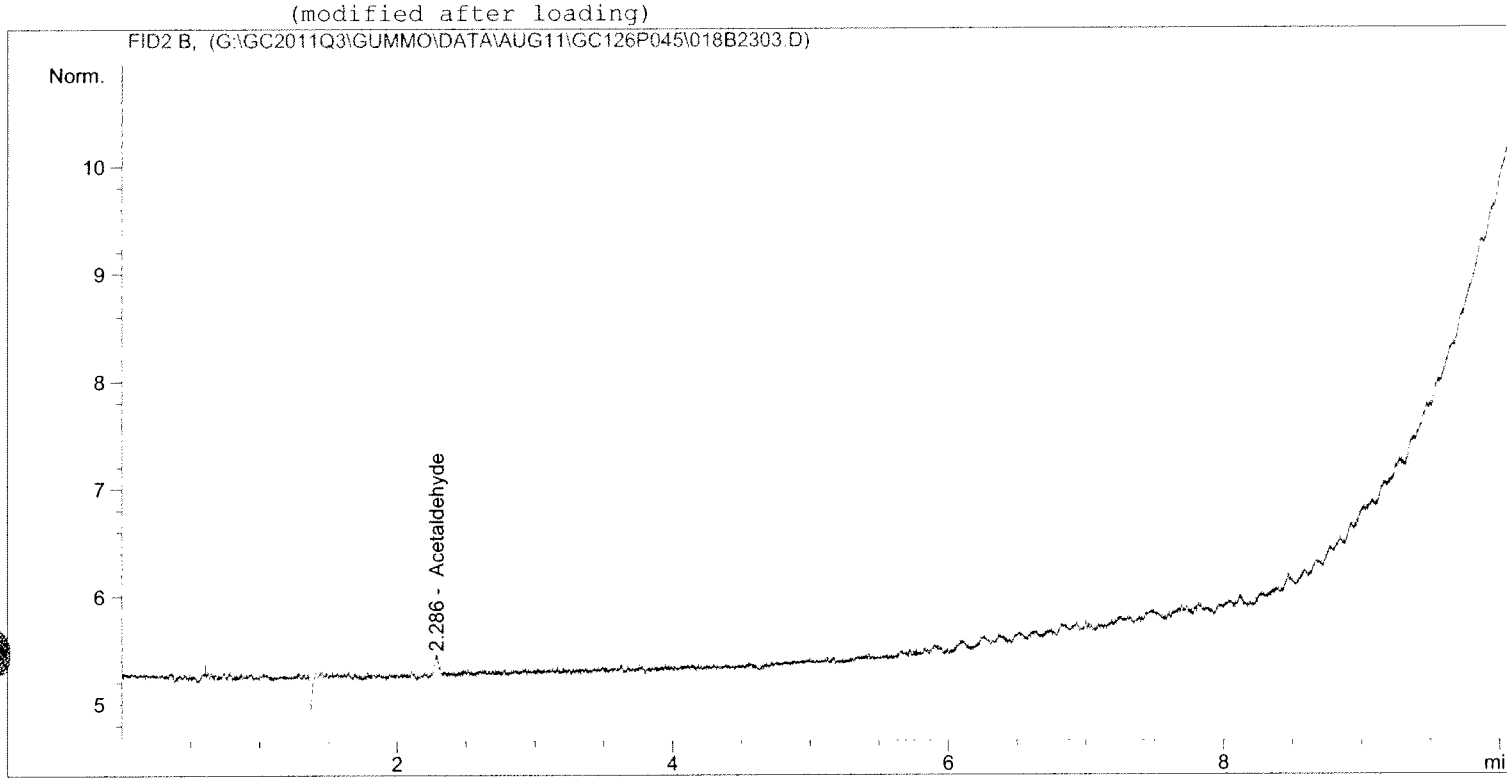
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 13:20:18                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.526           -           -          -          Ethane
  1.835           -           -          -          Propane
  2.286 BB     4.41880e-1     4.69728    2.07563    Acetaldehyde
  2.675           -           -          -          Butane
  4.175           -           -          -          Pentane
  5.763           -           -          -          Hexane
  6.924           -           -          -          Heptane

Totals :                                 2.07563
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

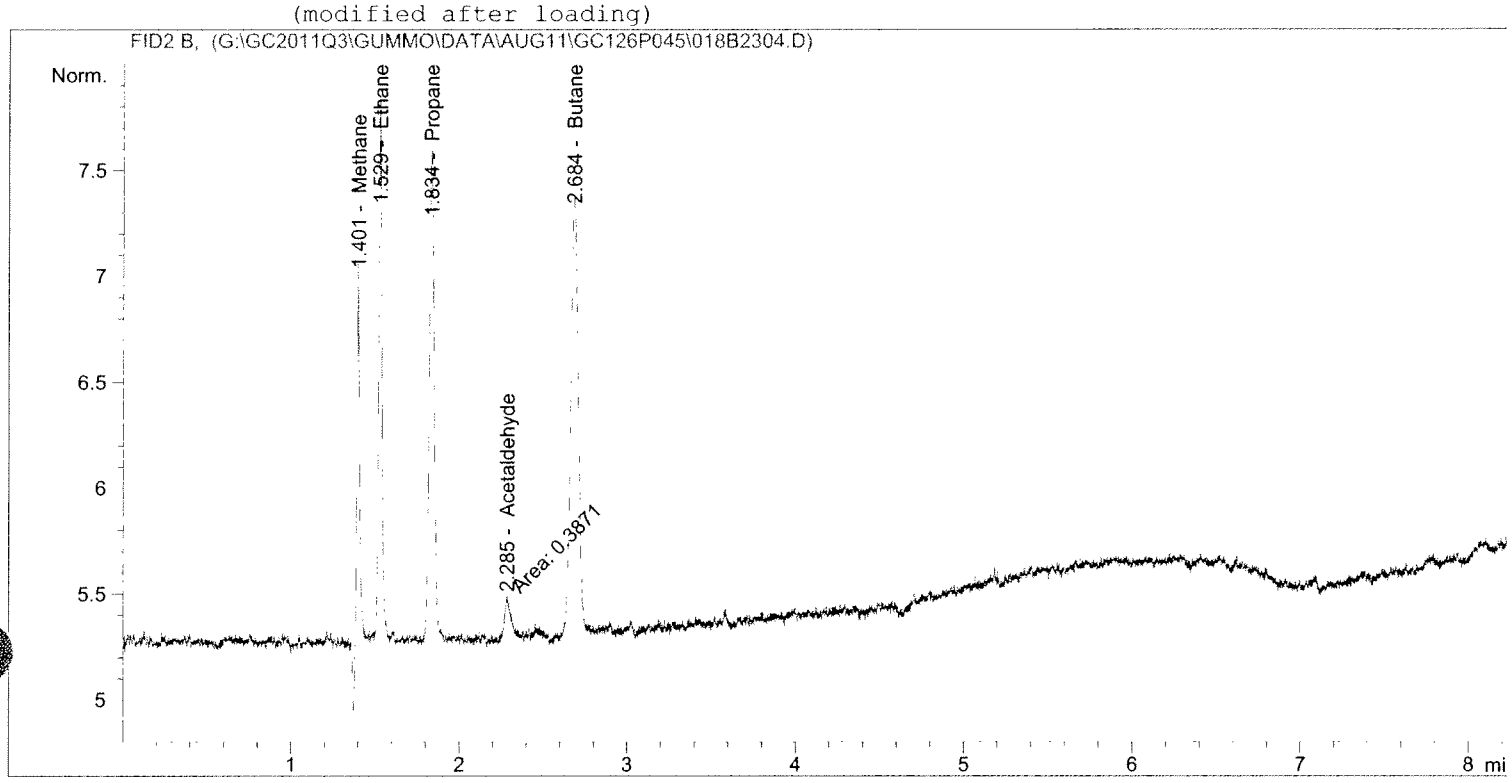
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  23
Acq. Instrument : Gummo                             Location : Vial 18
Injection Date  : 19-Aug-11, 13:37:27                    Inj :   4
                                                  Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.401 BB        1.72271    4.45620    7.67676    Methane
  1.529 BB        3.50722    2.29210    8.03890    Ethane
  1.834 BP        4.70042    1.53973    7.23740    Propane
  2.285 MM     3.87100e-1    4.68554    1.81377    Acetaldehyde
  2.684 BB        6.25103    1.15982    7.25009    Butane
  4.175             -          -          -        Pentane
  5.763             -          -          -        Hexane
  6.924             -          -          -        Heptane

Totals :                                32.01693
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

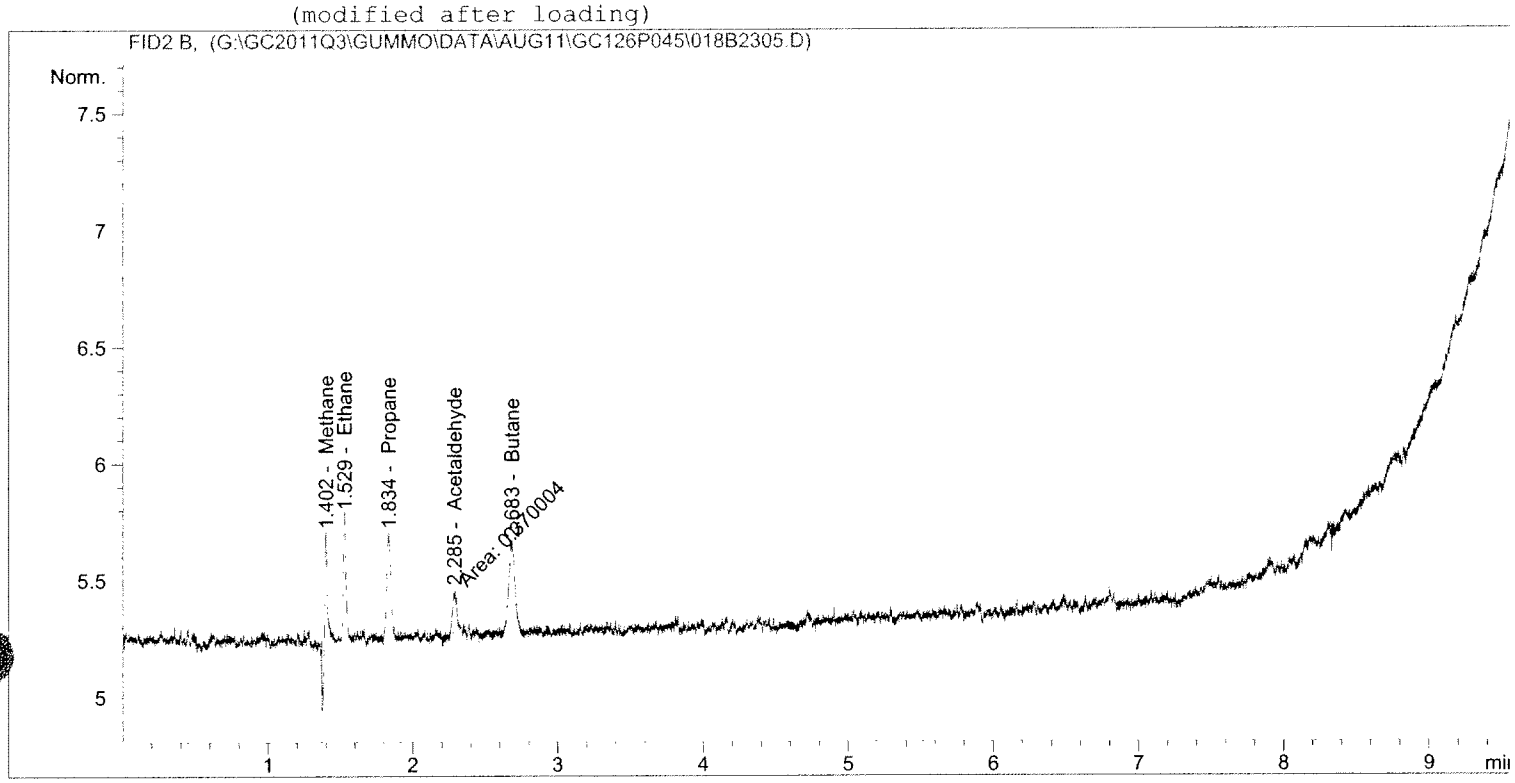
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 13:52:09                       Inj :   5
                                                       Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.402	BB	3.01994e-1	5.53164	1.67052		Methane
1.529	BB	7.03008e-1	2.50263	1.75937		Ethane
1.834	BP	8.66925e-1	1.69806	1.47209		Propane
2.285	MM	3.70004e-1	4.68554	1.73367		Acetaldehyde
2.683	BB	1.19049	1.27093	1.51303		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 8.14867

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

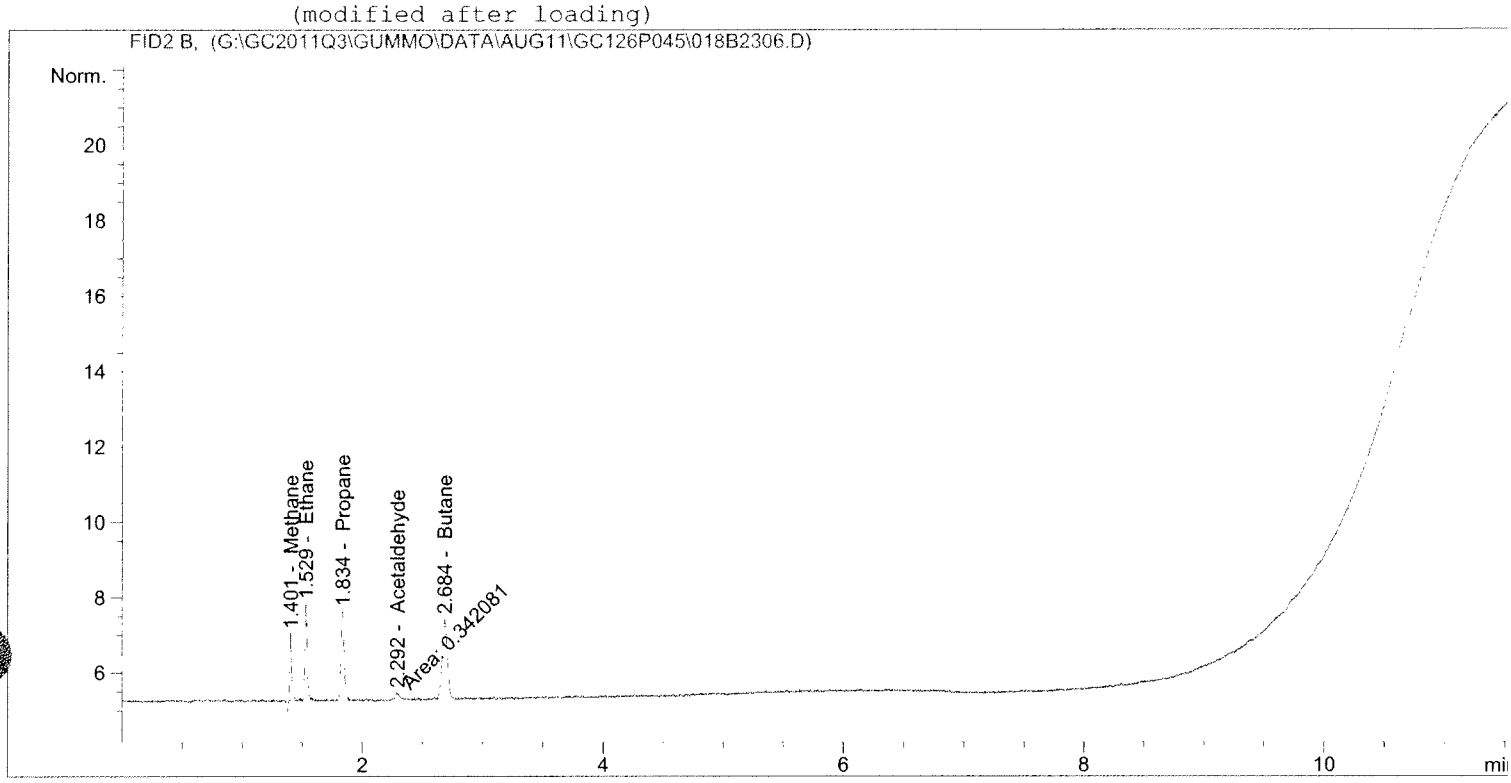
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  23
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 19-Aug-11, 14:08:35                       Inj :   6
                                                     Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed    : 9/12/2011 2:16:06 PM by JBB
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.401 BB        1.79921    4.44406    7.99579    Methane
  1.529 BP        3.55377    2.29129    8.14271    Ethane
  1.834 PB        4.78976    1.53875    7.37022    Propane
  2.292 MM     3.42081e-1    4.68554    1.60284    Acetaldehyde
  2.684 BB        6.44776    1.15868    7.47091    Butane
  4.175             -          -          -        Pentane
  5.763             -          -          -        Hexane
  6.924             -          -          -        Heptane

Totals :                                 32.58247
```

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

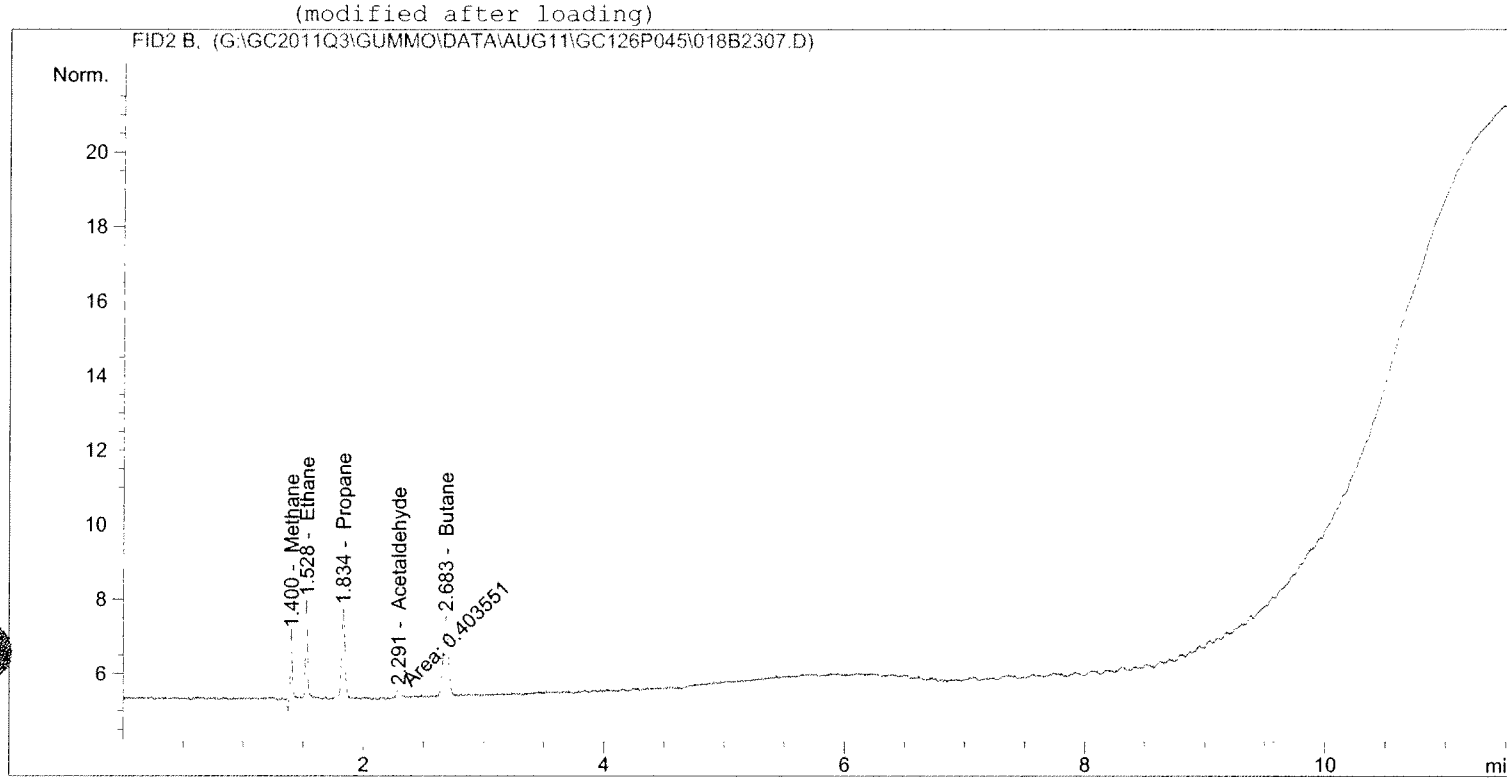
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 14:27:31                       Inj :   7
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.400	BB	1.77014	4.44855	7.87454		Methane
1.528	BB	3.64242	2.28980	8.34041		Ethane
1.834	PB	4.83897	1.53822	7.44339		Propane
2.291	MM	4.03551e-1	4.68554	1.89085		Acetaldehyde
2.683	BB	6.48273	1.15849	7.51017		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 33.05935

Signal 2: FID1 A,   not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

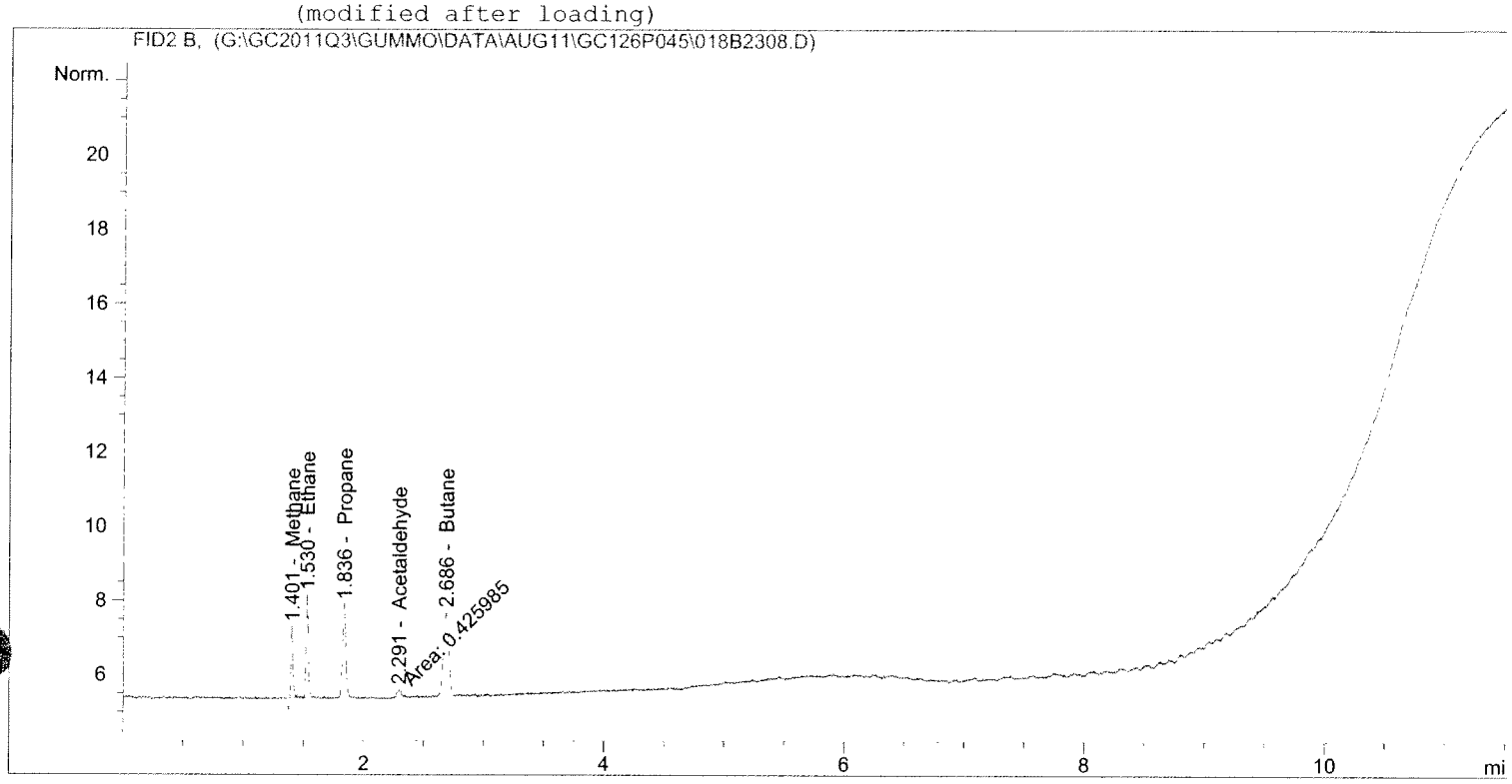
Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 14:46:24                       Inj :   8
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045_R1.M
Last changed     : 9/12/2011 2:16:06 PM by JBB
                   (modified after loading)
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      9/12/2011 2:07:06 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.401	BB	1.90109	4.42940	8.42067		Methane
1.530	BB	3.79261	2.28743	8.67533		Ethane
1.836	BB	5.10028	1.53558	7.83191		Propane
2.291	MM	4.25985e-1	4.68554	1.99597		Acetaldehyde
2.686	BB	6.88364	1.15639	7.96016		Butane
4.175		-	-	-		Pentane
5.763		-	-	-		Hexane
6.924		-	-	-		Heptane

Totals : 34.88404

Signal 2: FID1 A, not found

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.459		-	-	-		Methane
1.496		-	-	-		Ethane
1.625		-	-	-		Propane
2.005		-	-	-		Butane
2.194		-	-	-		Acetaldehyde
2.903		-	-	-		Pentane
4.364		-	-	-		Hexane
5.806		-	-	-		Heptane

Totals : 0.00000

2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Calibrated compound(s) not found

*** End of Report ***

AIR LIQUIDE Air Liquide America Specialty Gases LLC
Scott™

CERTIFIED MASTER CLASS

Single-Certified Calibration Standard

6141 EASTON ROAD, BLDG 1, PLUMSTEADVILLE, PA 18949-0310 Phone: 800-331-4953 Fax: 215-766-7226

CERTIFICATE OF ACCURACY: Certified Master Class Calibration Standard

Product Information
Document # : 40992310-001
Item No.: MN802890-P-44
P.O. No.: ENTHALPY SPECIAL ORD

Cylinder Number: 1A023425
Cylinder Size: 44
Certification Date: 15Mar2011
Expiration Date: 14Mar2013

Customer

ENTHALPY ANALYTICAL, INC.
2202 ELLIS RD.
DURHAM, NC 27703
US

CERTIFIED CONCENTRATION

Component Name	Concentration (Moles)		Accuracy (+/-%)
N-BUTANE	100.	PPM	2
ETHANE	100.	PPM	2
N-HEPTANE	100.	PPM	2
N-HEXANE	100.	PPM	2
METHANE	100.	PPM	2
N-PENTANE	100.	PPM	2
PROPANE	100.	PPM	2
NITROGEN		BALANCE	

TRACEABILITY

Traceable To

Scott Reference Standard

APPROVED BY: Walter Sabitus
WALTER SABITUS

DATE: 3/15/11

SPECIFICATIONS

Component Name	Requested Concentration (Moles)		Certified Concentration (Moles)		Blend Tolerance Result (+/- %)	Certified Accuracy Result (+/- %)
N-BUTANE	100.	PPM	100.	PPM	.0	2.00
ETHANE	100.	PPM	100.	PPM	.0	2.00
N-HEPTANE	100.	PPM	100.	PPM	.0	2.00
N-HEXANE	100.	PPM	100.	PPM	.0	2.00
METHANE	100.	PPM	100.	PPM	.0	2.00
N-PENTANE	100.	PPM	100.	PPM	.0	2.00
PROPANE	100.	PPM	100.	PPM	.0	2.00
NITROGEN		BAL		BAL		

TRACEABILITY

Traceable To
Scott Reference Standard

PHYSICAL PROPERTIES

Cylinder Size: 44

Pressure: 2000 PSIG
Expiration Date: 14Mar2013

SPECIAL HANDLING INSTRUCTIONS

Do not use or store cylinder at or below the stated dew point temperature. Possible condensation of heavier components could result. In the event the cylinder has been exposed to temperatures at or below the dew point, place cylinder in heated area for 24 hours and then roll cylinder for 15 minutes to re-mix.

Use of calibration standards at or below dew point temperature may result in calibration error.

Injection Source and Location

Injection Source: 6890 GC Valve

Injection Location: Dual

6890 GC METHOD

OVEN
Initial temp: 35 'C (On)
Initial time: 2.20 min
Ramps:

#	Rate	Final temp	Final time
1	15.00	70	0.07
2	30.00	250	1.00
3	0.0(Off)		

Post temp: 50 'C
Post time: 0.00 min
Run time: 11.60 min
Maximum temp: 250 'C
Equilibration time: 0.20 min

FRONT INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 160 'C (On)
Pressure: 5.00 psi (On)
Split ratio: 5:1
Split flow: 10.6 mL/min
Total flow: 18.9 mL/min
Gas saver: Off
Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
Mode: Split
Initial temp: 160 'C (On)
Pressure: 5.12 psi (On)
Split ratio: 5:1
Split flow: 10.3 mL/min
Total flow: 18.7 mL/min
Gas saver: Off
Gas type: Hydrogen

COLUMN 1
Capillary Column
Model Number: Restek 10970
Rtx-624 30m x 0.32mm x 1.8um SN 92682
Max temperature: 240 'C
Nominal length: 30.0 m
Nominal diameter: 320.00 um
Nominal film thickness: 1.80 um
Mode: constant flow
Initial flow: 2.1 mL/min
Nominal init pressure: 5.00 psi
Average velocity: 40 cm/sec
Inlet: Front Inlet
Outlet: Front Detector
Outlet pressure: ambient

COLUMN 2
Capillary Column
Model Number: Restek 10198
Rtx-1 30m x 0.32mm x 4.0um
Max temperature: 280 'C
Nominal length: 30.0 m
Nominal diameter: 320.00 um
Nominal film thickness: 4.00 um
Mode: constant flow
Initial flow: 2.1 mL/min
Nominal init pressure: 5.12 psi
Average velocity: 39 cm/sec
Inlet: Back Inlet
Outlet: Back Detector
Outlet pressure: ambient

FRONT DETECTOR (FID)
Temperature: 250 'C (On)
Hydrogen flow: 40.0 mL/min (On)
Air flow: 450.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (On)
Makeup Gas Type: Nitrogen
Flame: On
Electrometer: On
Lit offset: 2.0

BACK DETECTOR (FID)
Temperature: 250 'C (On)
Hydrogen flow: 40.0 mL/min (On)
Air flow: 450.0 mL/min (On)
Mode: Constant makeup flow
Makeup flow: 45.0 mL/min (On)
Makeup Gas Type: Nitrogen
Flame: On
Electrometer: On
Lit offset: 2.0

SIGNAL 1

SIGNAL 2

method: G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Modified on: 8/31/2011 at 4:49:31 PM

Data rate: 50 Hz
Type: front detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

Data rate: 50 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

THERMAL AUX 1
Use: Valve Box Heater
Description:
Initial temp: 100 'C (On)
Initial time: 0.00 min

#	Rate	Final temp	Final time
1	0.0	(Off)	

VALVES
Valve 1 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Front Inlet
Valve 2 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Back Inlet
Valve 7 Multiposition 1
Description:
BCD input: inverted
Switch Time: 1.0 sec

POST RUN
Post Time: 0.00 min

TIME TABLE

Time	Specifier	Parameter & Setpoint	
0.10		Multi-Valve Position:	1

Sequence: g:\gc2011q3\Gummo\sequence\gc126p045.txt
Sequence Table (Front Injector):

Line	Vial	Sample Name	Method	Inj	Type
1	Vial 2	gc119p172 #C5 ENV(1=0,2=450)	GC126P045	4	Sample
2	Vial 2	gc119p172 #C4 ENV(1=600,2=400)	GC126P045	3	Sample
3	Vial 2	gc119p172 #C3 ENV(1=900,2=100)	GC126P045	3	Sample
4	Vial 2	gc119p172 #C2 ENV(1=950,2=50)	GC126P045	3	Sample
	Vial 2	gc119p172 #C1 ENV(1=980,2=20)	GC126P045	3	Sample
	Vial 2	gc119p172 #C0 ENV(1=3990,2=20)	GC126P045	7	Sample
7	Vial 2	gc119p176 #I5 ENV(1=0,5=350)	GC126P045	4	Sample
8	Vial 2	gc119p176 #I4 ENV(1=600,5=400)	GC126P045	3	Sample
9	Vial 2	gc119p176 #I3 ENV(1=900,5=100)	GC126P045	3	Sample
10	Vial 2	gc119p176 #I2 ENV(1=960,5=40)	GC126P045	3	Sample
11	Vial 2	gc119p176 #I1 ENV(1=1010,5=20)	GC126P045	3	Sample
12	Vial 2	gc119p176 #I0 ENV(1=1980,5=20)	GC126P045	9	Sample
13	Vial 2	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
14	Vial 2	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
15	Vial 2	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
16	Vial 2	gc126p045 #A2 ENV(1=950,6=50)	GC126P045	3	Sample
17	Vial 2	gc126p045 #A1 ENV(1=980,6=20)	GC126P045	8	Sample
18	Vial 1	Pause	PAUSE	1	Sample
19	Vial 2	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
20	Vial 2	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
21	Vial 2	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
22	Vial 2	gc126p045 #A2 ENV(1=985,6=15)	GC126P045	3	Sample
23	Vial 2	gc126p045 #A1 ENV(1=2480,6=20)	GC126P045	8	Sample
24	Vial 1	Pause	PAUSE	1	Sample

Sequence: g:\gc2011q3\Gummo\sequence\gc126p045.txt
Sequence Table (Back Injector): PGE T384 Scrubber 2012-37

Line	Vial	Sample Name	Method	Inj	Type
1	Vial 18	gc119p172 #C5 ENV(1=0,2=450)	GC126P045	4	Sample
2	Vial 18	gc119p172 #C4 ENV(1=600,2=400)	GC126P045	3	Sample
3	Vial 18	gc119p172 #C3 ENV(1=900,2=100)	GC126P045	3	Sample
4	Vial 18	gc119p172 #C2 ENV(1=950,2=50)	GC126P045	3	Sample
5	Vial 18	gc119p172 #C1 ENV(1=980,2=20)	GC126P045	3	Sample
6	Vial 18	gc119p172 #C0 ENV(1=3990,2=20)	GC126P045	7	Sample
7	Vial 18	gc119p176 #I5 ENV(1=0,5=350)	GC126P045	4	Sample
8	Vial 18	gc119p176 #I4 ENV(1=600,5=400)	GC126P045	3	Sample
9	Vial 18	gc119p176 #I3 ENV(1=900,5=100)	GC126P045	3	Sample
10	Vial 18	gc119p176 #I2 ENV(1=960,5=40)	GC126P045	3	Sample
11	Vial 18	gc119p176 #I1 ENV(1=1010,5=20)	GC126P045	3	Sample
12	Vial 18	gc119p176 #I0 ENV(1=1980,5=20)	GC126P045	9	Sample
13	Vial 18	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
14	Vial 18	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
15	Vial 18	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
16	Vial 18	gc126p045 #A2 ENV(1=950,6=50)	GC126P045	3	Sample
17	Vial 18	gc126p045 #A1 ENV(1=980,6=20)	GC126P045	8	Sample
18	Vial 17	Pause	PAUSE	1	Sample
19	Vial 18	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
20	Vial 18	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
21	Vial 18	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
22	Vial 18	gc126p045 #A2 ENV(1=985,6=15)	GC126P045	3	Sample
23	Vial 18	gc126p045 #A1 ENV(1=2480,6=20)	GC126P045	8	Sample
24	Vial 17	Pause	PAUSE	1	Sample

Calibration Table

Calib. Data Modified : Monday, September 12, 2011 3:36:00 PM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.050 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

Signal 1: FID1 A,
Signal 2: FID2 B,

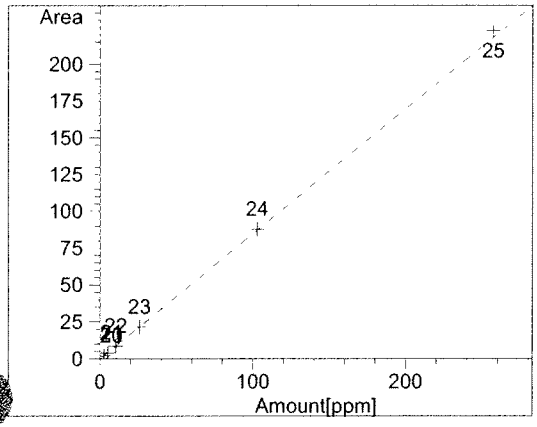
RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref	Grp	Name
2.617	2	20	2.57000	1.98551	1.29438			1,3-Butadiene
		21	5.14000	3.89865	1.31840			
		22	10.28000	8.49943	1.20949			
		23	25.70000	21.47294	1.19686			
		24	102.80000	87.81158	1.17069			
		25	257.00000	222.90693	1.15295			
3.586	2	20	2.57000	9.22280e-1	2.78657			Acrolein
		21	5.14000	1.70357	3.01718			
		22	10.28000	3.88608	2.64534			
		23	25.70000	9.88648	2.59951			
		24	102.80000	40.30904	2.55030			
		25	257.00000	102.34655	2.51108			
3.698	2	21	5.14000	1.99726	2.57353			Acetone
		22	10.28000	4.56241	2.25319			
		23	25.70000	11.81515	2.17517			
		24	102.80000	48.10380	2.13705			
		25	257.00000	122.00743	2.10643			
4.187	2	20	2.57000	2.71367	9.47059e-1			Pentane
		21	5.14000	5.20182	9.88115e-1			
		22	10.28000	11.15561	9.21509e-1			
		23	25.70000	27.86906	9.22170e-1			
		24	102.80000	113.35077	9.06919e-1			
		25	257.00000	288.82480	8.89813e-1			
4.494	2	20	2.57000	4.79032e-1	5.36498			Methylene chloride
		21	5.14000	9.54668e-1	5.38407			
		22	10.28000	2.03176	5.05966			
		23	25.70000	5.11048	5.02888			

RetTime [min]	Sig	Lvl	Amount [ppm]	Area	Amt/Area	Ref Grp	Name
		24	102.80000	20.93516	4.91040		
		25	257.00000	53.43594	4.80950		
5.767	2	20	2.57000	3.22360	7.97245e-1		Hexane
		21	5.14000	6.01274	8.54851e-1		
		22	10.28000	12.90863	7.96367e-1		
		23	25.70000	32.27353	7.96318e-1		
		24	102.80000	132.10239	7.78184e-1		
		25	257.00000	337.80332	7.60798e-1		
6.480	2	20	2.56000	3.09068	8.28297e-1		Benzene
		21	5.12000	5.67054	9.02912e-1		
		22	10.24000	12.94832	7.90836e-1		
		23	25.60000	32.54066	7.86708e-1		
		24	102.40000	132.84305	7.70834e-1		
		25	256.00000	339.68894	7.53631e-1		
6.871	2	20	2.56000	1.08328	2.36319		Trichloroethene
		21	5.12000	2.10199	2.43578		
		22	10.24000	4.69233	2.18228		
		23	25.60000	11.92719	2.14636		
		24	102.40000	48.57930	2.10789		
		25	256.00000	124.01051	2.06434		
7.540	2	21	5.12000	6.42051	7.97444e-1		Toluene
		22	10.24000	14.93113	6.85816e-1		
		23	25.60000	37.67450	6.79505e-1		
		24	102.40000	153.56141	6.66834e-1		
		25	256.00000	391.14080	6.54496e-1		
7.812	2	21	5.14000	1.70440	3.01573		1,2-Dibromoethane
		22	10.28000	4.45591	2.30705		
		23	25.70000	11.11995	2.31116		
		24	102.80000	45.63460	2.25268		
		25	257.00000	116.16388	2.21239		
7.956	2	21	5.14000	2.04092	2.51847		Tetrachloroethene
		22	10.28000	5.14583	1.99774		
		23	25.70000	13.15620	1.95345		
		24	102.80000	53.64878	1.91617		
		25	257.00000	136.58803	1.88157		

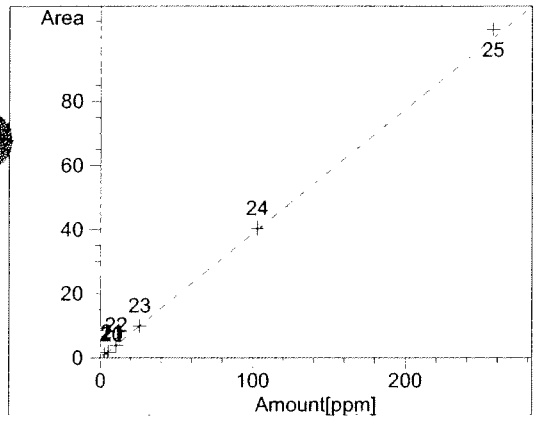
Peak Sum Table

No Entries in table

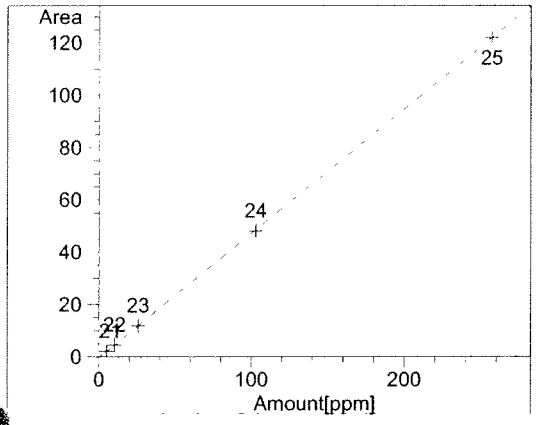
Calibration Curves



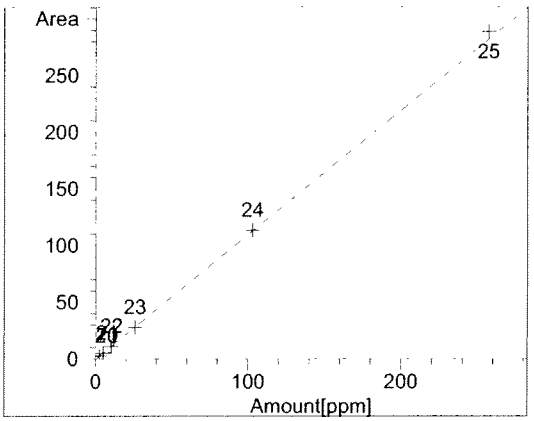
1,3-Butadiene at exp. RT: 2.617
FID2 B,
Correlation: 0.99945
Residual Std. Dev.: 2.36984
Formula: y = mx + b
m: 8.50100e-1
b: -2.53150e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



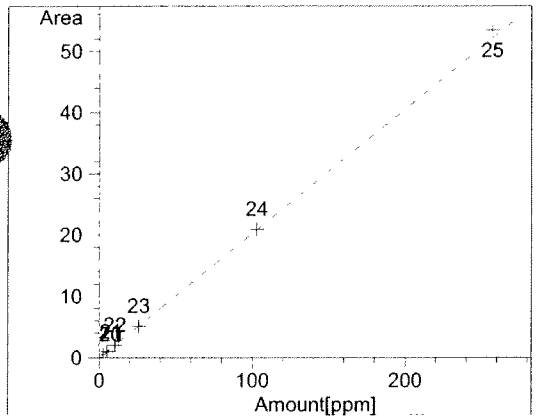
Acrolein at exp. RT: 3.586
FID2 B,
Correlation: 0.99845
Residual Std. Dev.: 1.36708
Formula: y = mx + b
m: 3.88267e-1
b: -1.17587e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



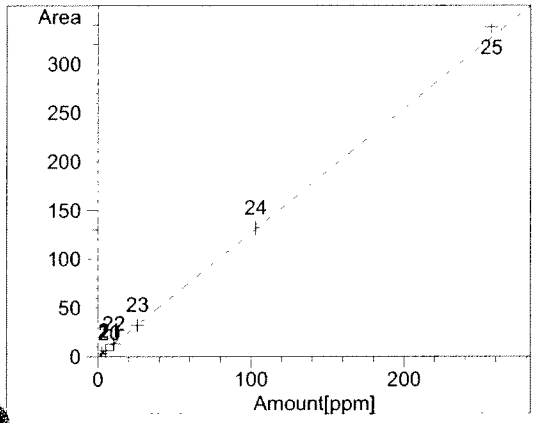
Acetone at exp. RT: 3.698
FID2 B,
Correlation: 0.99990
Residual Std. Dev.: 0.27312
Formula: y = mx + b
m: 4.76603e-1
b: -4.30438e-1
x: Amount
y: Area
Calibration Level Weights:
Level 21 : 1
Level 22 : 0.25
Level 23 : 0.04
Level 24 : 0.0025
Level 25 : 0.0004



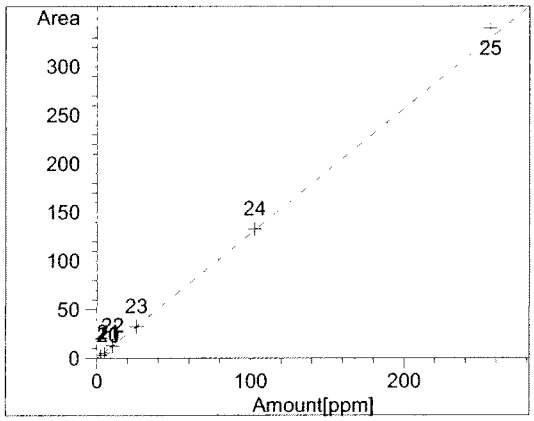
Pentane at exp. RT: 4.187
FID2 B,
Correlation: 0.99948
Residual Std. Dev.: 3.30190
Formula: y = mx + b
m: 1.09895
b: -1.76875e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



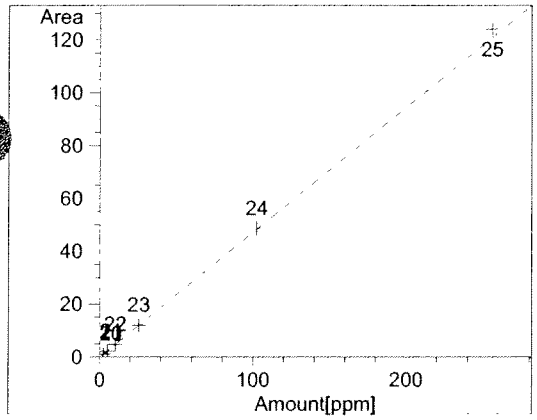
Methylene chloride at exp. RT: 4.494
FID2 B,
Correlation: 0.99965
Residual Std. Dev.: 0.64051
Formula: y = mx + b
m: 2.03167e-1
b: -5.29116e-2
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



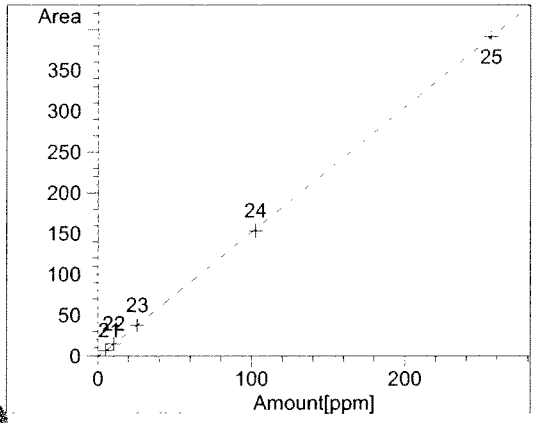
Hexane at exp. RT: 5.767
FID2 B,
Correlation: 0.99915
Residual Std. Dev.: 5.25574
Formula: y = mx + b
m: 1.27444
b: -1.52123e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



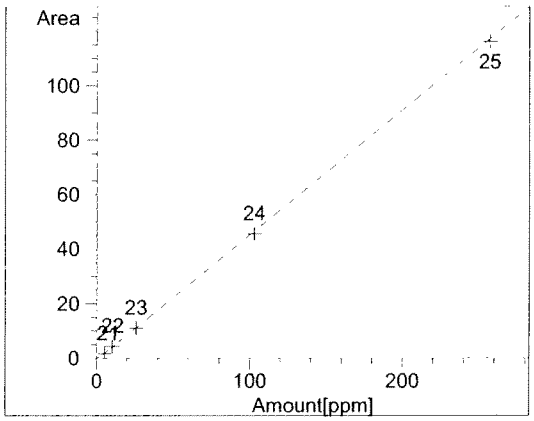
Benzene at exp. RT: 6.480
FID2 B,
Correlation: 0.99840
Residual Std. Dev.: 5.20056
Formula: y = mx + b
m: 1.28801
b: -3.44191e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



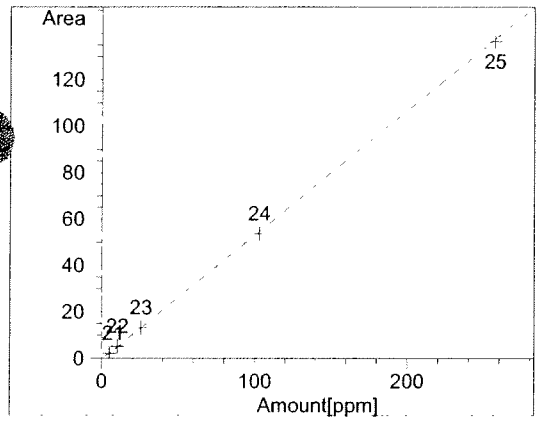
Trichloroethene at exp. RT: 6.871
FID2 B,
Correlation: 0.99914
Residual Std. Dev.: 1.54527
Formula: y = mx + b
m: 4.73064e-1
b: -1.65300e-1
x: Amount
y: Area
Calibration Level Weights:
Level 20 : 1
Level 21 : 0.25
Level 22 : 0.0625
Level 23 : 0.01
Level 24 : 0.000625
Level 25 : 0.0001



Toluene at exp. RT: 7.540
FID2 B,
Correlation: 0.99968
Residual Std. Dev.: 1.24373
Formula: y = mx + b
m: 1.53251
b: -1.30524
x: Amount
y: Area
Calibration Level Weights:
Level 21 : 1
Level 22 : 0.25
Level 23 : 0.04
Level 24 : 0.0025
Level 25 : 0.0004

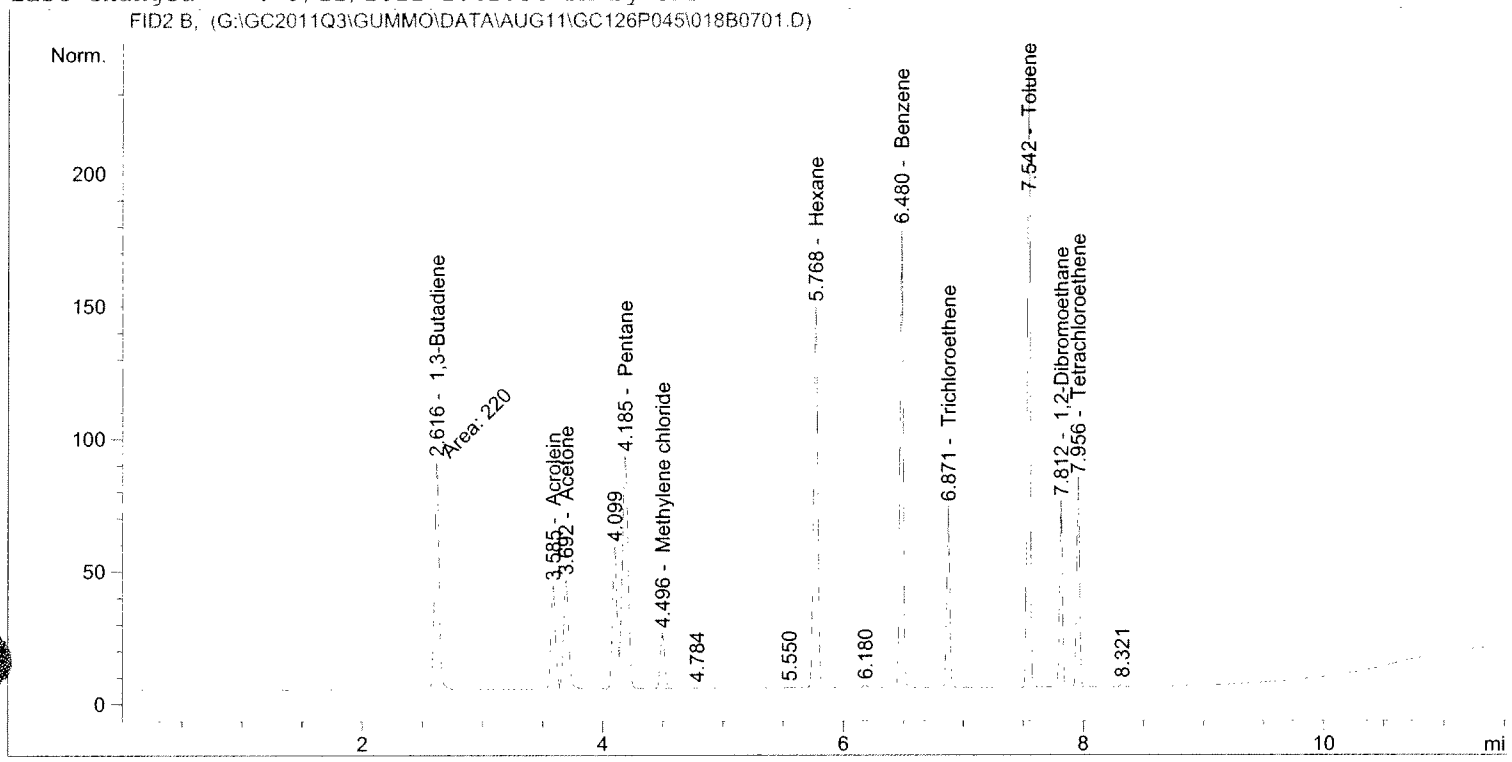


1,2-Dibromoethane at exp. RT: 7.812
FID2 B,
Correlation: 0.99881
Residual Std. Dev.: 0.86299
Formula: y = mx + b
m: 4.58606e-1
b: -5.78989e-1
x: Amount
y: Area
Calibration Level Weights:
Level 21 : 1
Level 22 : 0.25
Level 23 : 0.04
Level 24 : 0.0025
Level 25 : 0.0004



Tetrachloroethene at exp. RT: 7.956
FID2 B,
Correlation: 0.99934
Residual Std. Dev.: 0.83321
Formula: y = mx + b
m: 5.37954e-1
b: -6.58844e-1
x: Amount
y: Area
Calibration Level Weights:
Level 21 : 1
Level 22 : 0.25
Level 23 : 0.04
Level 24 : 0.0025
Level 25 : 0.0004

Acq. Operator : JBB
Seq. Line : 7
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 17:12:02
Inj : 1
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

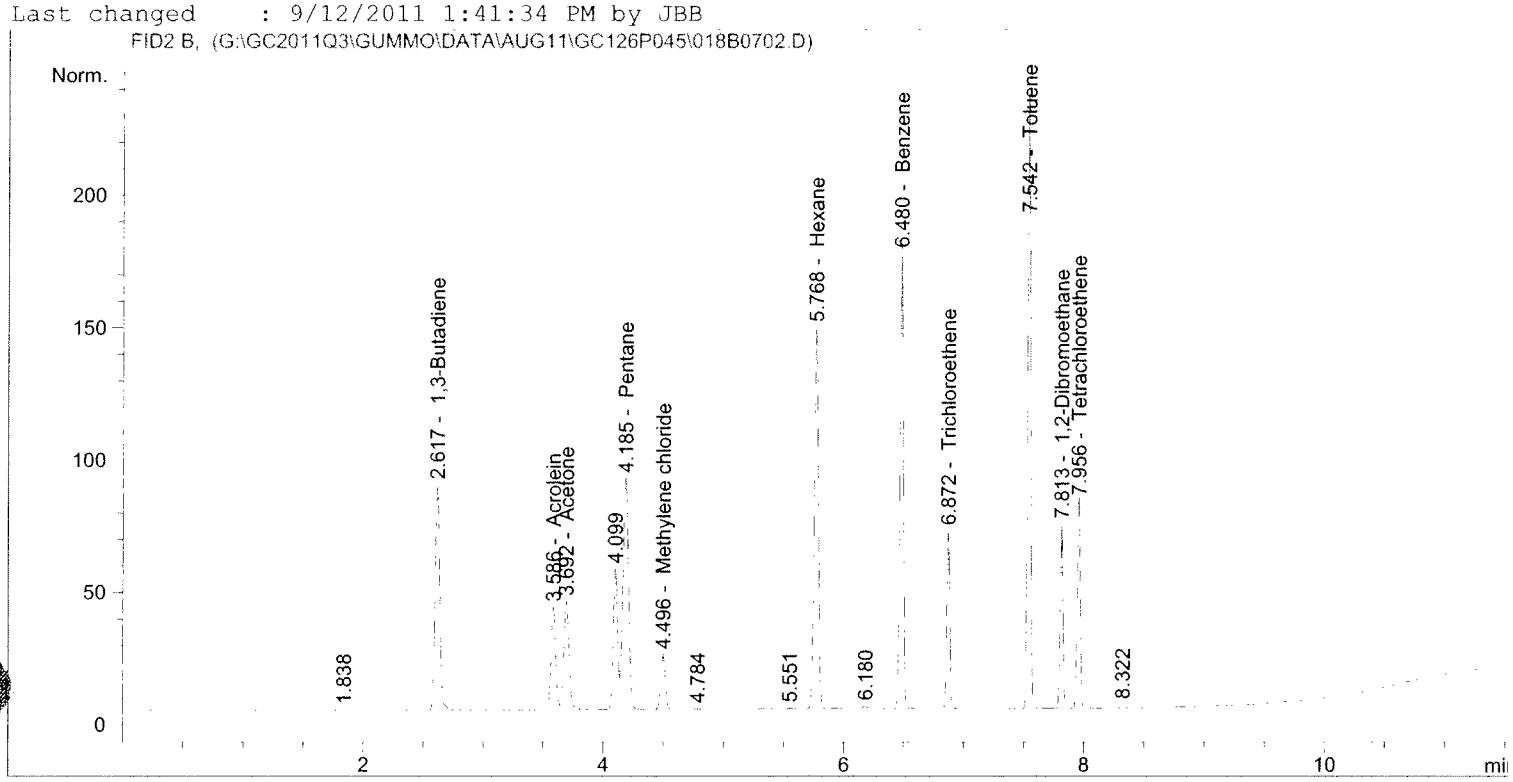
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	MM	220.00023	1.17769	259.09127		1,3-Butadiene
3.585	BV	102.50266	2.57850	264.30323		Acrolein
3.692	VB	122.20396	2.10557	257.30909		Acetone
4.185	VV	289.27994	9.17637e-1	265.45405		Pentane
4.496	VB	53.44239	4.92694	263.30746		Methylene chloride
5.768	VB	338.52075	7.85012e-1	265.74300		Hexane
6.480	BB	340.30316	7.77176e-1	264.47532		Benzene
6.871	BB	124.21084	2.11669	262.91616		Trichloroethene
7.542	BB	391.89490	6.54700e-1	256.57345		Toluene
7.812	BB	116.36992	2.19137	255.00980		1,2-Dibromoethane
7.956	BB	136.62698	1.86786	255.19980		Tetrachloroethene

Totals : 2869.38265

Acq. Operator : JBB Seq. Line : 7
Acq. Instrument : Gummo Location : Vial 18
Injection Date : 18-Aug-11, 17:31:04 Inj : 2
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

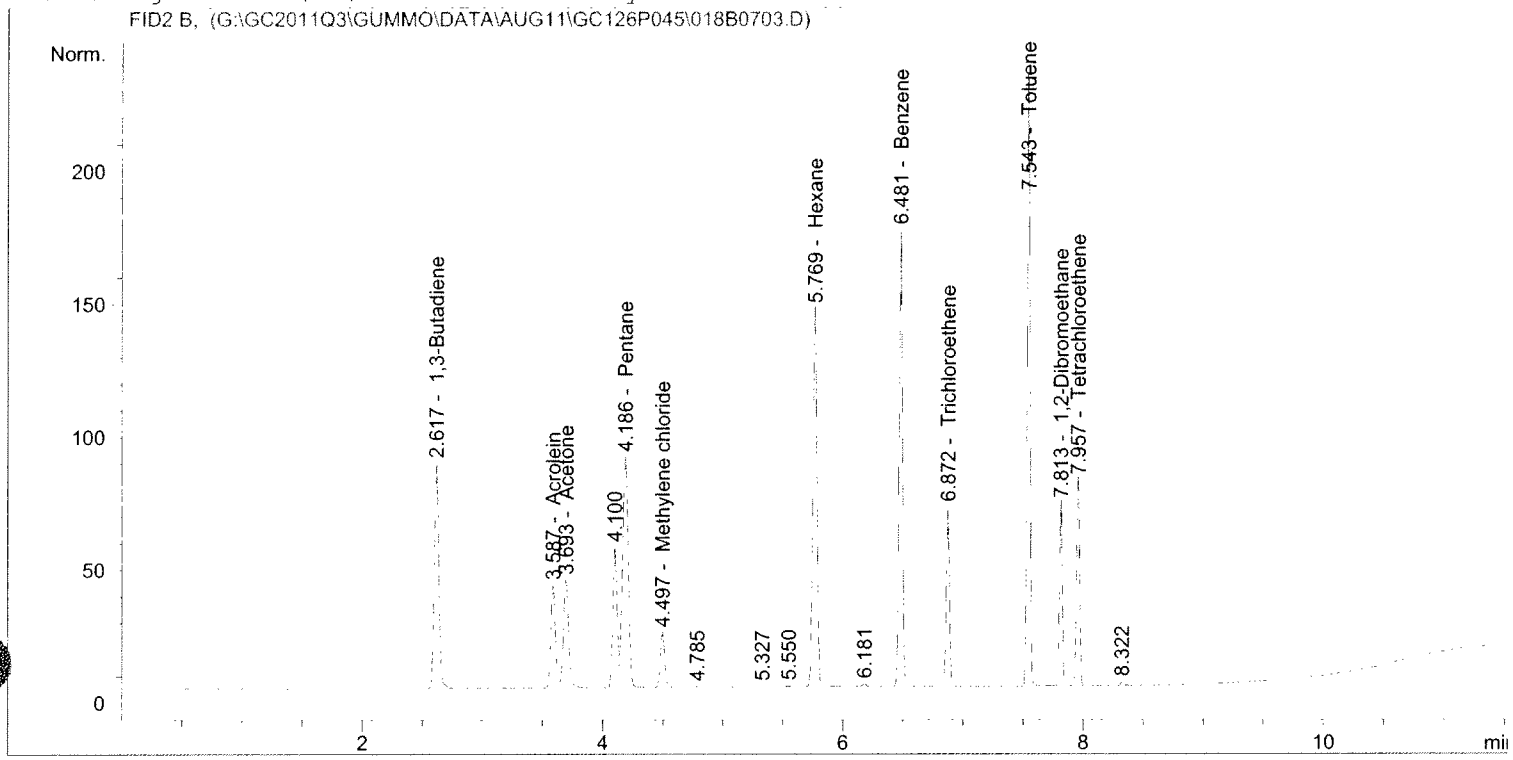
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	225.24344	1.17765	265.25903		1,3-Butadiene
3.586	BV	102.51904	2.57850	264.34540		Acrolein
3.692	VB	122.15624	2.10557	257.20897		Acetone
4.185	VB	289.17148	9.17637e-1	265.35453		Pentane
4.496	BB	53.41354	4.92694	263.16544		Methylene chloride
5.768	VB	338.36798	7.85013e-1	265.62313		Hexane
6.480	BB	340.18637	7.77176e-1	264.38465		Benzene
6.872	BB	124.17261	2.11669	262.83535		Trichloroethene
7.542	BB	391.78769	6.54700e-1	256.50349		Toluene
7.813	BB	116.38934	2.19137	255.05215		1,2-Dibromoethane
7.956	BB	136.83743	1.86784	255.59100		Tetrachloroethene

Totals : 2875.32314

PGE T384 Scrubber 2012-37

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 17:50:05                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 1:41:34 PM by JBB
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 1:39:43 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

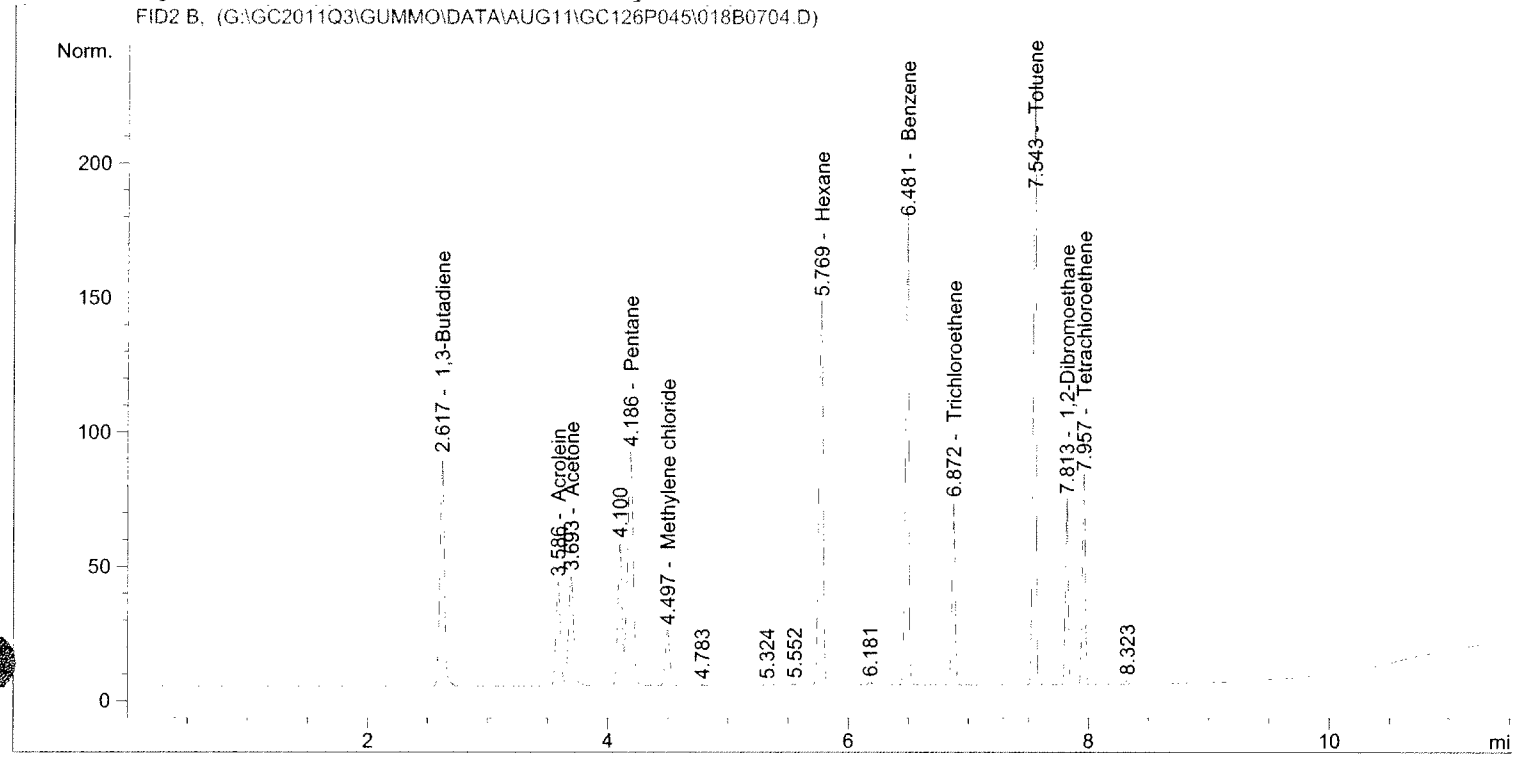
Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  2.617 BB      223.47711    1.17767  263.18124    1,3-Butadiene
  3.587 BV      102.01794    2.57852  263.05482    Acrolein
  3.693 VB      121.66209    2.10560  256.17214    Acetone
  4.186 VB      288.02298 9.17637e-1  264.30064    Pentane
  4.497 BB       53.45191    4.92694  263.35431    Methylene chloride
  5.769 BB      336.52124 7.85015e-1  264.17406    Hexane
  6.481 BB      338.57730 7.77180e-1  263.13538    Benzene
  6.872 BB      123.64809    2.11671  261.72659    Trichloroethene
  7.543 BB      389.73981 6.54712e-1  255.16720    Toluene
  7.813 BB      115.73237    2.19143  253.61961    1,2-Dibromoethane
  7.957 BB      136.29967    1.86788  254.59135    Tetrachloroethene

Totals :                                2862.47733
```

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0704.D
Sample Name: gc119p176 #I5 ENV(1=0,5=350)
gc126p045 (mgm)

Acq. Operator : JBB Seq. Line : 7
Acq. Instrument : Gummo Location : Vial 18
Injection Date : 18-Aug-11, 18:09:58 Inj : 4
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

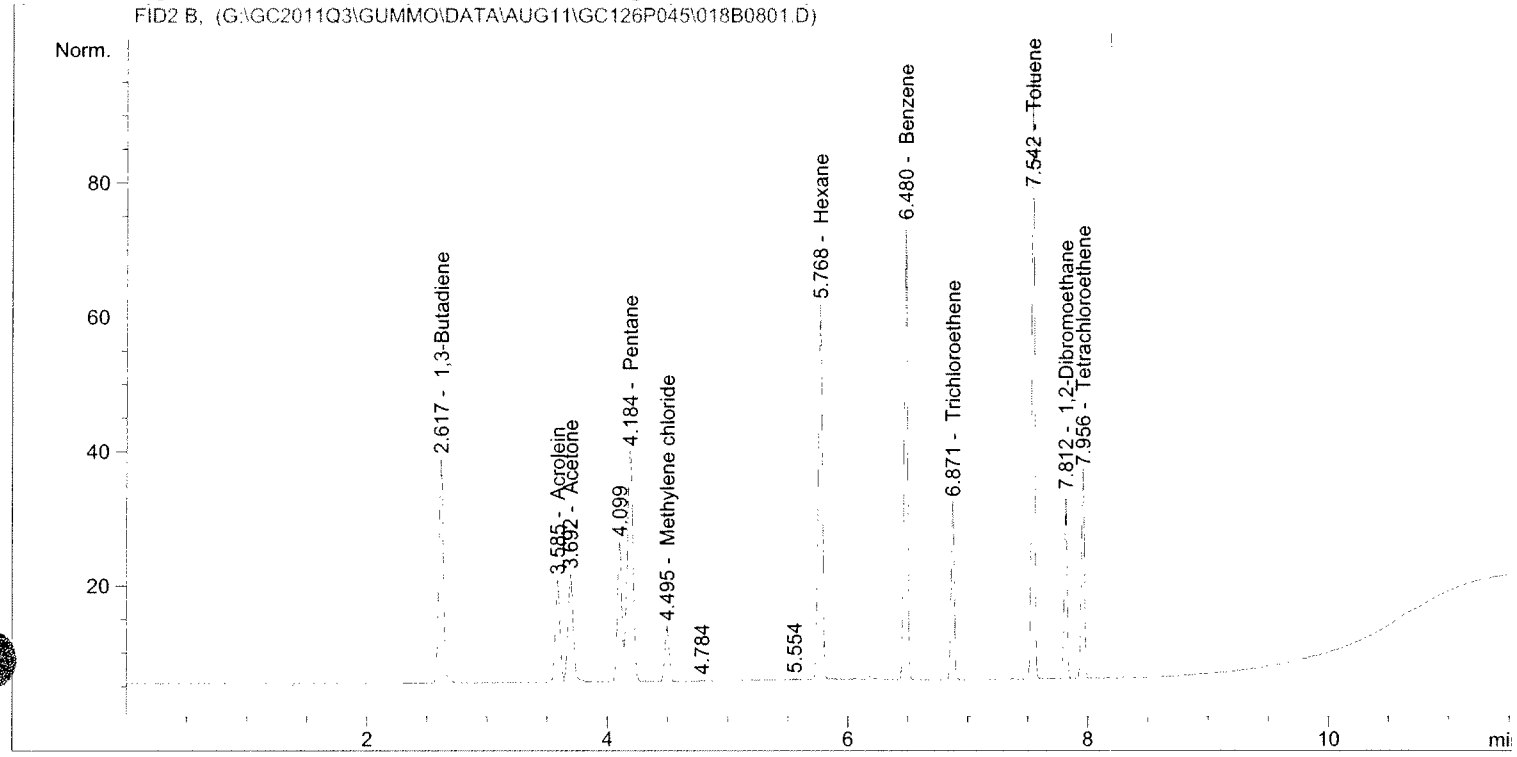
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	223.99710	1.17766	263.79292		1,3-Butadiene
3.586	BV	101.95670	2.57852	262.89707		Acrolein
3.693	VB	121.69839	2.10560	256.24832		Acetone
4.186	VB	287.64282	9.17637e-1	263.95180		Pentane
4.497	BB	53.30068	4.92695	262.60994		Methylene chloride
5.769	BB	336.31207	7.85015e-1	264.00994		Hexane
6.481	BB	338.22363	7.77180e-1	262.86080		Benzene
6.872	BB	123.33676	2.11671	261.06847		Trichloroethene
7.543	BB	389.32324	6.54714e-1	254.89538		Toluene
7.813	BB	115.58395	2.19145	253.29597		1,2-Dibromoethane
7.957	BB	136.22707	1.86788	254.45639		Tetrachloroethene

Totals : 2860.08700

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :   8
Acq. Instrument  : Gummo                               Location : Vial 18
Injection Date   : 18-Aug-11, 18:31:05                     Inj :   1
                                                     Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 1:41:34 PM by JBB
```




```
==========================================================================
                        External Standard Report
==========================================================================

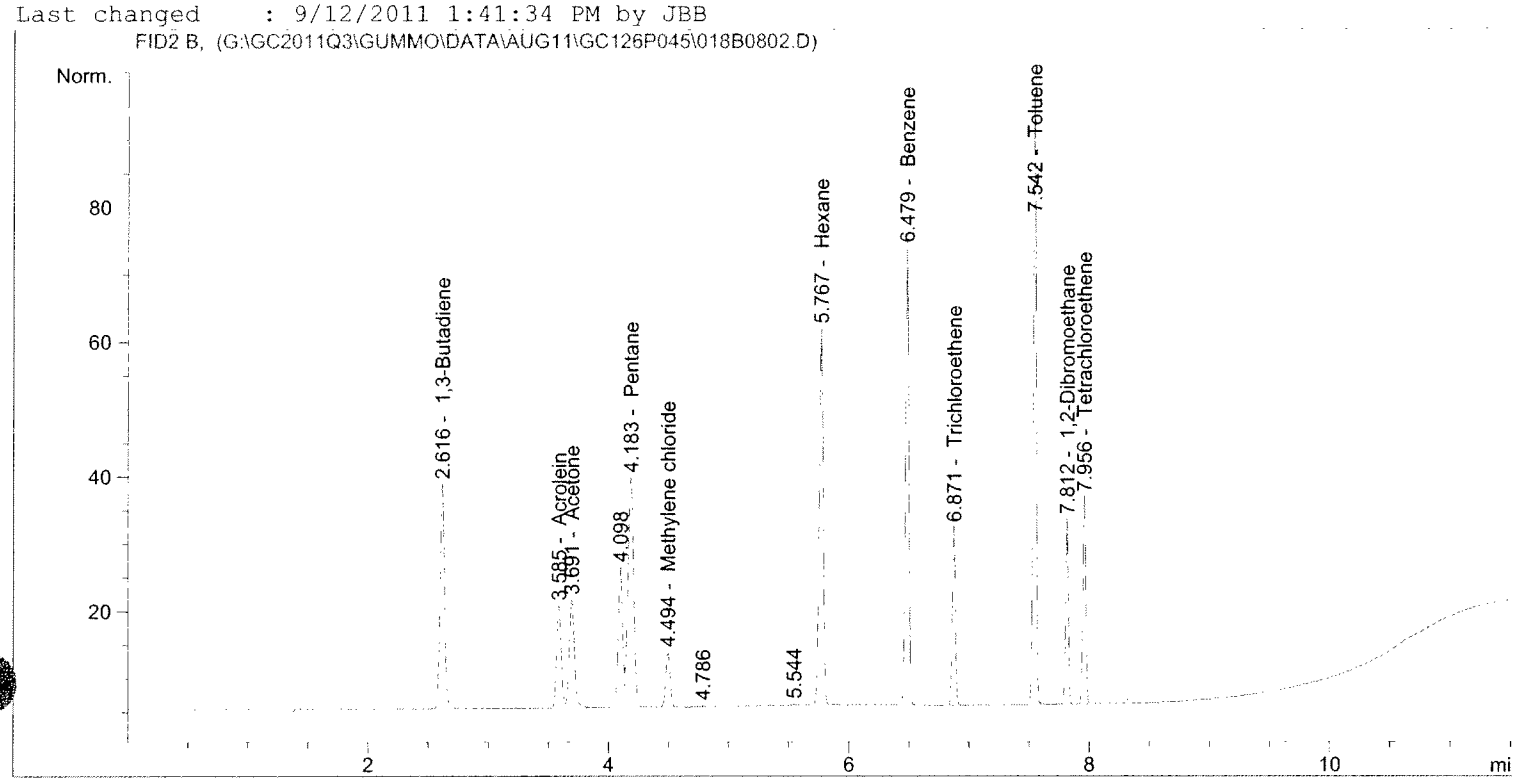
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 1:39:43 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  2.617 BB       87.89394    1.17972  103.69031    1,3-Butadiene
  3.585 BV       40.30843    2.58306  104.11910    Acrolein
  3.692 VB       48.39291    2.11684  102.44020    Acetone
  4.184 VB      113.87273 9.17657e-1  104.49612    Pentane
  4.495 BB       21.13502    4.93439  104.28841    Methylene chloride
  5.768 BB      132.28282 7.85562e-1  103.91638    Hexane
  6.480 BB      132.99326 7.78400e-1  103.52191    Benzene
  6.871 BB       48.65106    2.12106  103.19190    Trichloroethene
  7.542 BB      153.78542 6.58065e-1  101.20074    Toluene
  7.812 BB       45.66805    2.20817  100.84274    1,2-Dibromoethane
  7.956 BB       53.72659    1.88169  101.09676    Tetrachloroethene

Totals :                                1132.80455
```

Acq. Operator : JBB
Seq. Line : 8
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 18:51:32
Inj : 2
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

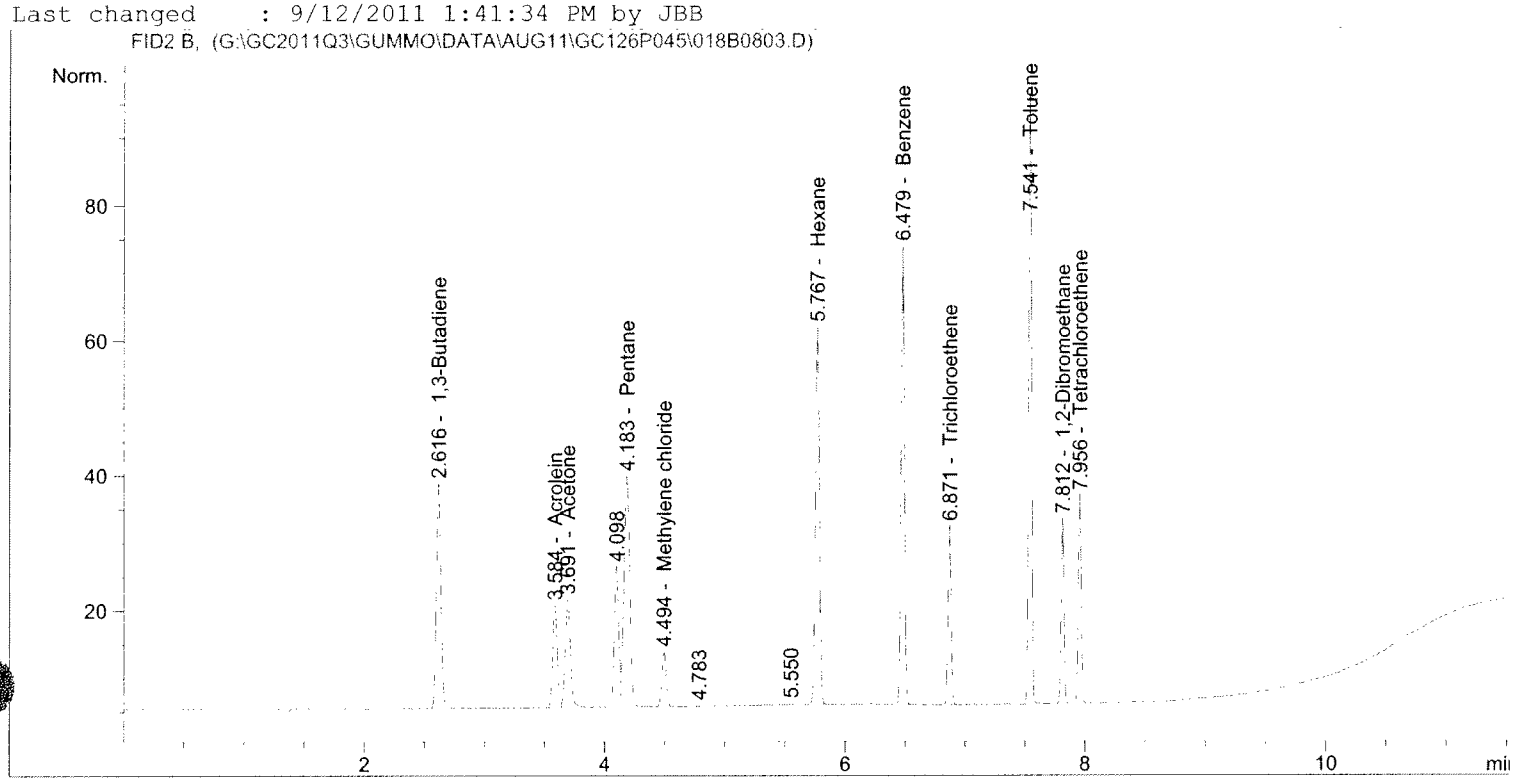
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	87.87460	1.17972	103.66757		1,3-Butadiene
3.585	BV	40.31233	2.58306	104.12913		Acrolein
3.691	VB	47.96646	2.11701	101.54542		Acetone
4.183	VB	112.93641	9.17657e-1	103.63693		Pentane
4.494	BB	20.80041	4.93459	102.64146		Methylene chloride
5.767	BB	132.06317	7.85564e-1	103.74403		Hexane
6.479	BB	132.86383	7.78402e-1	103.42143		Benzene
6.871	BB	48.58048	2.12107	103.04270		Trichloroethene
7.542	BB	153.48714	6.58075e-1	101.00610		Toluene
7.812	BB	45.67407	2.20816	100.85587		1,2-Dibromoethane
7.956	BB	53.67054	1.88171	100.99257		Tetrachloroethene

Totals : 1128.68321

Acq. Operator : JBB
Seq. Line : 8
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 19:12:02
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

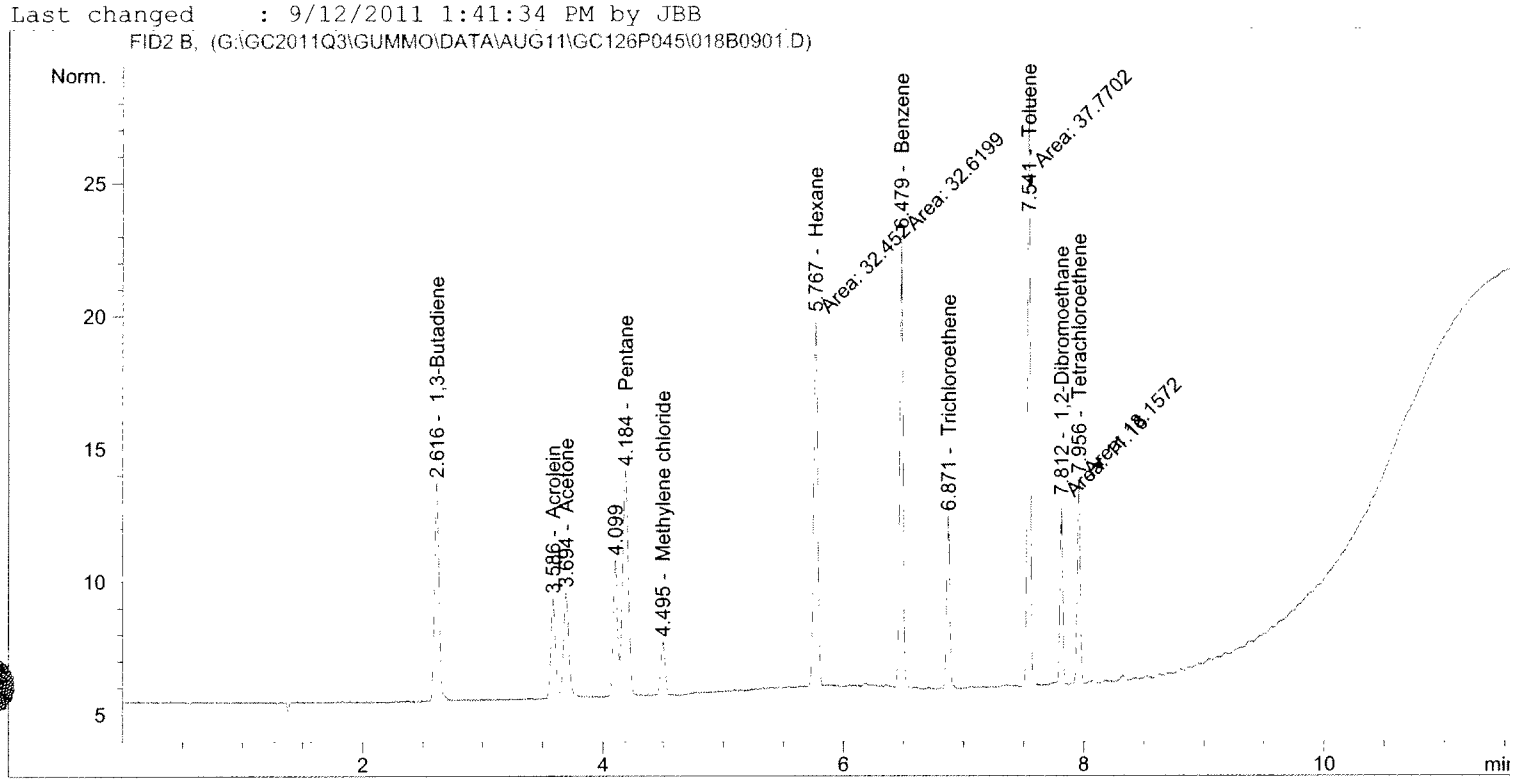
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	87.66619	1.17973	103.42240		1,3-Butadiene
3.584	BV	40.30636	2.58306	104.11376		Acrolein
3.691	VB	47.95203	2.11701	101.51515		Acetone
4.183	VB	113.24317	9.17657e-1	103.91843		Pentane
4.494	BB	20.87006	4.93455	102.98425		Methylene chloride
5.767	BB	131.96118	7.85564e-1	103.66400		Hexane
6.479	BB	132.67207	7.78405e-1	103.27255		Benzene
6.871	BB	48.50637	2.12108	102.88605		Trichloroethene
7.541	BB	153.41167	6.58078e-1	100.95686		Toluene
7.812	BB	45.56168	2.20823	100.61079		1,2-Dibromoethane
7.956	BB	53.54919	1.88176	100.76699		Tetrachloroethene

Totals : 1128.11123

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B0901.D
Sample Name: gc119p176 #I3 ENV(1=900,5=100)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :   9
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 19:32:25                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 1:41:34 PM by JBB
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External Standard Report

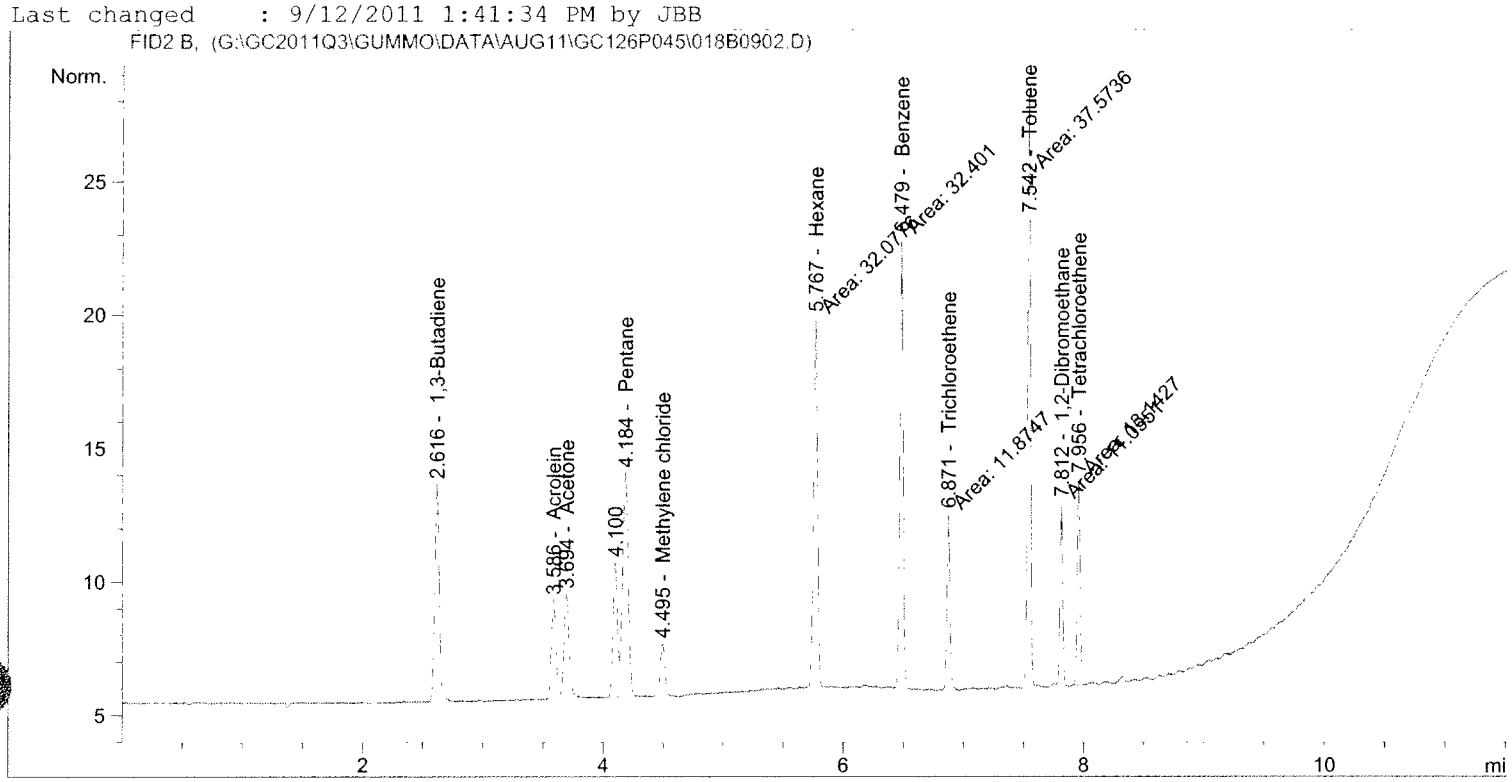
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Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 1:39:43 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	21.49767	1.19018	25.58620		1,3-Butadiene
3.586	BV	9.97111	2.60592	25.98391		Acrolein
3.694	VB	11.88059	2.17420	25.83075		Acetone
4.184	VB	27.97060	9.17758e-1	25.67023		Pentane
4.495	BB	5.12331	4.97290	25.47771		Methylene chloride
5.767	MM	32.45203	7.88338e-1	25.58317		Hexane
6.479	MM	32.61986	7.84583e-1	25.59297		Benzene
6.871	BB	11.91879	2.14320	25.54432		Trichloroethene
7.541	MM	37.77021	6.75076e-1	25.49776		Toluene
7.812	MM	11.16005	2.29365	25.59724		1,2-Dibromoethane
7.956	MM	13.15723	1.95198	25.68262		Tetrachloroethene

Totals : 282.04688

Acq. Operator : JBB
Seq. Line : 9
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 19:52:58
Inj : 2
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

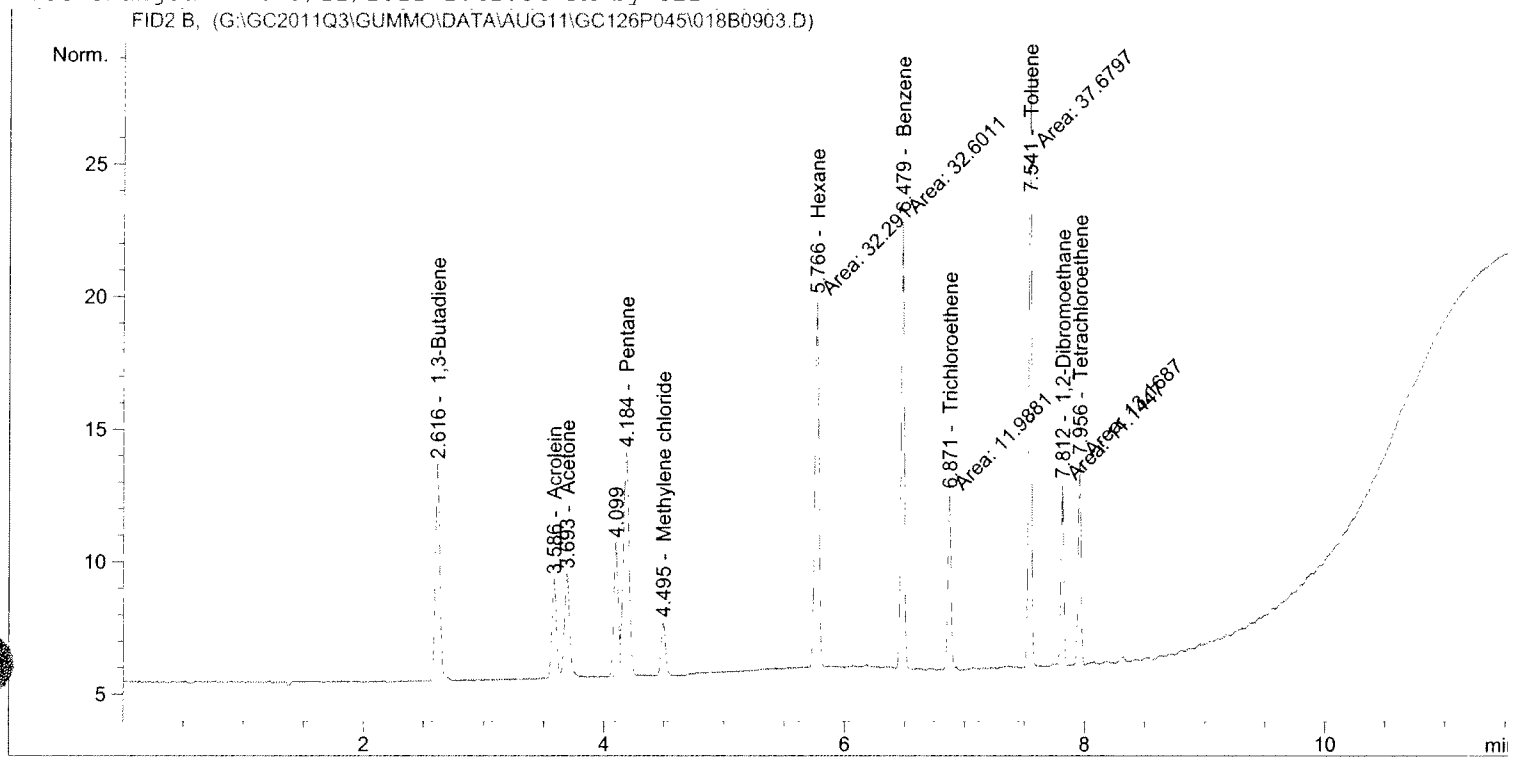
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	21.38056	1.19026	25.44844		1,3-Butadiene
3.586	BV	9.82067	2.60638	25.59643		Acrolein
3.694	VB	11.79798	2.17473	25.65743		Acetone
4.184	VB	27.78795	9.17759e-1	25.50263		Pentane
4.495	BB	5.09013	4.97323	25.31441		Methylene chloride
5.767	MM	32.07758	7.88381e-1	25.28935		Hexane
6.479	MM	32.40103	7.84638e-1	25.42307		Benzene
6.871	MM	11.87468	2.14331	25.45107		Trichloroethene
7.542	MM	37.57357	6.75194e-1	25.36944		Toluene
7.812	MM	11.05506	2.29472	25.36832		1,2-Dibromoethane
7.956	MM	13.14270	1.95208	25.65560		Tetrachloroethene

Totals : 280.07620

Acq. Operator : JBB
Seq. Line : 9
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 20:13:35
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

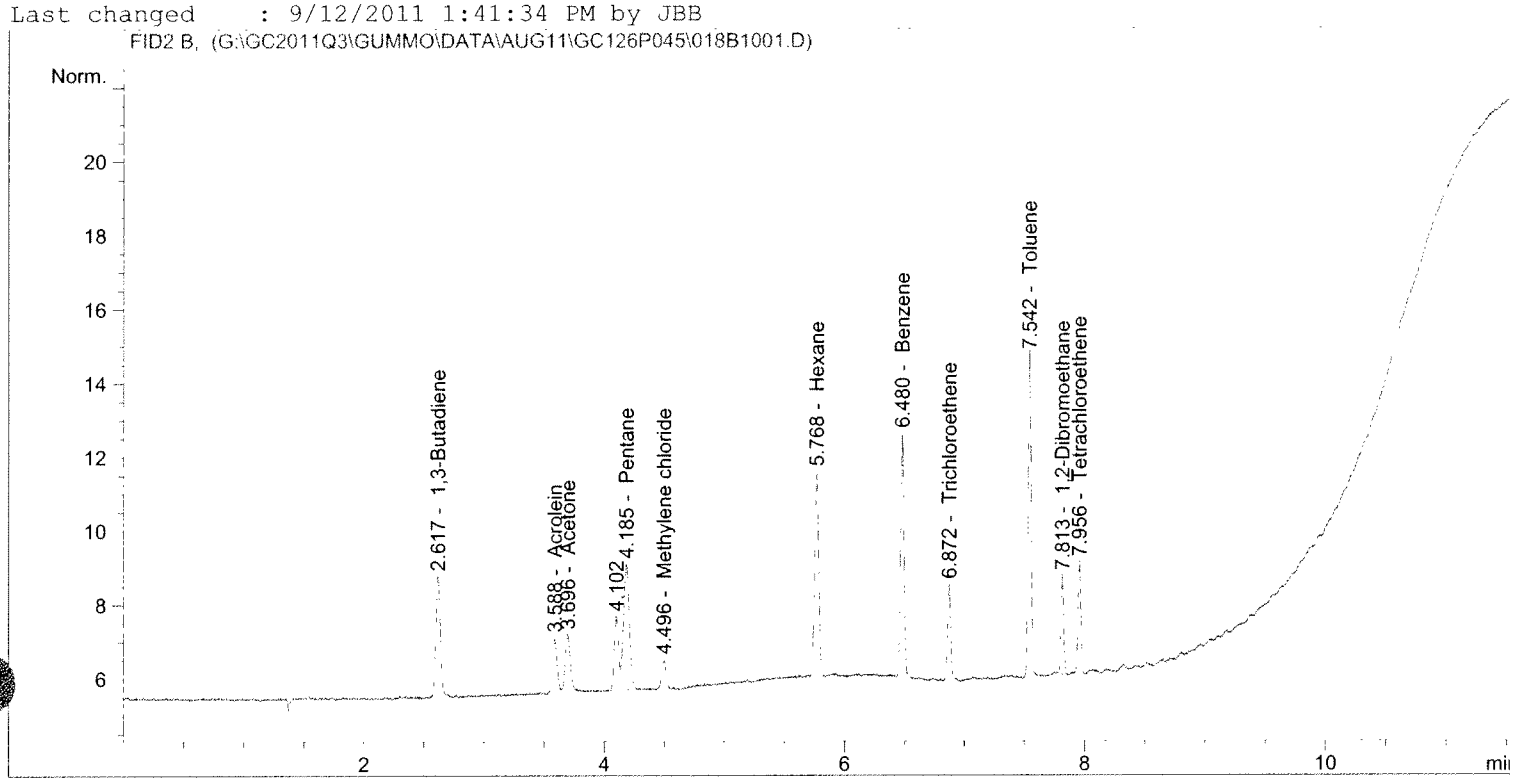
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	21.54061	1.19016	25.63671		1,3-Butadiene
3.586	BV	9.86766	2.60624	25.71747		Acrolein
3.693	VB	11.76689	2.17493	25.59219		Acetone
4.184	VB	27.84864	9.17758e-1	25.55832		Pentane
4.495	BB	5.11800	4.97295	25.45159		Methylene chloride
5.766	MM	32.29098	7.88356e-1	25.45680		Hexane
6.479	MM	32.60108	7.84587e-1	25.57839		Benzene
6.871	MM	11.98809	2.14303	25.69080		Trichloroethene
7.541	MM	37.67972	6.75130e-1	25.43871		Toluene
7.812	MM	11.14474	2.29381	25.56387		1,2-Dibromoethane
7.956	MM	13.16866	1.95190	25.70386		Tetrachloroethene

Totals : 281.38871

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 20:32:37                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 1:41:34 PM by JBB
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External Standard Report

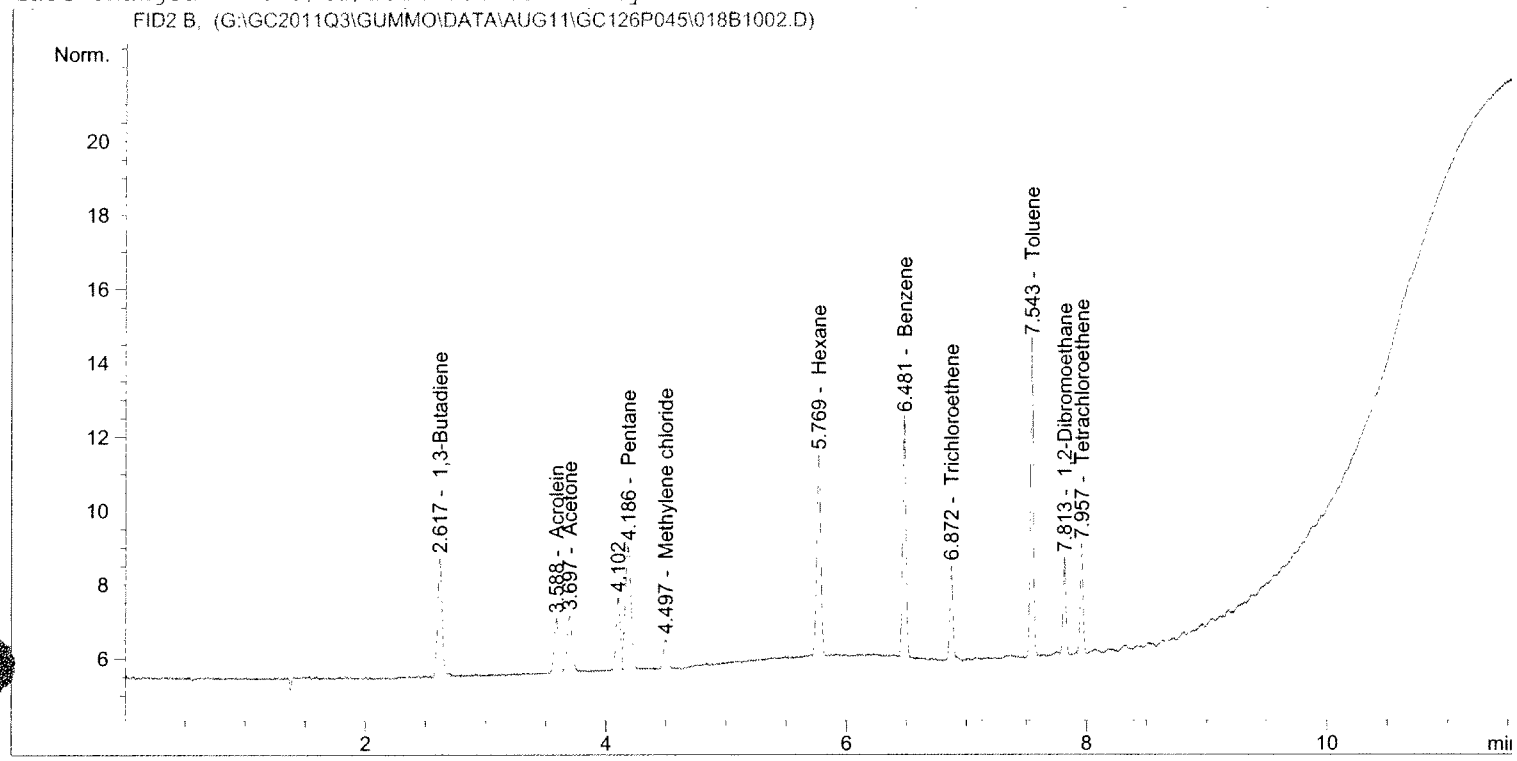
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Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 1:39:43 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	8.59983	1.21096	10.41405		1,3-Butadiene
3.588	BV	3.93875	2.65244	10.44729		Acrolein
3.696	VB	4.65985	2.29199	10.68035		Acetone
4.185	VB	11.33690	9.17953e-1	10.40674		Pentane
4.496	BB	2.09903	5.04614	10.59200		Methylene chloride
5.768	BB	13.05296	7.93804e-1	10.36150		Hexane
6.480	BB	13.11046	7.96773e-1	10.44606		Benzene
6.872	BB	4.74178	2.18757	10.37297		Trichloroethene
7.542	BB	15.24686	7.08387e-1	10.80068		Toluene
7.813	BB	4.46629	2.46320	11.00135		1,2-Dibromoethane
7.956	BB	5.17194	2.09570	10.83881		Tetrachloroethene
Totals :				116.36180		

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1002.D
Sample Name: gc119p176 #I2 ENV(1=960,5=40)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 20:51:38                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/17/2011 8:16:50 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 1:41:34 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 1:39:43 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

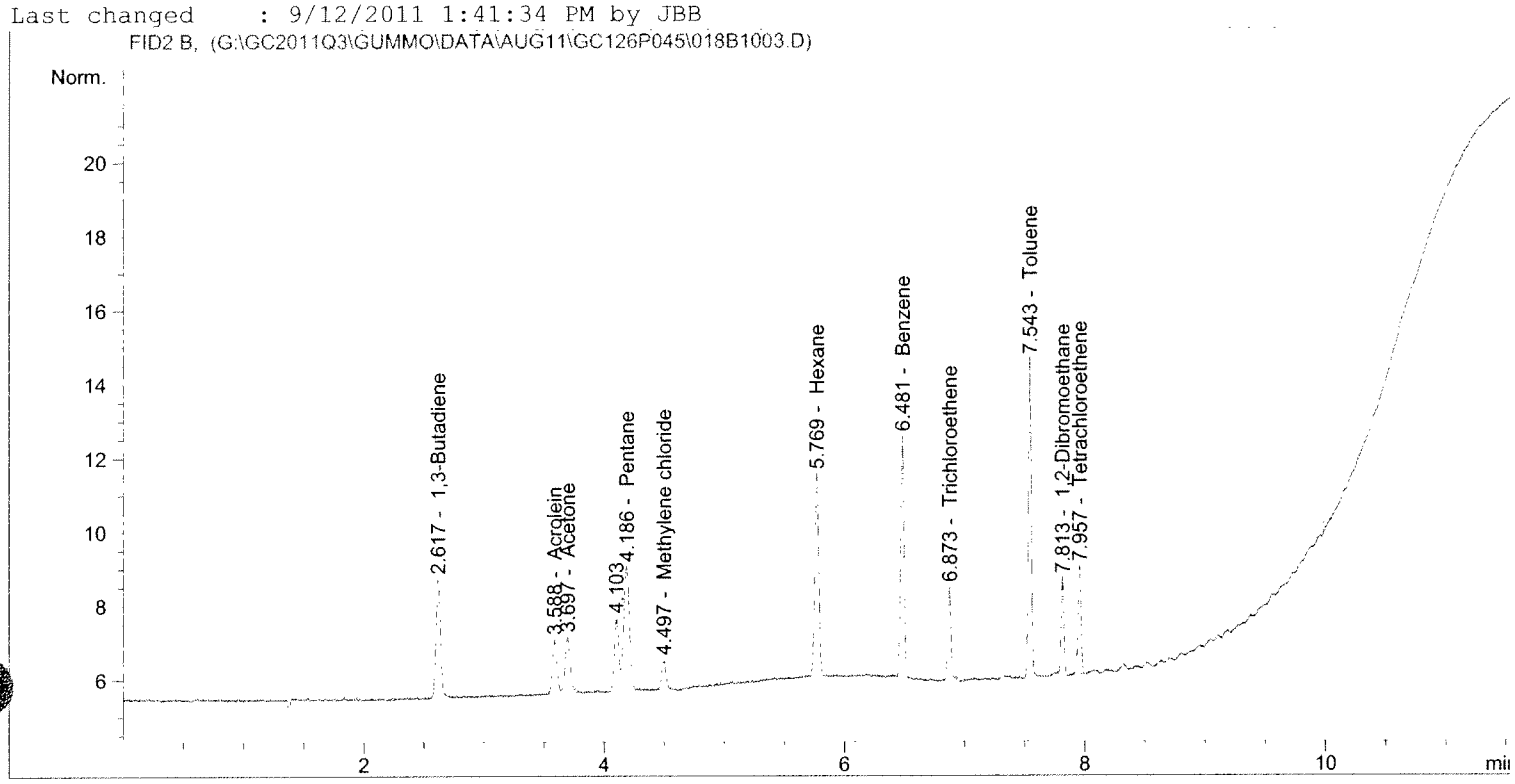
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	8.49929	1.21137	10.29578		1,3-Butadiene
3.588	BV	3.89850	2.65323	10.34362		Acrolein
3.697	VB	4.46443	2.30048	10.27032		Acetone
4.186	VB	11.01358	9.17963e-1	10.11006		Pentane
4.497	BB	1.99622	5.05253	10.08597		Methylene chloride
5.769	BB	12.83716	7.93958e-1	10.19217		Hexane
6.481	BB	12.89696	7.97110e-1	10.28030		Benzene
6.872	BB	4.65525	2.18894	10.19006		Trichloroethene
7.543	BB	14.77054	7.10189e-1	10.48987		Toluene
7.813	BB	4.44933	2.46427	10.96436		1,2-Dibromoethane
7.957	BB	5.17597	2.09551	10.84631		Tetrachloroethene

Totals : 114.06882

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1003.D
Sample Name: gc119p176 #I2 ENV(1=960,5=40)
gc126p045 (mgm)

Acq. Operator : JBB
Seq. Line : 10
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 21:10:36
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/17/2011 8:16:50 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

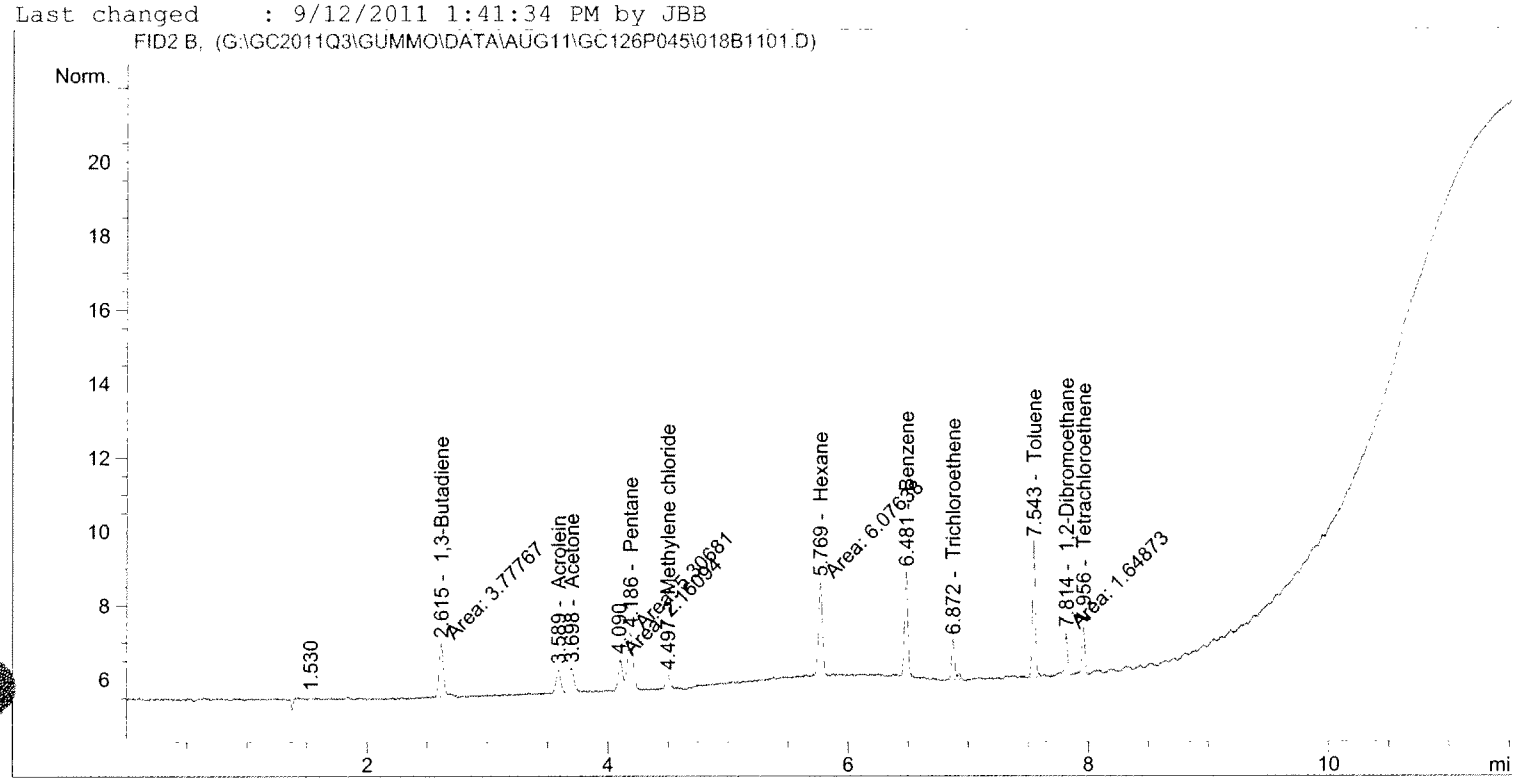
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	8.39917	1.21179	10.17800		1,3-Butadiene
3.588	BV	3.82099	2.65481	10.14400		Acrolein
3.697	VB	4.56295	2.29611	10.47704		Acetone
4.186	VB	11.11636	9.17960e-1	10.20437		Pentane
4.497	BB	2.00002	5.05228	10.10465		Methylene chloride
5.769	BB	12.83576	7.93959e-1	10.19107		Hexane
6.481	BB	12.83753	7.97206e-1	10.23416		Benzene
6.873	BB	4.67997	2.18854	10.24232		Trichloroethene
7.543	BB	14.77598	7.10167e-1	10.49342		Toluene
7.813	BB	4.45211	2.46410	10.97044		1,2-Dibromoethane
7.957	BB	5.08957	2.09953	10.68569		Tetrachloroethene

Totals : 113.92516

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1101.D
Sample Name: gc119p176 #I1 ENV(1=1010,5=20)
gc126p045 (mgm)

```
Acq. Operator   : JBB                                  Seq. Line :  11
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 18-Aug-11, 21:29:32                       Inj :   1
                                                      Inj Volume : External
Acq. Method     : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed    : 8/18/2011 9:05:20 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed    : 9/12/2011 1:41:34 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 1:39:43 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

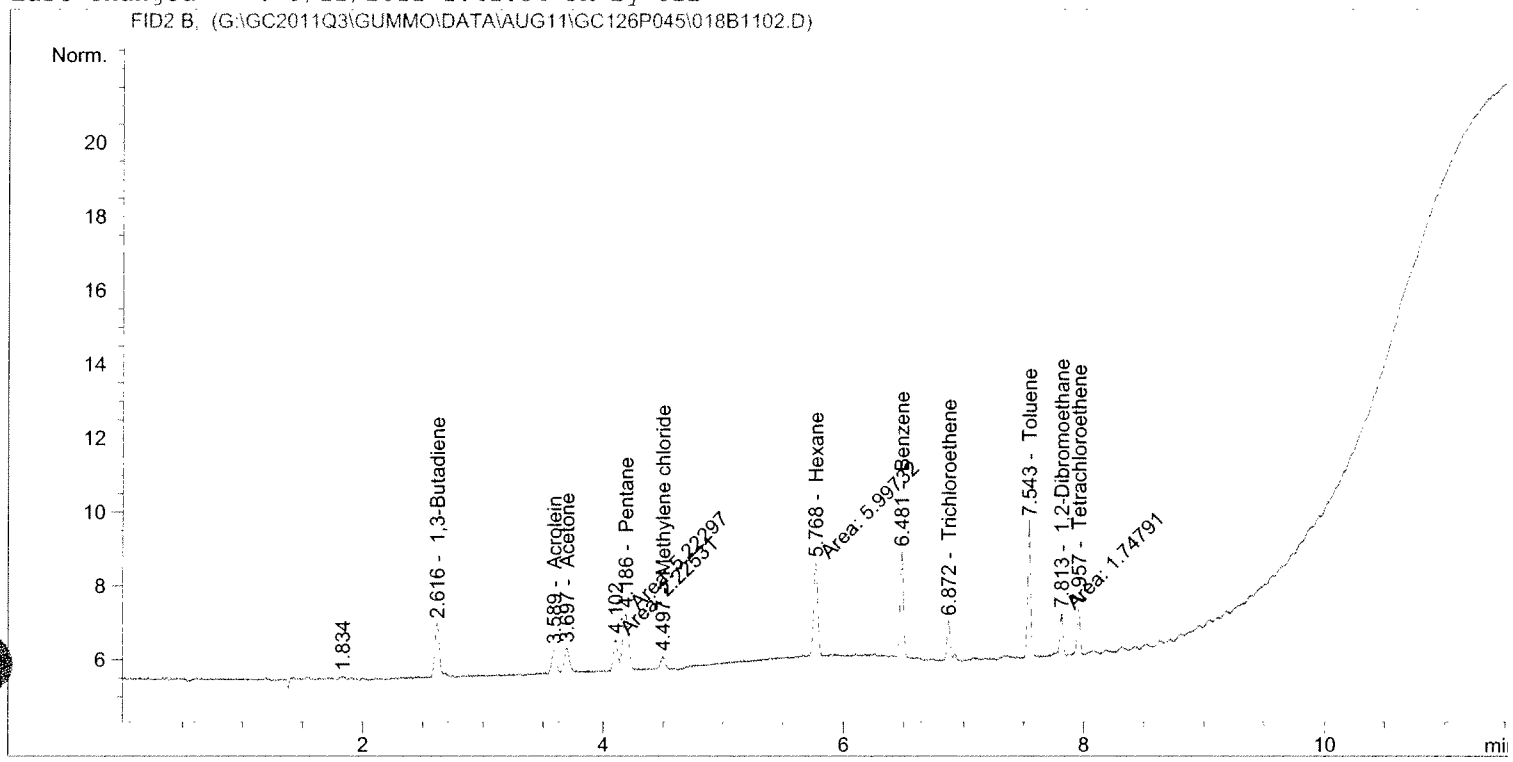
Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.615	MM	3.77767	1.25516	4.74159		1,3-Butadiene
3.589	BV	1.70312	2.75337	4.68933		Acrolein
3.698	VB	1.95123	2.54543	4.96673		Acetone
4.186	FM	5.30681	9.18327e-1	4.87339		Pentane
4.497	BB	9.98768e-1	5.18282	5.17644		Methylene chloride
5.769	MM	6.07638	8.04304e-1	4.88726		Hexane
6.481	BB	5.64550	8.23725e-1	4.65034		Benzene
6.872	BB	2.12123	2.27861	4.83346		Trichloroethene
7.543	BB	6.44254	7.82732e-1	5.04278		Toluene
7.814	MM	1.64873	2.89049	4.76564		1,2-Dibromoethane
7.956	BB	1.99448	2.44037	4.86726		Tetrachloroethene

Totals : 53.49421

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1102.D
Sample Name: gc119p176 #I1 ENV(1=1010,5=20)
gc126p045 (mgm)

Acq. Operator : JBB Seq. Line : 11
Acq. Instrument : Gummo Location : Vial 18
Injection Date : 18-Aug-11, 21:48:26 Inj : 2
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 9:29:15 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

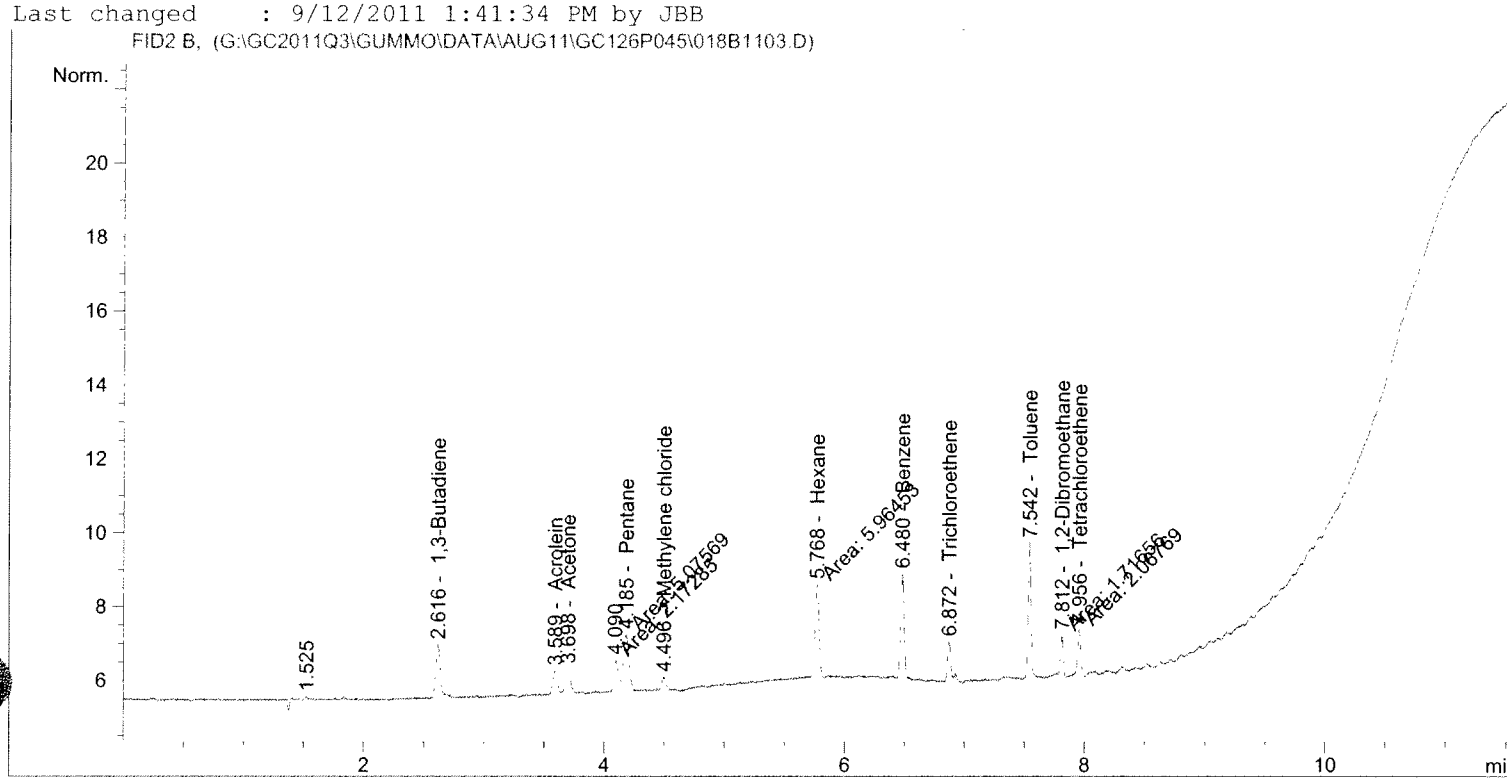
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	3.96079	1.25152	4.95699		1,3-Butadiene
3.589	BV	1.71941	2.75168	4.73128		Acrolein
3.697	VB	2.03168	2.54271	5.16597		Acetone
4.186	FM	5.22297	9.18338e-1	4.79646		Pentane
4.497	BB	9.05935e-1	5.20954	4.71951		Methylene chloride
5.768	MM	5.99732	8.04563e-1	4.82522		Hexane
6.481	BB	5.68382	8.23406e-1	4.68009		Benzene
6.872	BB	2.11194	2.27933	4.81382		Trichloroethene
7.543	BB	6.39953	7.82732e-1	5.00912		Toluene
7.813	MM	1.74791	2.89049	5.05232		1,2-Dibromoethane
7.957	BB	2.06059	2.44037	5.02859		Tetrachloroethene

Totals : 53.77936

Acq. Operator : JBB
Seq. Line : 11
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 22:07:24
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 9:48:15 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 1:41:34 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 1:39:43 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

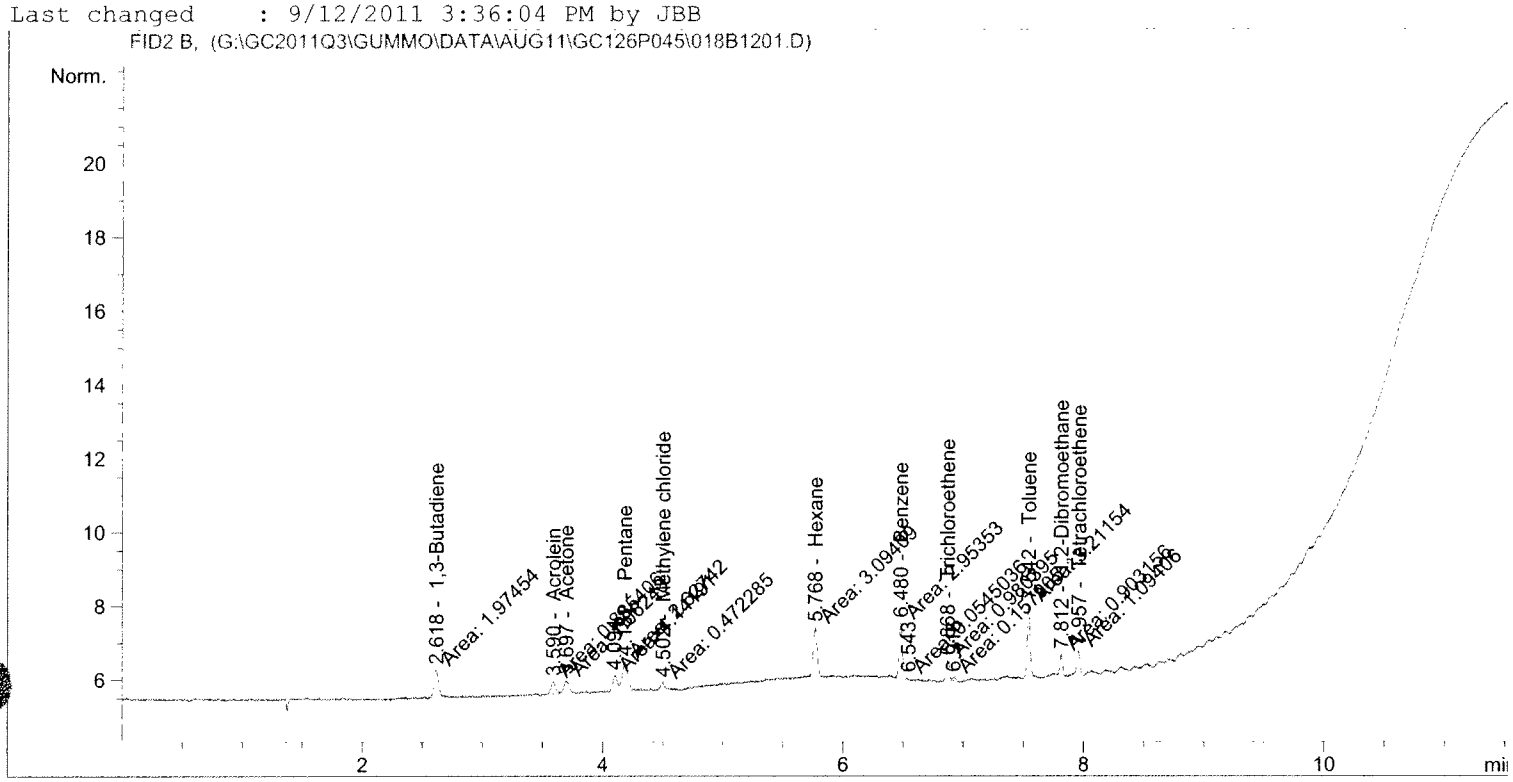
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	3.95750	1.25158	4.95313		1,3-Butadiene
3.589	BV	1.68819	2.75494	4.65085		Acrolein
3.698	VB	2.00886	2.54543	5.11341		Acetone
4.185	FM	5.07569	9.18359e-1	4.66131		Pentane
4.496	BB	9.59300e-1	5.19355	4.98217		Methylene chloride
5.768	MM	5.96453	8.04672e-1	4.79949		Hexane
6.480	BB	5.68231	8.23418e-1	4.67892		Benzene
6.872	BB	2.07280	2.28245	4.73108		Trichloroethene
7.542	BB	6.41947	7.82732e-1	5.02473		Toluene
7.812	MM	1.71656	2.89049	4.96170		1,2-Dibromoethane
7.956	MM	2.06769	2.44037	5.04592		Tetrachloroethene

Totals : 53.60271

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1201.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 22:26:20                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 10:18:26 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 3:36:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:36:00 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

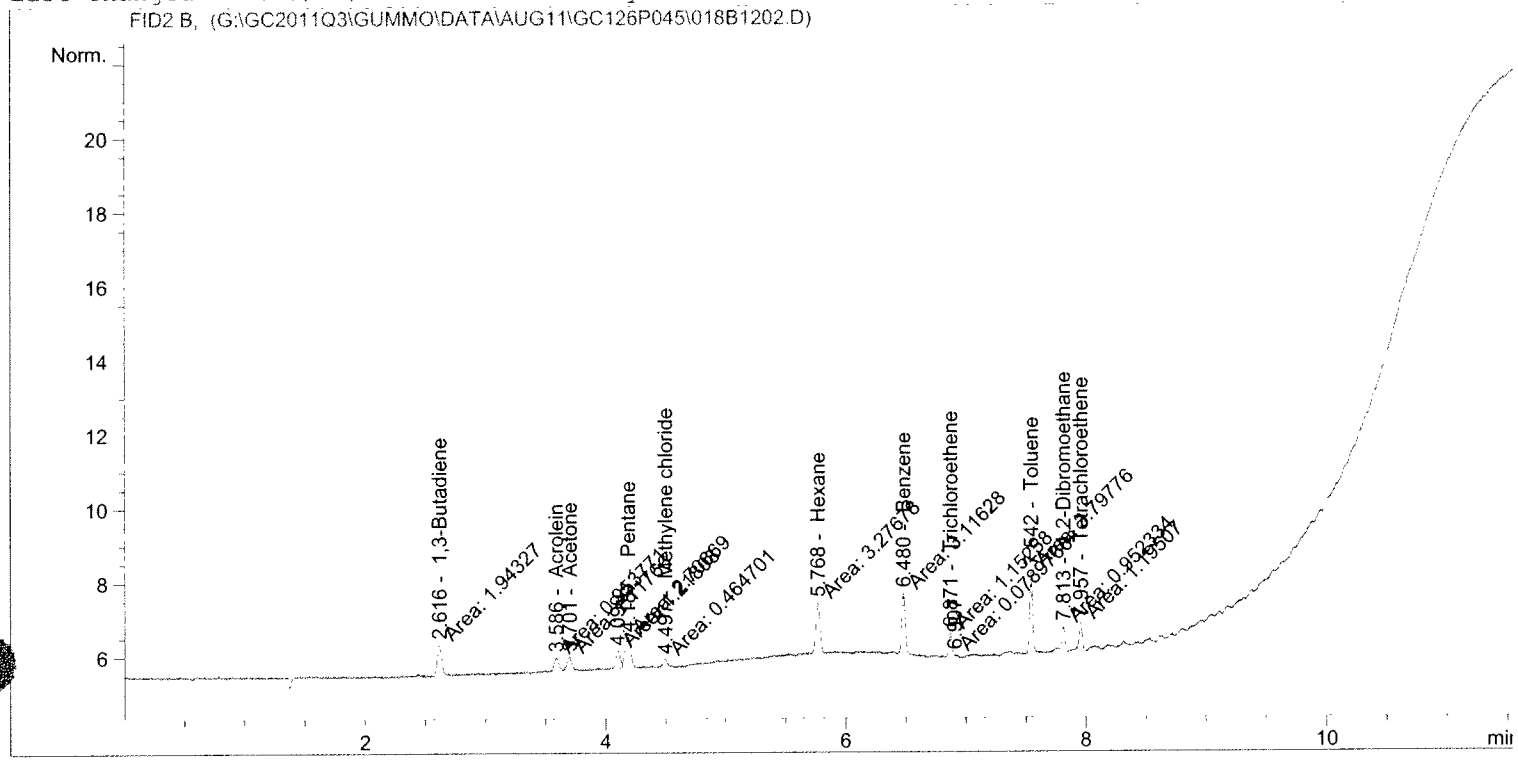
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.618	MM	1.97454	1.32715	2.62051		1,3-Butadiene
3.590	MM	8.85406e-1	2.91759	2.58325		Acrolein
3.697	MM	1.06243	2.54543	2.70435		Acetone
4.182	FM	2.62742	9.70754e-1	2.55058		Pentane
4.502	MM	4.72285e-1	5.47350	2.58505		Methylene chloride
5.768	MM	3.09409	8.22879e-1	2.54606		Hexane
6.480	MF	2.95353	8.66867e-1	2.56032		Benzene
6.868	MF	9.80395e-1	2.44802	2.40003		Trichloroethene
7.542	MM	3.21154	7.82732e-1	2.51378		Toluene
7.812	MM	9.03156e-1	2.89049	2.61057		1,2-Dibromoethane
7.957	MM	1.09406	2.44037	2.66992		Tetrachloroethene

Totals : 28.34441

PGE T384 Scrubber 2012-37

Acq. Operator : JBB
Seq. Line : 12
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 22:45:19
Inj : 2
Inj Volume : External

Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 10:34:49 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 3:36:04 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 3:36:00 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

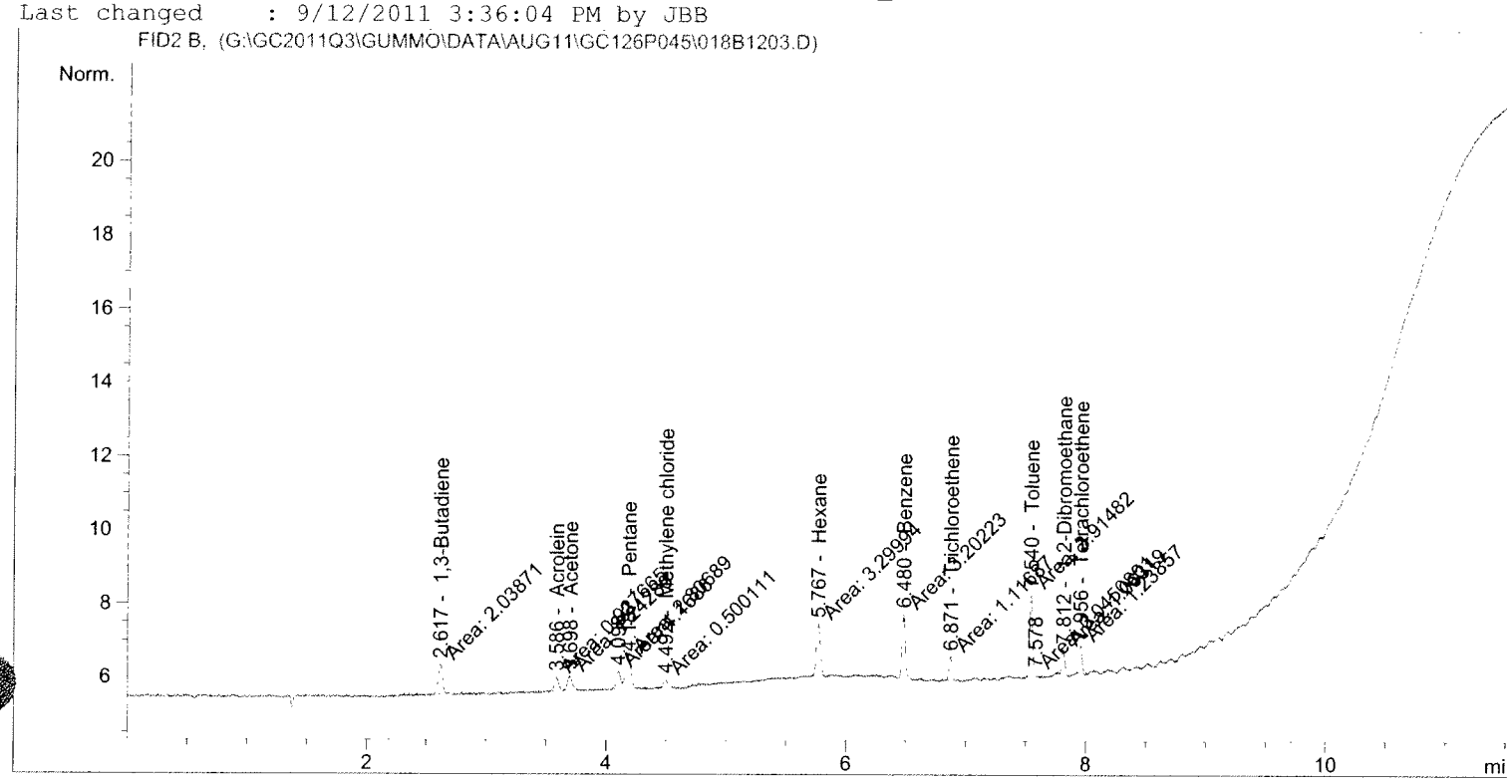
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	MM	1.94327	1.32957	2.58373		1,3-Butadiene
3.586	MM	9.53771e-1	2.89308	2.75933		Acrolein
3.701	MM	1.11766	2.54543	2.84493		Acetone
4.187	FM	2.70669	9.69423e-1	2.62392		Pentane
4.497	MM	4.64701e-1	5.47710	2.54521		Methylene chloride
5.768	MM	3.27678	8.21087e-1	2.69052		Hexane
6.480	MM	3.11628	8.62142e-1	2.68668		Benzene
6.871	MF	1.15258	2.41705	2.78584		Trichloroethene
7.542	MM	3.79776	7.82732e-1	2.97263		Toluene
7.813	MM	9.52334e-1	2.89049	2.75272		1,2-Dibromoethane
7.957	MM	1.19507	2.44037	2.91642		Tetrachloroethene

Totals : 30.16194

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1203.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

Acq. Operator : JBB
Seq. Line : 12
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 23:05:32
Inj : 3
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 3:36:04 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 3:36:00 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

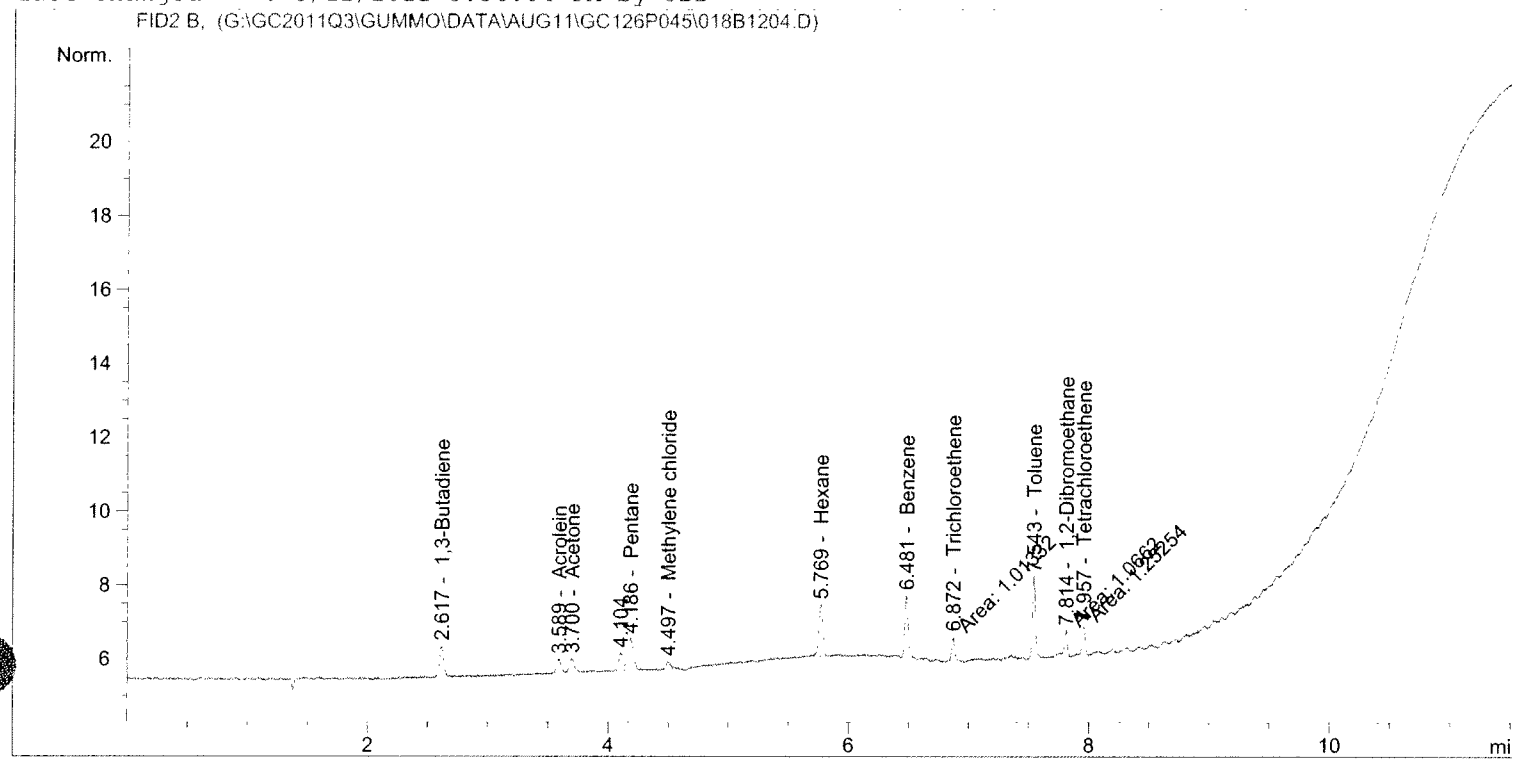
Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	MM	2.03871	1.32240	2.69599		1,3-Butadiene
3.586	MF	9.27665e-1	2.90201	2.69209		Acrolein
3.698	FM	1.24289	2.54543	3.16370		Acetone
4.187	FM	2.80689	9.67300e-1	2.71510		Pentane
4.492	MM	5.00111e-1	5.44282	2.72201		Methylene chloride
5.767	MM	3.29994	8.20832e-1	2.70869		Hexane
6.480	MM	3.20223	8.59841e-1	2.75341		Benzene
6.871	MM	1.11687	2.42674	2.71036		Trichloroethene
7.540	MF	3.91482	7.82732e-1	3.06426		Toluene
7.812	MM	1.06319	2.89049	3.07314		1,2-Dibromoethane
7.956	MM	1.23857	2.44037	3.02256		Tetrachloroethene

Totals : 31.32131

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1204.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 18-Aug-11, 23:24:22                       Inj :   4
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 3:36:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:36:00 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

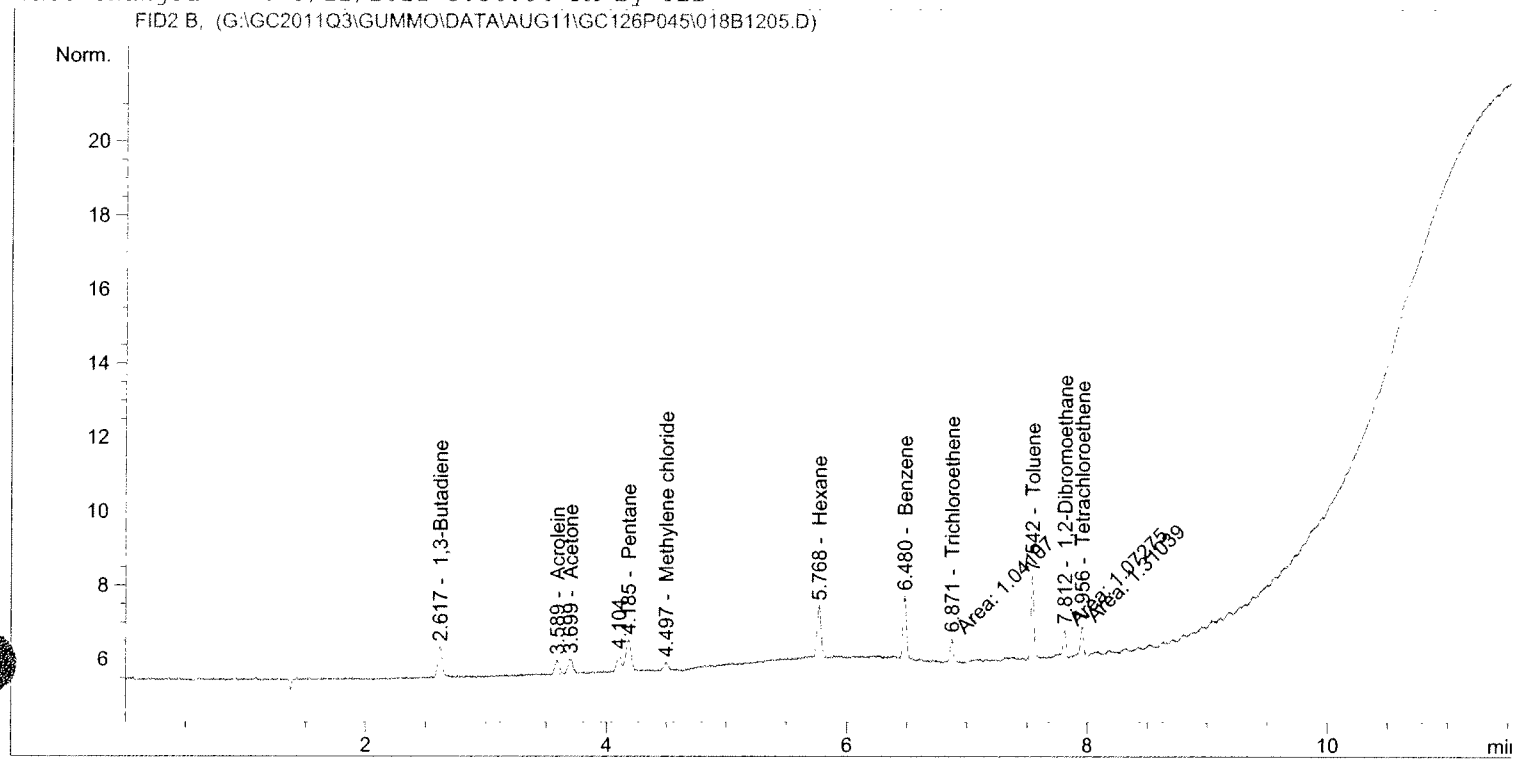
Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	2.11843	1.31690	2.78976		1,3-Butadiene
3.589	BV	9.94719e-1	2.88000	2.86480		Acrolein
3.700	VB	1.07839	2.54543	2.74497		Acetone
4.186	VB	2.85532	9.66327e-1	2.75918		Pentane
4.497	BB	5.18151e-1	5.42469	2.81081		Methylene chloride
5.769	BB	3.36570	8.20125e-1	2.76029		Hexane
6.481	BB	3.38523	8.55329e-1	2.89549		Benzene
6.872	MM	1.01332	2.44802	2.48063		Trichloroethene
7.543	BB	3.81351	7.82732e-1	2.98495		Toluene
7.814	MM	1.06620	2.89049	3.08186		1,2-Dibromoethane
7.957	MM	1.25254	2.44037	3.05665		Tetrachloroethene

Totals : 31.22939

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1205.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

Acq. Operator : JBB
Seq. Line : 12
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 18-Aug-11, 23:43:23
Inj : 5
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 3:36:04 PM by JBB



External Standard Report

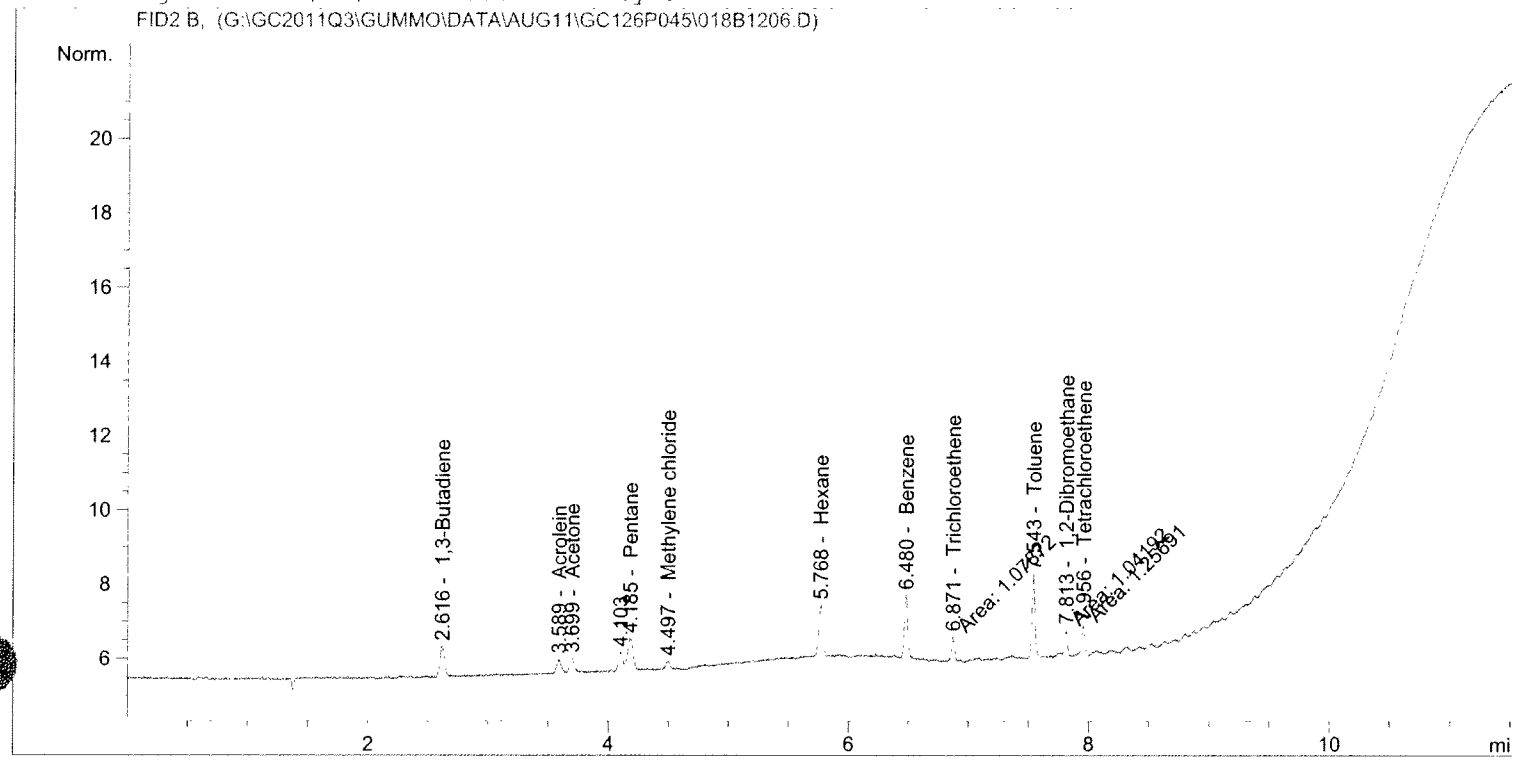
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 3:36:00 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	2.17032	1.31354	2.85081		1,3-Butadiene
3.589	BV	1.03772	2.86739	2.97555		Acrolein
3.699	VB	1.15899	2.54543	2.95012		Acetone
4.185	VB	2.71251	9.69295e-1	2.62923		Pentane
4.497	BB	5.76855e-1	5.37354	3.09975		Methylene chloride
5.768	BB	3.28843	8.20958e-1	2.69967		Hexane
6.480	BB	3.37221	8.55634e-1	2.88537		Benzene
6.871	MM	1.04107	2.44802	2.54855		Trichloroethene
7.542	BB	4.01896	7.82732e-1	3.14577		Toluene
7.812	MM	1.07275	2.89049	3.10078		1,2-Dibromoethane
7.956	MM	1.31039	2.44037	3.19783		Tetrachloroethene
Totals :		32.08345				

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1206.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

Acq. Operator : JBB Seq. Line : 12
Acq. Instrument : Gummo Location : Vial 18
Injection Date : 19-Aug-11, 00:02:24 Inj : 6
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 3:36:04 PM by JBB



External Standard Report

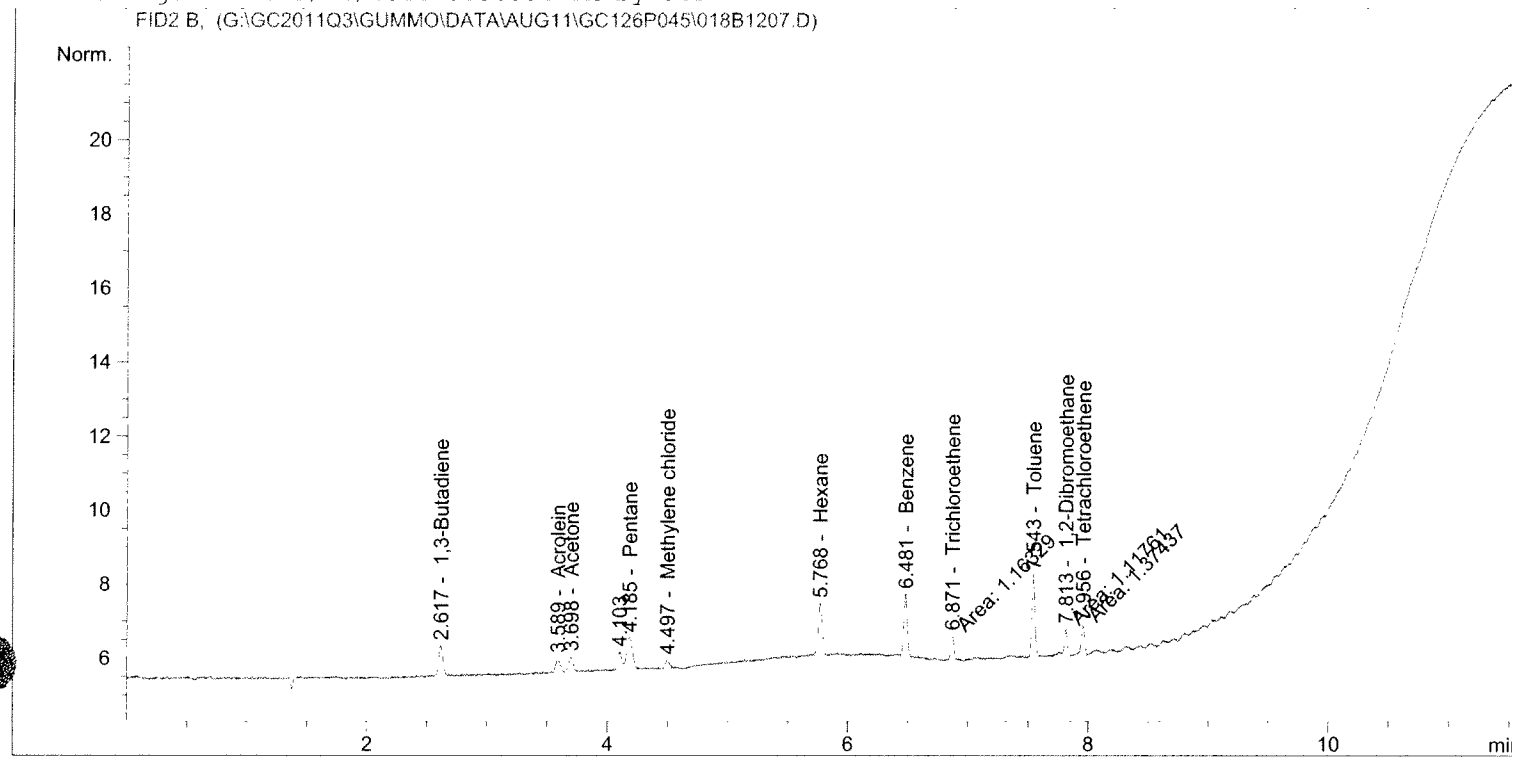
Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 3:36:00 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.616	BB	2.12581	1.31642	2.79845		1,3-Butadiene
3.589	BV	1.00586	2.87663	2.89349		Acrolein
3.699	VB	1.15823	2.54543	2.94818		Acetone
4.185	VB	2.89302	9.65593e-1	2.79348		Pentane
4.497	BB	5.76357e-1	5.37393	3.09730		Methylene chloride
5.768	BB	3.28201	8.21029e-1	2.69463		Hexane
6.480	BB	3.41407	8.54662e-1	2.91788		Benzene
6.871	MM	1.07872	2.43780	2.62971		Trichloroethene
7.543	BB	3.98856	7.82732e-1	3.12197		Toluene
7.813	MM	1.04192	2.89049	3.01167		1,2-Dibromoethane
7.956	MM	1.25691	2.44037	3.06731		Tetrachloroethene
Totals :		31.87407				

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1207.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

```
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 00:21:20                       Inj :   7
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 3:36:04 PM by JBB
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:36:00 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

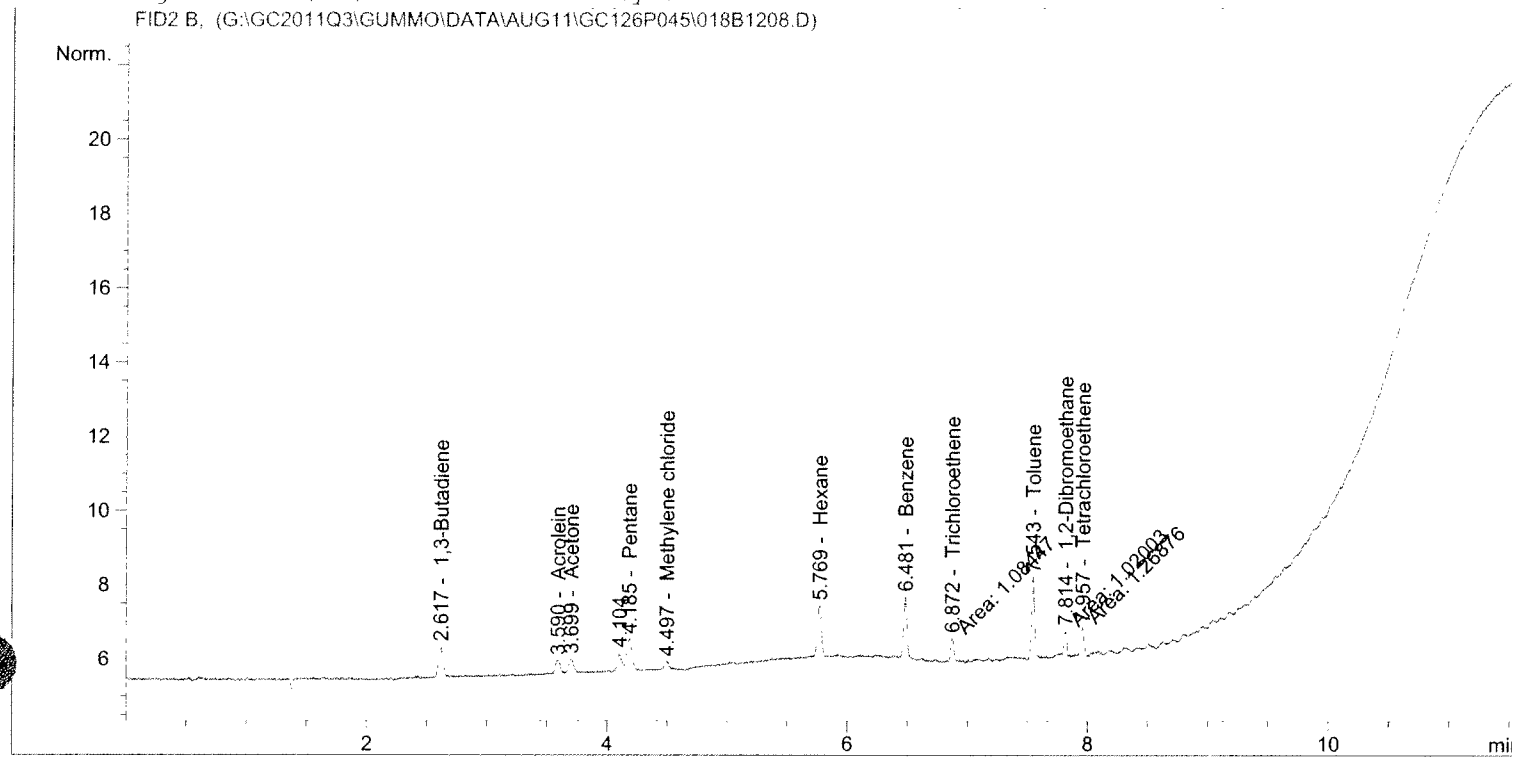
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	2.13028	1.31612	2.80371		1,3-Butadiene
3.589	BV	1.04529	2.86528	2.99503		Acrolein
3.698	VB	1.14339	2.54543	2.91042		Acetone
4.185	VB	2.78662	9.67717e-1	2.69666		Pentane
4.497	BB	6.08090e-1	5.35035	3.25349		Methylene chloride
5.768	BB	3.34305	8.20365e-1	2.74252		Hexane
6.481	BB	3.36424	8.55822e-1	2.87919		Benzene
6.871	MM	1.16329	2.41425	2.80849		Trichloroethene
7.543	BB	3.94463	7.82732e-1	3.08759		Toluene
7.813	MM	1.11761	2.89049	3.23046		1,2-Dibromoethane
7.956	MM	1.37437	2.44037	3.35396		Tetrachloroethene

Totals : 32.76151

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1208.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)

gc126p045 (mgm)

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 19-Aug-11, 00:40:15                       Inj :   8
                                                      Inj Volume : External
Acq. Method      : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed     : 8/18/2011 11:01:38 PM by JBB
Analysis Method  : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed     : 9/12/2011 3:36:04 PM by JBB
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      Monday, September 12, 2011 3:36:00 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

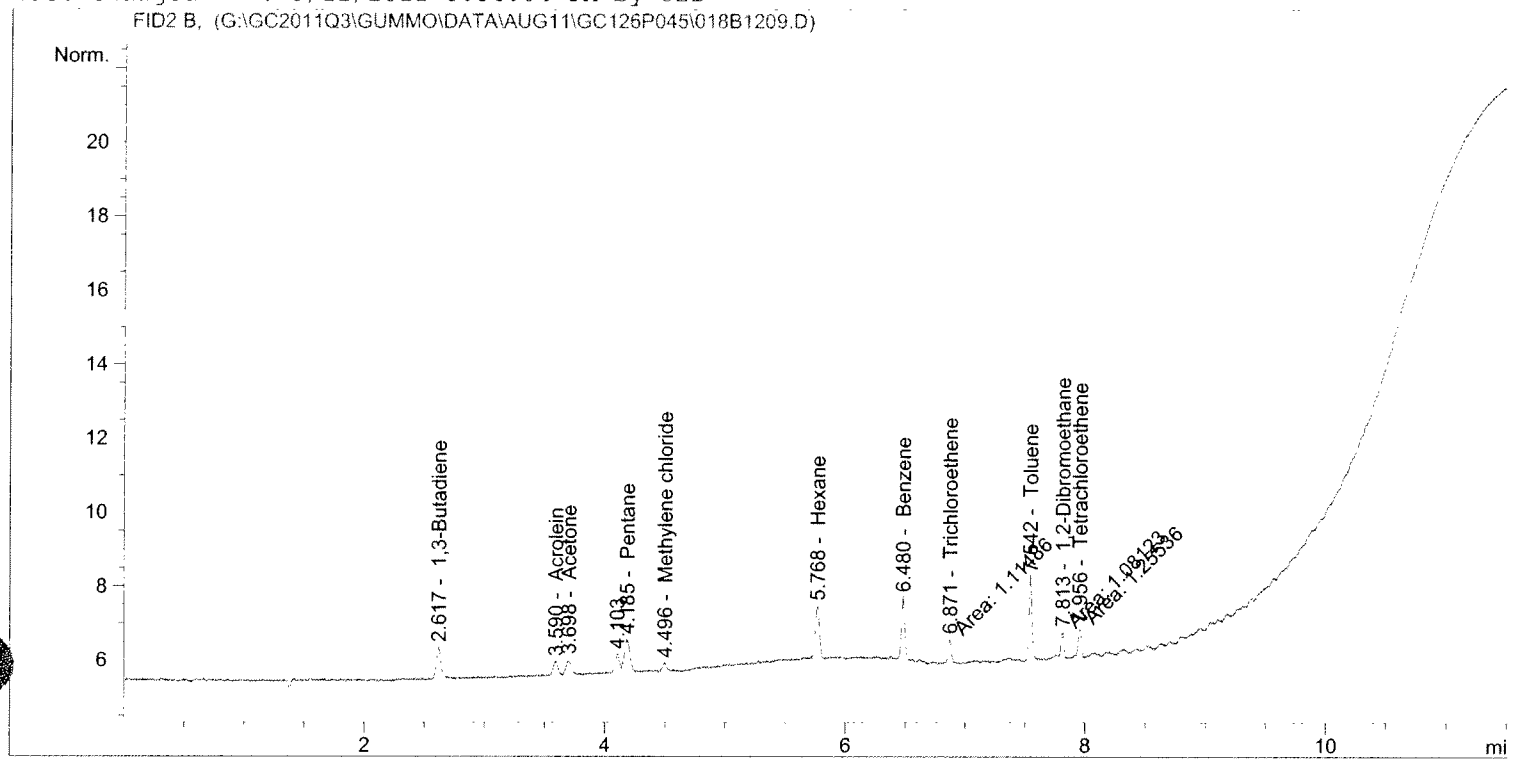
Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  2.617 BB        2.08664    1.31904    2.75237    1,3-Butadiene
  3.590 BV     9.59366e-1    2.89122    2.77374    Acrolein
  3.699 VB        1.10953    2.54543    2.82423    Acetone
  4.185 VB        2.75901 9.68295e-1    2.67153    Pentane
  4.497 BB     5.94023e-1    5.36049    3.18425    Methylene chloride
  5.769 BB        3.23078 8.21606e-1    2.65443    Hexane
  6.481 BB        3.35345 8.56078e-1    2.87081    Benzene
  6.872 MM        1.08447    2.43609    2.64187    Trichloroethene
  7.543 BB        3.92404 7.82732e-1    3.07148    Toluene
  7.814 MM        1.02003    2.89049    2.94839    1,2-Dibromoethane
  7.957 MM        1.26876    2.44037    3.09623    Tetrachloroethene

Totals :                                31.48933
```

Data File G:\GC2011Q3\GUMMO\DATA\AUG11\GC126P045\018B1209.D
Sample Name: gc119p176 #I0 ENV(1=1980,5=20)
gc126p045 (mgm)

Acq. Operator : JBB
Seq. Line : 12
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 19-Aug-11, 00:59:09
Inj : 9
Inj Volume : External
Acq. Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Last changed : 8/18/2011 11:01:38 PM by JBB
Analysis Method : G:\GC2011Q3\GUMMO\METHODS\GC126P045ICR_R1.M
Last changed : 9/12/2011 3:36:04 PM by JBB



External Standard Report

Sorted By : Signal
Calib. Data Modified : Monday, September 12, 2011 3:36:00 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
2.617	BB	2.17914	1.31299	2.86118		1,3-Butadiene
3.590	BV	9.58116e-1	2.89164	2.77052		Acrolein
3.698	VB	1.18101	2.54543	3.00617		Acetone
4.185	VB	2.87568	9.65928e-1	2.77770		Pentane
4.496	BB	5.71095e-1	5.37809	3.07140		Methylene chloride
5.768	BB	3.32126	8.20599e-1	2.72543		Hexane
6.480	BB	3.38810	8.55262e-1	2.89772		Benzene
6.871	MM	1.11486	2.42730	2.70610		Trichloroethene
7.542	BB	4.05009	7.82732e-1	3.17014		Toluene
7.813	MM	1.08123	2.89049	3.12530		1,2-Dibromoethane
7.956	MM	1.25536	2.44037	3.06355		Tetrachloroethene
Totals :		32.17521				

Injection Source and Location

Injection Source: 6890 GC Valve

Injection Location: Dual

6890 GC METHOD

OVEN
- Initial temp: 35 'C (On)
- Initial time: 2.20 min
- Ramps:

#	Rate	Final temp	Final time
1	15.00	70	0.07
2	30.00	250	1.00
3	0.0(Off)		

- Post temp: 50 'C
- Post time: 0.00 min
- Run time: 11.60 min
- Maximum temp: 250 'C
- Equilibration time: 0.20 min

FRONT INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 160 'C (On)
- Pressure: 5.00 psi (On)
- Split ratio: 5:1
- Split flow: 10.6 mL/min
- Total flow: 18.9 mL/min
- Gas saver: Off
- Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 160 'C (On)
- Pressure: 5.12 psi (On)
- Split ratio: 5:1
- Split flow: 10.3 mL/min
- Total flow: 18.7 mL/min
- Gas saver: Off
- Gas type: Hydrogen

COLUMN 1
- Capillary Column
- Model Number: Restek 10970
- Rtx-624 30m x 0.32mm x 1.8um SN 92682
- Max temperature: 240 'C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 1.80 um
- Mode: constant flow
- Initial flow: 2.1 mL/min
- Nominal init pressure: 5.00 psi
- Average velocity: 40 cm/sec
- Inlet: Front Inlet
- Outlet: Front Detector
- Outlet pressure: ambient

COLUMN 2
- Capillary Column
- Model Number: Restek 10198
- Rtx-1 30m x 0.32mm x 4.0um
- Max temperature: 280 'C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 4.00 um
- Mode: constant flow
- Initial flow: 2.1 mL/min
- Nominal init pressure: 5.12 psi
- Average velocity: 39 cm/sec
- Inlet: Back Inlet
- Outlet: Back Detector
- Outlet pressure: ambient

FRONT DETECTOR (FID)
- Temperature: 250 'C (On)
- Hydrogen flow: 40.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 45.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

BACK DETECTOR (FID)
- Temperature: 250 'C (On)
- Hydrogen flow: 40.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 45.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

SIGNAL 1

SIGNAL 2

method: G:\GC2011Q3\GUMMO\METHODS\GC126P045.M
Modified on: 8/31/2011 at 4:49:31 PM

Data rate: 50 Hz
Type: front detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

Data rate: 50 Hz
Type: back detector
Save Data: On
Zero: 0.0 (Off)
Range: 0
Fast Peaks: Off
Attenuation: 0

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

THERMAL AUX 1
Use: Valve Box Heater
Description:
Initial temp: 100 'C (On)
Initial time: 0.00 min

#	Rate	Final temp	Final time
1	0.0	(Off)	

VALVES

Valve 1 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Front Inlet

Valve 2 Gas Sampling
Description:
Loop Volume: 1.000 mL
Load Time: 0.50 min
Inject Time: 0.50 min
Inlet: Back Inlet

Valve 7 Multiposition 1
Description:
BCD input: inverted
Switch Time: 1.0 sec

POST RUN
Post Time: 0.00 min

TIME TABLE

Time	Specifier	Parameter & Setpoint	
0.10		Multi-Valve Position:	1

ISO 9001:2008 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

THE LINDE GROUP

SHIPPED TO: Enthalpy Analytical, Inc
2202 Ellis Road
Durham, NC 27703-5521

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

Sales#:	108129258	**Cylinder Size:**	2 (9" X 51")
Production#:	1178674	**Cylinder # :**	9166803
Certification Date:	May-20-2011	**Cylinder Pressure:**	500 psig
P.O.# :	C05031101GAT	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	44 Liter
Material#:	24090232	**Cylinder Material:**	Steel
Traceability:	NIST by weight	**Gas Volume:**	1500 Liter
Expiration Date:	May-20-2012	**Blend Tolerance:**	5% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
1,3-Butadiene	106-99-0	250 ppm	257 ppm
Acrolein	107-02-8	250 ppm	257 ppm
Acetone	67-64-1	250 ppm	257 ppm
Pentane	109-66-0	250 ppm	257 ppm
Acrylonitrile	107-13-1	250 ppm	256 ppm
Carbon Disulfide	75-15-0	250 ppm	258 ppm
Methylene Chloride	75-09-2	250 ppm	257 ppm
Hexane	110-54-3	250 ppm	257 ppm
Benzene	71-43-2	250 ppm	256 ppm
Trichloroethene	79-01-6	250 ppm	256 ppm
Toluene	108-88-3	250 ppm	256 ppm
1,2-Dibromoethane	106-93-4	250 ppm	257 ppm
Tetrachloroethene	127-18-4	250 ppm	257 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti **DATE:** May-20-2011

Sequence: g:\gc2011q3\Gummo\sequence\gc126p045.txt

Sequence Table (Front Injector):

Line	Vial	Sample Name	Method	Inj	Type
1	Vial 2	gc119p172 #C5 ENV(1=0,2=450)	GC126P045	4	Sample
2	Vial 2	gc119p172 #C4 ENV(1=600,2=400)	GC126P045	3	Sample
3	Vial 2	gc119p172 #C3 ENV(1=900,2=100)	GC126P045	3	Sample
4	Vial 2	gc119p172 #C2 ENV(1=950,2=50)	GC126P045	3	Sample
	Vial 2	gc119p172 #C1 ENV(1=980,2=20)	GC126P045	3	Sample
	Vial 2	gc119p172 #C0 ENV(1=3990,2=20)	GC126P045	7	Sample
7	Vial 2	gc119p176 #I5 ENV(1=0,5=350)	GC126P045	4	Sample
8	Vial 2	gc119p176 #I4 ENV(1=600,5=400)	GC126P045	3	Sample
9	Vial 2	gc119p176 #I3 ENV(1=900,5=100)	GC126P045	3	Sample
10	Vial 2	gc119p176 #I2 ENV(1=960,5=40)	GC126P045	3	Sample
11	Vial 2	gc119p176 #I1 ENV(1=1010,5=20)	GC126P045	3	Sample
12	Vial 2	gc119p176 #I0 ENV(1=1980,5=20)	GC126P045	9	Sample
13	Vial 2	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
14	Vial 2	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
15	Vial 2	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
16	Vial 2	gc126p045 #A2 ENV(1=950,6=50)	GC126P045	3	Sample
17	Vial 2	gc126p045 #A1 ENV(1=980,6=20)	GC126P045	8	Sample
18	Vial 1	Pause	PAUSE	1	Sample
19	Vial 2	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
20	Vial 2	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
21	Vial 2	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
22	Vial 2	gc126p045 #A2 ENV(1=985,6=15)	GC126P045	3	Sample
23	Vial 2	gc126p045 #A1 ENV(1=2480,6=20)	GC126P045	8	Sample
24	Vial 1	Pause	PAUSE	1	Sample

Sequence: g:\gc2011q3\Gummo\sequence\gc126p045.txt

PGE T384 Scrubber 2012-37

Sequence Table (Back Injector):

Line	Vial	Sample Name	Method	Inj	Type
1	Vial 18	gc119p172 #C5 ENV(1=0,2=450)	GC126P045	4	Sample
2	Vial 18	gc119p172 #C4 ENV(1=600,2=400)	GC126P045	3	Sample
3	Vial 18	gc119p172 #C3 ENV(1=900,2=100)	GC126P045	3	Sample
4	Vial 18	gc119p172 #C2 ENV(1=950,2=50)	GC126P045	3	Sample
5	Vial 18	gc119p172 #C1 ENV(1=980,2=20)	GC126P045	3	Sample
6	Vial 18	gc119p172 #C0 ENV(1=3990,2=20)	GC126P045	7	Sample
7	Vial 18	gc119p176 #I5 ENV(1=0,5=350)	GC126P045	4	Sample
8	Vial 18	gc119p176 #I4 ENV(1=600,5=400)	GC126P045	3	Sample
9	Vial 18	gc119p176 #I3 ENV(1=900,5=100)	GC126P045	3	Sample
10	Vial 18	gc119p176 #I2 ENV(1=960,5=40)	GC126P045	3	Sample
11	Vial 18	gc119p176 #I1 ENV(1=1010,5=20)	GC126P045	3	Sample
12	Vial 18	gc119p176 #I0 ENV(1=1980,5=20)	GC126P045	9	Sample
13	Vial 18	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
14	Vial 18	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
15	Vial 18	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
16	Vial 18	gc126p045 #A2 ENV(1=950,6=50)	GC126P045	3	Sample
17	Vial 18	gc126p045 #A1 ENV(1=980,6=20)	GC126P045	8	Sample
18	Vial 17	Pause	PAUSE	1	Sample
19	Vial 18	gc126p045 #A5 ENV(1=0,6=400)	GC126P045	4	Sample
20	Vial 18	gc126p045 #A4 ENV(1=600,6=400)	GC126P045	3	Sample
21	Vial 18	gc126p045 #A3 ENV(1=900,6=100)	GC126P045	3	Sample
22	Vial 18	gc126p045 #A2 ENV(1=985,6=15)	GC126P045	3	Sample
23	Vial 18	gc126p045 #A1 ENV(1=2480,6=20)	GC126P045	8	Sample
24	Vial 17	Pause	PAUSE	1	Sample

ISO 9001:2008 Linde **SPECTRA** Environmental Gases, 80 Industrial Drive, Alpha, NJ 08865

THE LINDE GROUP

Linde

SHIPPED TO: Enthalpy Analytical, Inc
2202 Ellis Road
Durham, NC 27703-5521

PAGE: 1 of 1

CERTIFICATE OF ANALYSIS

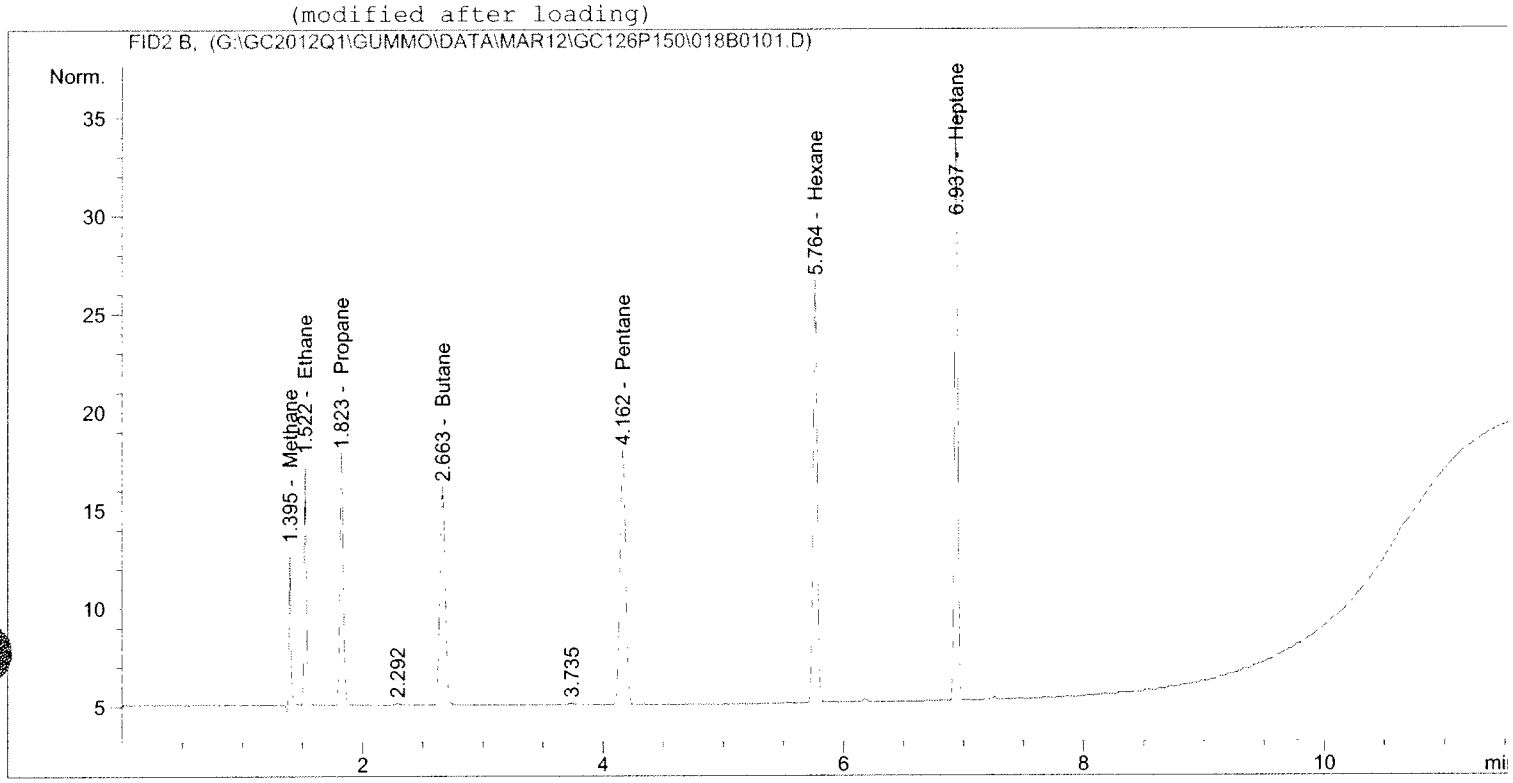
Sales#:	108129258	**Cylinder Size:**	2 (9" X 51")
Production#:	1178675	**Cylinder # :**	9166603
Certification Date:	May-20-2011	**Cylinder Pressure:**	850 psig
P.O.# :	C05031101GAT	**Cylinder Valve:**	CGA 350 / Steel
Blend Type:	CERTIFIED	**Cylinder Volume:**	44 Liter
Material#:	24087889	**Cylinder Material:**	Steel
Traceability:	NIST by weight	**Gas Volume:**	2540 Liter
Expiration Date:	May-20-2012	**Blend Tolerance:**	5% Relative
Do NOT use under:	150 psig	**Analytical Accuracy:**	2% Relative

COMPONENT	CAS NUMBER	REQUESTED CONC	CERTIFIED CONC
1,3-Butadiene	106-99-0	500 ppm	508 ppm
Acrolein	107-02-8	500 ppm	501 ppm
Acetone	67-64-1	500 ppm	495 ppm
Methylene Chloride	75-09-2	500 ppm	500 ppm
Hexane	110-54-3	500 ppm	501 ppm
Benzene	71-43-2	500 ppm	505 ppm
Trichloroethene	79-01-6	500 ppm	507 ppm
Toluene	108-88-3	500 ppm	508 ppm
Nitrogen	7727-37-9	Balance	Balance

ANALYST: Lou Lorenzetti

DATE: May-20-2011

```
Acq. Operator    : mth                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 09:56:58                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```



External Standard Report

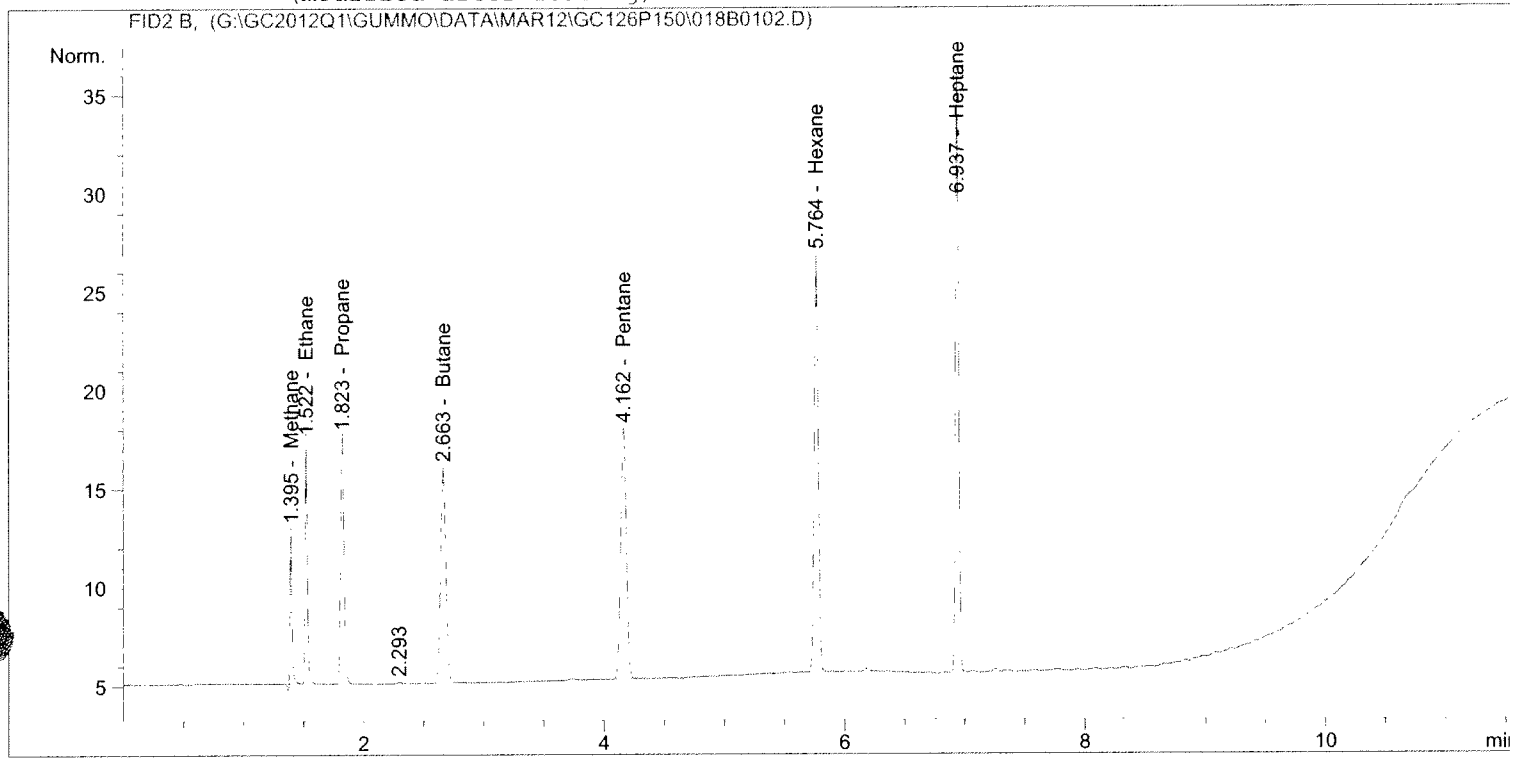
```
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.395	BV	8.94372	4.22556	37.79227		Methane
1.522	VB	17.07364	2.24274	38.29168		Ethane
1.823	BB	25.60440	1.49652	38.31737		Propane
2.663	BB	33.87504	1.12934	38.25651		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162	BB	42.21519	9.22909e-1	38.96080		Pentane
5.764	BB	50.83881	7.61192e-1	38.69810		Hexane
6.937	BB	57.99210	6.62508e-1	38.42022		Heptane

```
Totals :                                  268.73694
```

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :   1
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 10:16:21                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```



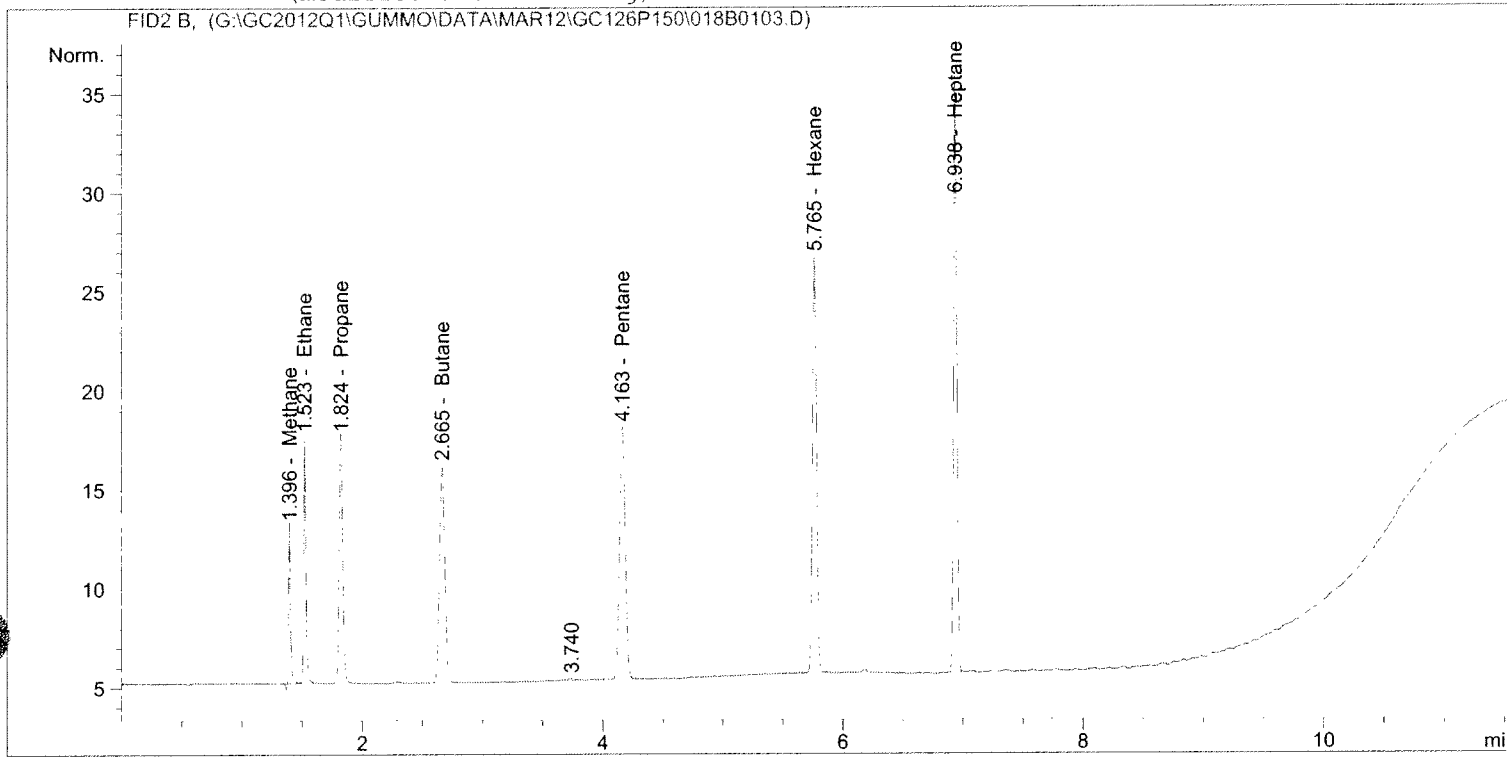

```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.395	BV	8.83005	4.22627	37.31822		Methane
1.522	VB	16.88642	2.24288	37.87417		Ethane
1.823	BB	25.22030	1.49666	37.74630		Propane
2.663	BB	33.43810	1.12943	37.76606		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.162	BB	41.78795	9.22799e-1	38.56190		Pentane
5.764	BB	50.09181	7.61168e-1	38.12828		Hexane
6.937	BB	57.23919	6.62567e-1	37.92480		Heptane
Totals :				265.31973		

```
==============================================================================
Acq. Operator   : mth                                  Seq. Line :   1
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 01-Mar-12, 10:35:50                       Inj :   3
                                                      Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```



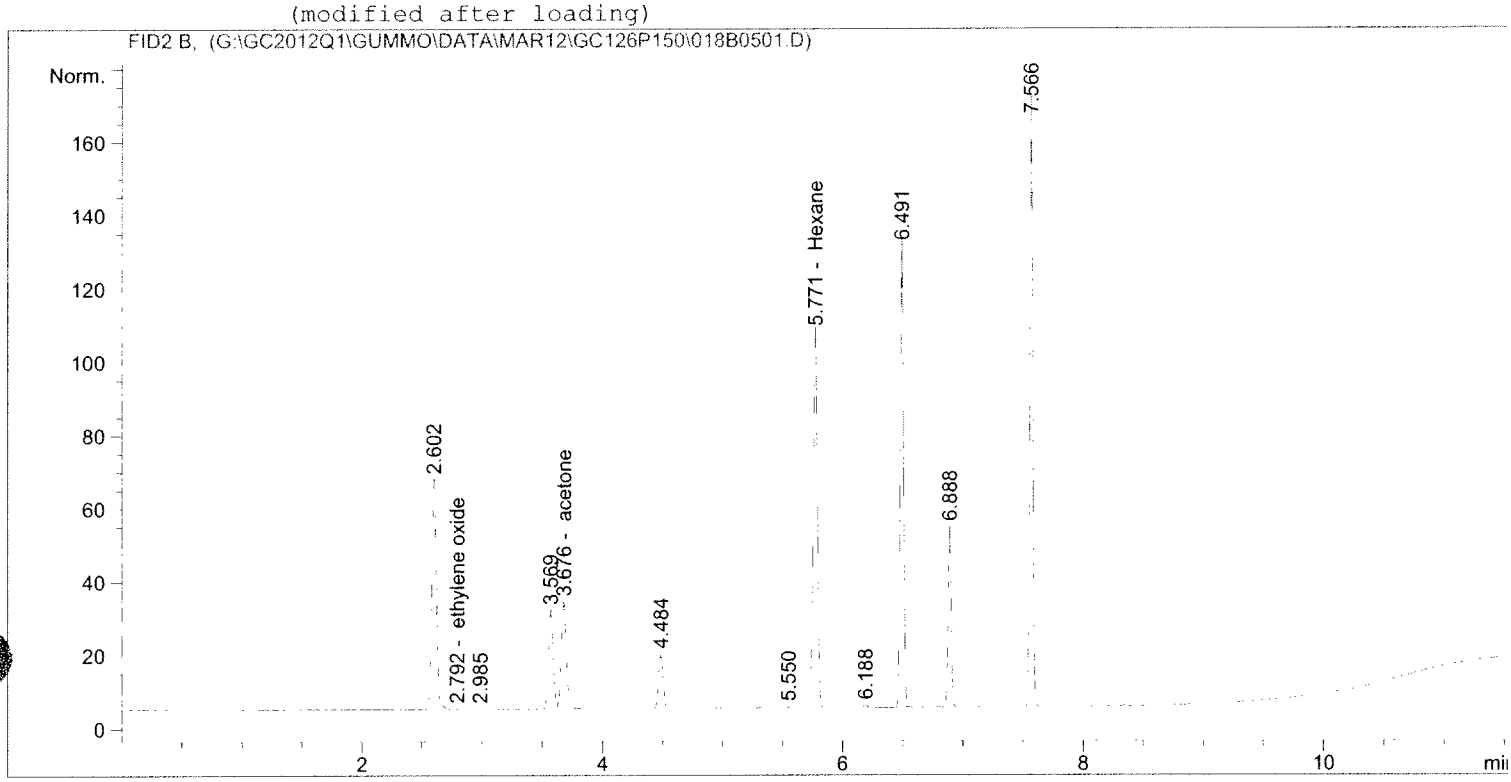

```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	BV	8.80321	4.22644	37.20626		Methane
1.523	VB	16.81505	2.24293	37.71503		Ethane
1.824	BP	25.16667	1.49668	37.66655		Propane
2.665	BB	33.31759	1.12946	37.63080		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.163	BB	41.71740	9.22781e-1	38.49603		Pentane
5.765	BB	49.94987	7.61163e-1	38.02001		Hexane
6.938	BB	57.11596	6.62577e-1	37.84370		Heptane
Totals :				264.57839		

```
================================================================================
Acq. Operator   : mth                                  Seq. Line :   5
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 01-Mar-12, 12:17:46                       Inj :   1
                                                      Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

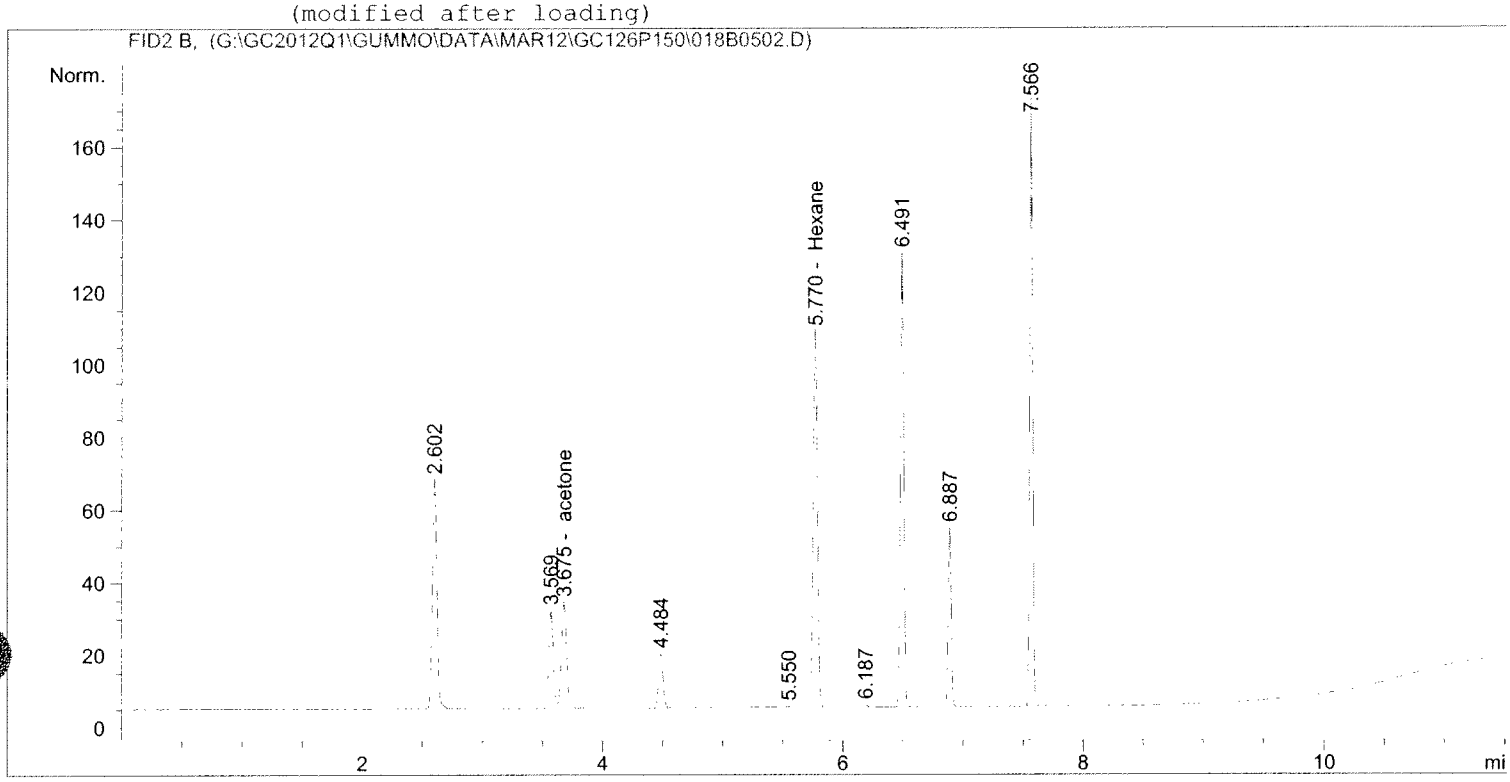
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.792 VB    4.42300e-1    4.56699    2.01998     ethylene oxide
  3.676 VB      85.25067    2.17976  185.82636     acetone
  4.162           -           -          -          Pentane
  5.771 BB    244.71661 7.62464e-1  186.58749     Hexane
  6.922           -           -          -          Heptane

Totals :                              374.43383
```

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 12:42:00                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

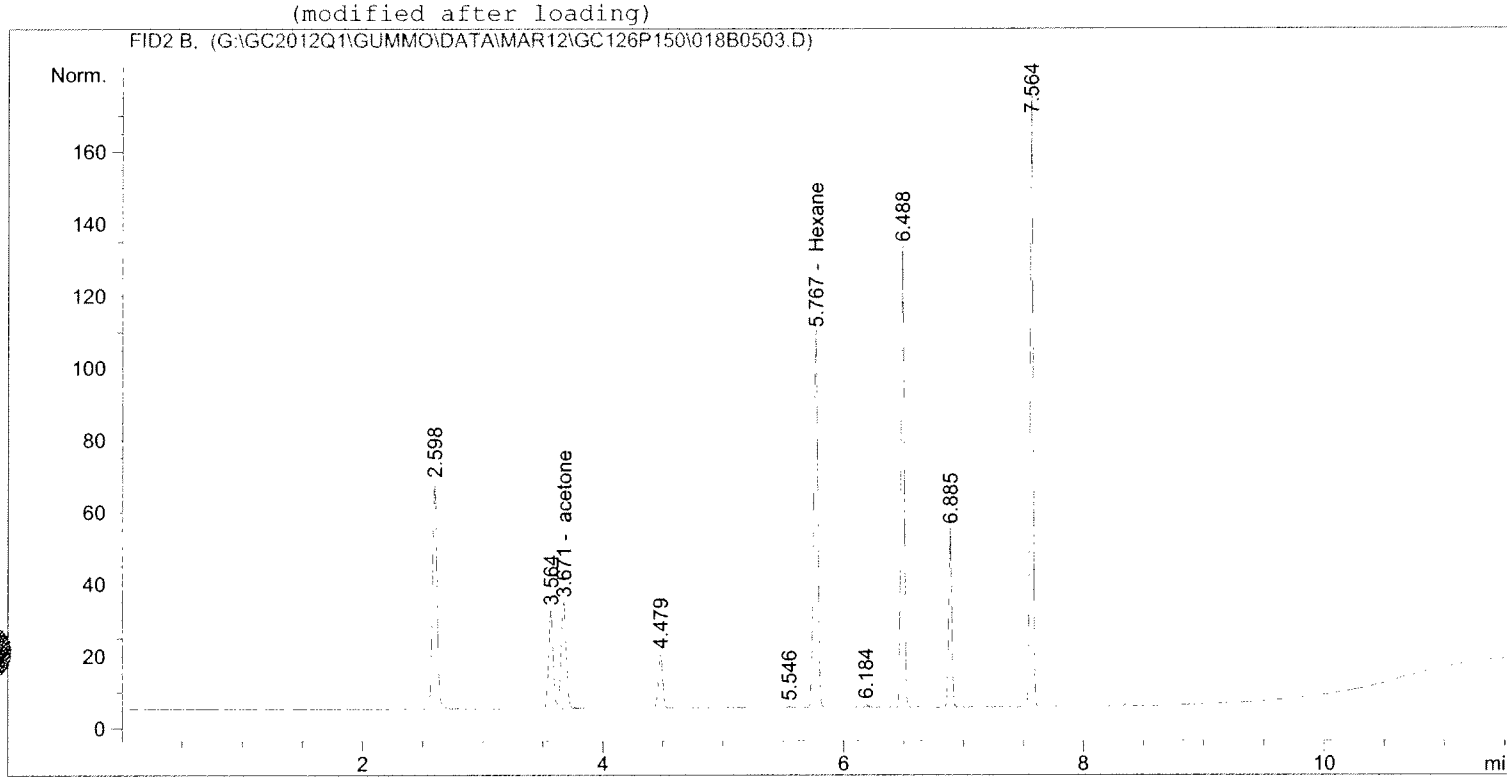
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.675 VB       85.32877    2.17976  185.99638     acetone
  4.162           -           -          -          Pentane
  5.770 BB      245.84583 7.62465e-1  187.44885     Hexane
  6.922           -           -          -          Heptane

Totals :                              373.44522
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :   5
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 13:01:25                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

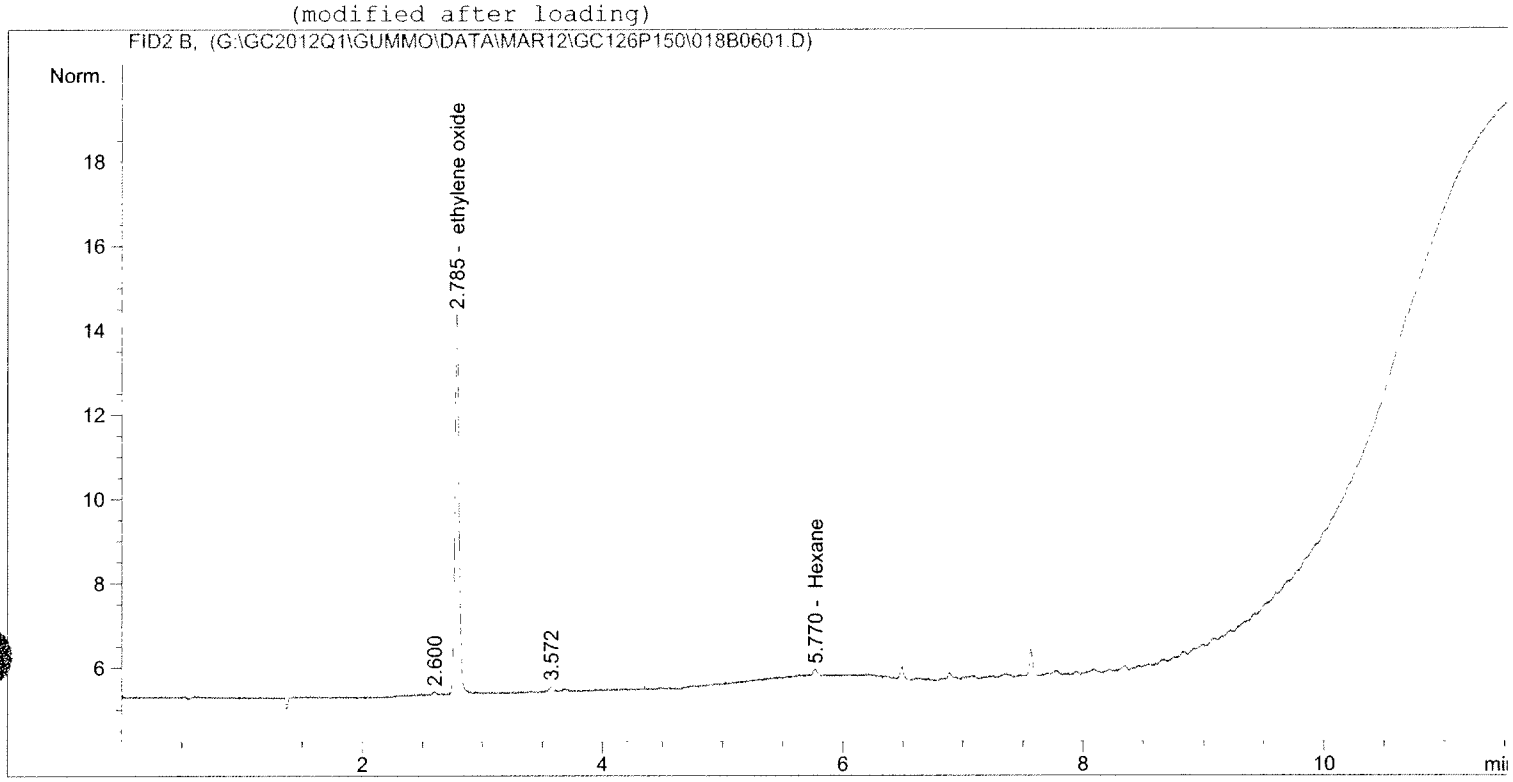
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.671 VB       85.96233    2.17974  187.37568     acetone
  4.162           -           -          -          Pentane
  5.767 BB      247.29727 7.62467e-1  188.55600     Hexane
  6.922           -           -          -          Heptane

Totals :                                375.93169
```

```
==========================================================================
Acq. Operator    : mth                                Seq. Line :   6
Acq. Instrument  : Gummo                               Location : Vial 18
Injection Date   : 01-Mar-12, 13:21:03                     Inj :   1
                                                    Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

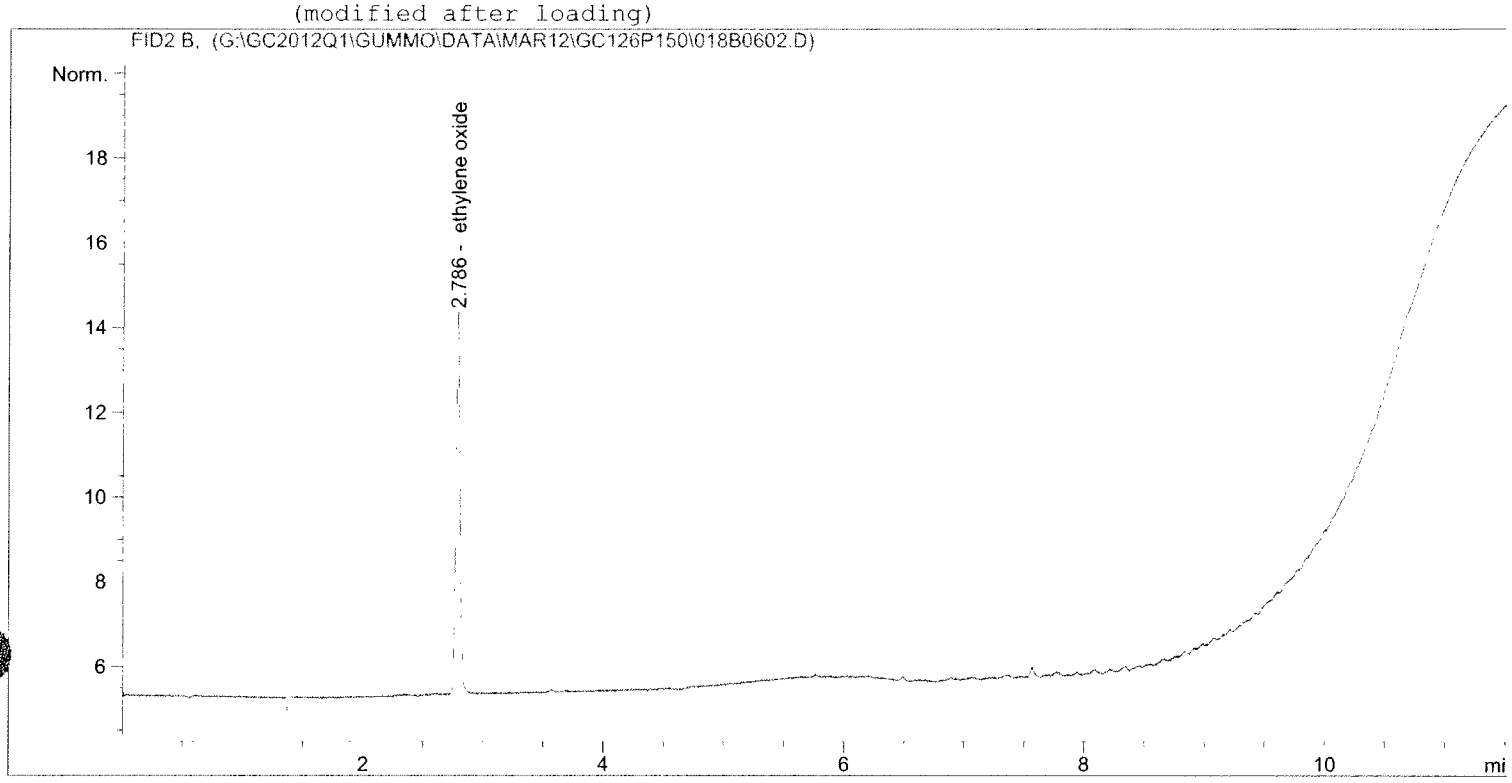
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.785 BB       21.87920    4.49518   98.35090    ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770 BB     4.21605e-1 7.32896e-1 3.08992e-1    Hexane
  6.922           -           -          -          Heptane

Totals :                                98.65989
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 13:40:57                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

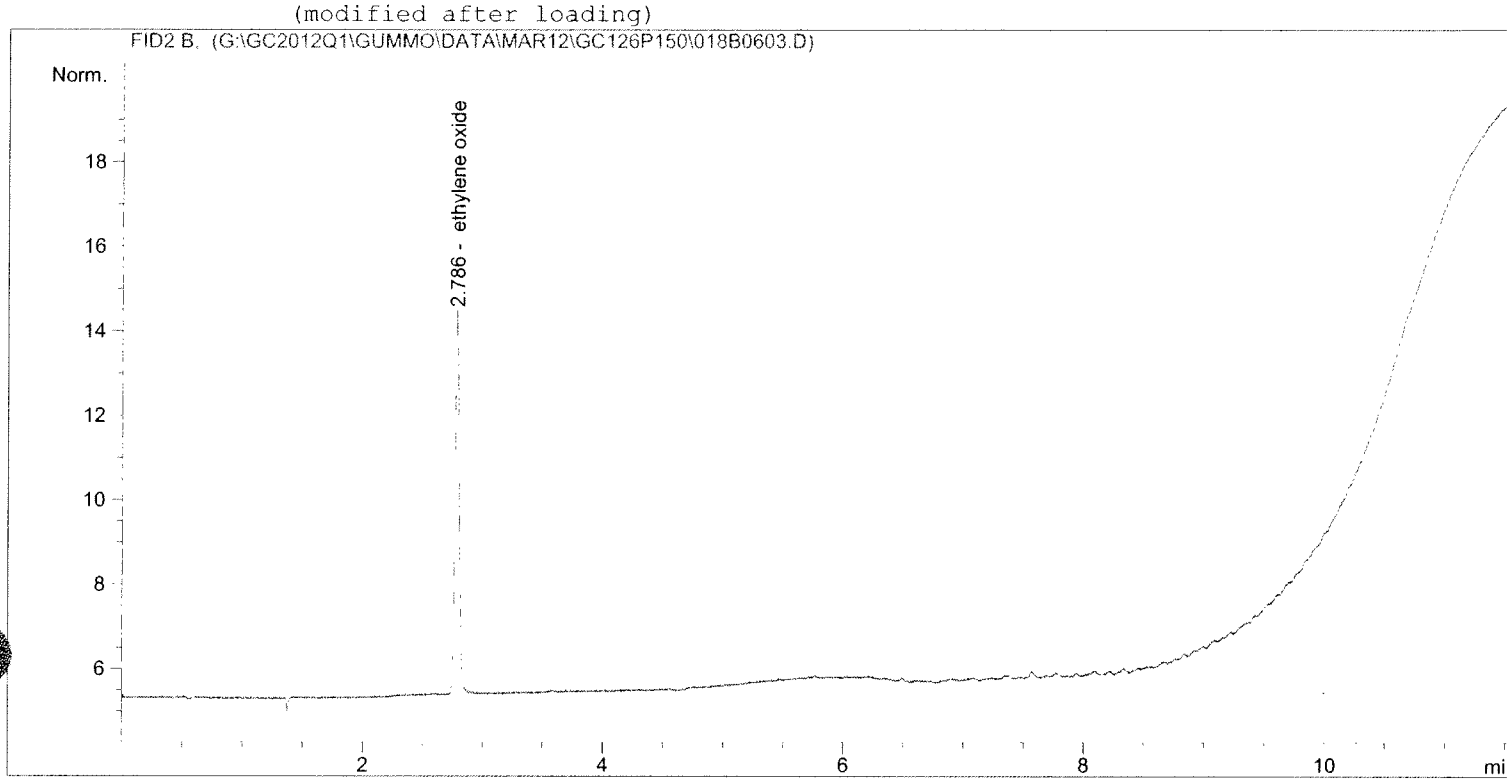
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.786 BB     21.78323    4.49518   97.91962      ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                97.91962
```

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :   6
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 14:00:36                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

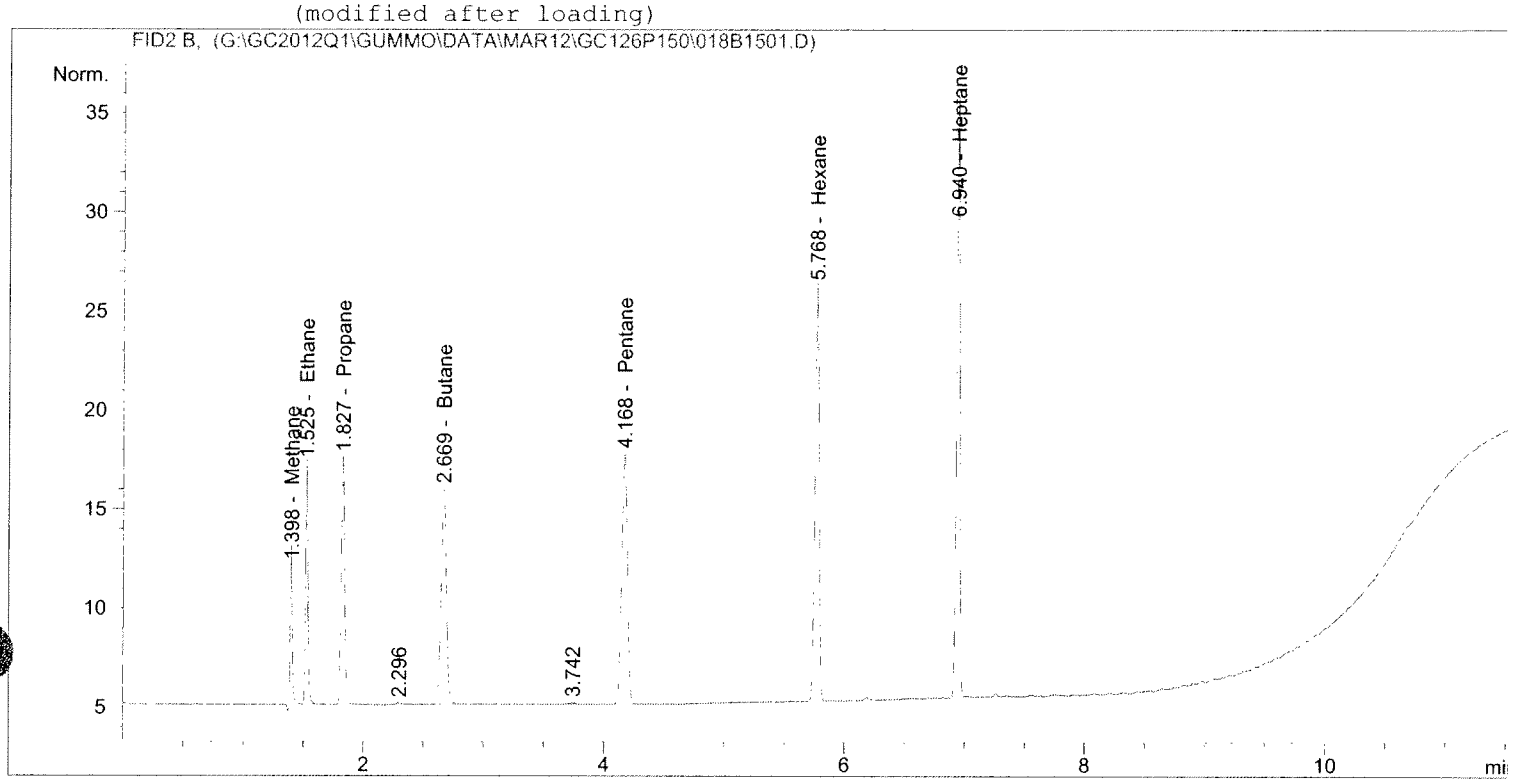
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.786 BB     21.87739    4.49518   98.34278      ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                98.34278
```

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :  15
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 21:04:49                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```



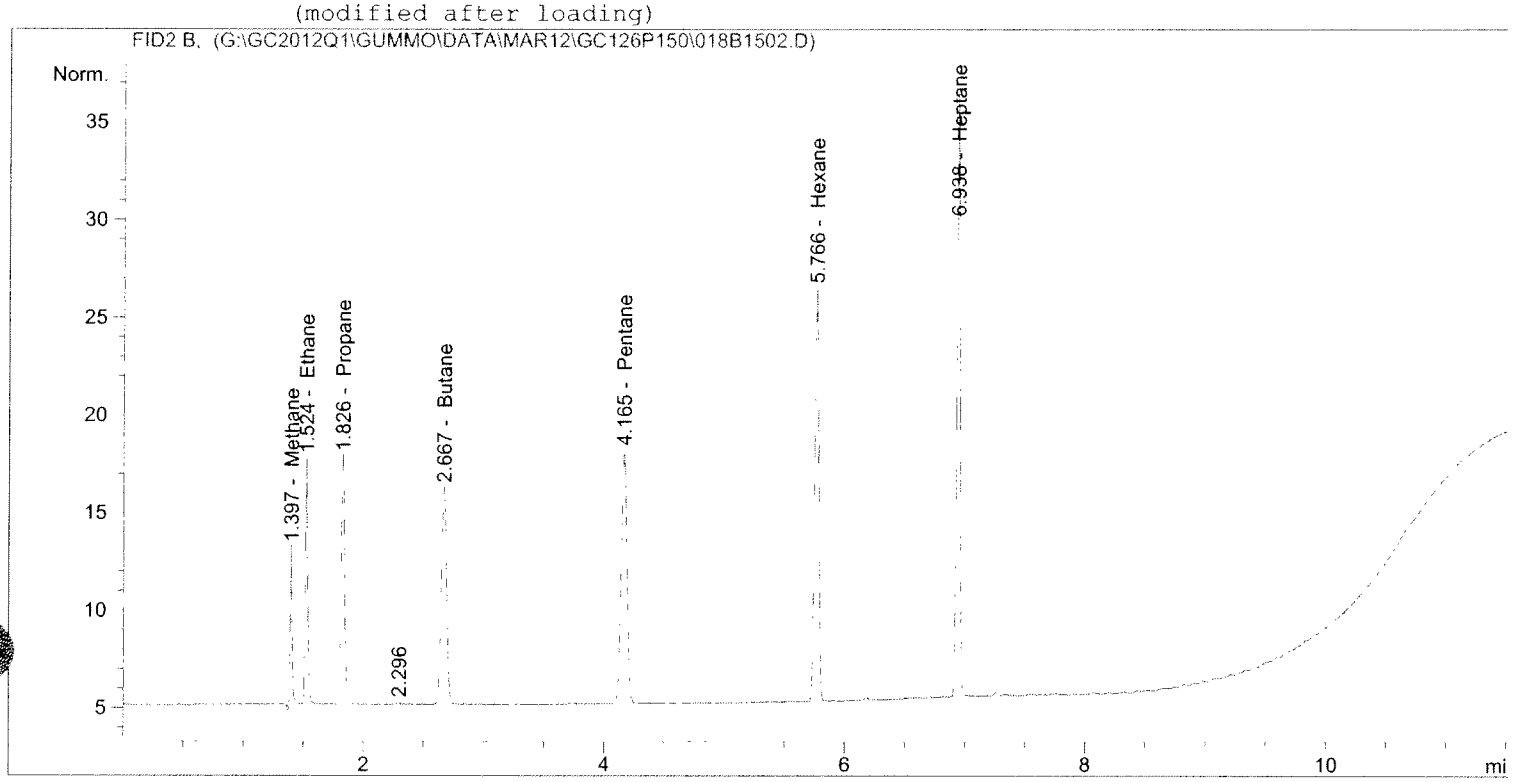

```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398	BB	8.81715	4.22635	37.26441		Methane
1.525	BB	16.76162	2.24297	37.59587		Ethane
1.827	BB	25.10098	1.49671	37.56889		Propane
2.669	BB	33.29086	1.12946	37.60080		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.168	BB	41.44977	9.22711e-1	38.24615		Pentane
5.768	BB	49.83162	7.61160e-1	37.92981		Hexane
6.940	BB	57.04585	6.62582e-1	37.79757		Heptane
Totals :				264.00351		

```
==============================================================================
Acq. Operator   : mth                                  Seq. Line :  15
Acq. Instrument : Gummo                                 Location : Vial 18
Injection Date  : 01-Mar-12, 21:51:17                       Inj :   2
                                                      Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

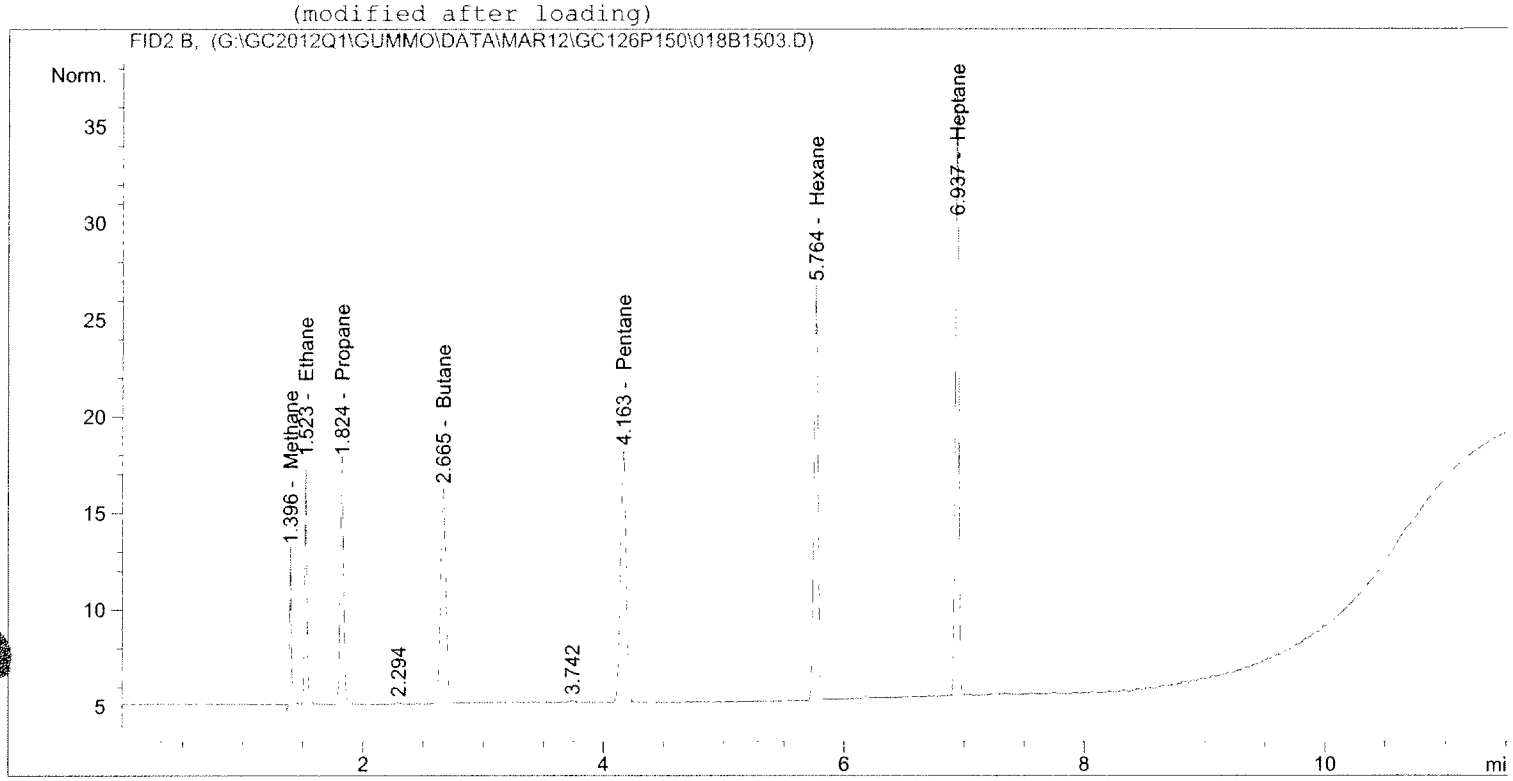
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.397 BV        9.00010    4.22522   38.02740    Methane
  1.524 VB       17.08876    2.24273   38.32540    Ethane
  1.826 BB       25.57293    1.49653   38.27058    Propane
  2.667 BB       33.91005    1.12933   38.29580    Butane
  2.780             -           -         -        ethylene oxide
  3.671             -           -         -        acetone
  4.165 BB       42.25766 9.22920e-1   39.00044    Pentane
  5.766 BB       50.52378 7.61182e-1   38.45779    Hexane
  6.938 BB       58.11101 6.62499e-1   38.49846    Heptane

Totals :                              268.87587
```

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  15
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 22:37:34                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

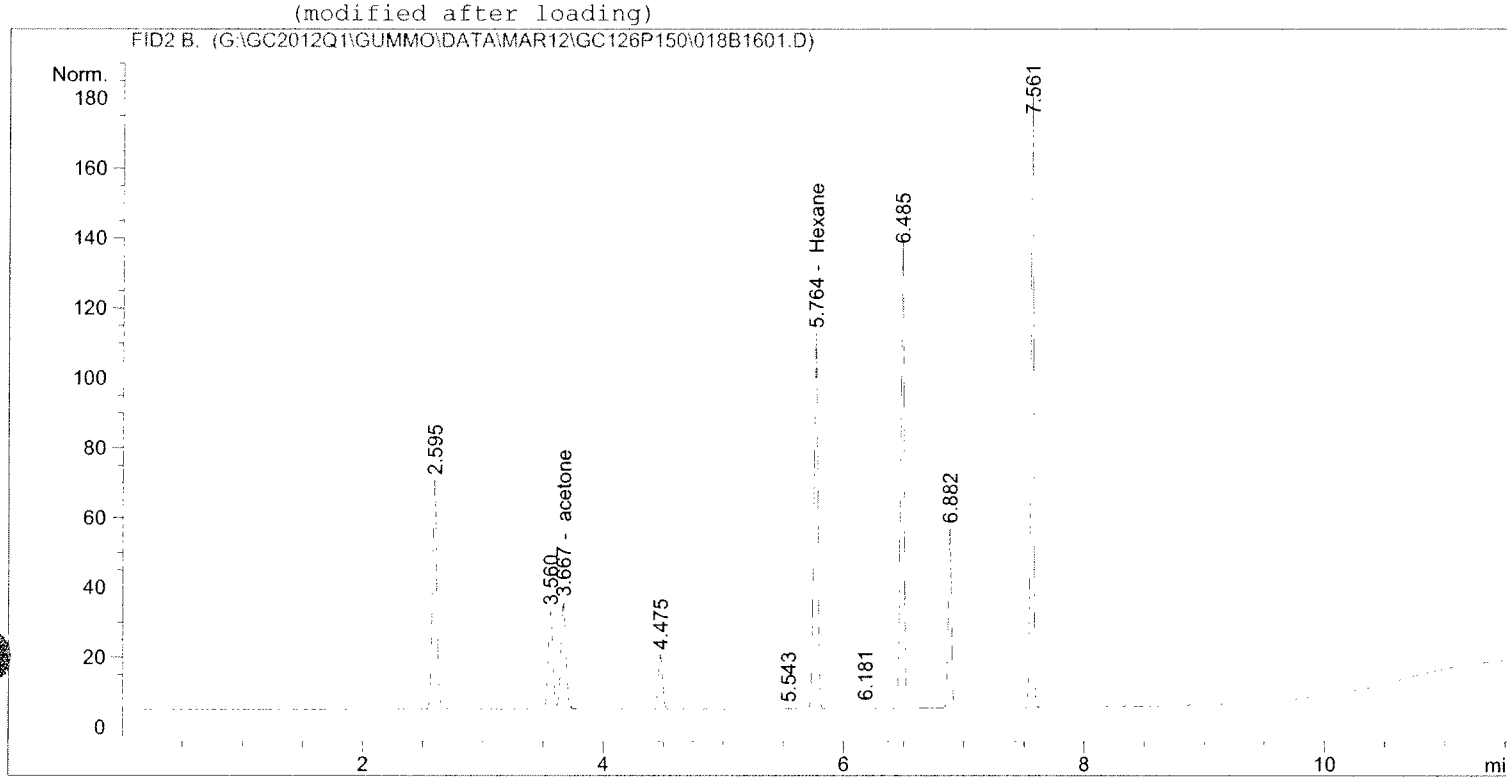
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	BV	8.92132	4.22570	37.69883		Methane
1.523	VB	17.06864	2.24274	38.28053		Ethane
1.824	BB	25.60895	1.49651	38.32413		Propane
2.665	BB	33.94221	1.12933	38.33190		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.163	BB	42.44877	9.22968e-1	39.17888		Pentane
5.764	BB	50.72183	7.61188e-1	38.60886		Hexane
6.937	BB	58.22912	6.62489e-1	38.57618		Heptane

Totals : 268.99931

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  16
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 01-Mar-12, 23:23:54                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

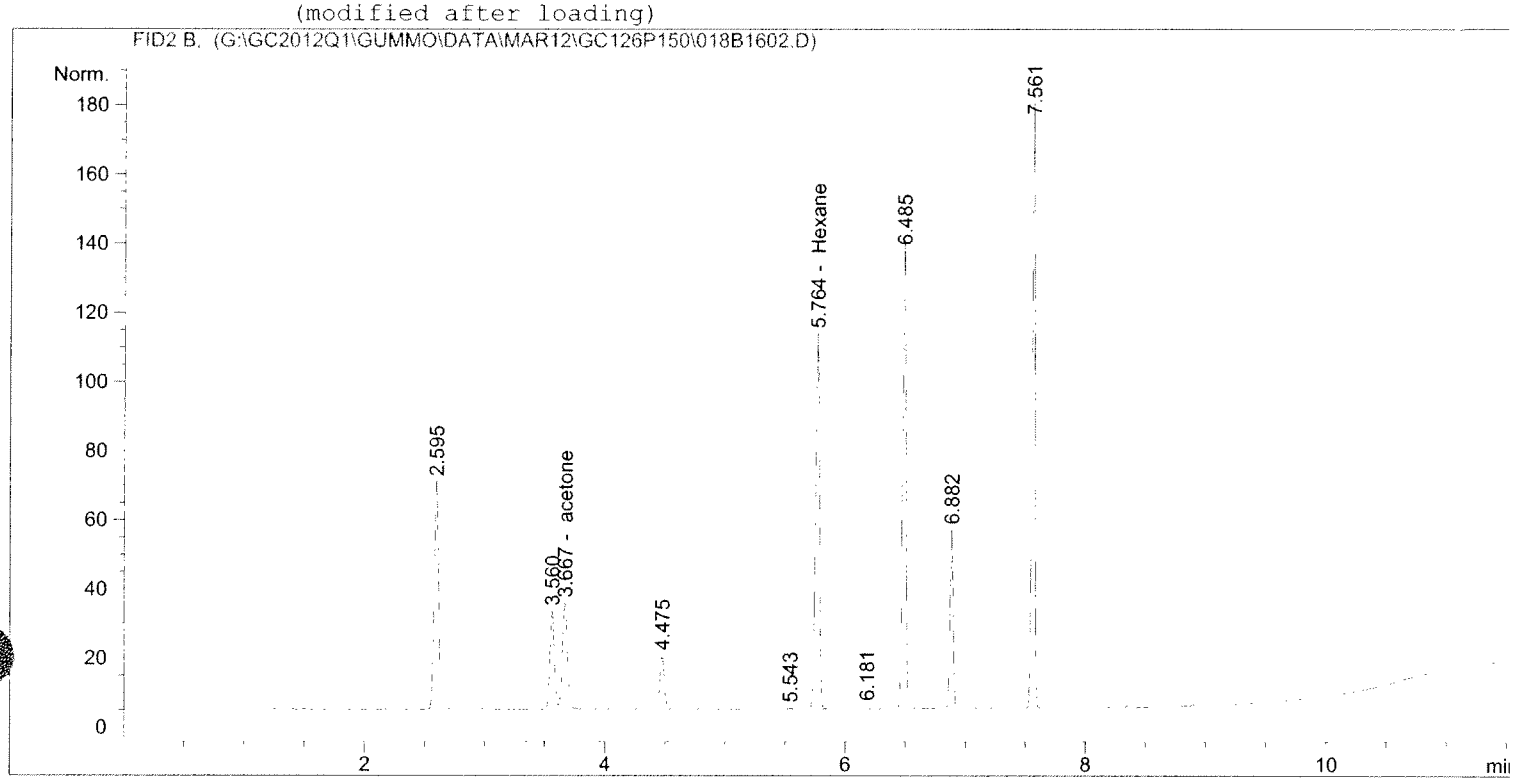
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.667 VB       89.01473    2.17965  194.02100     acetone
  4.162           -           -          -          Pentane
  5.764 BB      254.32945 7.62476e-1  193.92013     Hexane
  6.922           -           -          -          Heptane

Totals :                              387.94113
```

```
Acq. Operator    : mth                                  Seq. Line :  16
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 00:10:06                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```



External Standard Report

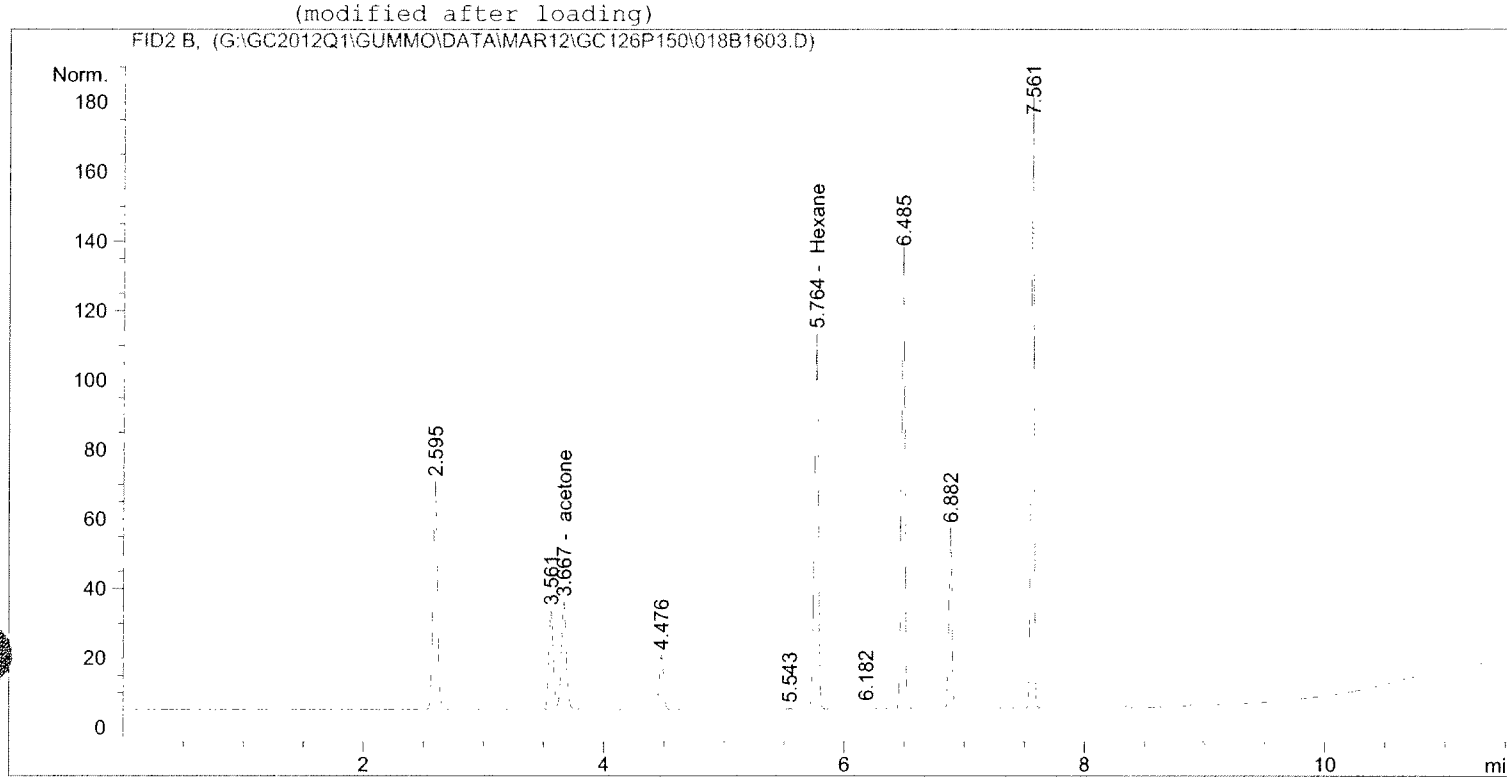
```
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.667	VB	89.53492	2.17964	195.15349		acetone
4.162		-	-	-		Pentane
5.764	BB	256.54321	7.62479e-1	195.60878		Hexane
6.922		-	-	-		Heptane

Totals : 390.76227

```
==========================================================================
Acq. Operator   : mth                                 Seq. Line :  16
Acq. Instrument : Gummo                               Location : Vial 18
Injection Date  : 02-Mar-12, 00:56:30                      Inj :   3
                                                    Inj Volume : External
Acq. Method     : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed    : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed    : 3/8/2012 8:36:37 AM by mth
                  (modified after loading)
```




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==========================================================================
                        External Standard Report
==========================================================================

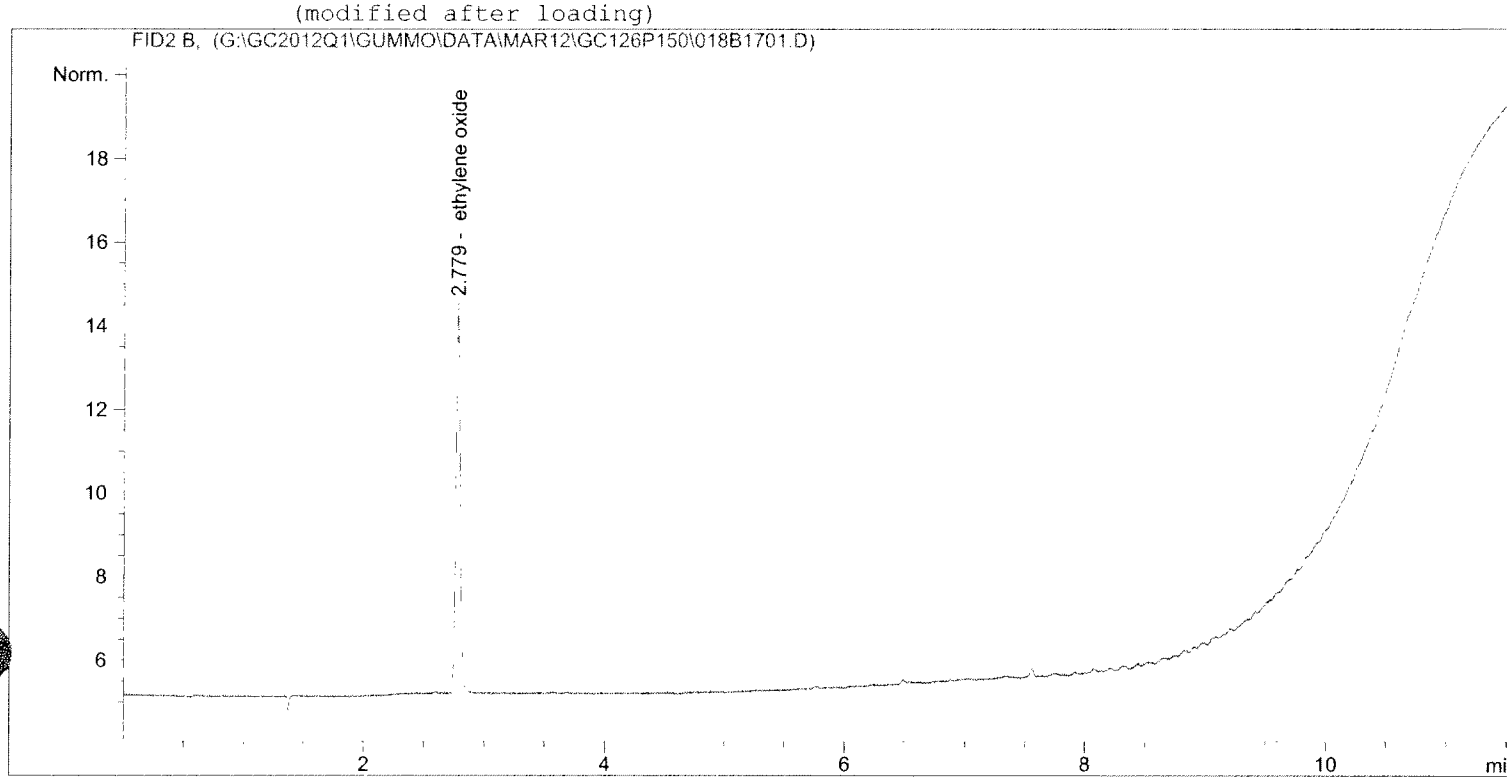
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.667 VB     89.75771    2.17963  195.63853       acetone
  4.162           -           -          -          Pentane
  5.764 BB    255.82172 7.62478e-1  195.05843       Hexane
  6.922           -           -          -          Heptane

Totals :                              390.69695
```

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :  17
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 01:42:44                       Inj :   1
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

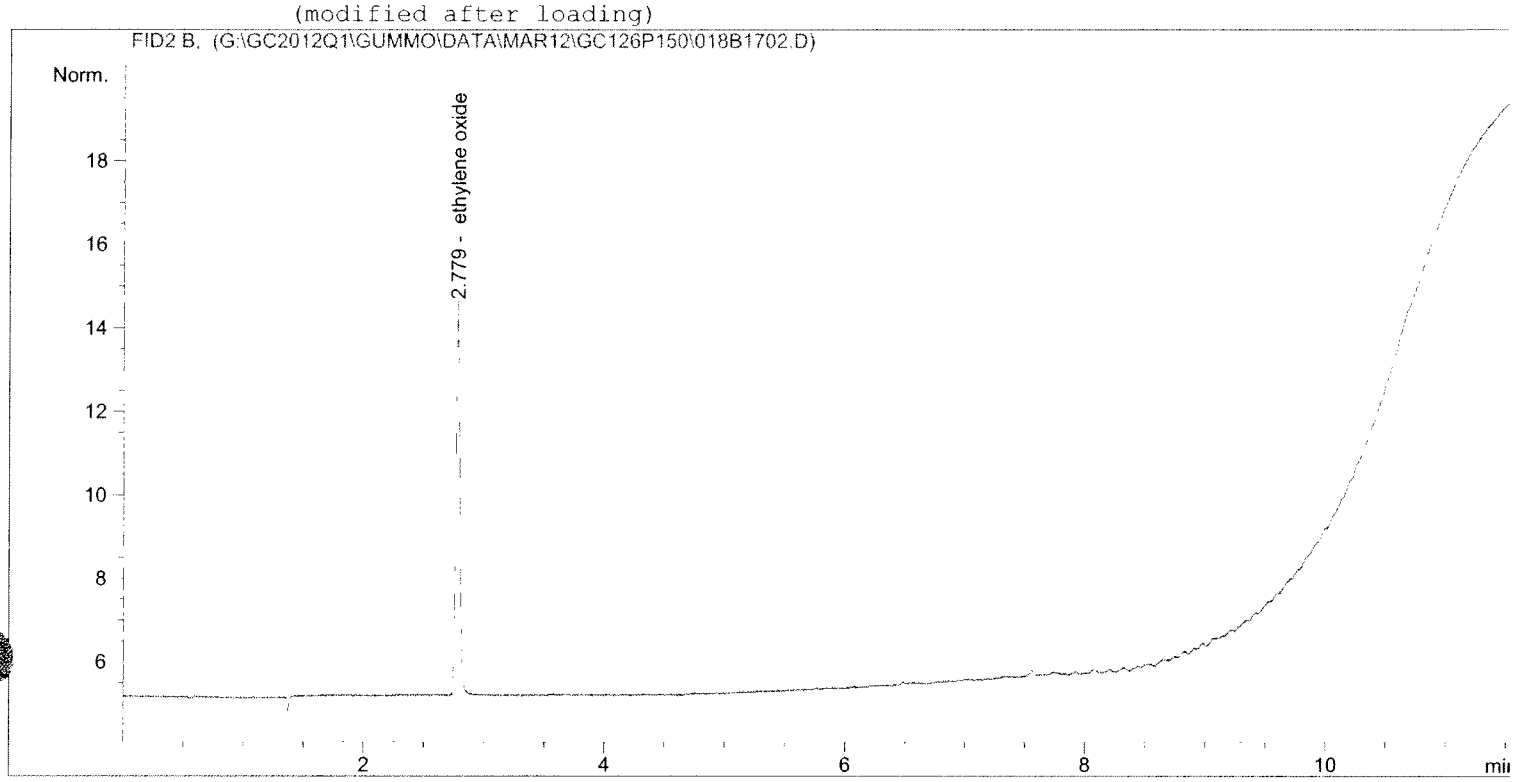
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -         Methane
  1.533           -          -          -         Ethane
  1.839           -          -          -         Propane
  2.663           -          -          -         Butane
  2.779 BB      22.82236    4.49512  102.58915    ethylene oxide
  3.671           -          -          -         acetone
  4.162           -          -          -         Pentane
  5.770           -          -          -         Hexane
  6.922           -          -          -         Heptane

Totals :                                102.58915
```

```
==========================================================================
Acq. Operator    : mth                                Seq. Line :  17
Acq. Instrument  : Gummo                               Location : Vial 18
Injection Date   : 02-Mar-12, 02:28:57                      Inj :   2
                                                    Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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==========================================================================
                        External Standard Report
==========================================================================

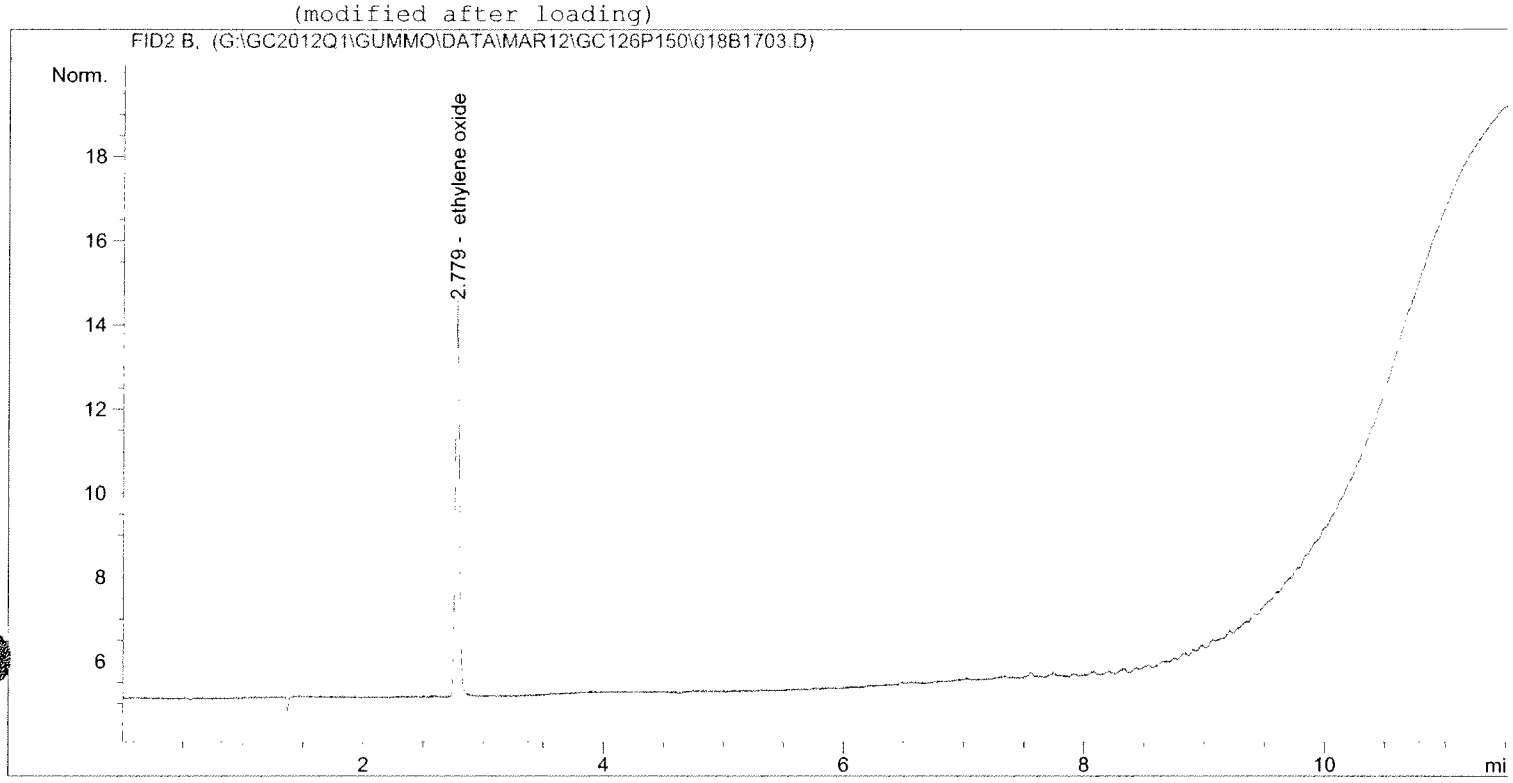
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -          Methane
  1.533           -          -          -          Ethane
  1.839           -          -          -          Propane
  2.663           -          -          -          Butane
  2.779 BB      22.75168   4.49512  102.27154      ethylene oxide
  3.671           -          -          -          acetone
  4.162           -          -          -          Pentane
  5.770           -          -          -          Hexane
  6.922           -          -          -          Heptane

Totals :                                102.27154
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  17
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 03:15:06                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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==============================================================================
                        External Standard Report
==============================================================================

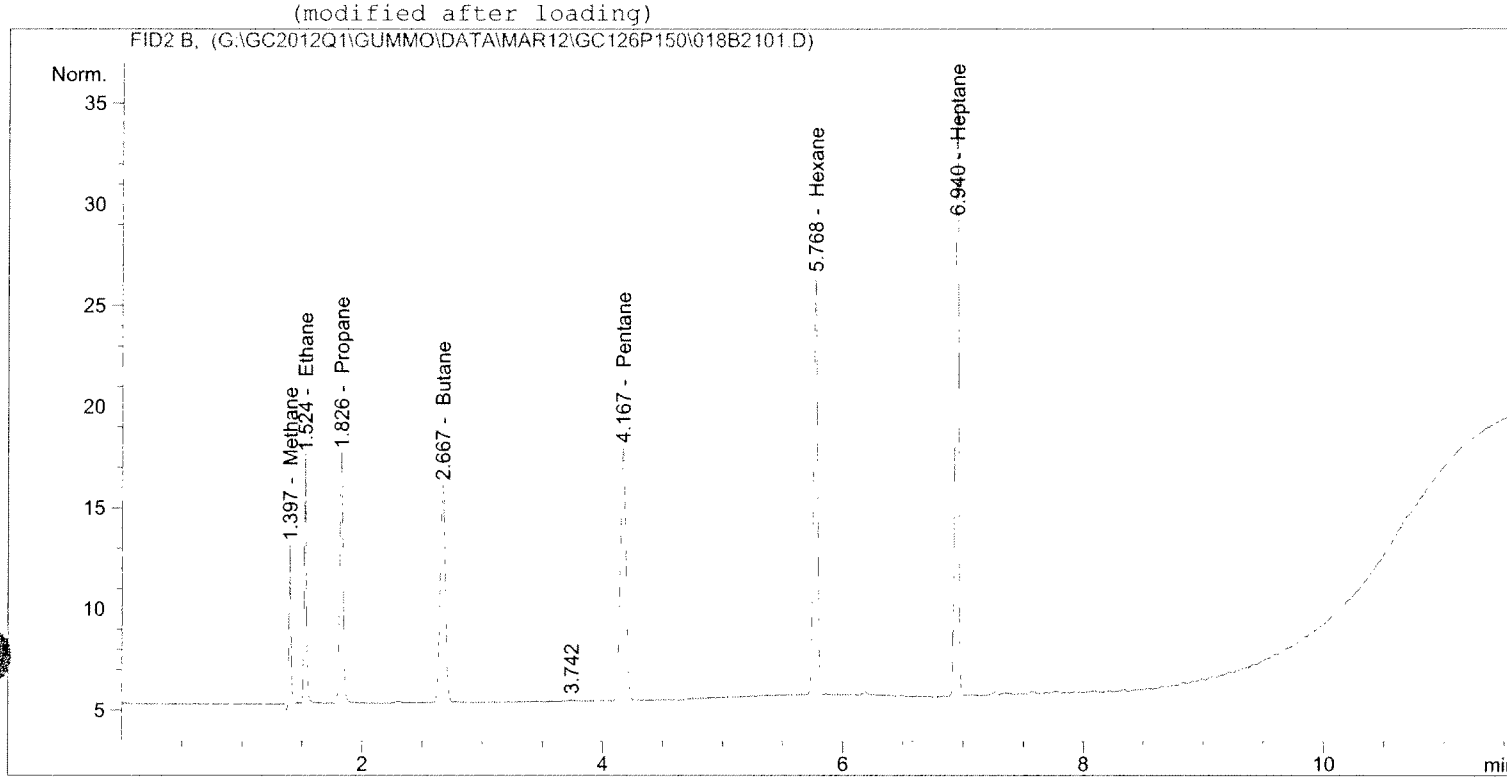
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -          -          -         Methane
  1.533           -          -          -         Ethane
  1.839           -          -          -         Propane
  2.663           -          -          -         Butane
  2.779 BB      22.61884    4.49513  101.67463    ethylene oxide
  3.671           -          -          -         acetone
  4.162           -          -          -         Pentane
  5.770           -          -          -         Hexane
  6.922           -          -          -         Heptane

Totals :                                 101.67463
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 17:27:01                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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==============================================================================
                        External Standard Report
==============================================================================

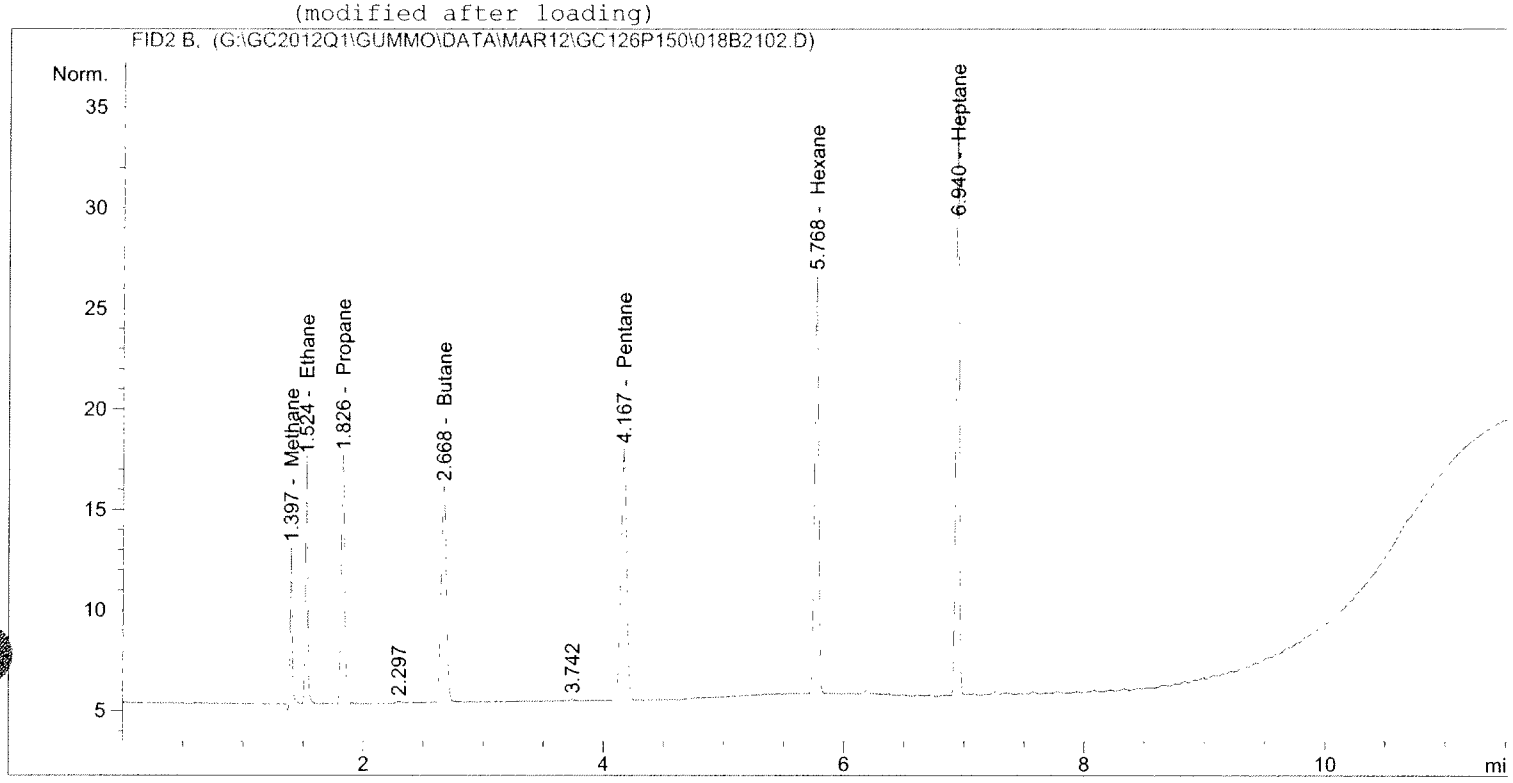
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.397 BB        8.62813    4.22758   36.47609    Methane
  1.524 BB       16.49604    2.24318   37.00365    Ethane
  1.826 BB       24.76842    1.49684   37.07444    Propane
  2.667 BB       32.79220    1.12957   37.04108    Butane
  2.780             -           -         -        ethylene oxide
  3.671             -           -         -        acetone
  4.167 BB       40.83367 9.22546e-1    37.67093    Pentane
  5.768 BB       48.96827 7.61131e-1    37.27125    Hexane
  6.940 BB       55.65956 6.62696e-1    36.88538    Heptane

Totals :                               259.42282
```

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 17:46:24                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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================================================================================
                        External Standard Report
================================================================================

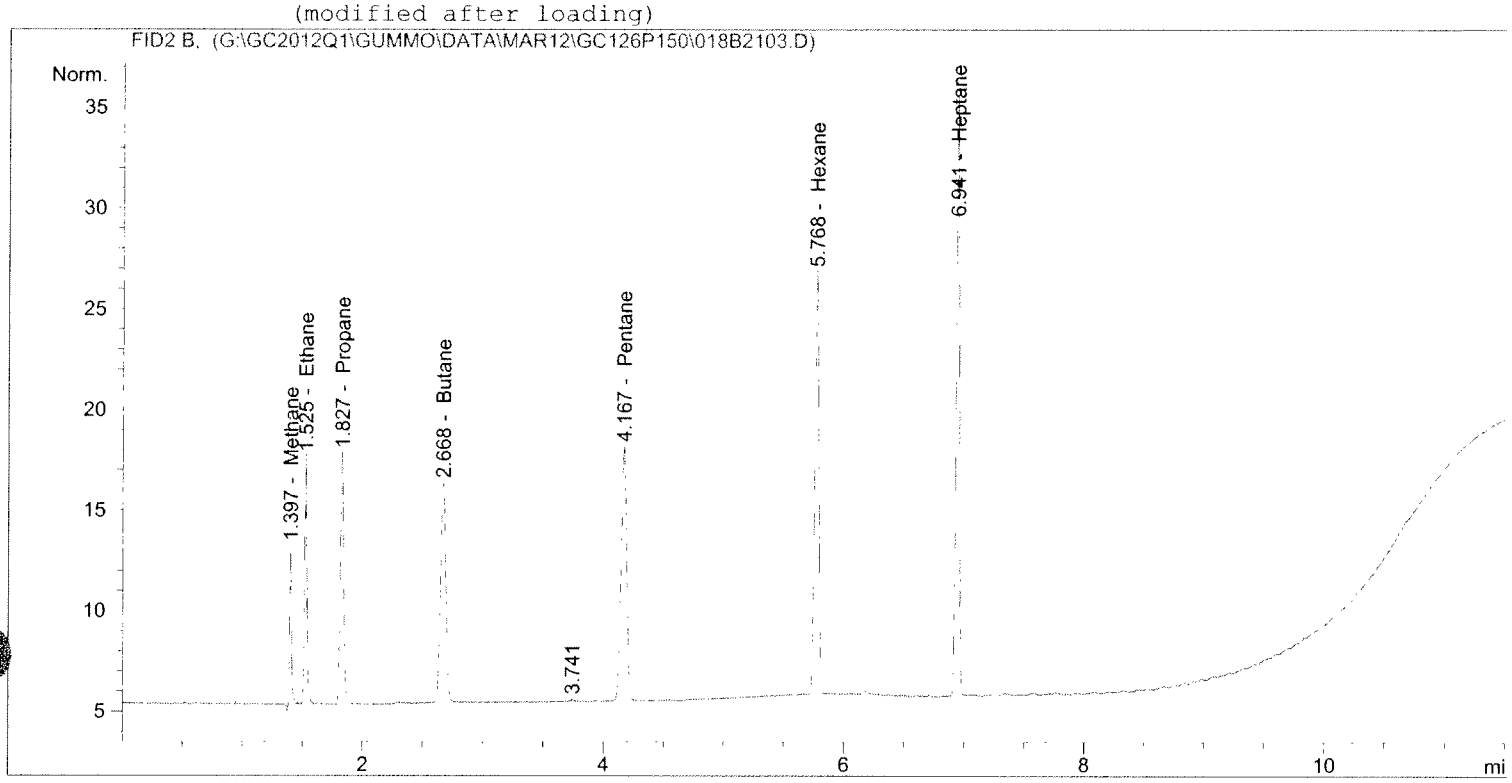
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.397	BV	8.68487	4.22720	36.71272		Methane
1.524	VB	16.49736	2.24318	37.00658		Ethane
1.826	BB	24.71646	1.49686	36.99719		Propane
2.668	BB	32.93549	1.12954	37.20191		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.167	BB	40.90481	9.22565e-1	37.73735		Pentane
5.768	BB	49.23266	7.61140e-1	37.47293		Hexane
6.940	BB	55.94320	6.62673e-1	37.07202		Heptane

Totals : 260.20070

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  21
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 18:05:57                       Inj :   3
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

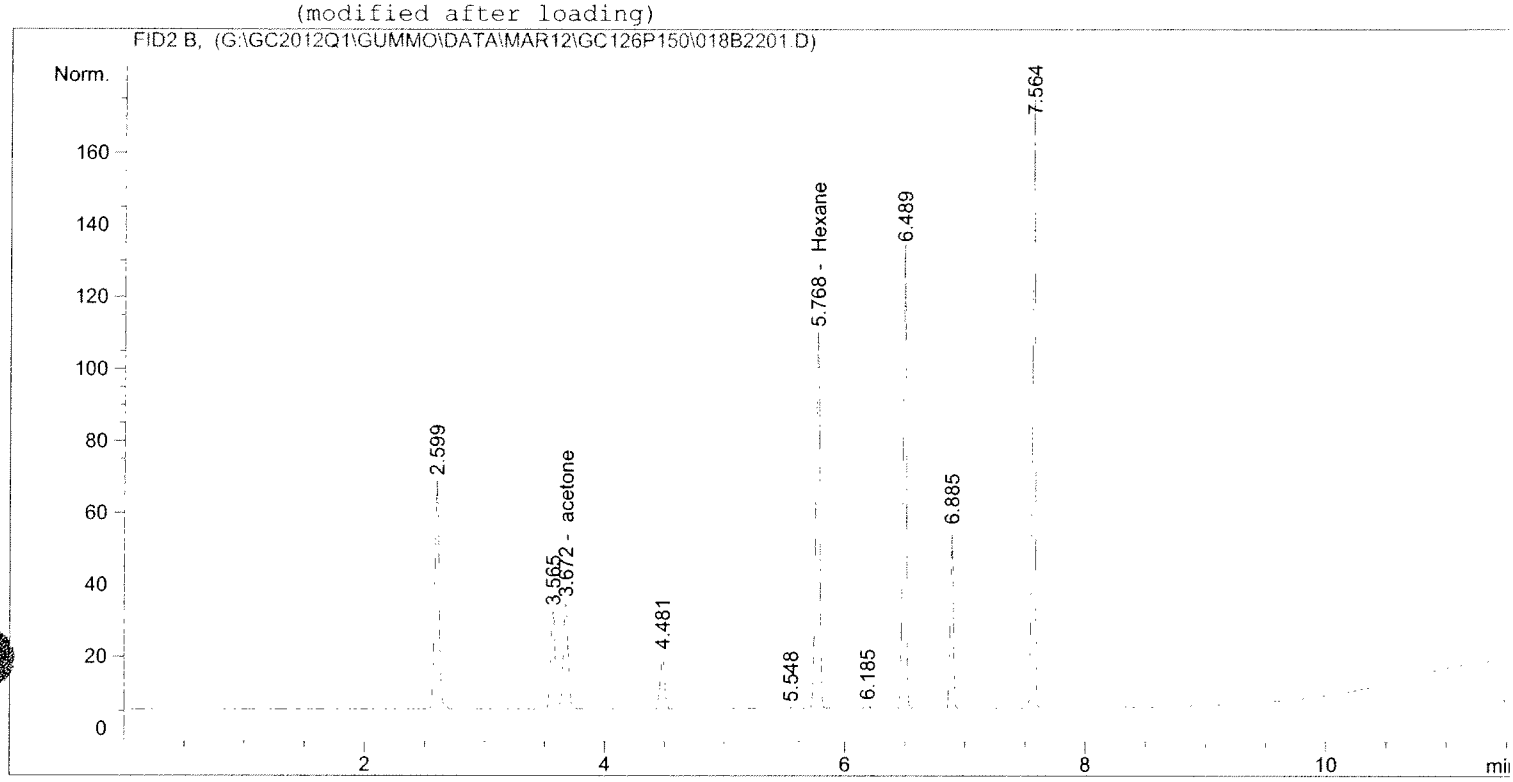
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.397 BV        8.77945    4.22659   37.10715    Methane
  1.525 VB       16.66138    2.24305   37.37236    Ethane
  1.827 BB       24.95849    1.49677   37.35704    Propane
  2.668 BB       33.30188    1.12946   37.61317    Butane
  2.780             -           -         -        ethylene oxide
  3.671             -           -         -        acetone
  4.167 BB       41.29627 9.22670e-1    38.10283    Pentane
  5.768 BB       49.74228 7.61157e-1    37.86167    Hexane
  6.941 BB       56.58067 6.62620e-1    37.49148    Heptane

Totals :                                262.90570
```

Acq. Operator : mth
Seq. Line : 22
Acq. Instrument : Gummo
Location : Vial 18
Injection Date : 02-Mar-12, 18:25:24
Inj : 1
Inj Volume : External
Acq. Method : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed : 12/14/2011 11:21:49 PM by SJE
Analysis Method : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed : 3/8/2012 8:36:37 AM by mth
(modified after loading)



External Standard Report

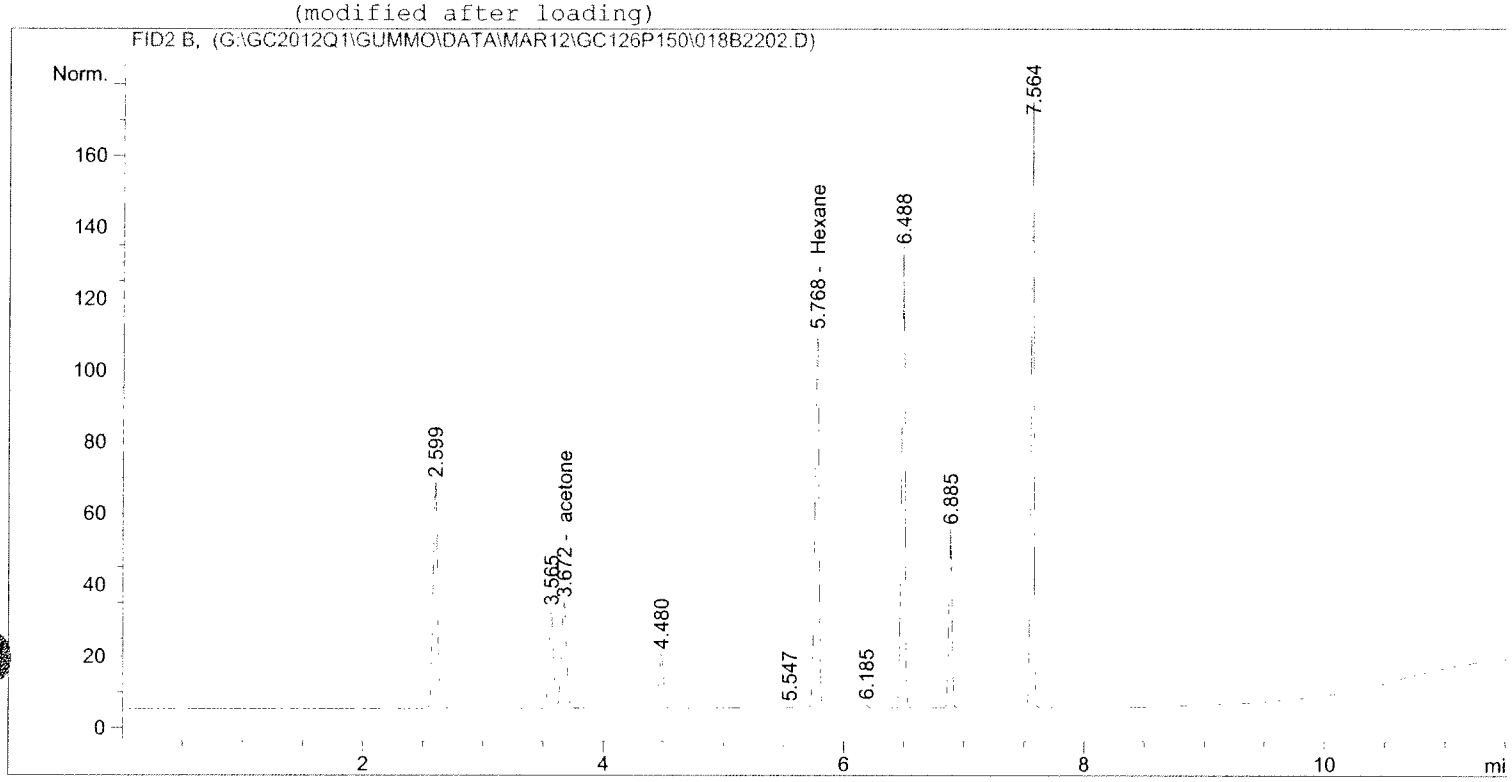
Sorted By : Signal
Calib. Data Modified : 3/8/2012 8:36:14 AM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.672	VB	86.19884	2.17973	187.89059		acetone
4.162		-	-	-		Pentane
5.768	BB	248.04912	7.62468e-1	189.12951		Hexane
6.922		-	-	-		Heptane

Totals : 377.02010

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 18:44:52                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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================================================================================
                        External Standard Report
================================================================================

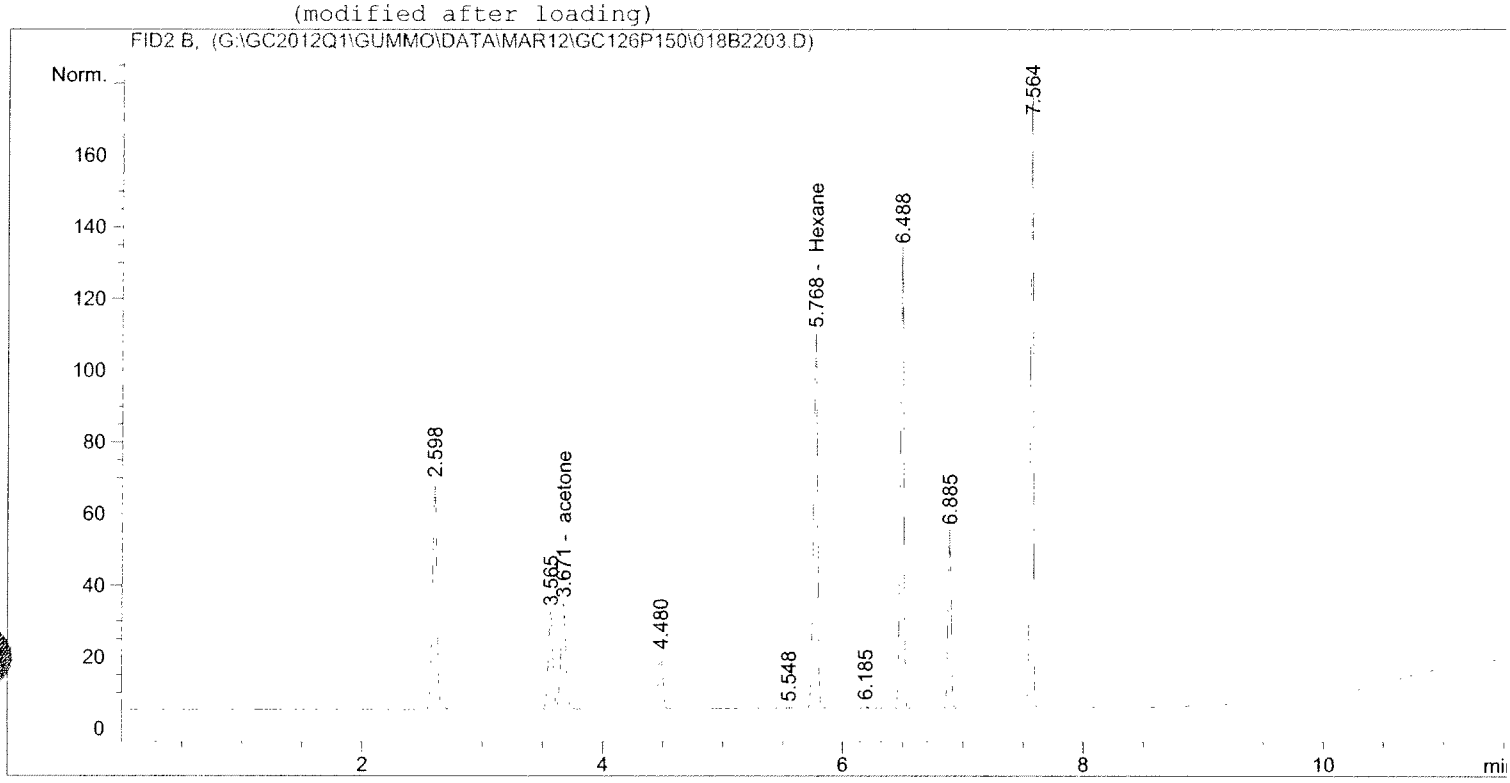
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.398		-	-	-		Methane
1.533		-	-	-		Ethane
1.839		-	-	-		Propane
2.663		-	-	-		Butane
2.780		-	-	-		ethylene oxide
3.672	VB	86.19801	2.17973	187.88878		acetone
4.162		-	-	-		Pentane
5.768	BB	247.92017	7.62468e-1	189.03115		Hexane
6.922		-	-	-		Heptane

Totals : 376.91992

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  22
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 19:04:28                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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==============================================================================
                        External Standard Report
==============================================================================

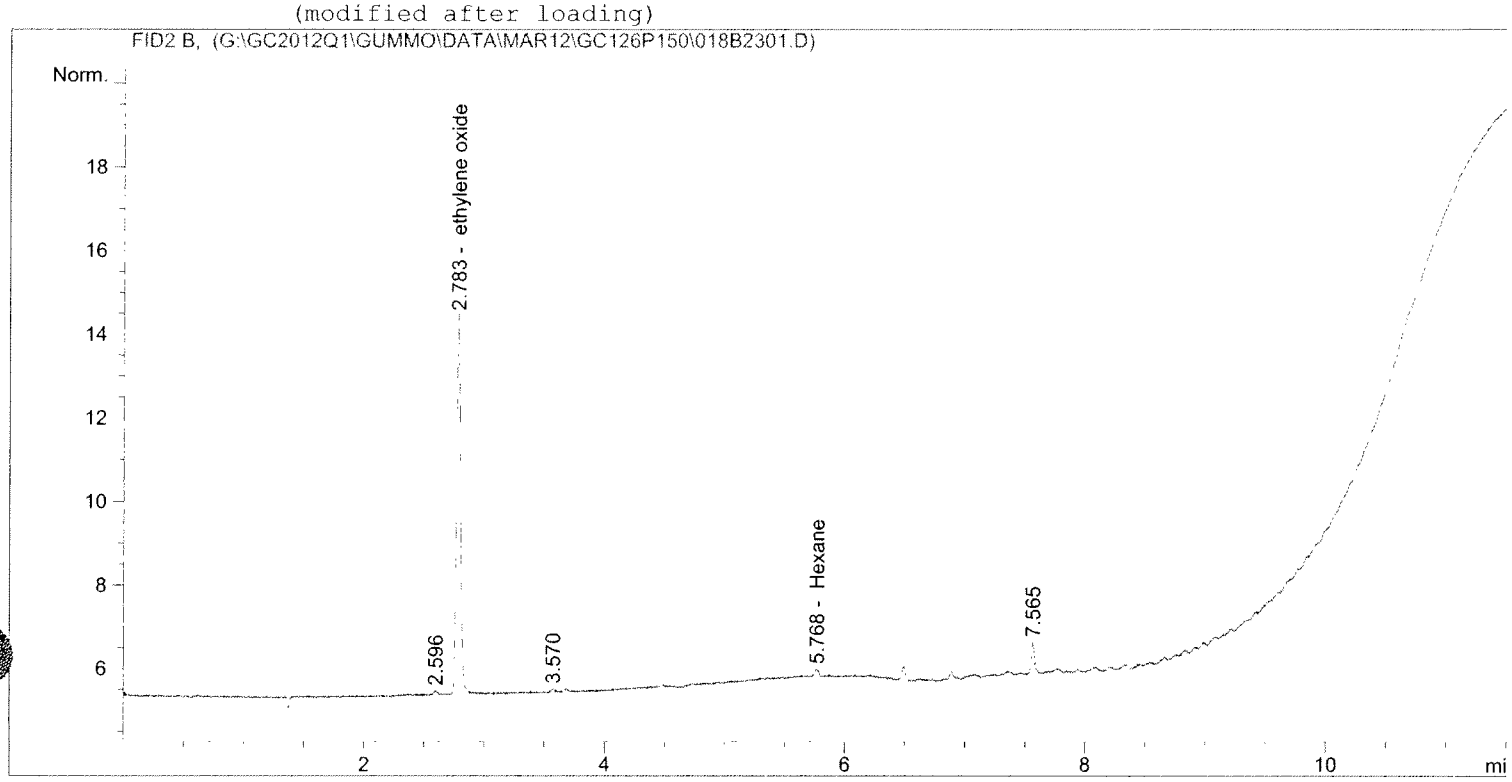
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.671 VB       86.22239    2.17973  187.94186     acetone
  4.162           -           -          -          Pentane
  5.768 BB      248.87100 7.62469e-1  189.75644     Hexane
  6.922           -           -          -          Heptane

Totals :                              377.69830
```

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 19:24:07                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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================================================================================
                        External Standard Report
================================================================================

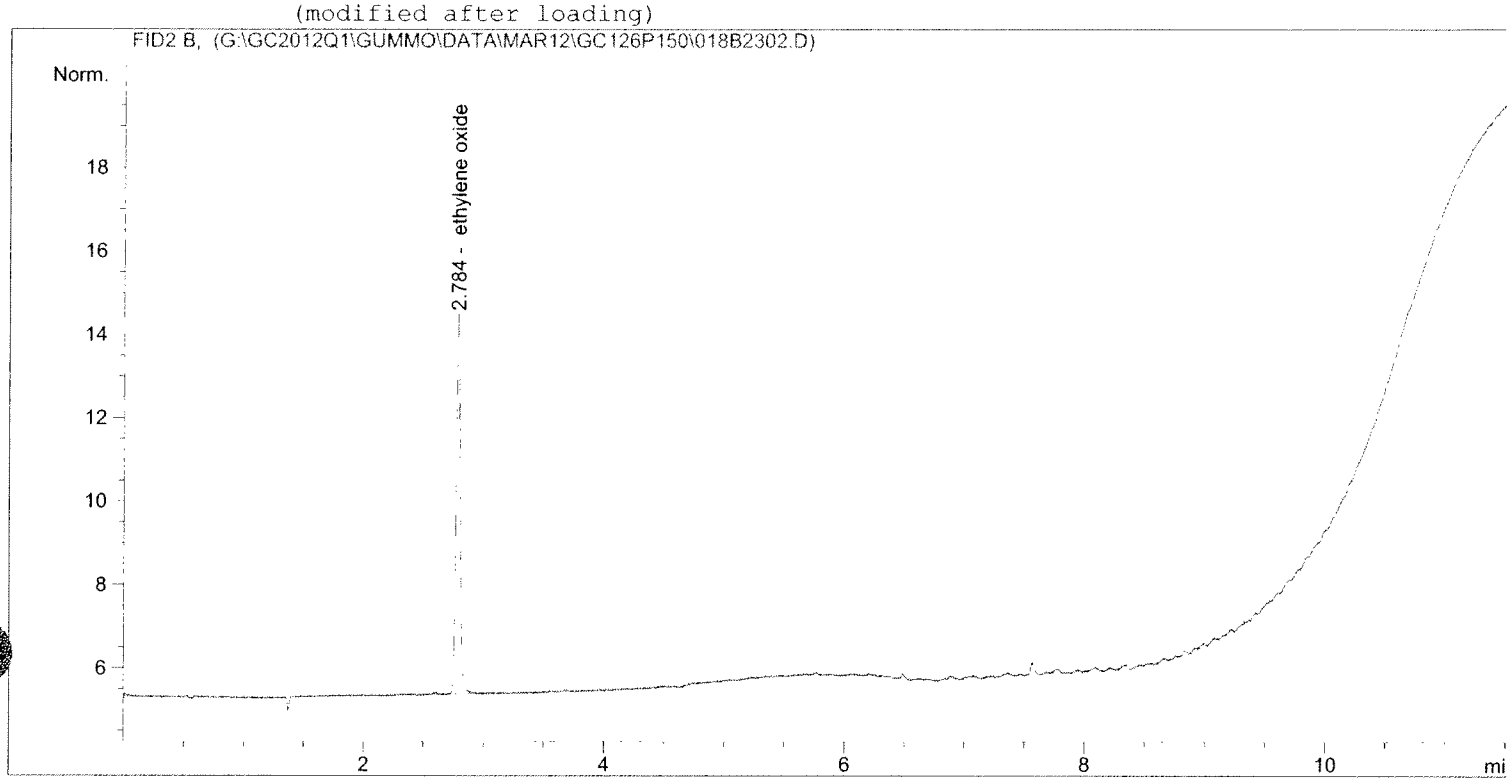
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.783 BB      21.93656    4.49517   98.60867      ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.768 BB   4.26604e-1 7.32896e-1 3.12656e-1      Hexane
  6.922           -           -          -          Heptane

Totals :                              98.92132
```

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 19:43:36                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

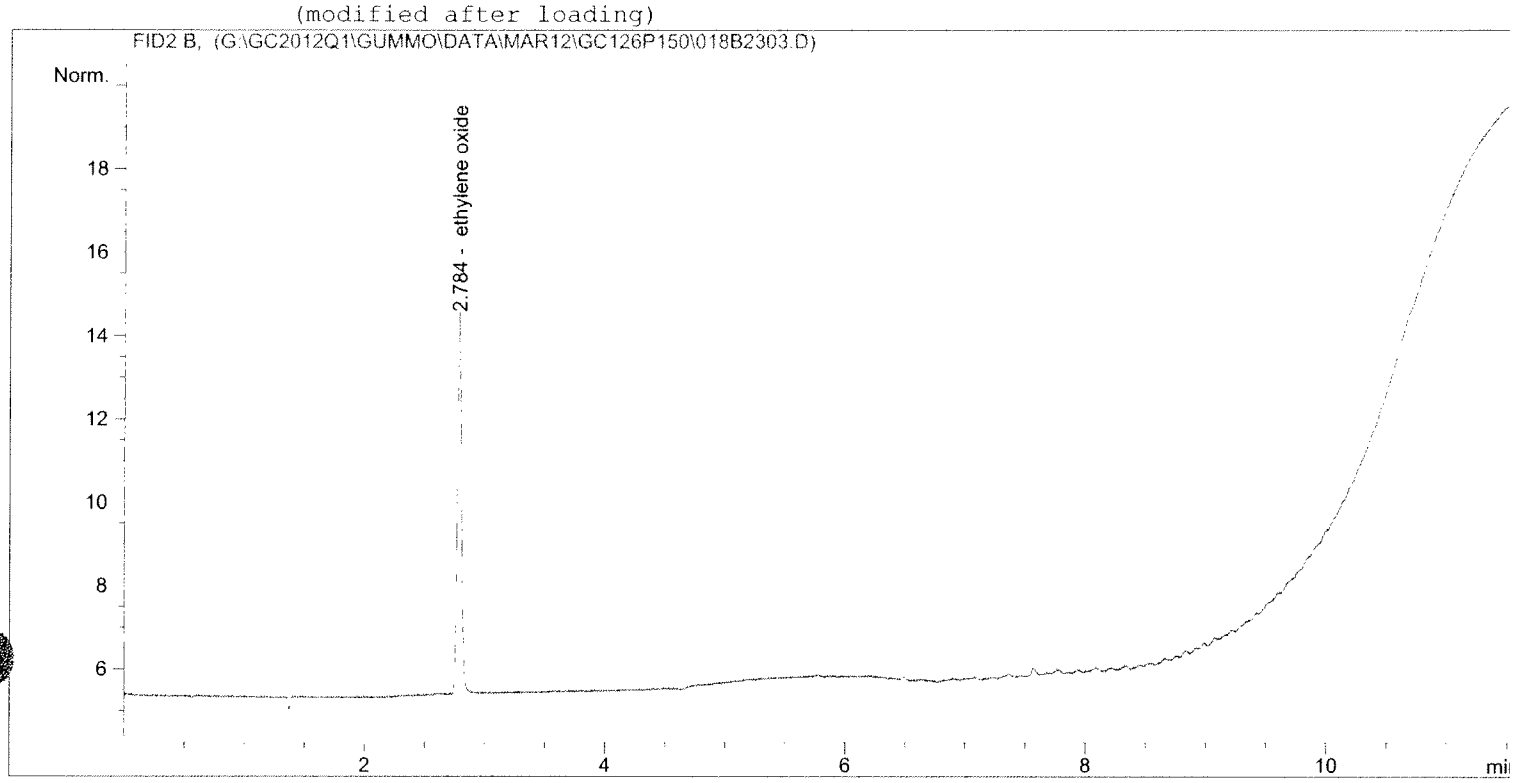
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.784 BB       22.00884    4.49517    98.93344    ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                 98.93344
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  23
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 20:03:14                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

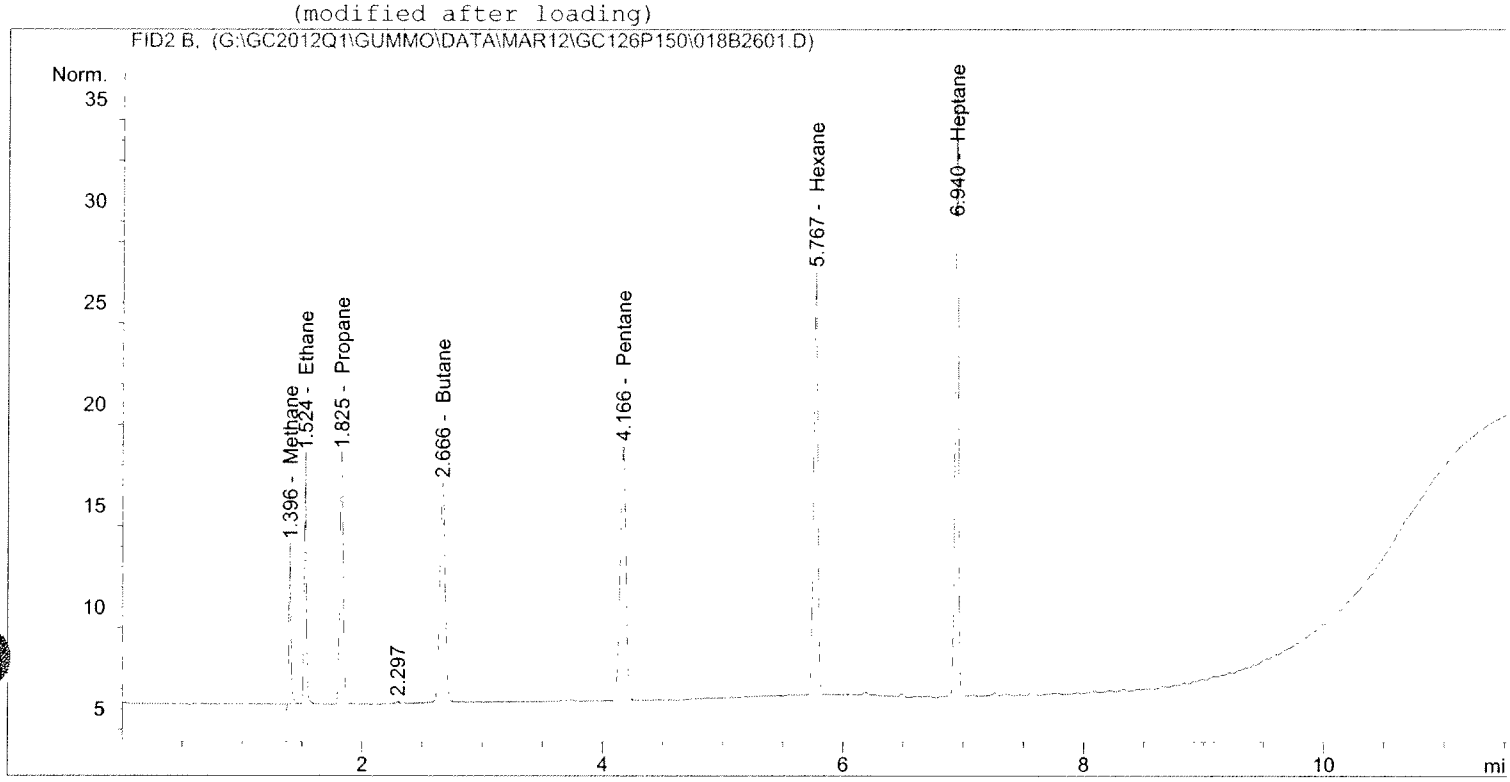
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.784 BB     22.03024    4.49517   99.02963      ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                99.02963
```

```
Acq. Operator    : mth                                  Seq. Line :  26
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 23:18:41                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```



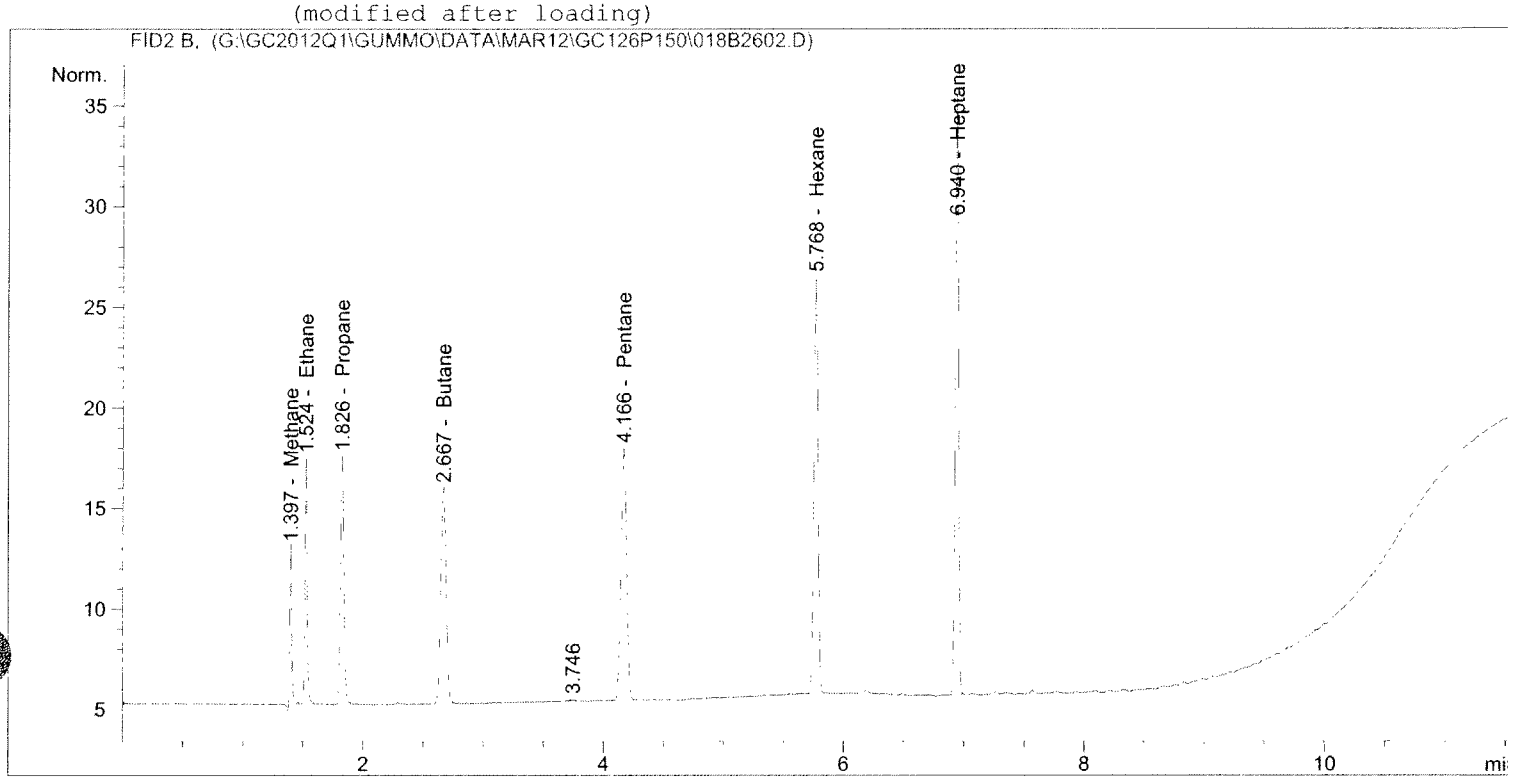
External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.396	BV	8.68671	4.22719	36.72039		Methane
1.524	VB	16.55887	2.24313	37.14376		Ethane
1.825	BB	24.79786	1.49683	37.11822		Propane
2.666	BB	33.16360	1.12949	37.45795		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.166	BB	41.03285	9.22600e-1	37.85689		Pentane
5.767	BB	49.34832	7.61143e-1	37.56115		Hexane
6.940	BB	55.91697	6.62675e-1	37.05476		Heptane
Totals :				260.91312		

```
==========================================================================
Acq. Operator    : mth                                  Seq. Line :  26
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 23:38:08                       Inj :   2
                                                       Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==========================================================================
                        External Standard Report
==========================================================================

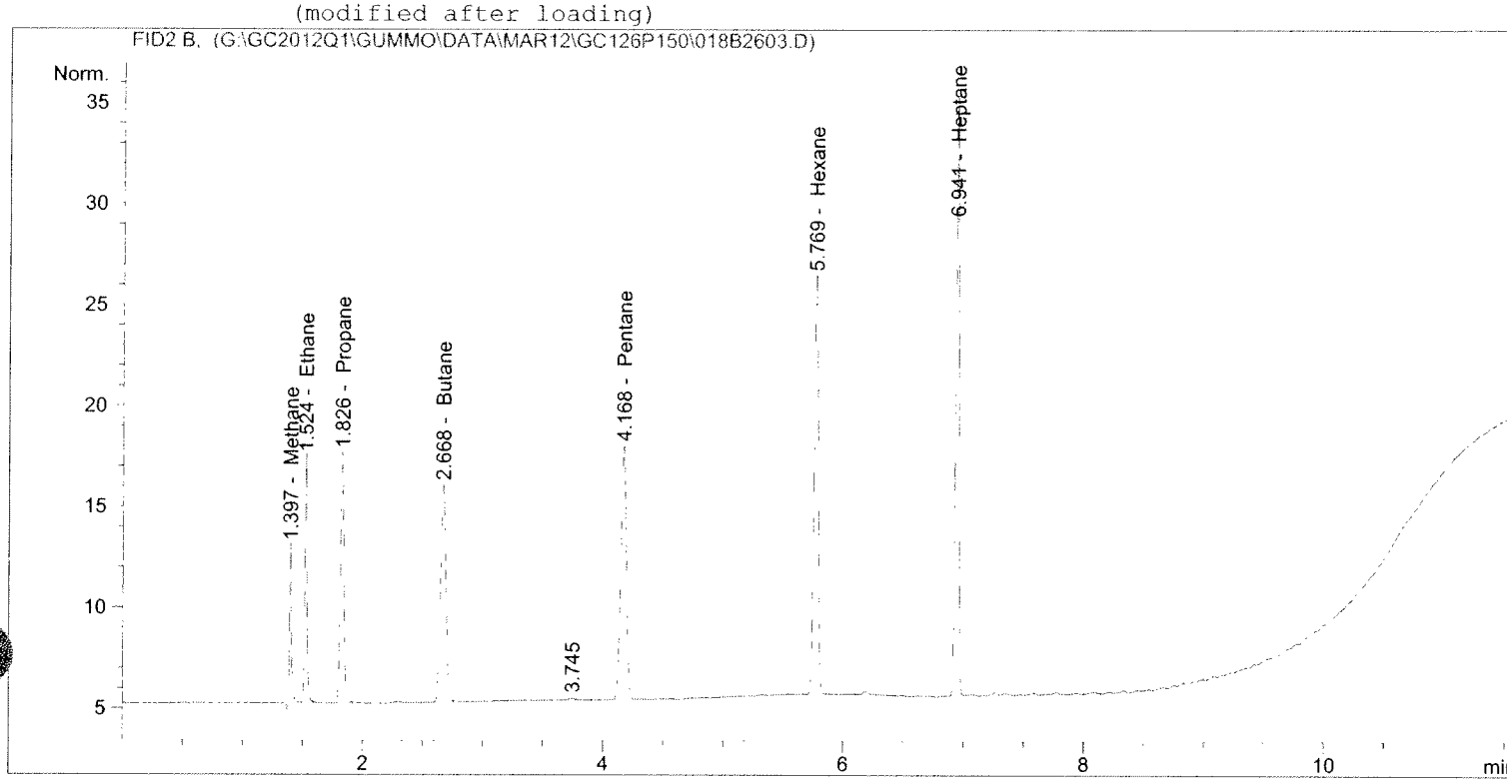
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.397 BV        8.74346    4.22682   36.95708    Methane
  1.524 VB       16.58865    2.24311   37.21017    Ethane
  1.826 BP       24.73441    1.49686   37.02388    Propane
  2.667 BB       32.81395    1.12957   37.06549    Butane
  2.780             -           -         -        ethylene oxide
  3.671             -           -         -        acetone
  4.166 BB       41.03555 9.22600e-1   37.85941    Pentane
  5.768 BB       49.38208 7.61145e-1   37.58691    Hexane
  6.940 BB       56.09315 6.62660e-1   37.17069    Heptane

Totals :                              260.87363
```

```
Acq. Operator    : mth                                  Seq. Line :  26
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 02-Mar-12, 23:57:41                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```



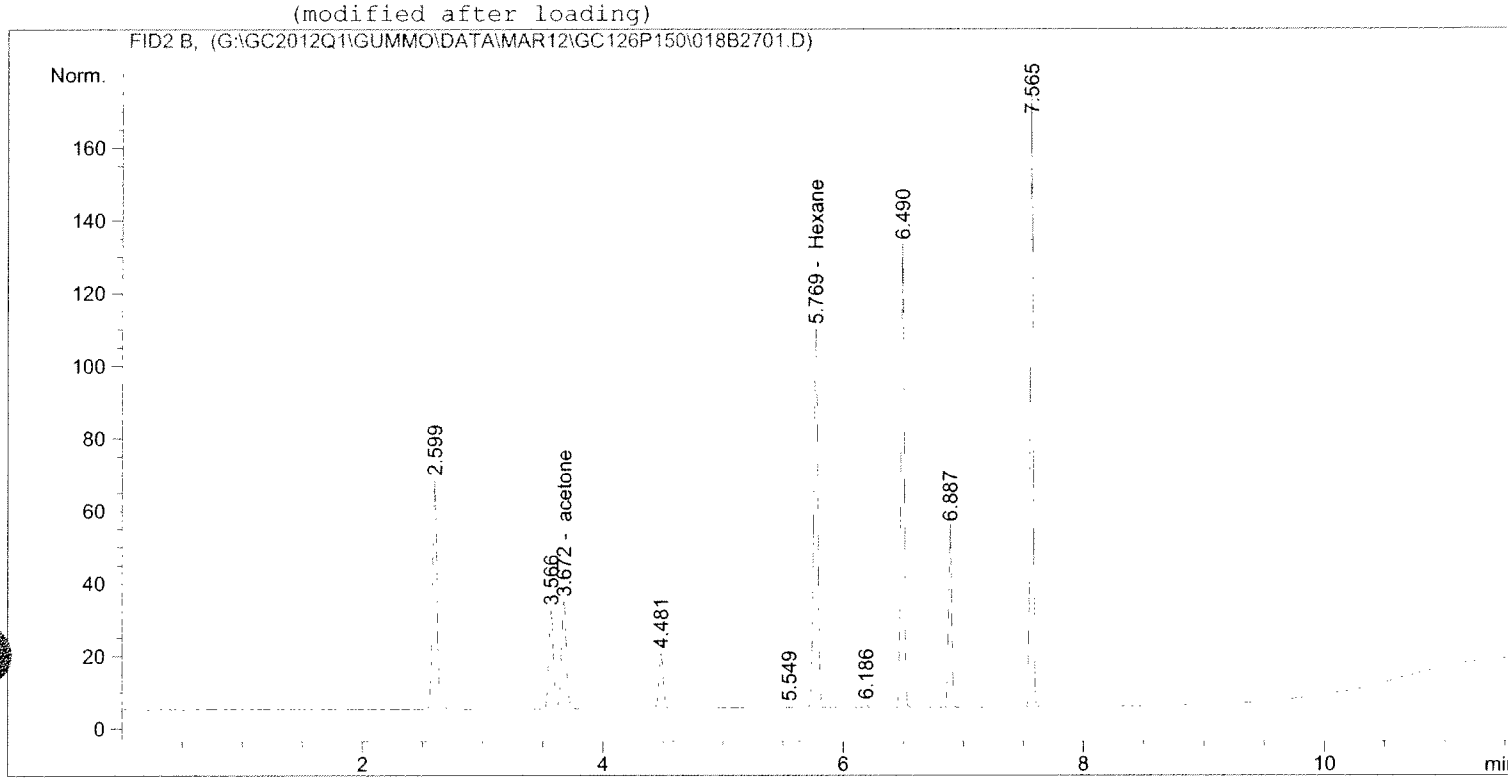
External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount [ppm]	Grp	Name
1.397	BV	8.72209	4.22696	36.86793		Methane
1.524	VB	16.56188	2.24313	37.15047		Ethane
1.826	BB	24.82756	1.49682	37.16237		Propane
2.668	BB	32.81174	1.12957	37.06301		Butane
2.780		-	-	-		ethylene oxide
3.671		-	-	-		acetone
4.168	BB	41.04589	9.22603e-1	37.86907		Pentane
5.769	BB	49.14788	7.61137e-1	37.40826		Hexane
6.941	BB	55.88110	6.62678e-1	37.03116		Heptane
Totals :				260.55226		

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  27
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 03-Mar-12, 00:17:15                       Inj :   1
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

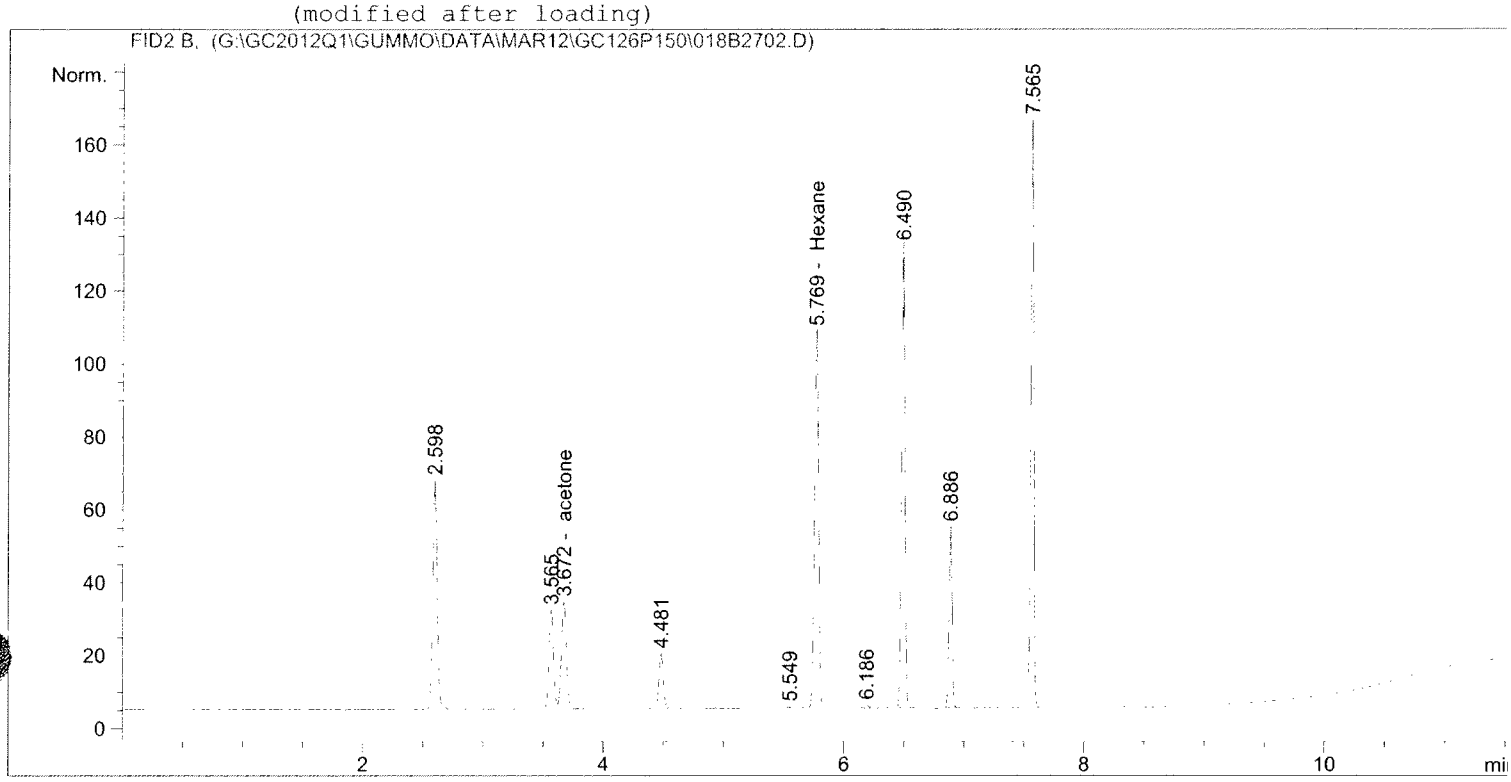
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.672 VB       85.59579    2.17975  186.57770     acetone
  4.162           -           -          -          Pentane
  5.769 BB      247.12045 7.62467e-1  188.42113     Hexane
  6.922           -           -          -          Heptane

Totals :                              374.99883
```

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  27
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 03-Mar-12, 00:36:49                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

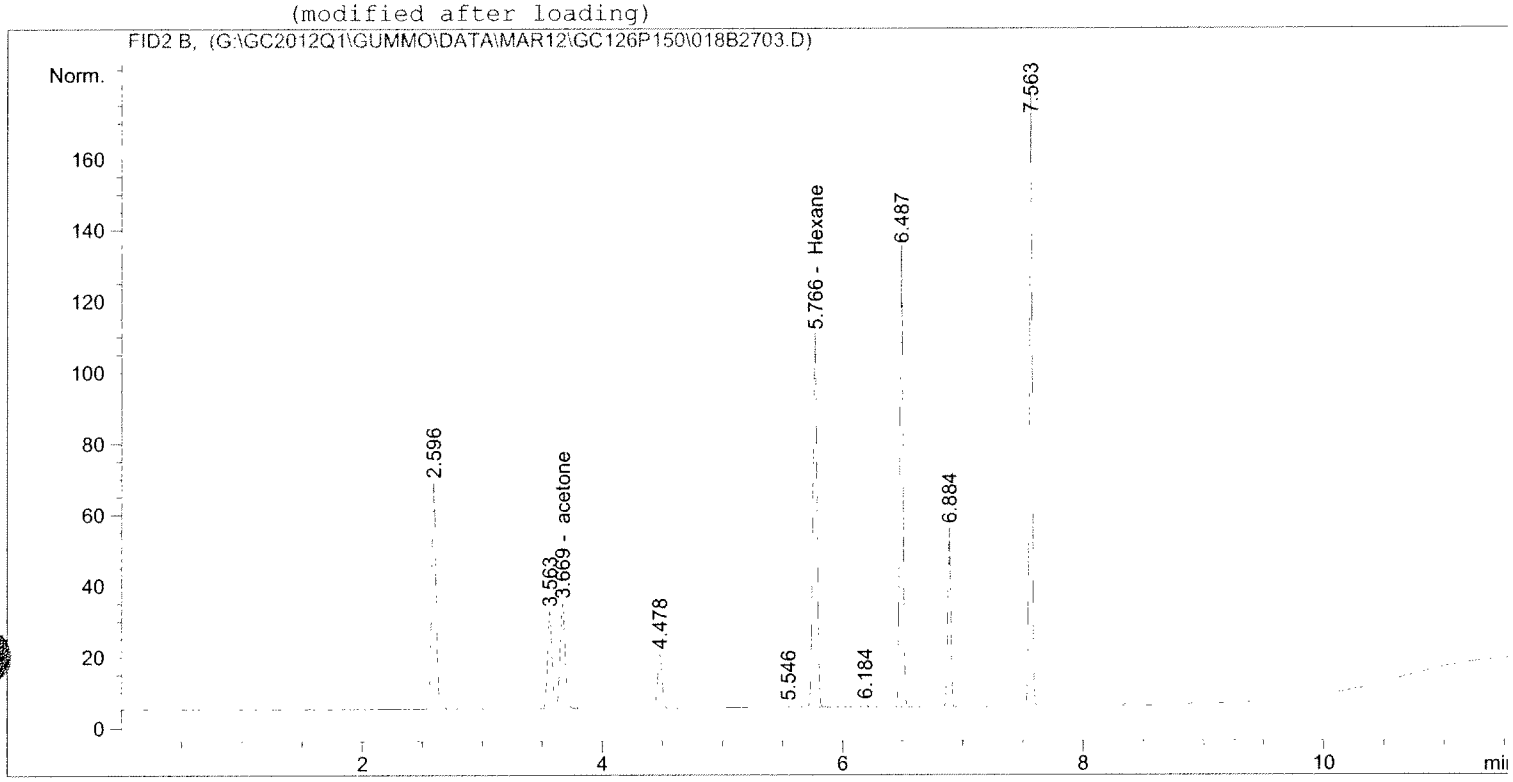
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.672 VB       85.71879    2.17975  186.84548     acetone
  4.162           -           -          -          Pentane
  5.769 BB      246.24193 7.62466e-1  187.75099     Hexane
  6.922           -           -          -          Heptane

Totals :                                374.59648
```

```
================================================================================
Acq. Operator    : mth                                  Seq. Line :  27
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 03-Mar-12, 00:56:25                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
================================================================================
                        External Standard Report
================================================================================

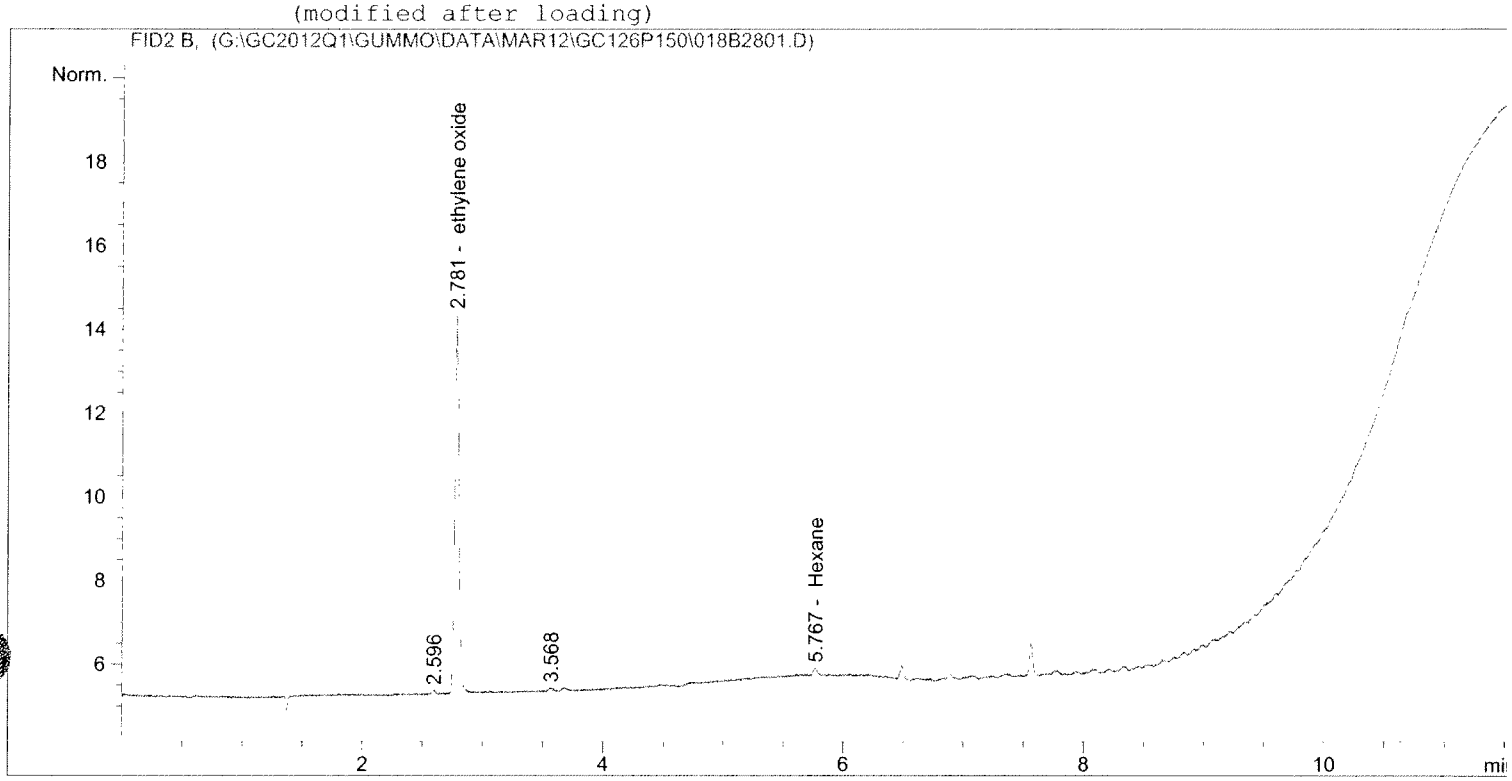
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.780           -           -          -          ethylene oxide
  3.669 VB       85.93976    2.17974  187.32655     acetone
  4.162           -           -          -          Pentane
  5.766 BB      248.57973 7.62469e-1  189.53426     Hexane
  6.922           -           -          -          Heptane

Totals :                              376.86081
```

```
==========================================================================
Acq. Operator    : mth                                Seq. Line :  28
Acq. Instrument  : Gummo                               Location : Vial 18
Injection Date   : 03-Mar-12, 01:16:02                      Inj :   1
                                                    Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




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==========================================================================
                        External Standard Report
==========================================================================

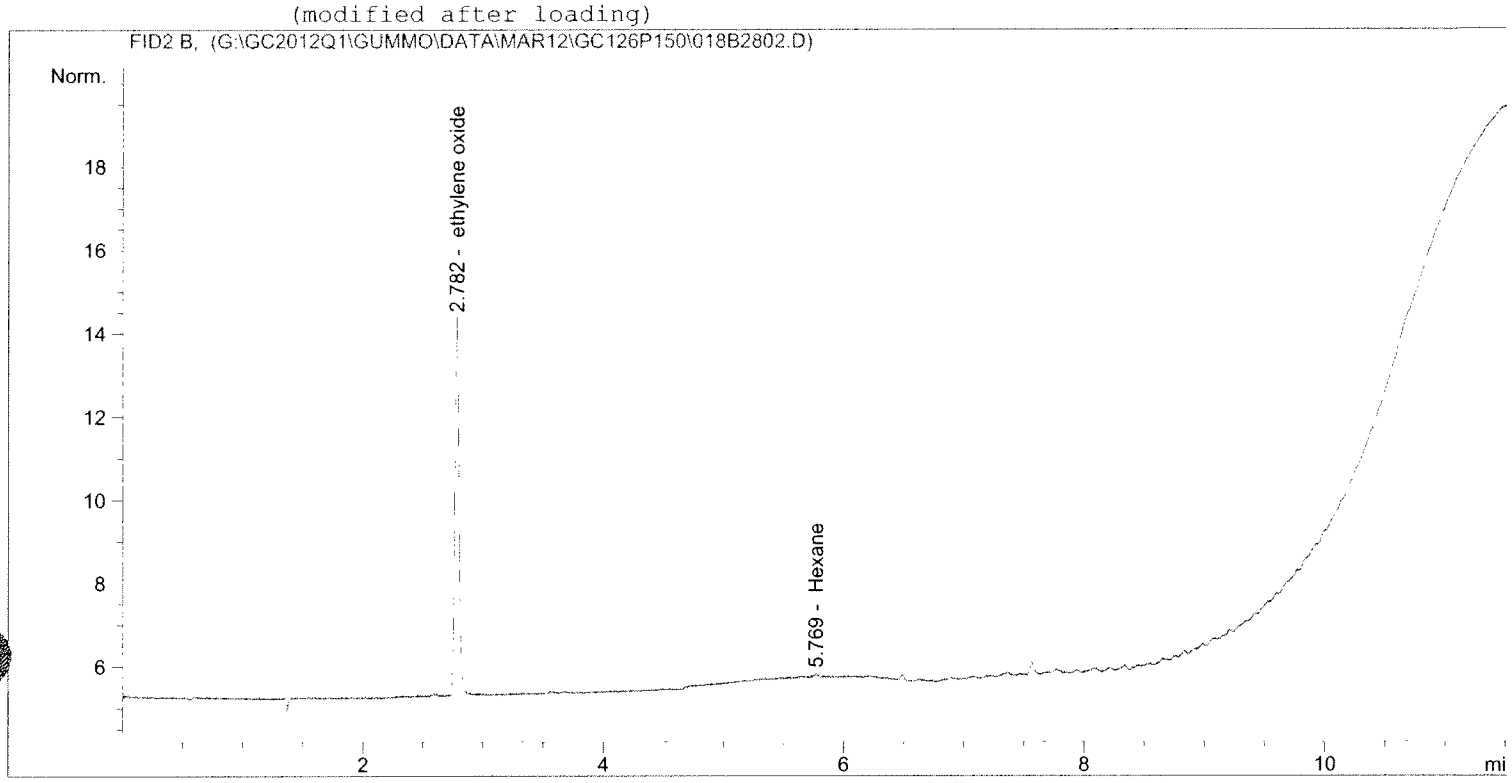
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.781 BB      21.84350    4.49518    98.19045     ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.767 BB    4.48688e-1 7.32896e-1 3.28842e-1     Hexane
  6.922           -           -          -          Heptane

Totals :                                98.51929
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  28
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 03-Mar-12, 01:35:41                       Inj :   2
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

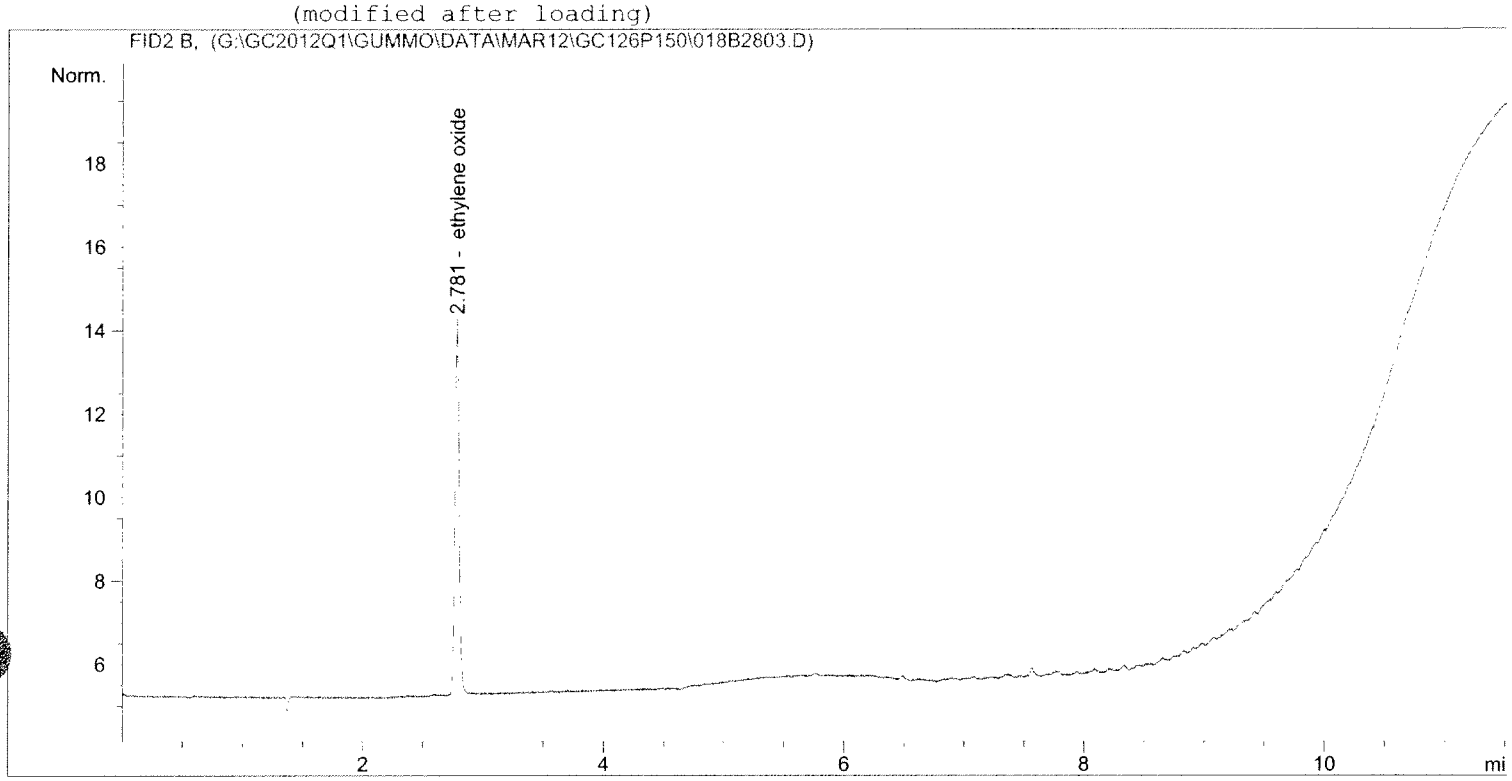
Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                  [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.782 BB      21.83135    4.49518   98.13588     ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.769 BB   2.16974e-1 7.32896e-1 1.59020e-1     Hexane
  6.922           -           -          -          Heptane

Totals :                              98.29490
```

```
==============================================================================
Acq. Operator    : mth                                  Seq. Line :  28
Acq. Instrument  : Gummo                                 Location : Vial 18
Injection Date   : 03-Mar-12, 01:55:11                       Inj :   3
                                                      Inj Volume : External
Acq. Method      : G:\GC2012Q1\GUMMO\METHODS\GC126P057.M
Last changed     : 12/14/2011 11:21:49 PM by SJE
Analysis Method  : G:\GC2012Q1\GUMMO\METHODS\GC126P045_0212-67.M
Last changed     : 3/8/2012 8:36:37 AM by mth
                   (modified after loading)
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/8/2012 8:36:14 AM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID2 B,

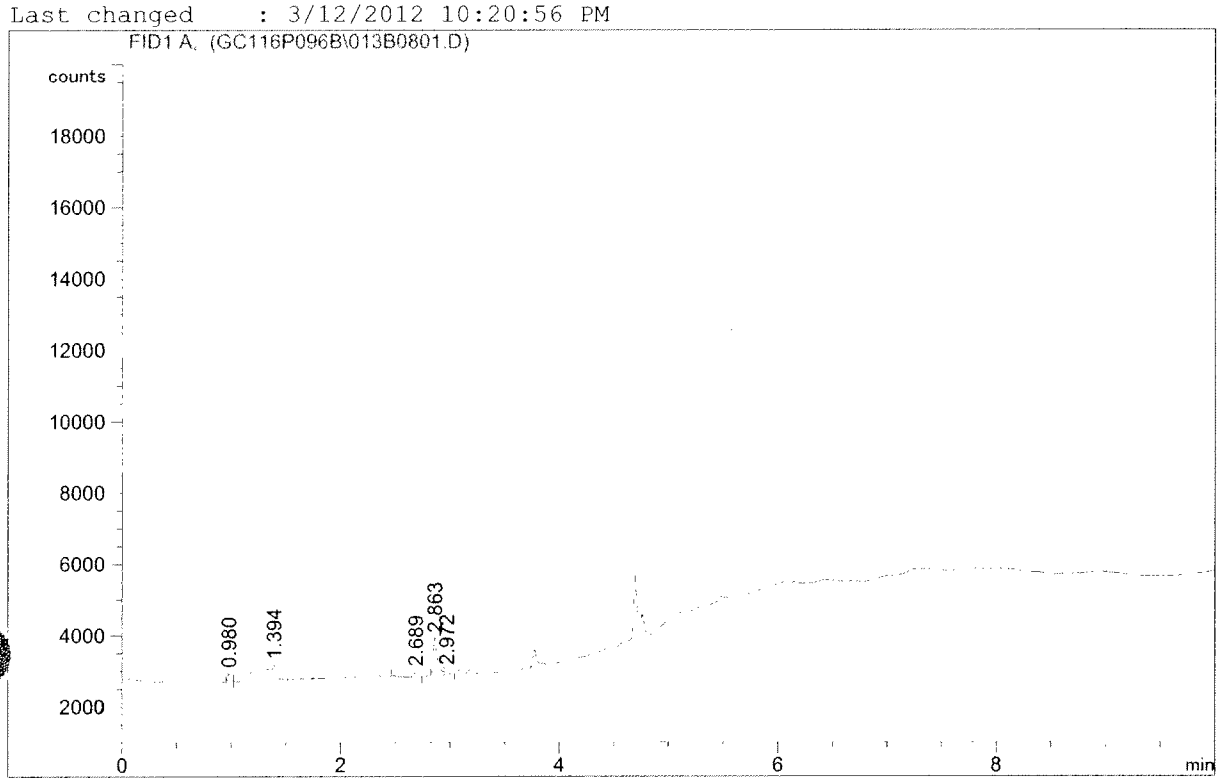
RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]                 [ppm]
-------|------|----------|----------|----------|--|------------------
  1.398           -           -          -          Methane
  1.533           -           -          -          Ethane
  1.839           -           -          -          Propane
  2.663           -           -          -          Butane
  2.781 BB     21.74399    4.49519   97.74330      ethylene oxide
  3.671           -           -          -          acetone
  4.162           -           -          -          Pentane
  5.770           -           -          -          Hexane
  6.922           -           -          -          Heptane

Totals :                                97.74330
```

Sample Chromatograms



```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   8
Acq. Instrument  : Oscar                             Location : Vial 13
Injection Date   : 3/10/2012 9:56:31 PM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903           -          -          -          Phenol

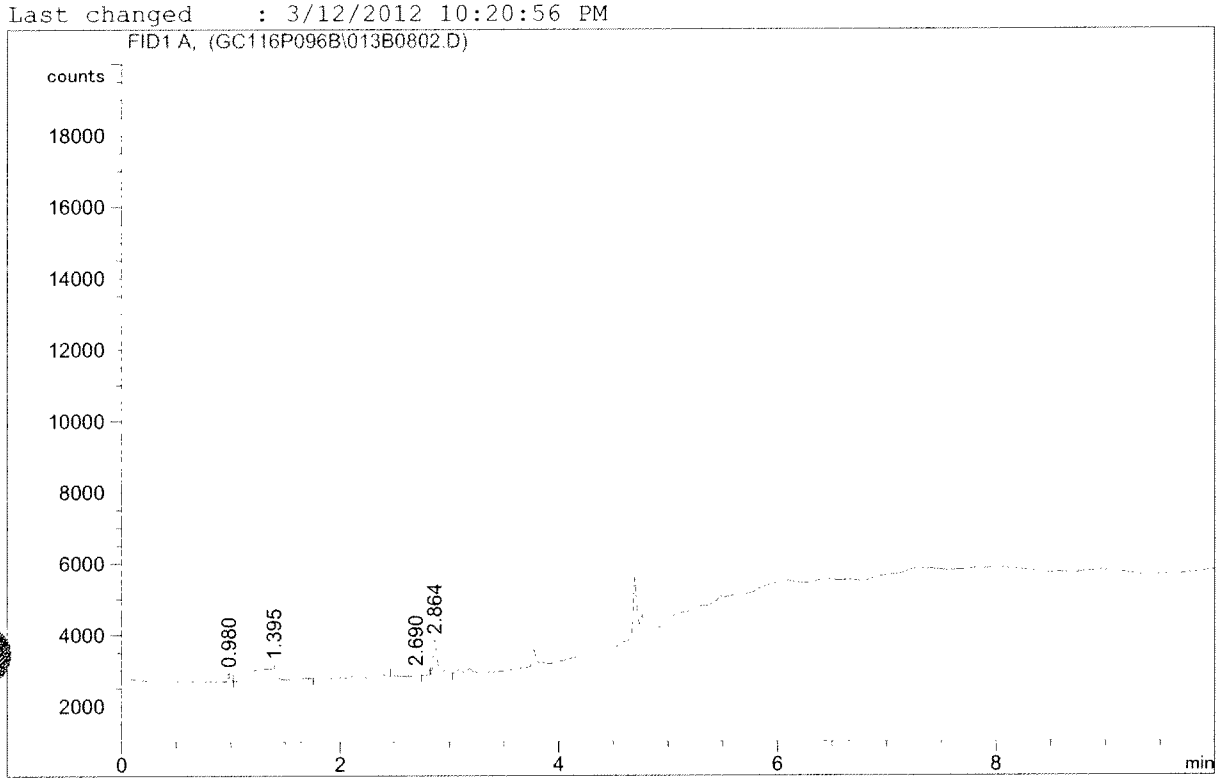
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Oscar                                 Location : Vial 13
Injection Date   : 3/10/2012 10:09:58 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -          -          -          Phenol

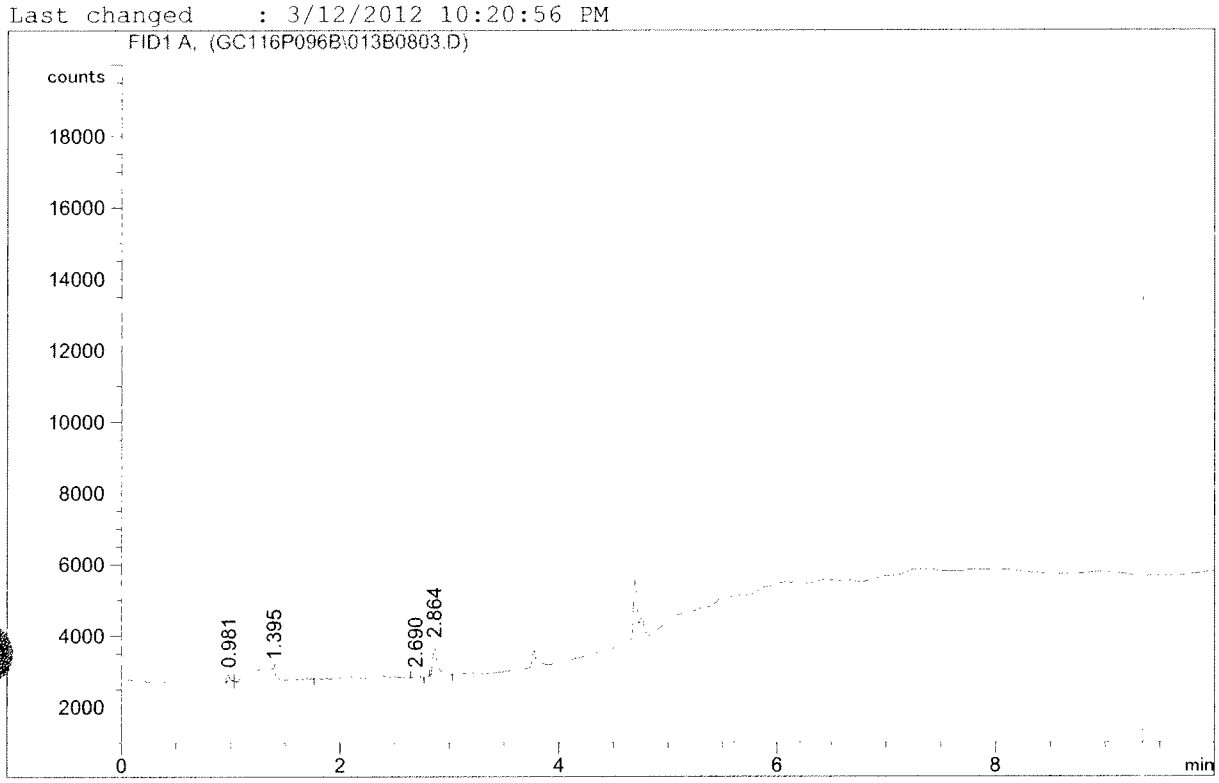
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Oscar                                 Location : Vial 13
Injection Date   : 3/10/2012 10:23:30 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -          -          -          Phenol

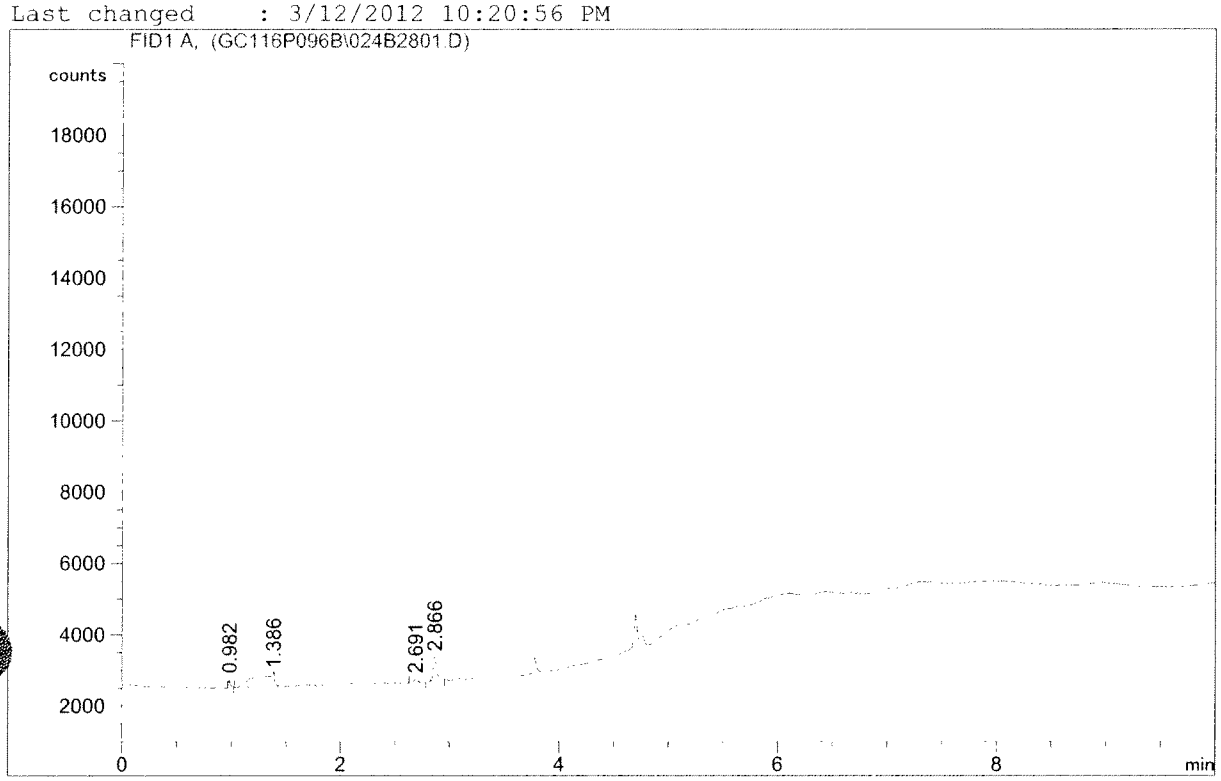
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  28
Acq. Instrument  : Oscar                                 Location : Vial 24
Injection Date   : 3/12/2012 7:48:58 PM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]          counts*s                 [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -           -           -          Phenol

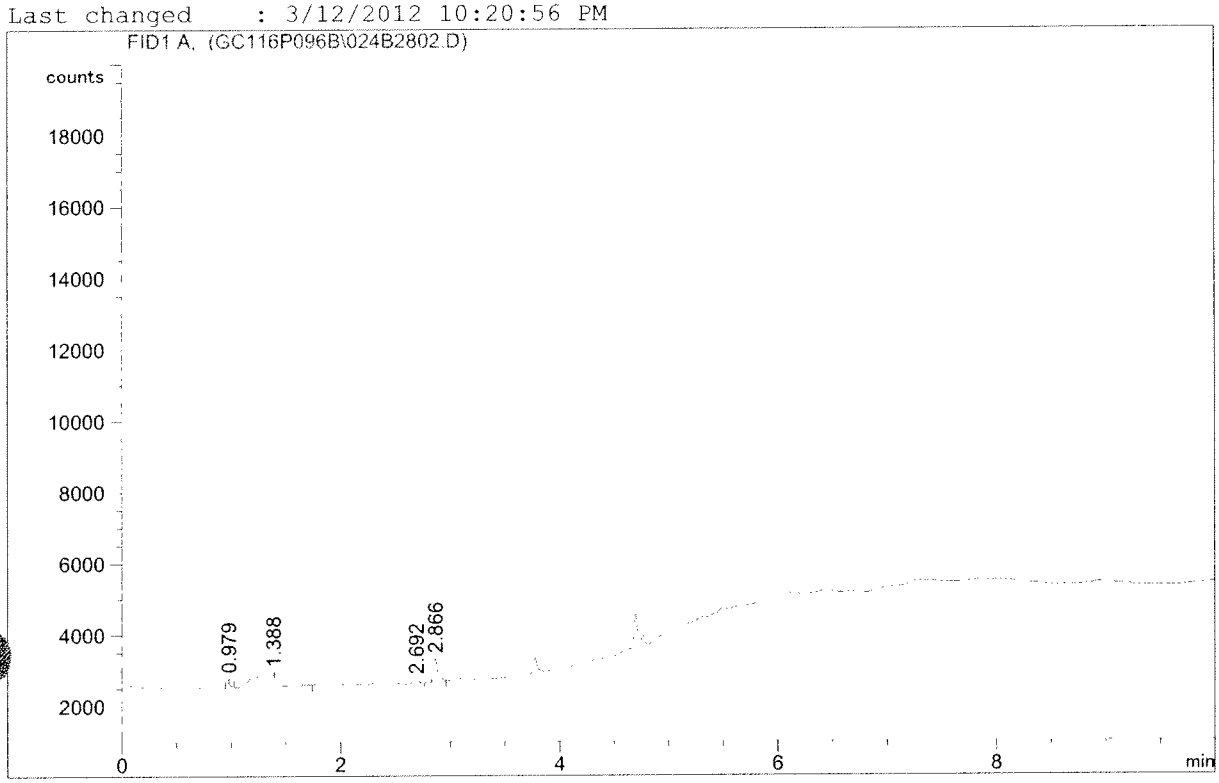
Totals :                                  0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  28
Acq. Instrument  : Oscar                                 Location : Vial 24
Injection Date   : 3/12/2012 8:02:26 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -          -          -          Phenol

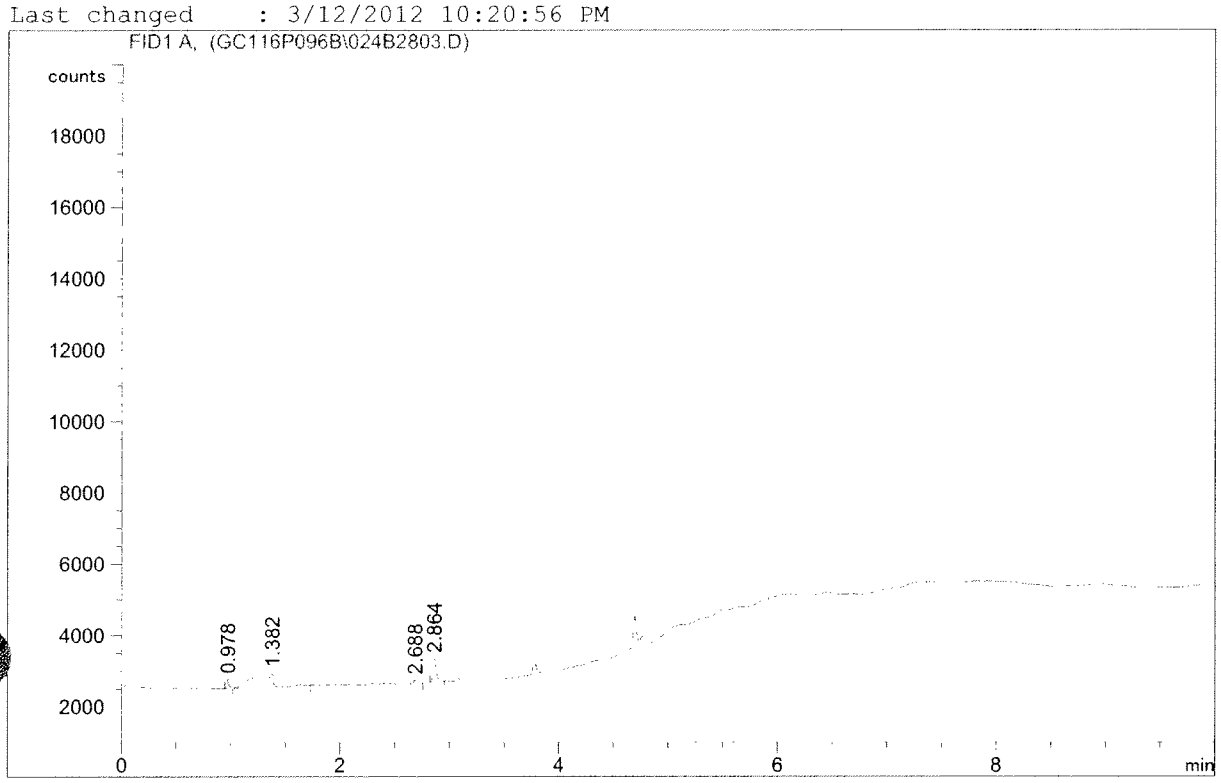
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :  28
Acq. Instrument  : Oscar                                 Location : Vial 24
Injection Date   : 3/12/2012 8:15:54 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903           -           -          -          Phenol

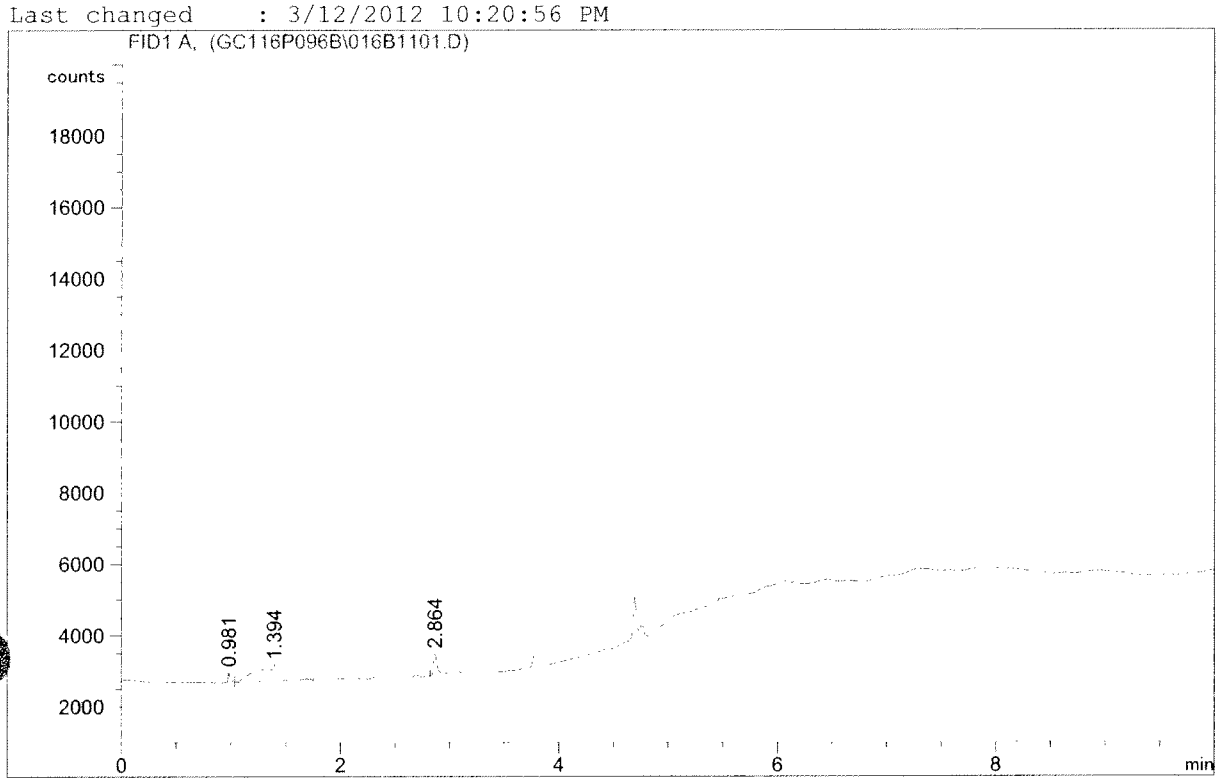
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==============================================================================
```

```
Acq. Operator    : JBB                                  Seq. Line :  11
Acq. Instrument  : Oscar                                 Location : Vial 16
Injection Date   : 3/10/2012 11:57:55 PM                      Inj :   1
                                                      Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

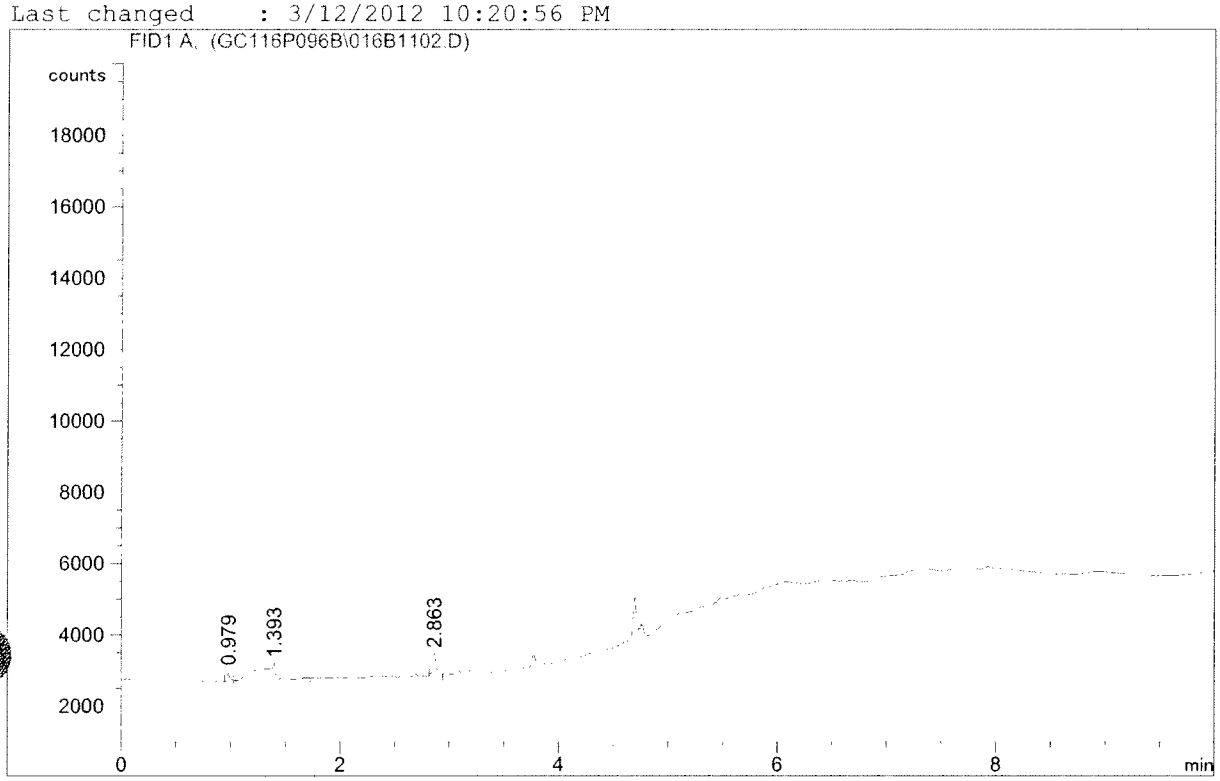
RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|-----------------
  7.903            -           -          -          Phenol

Totals :                                  0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  11
Acq. Instrument : Oscar                             Location : Vial 16
Injection Date  : 3/11/2012 12:11:27 AM                  Inj :   2
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903           -          -          -          Phenol

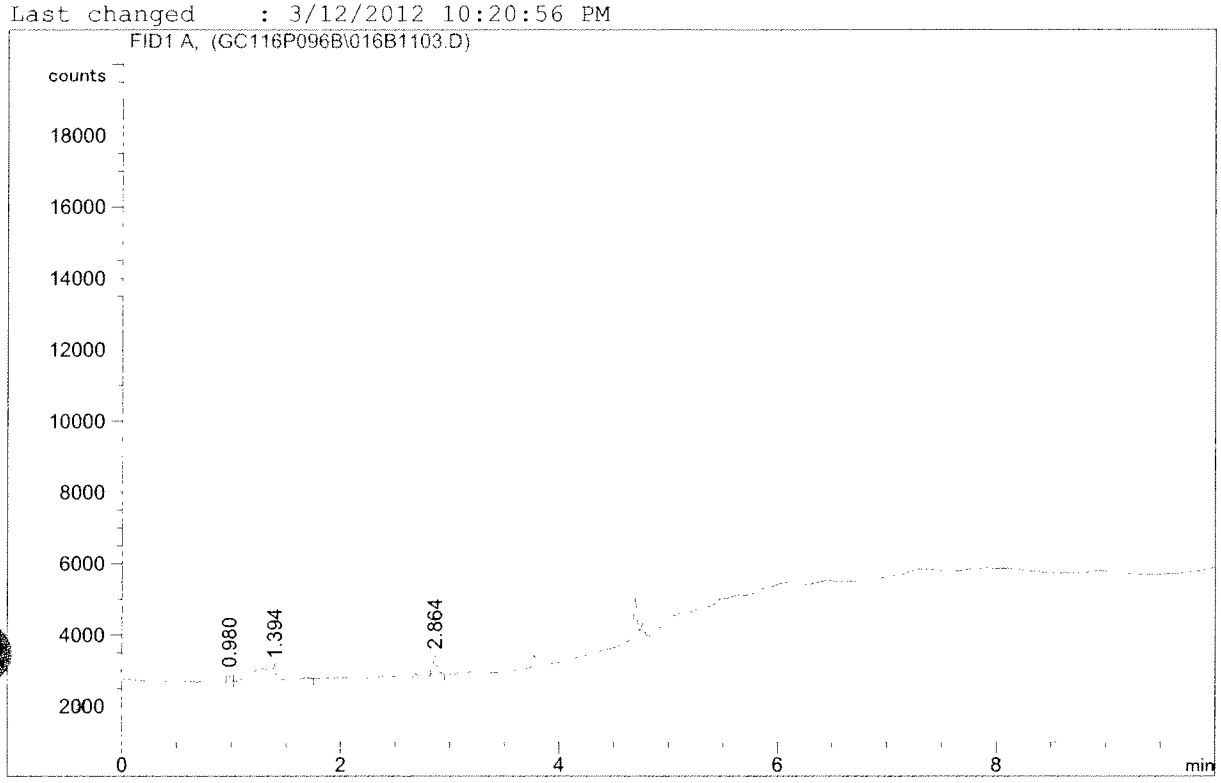
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator   : JBB                                Seq. Line :  11
Acq. Instrument : Oscar                               Location : Vial 16
Injection Date  : 3/11/2012 12:24:56 AM                    Inj :   3
                                                     Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -          -          -          Phenol

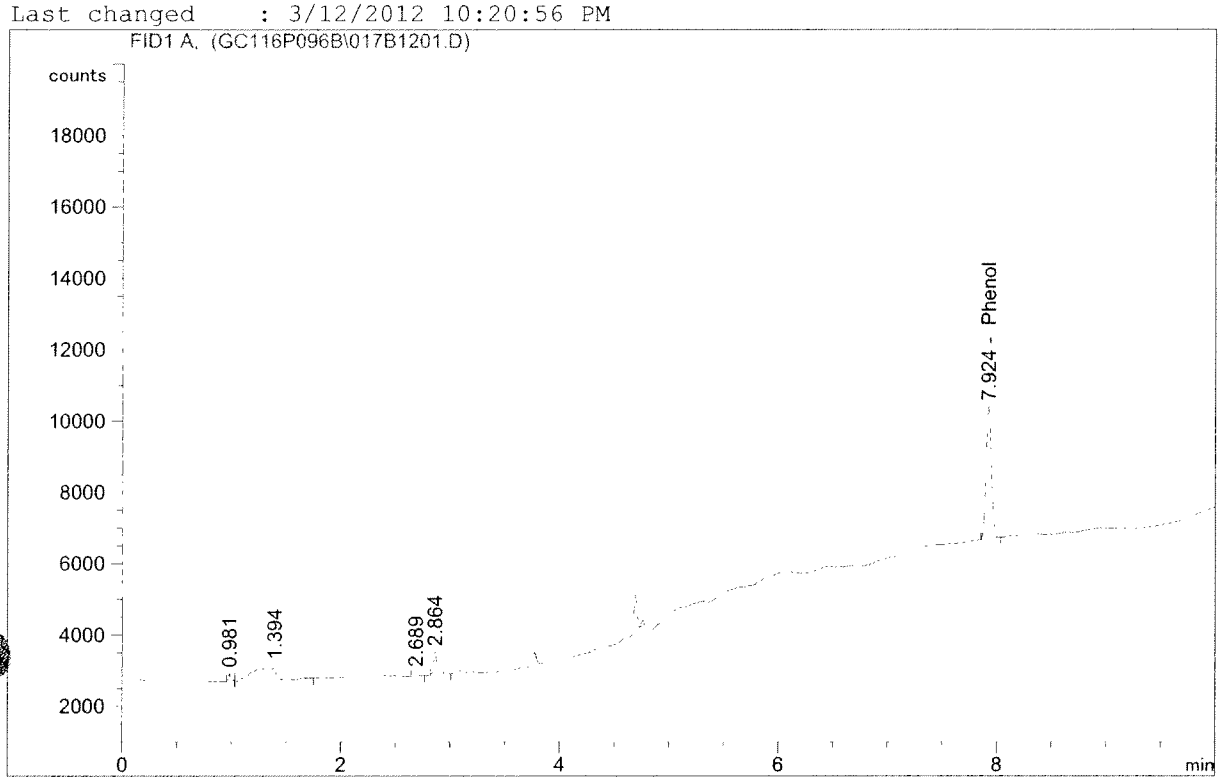
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Oscar                                 Location : Vial 17
Injection Date   : 3/11/2012 12:38:29 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

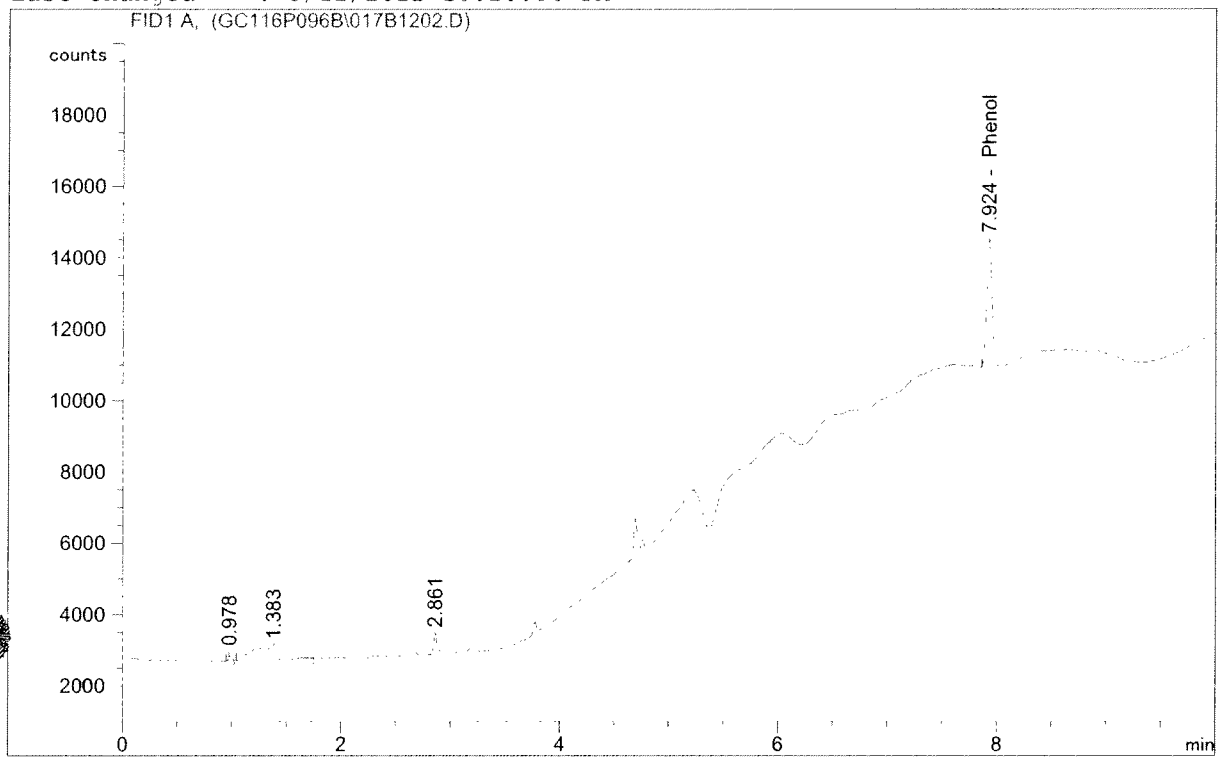
RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.25804e4  1.03666e-3   13.04164     Phenol

Totals :                                13.04164

================================================================================
                          *** End of Report ***
```

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Oscar                                 Location : Vial 17
Injection Date   : 3/11/2012 12:51:57 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

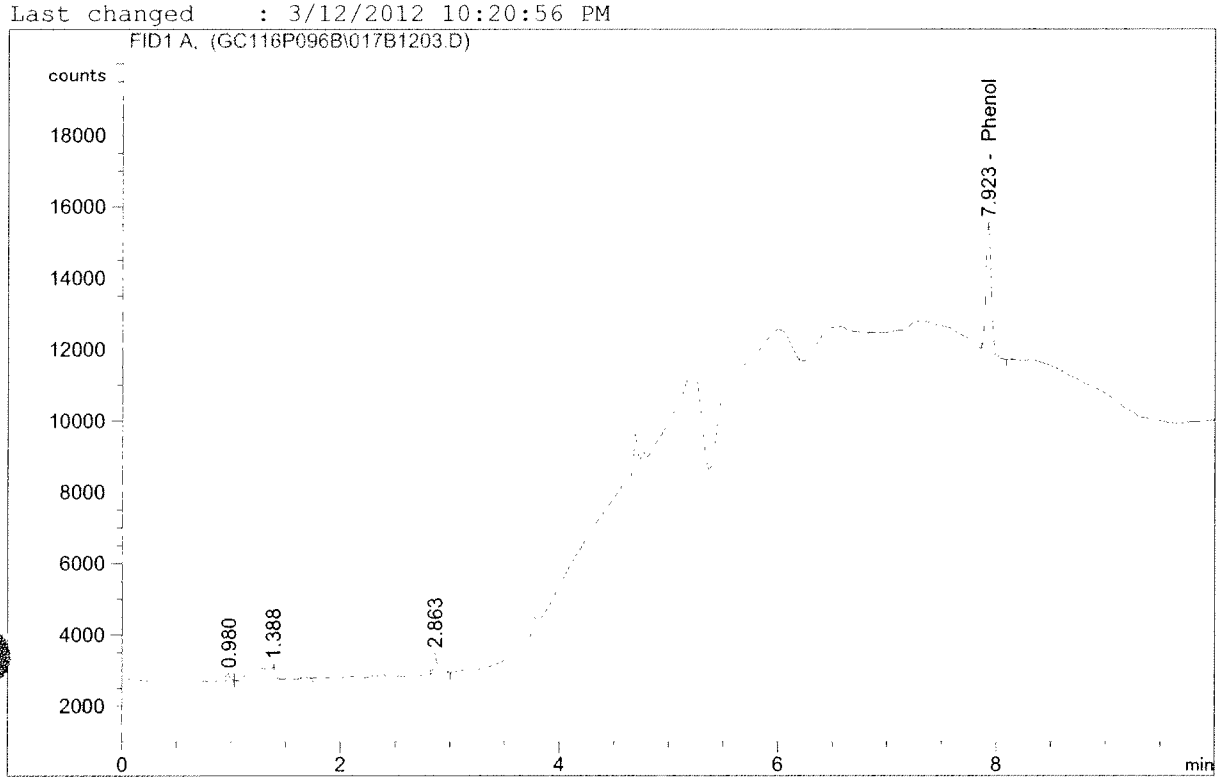
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.18087e4  1.03683e-3   12.24361     Phenol

Totals :                                12.24361
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                 Seq. Line :  12
Acq. Instrument  : Oscar                               Location : Vial 17
Injection Date   : 3/11/2012 1:05:29 AM                     Inj :   3
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

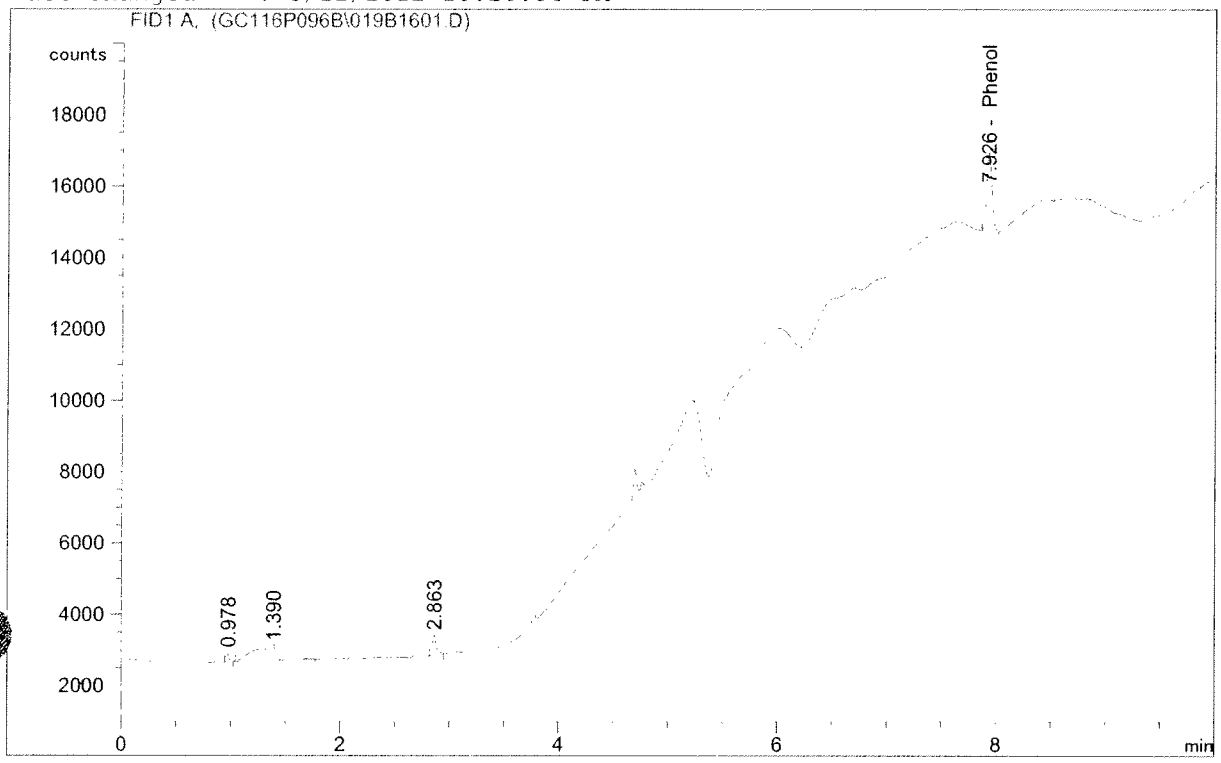
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     1.16883e4  1.03686e-3   12.11908     Phenol

Totals :                                12.11908

==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  16
Acq. Instrument  : Oscar                                 Location : Vial 19
Injection Date   : 3/11/2012 4:20:27 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

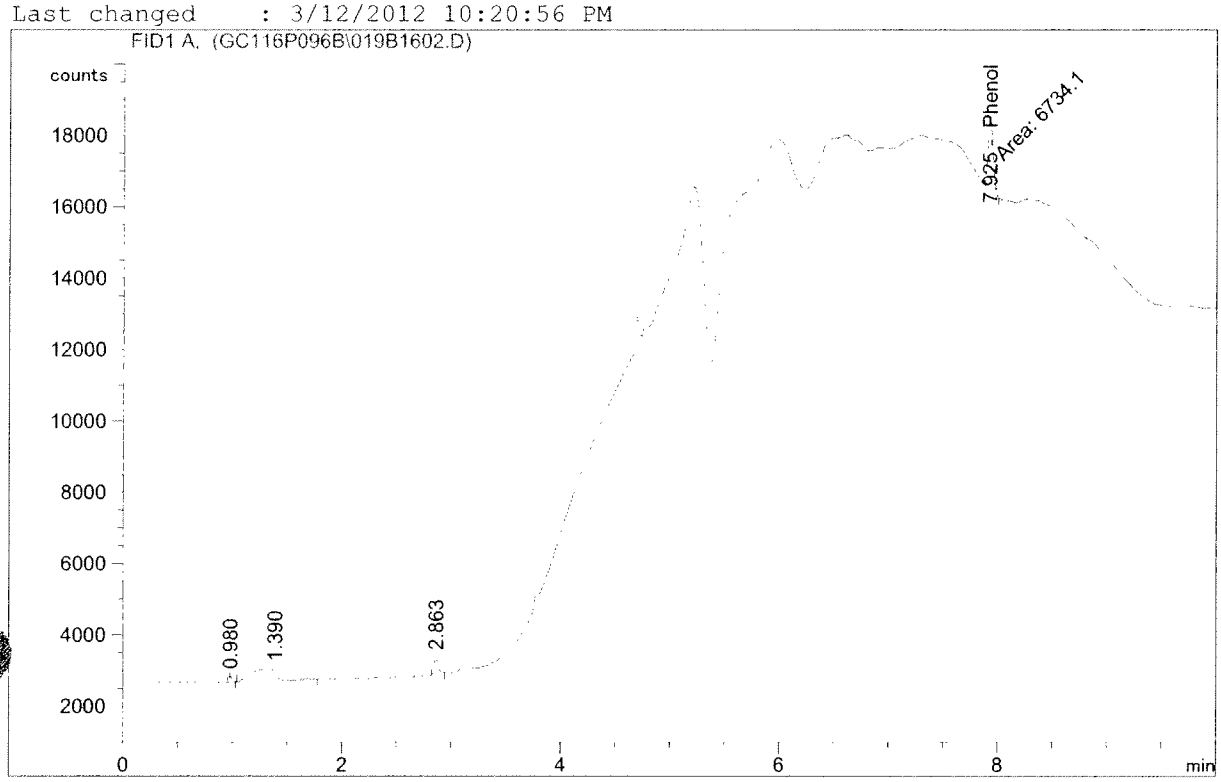
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BV     7272.87158 1.03853e-3    7.55310     Phenol

Totals :                                7.55310

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :  16
Acq. Instrument  : Oscar                               Location : Vial 19
Injection Date   : 3/11/2012 4:33:59 AM                    Inj :   2
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

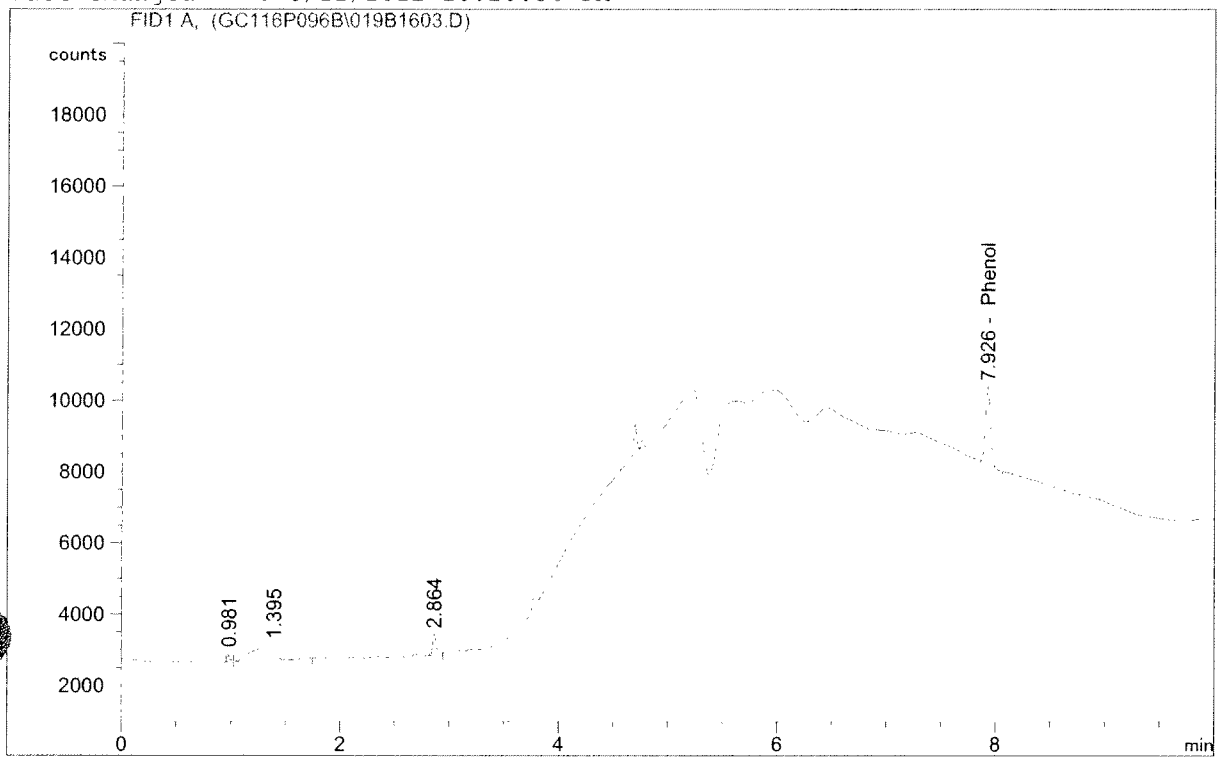
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.925 MM     6734.10303 1.03888e-3    6.99596     Phenol

Totals :                                6.99596

==========================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  16
Acq. Instrument  : Oscar                                 Location : Vial 19
Injection Date   : 3/11/2012 4:47:28 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

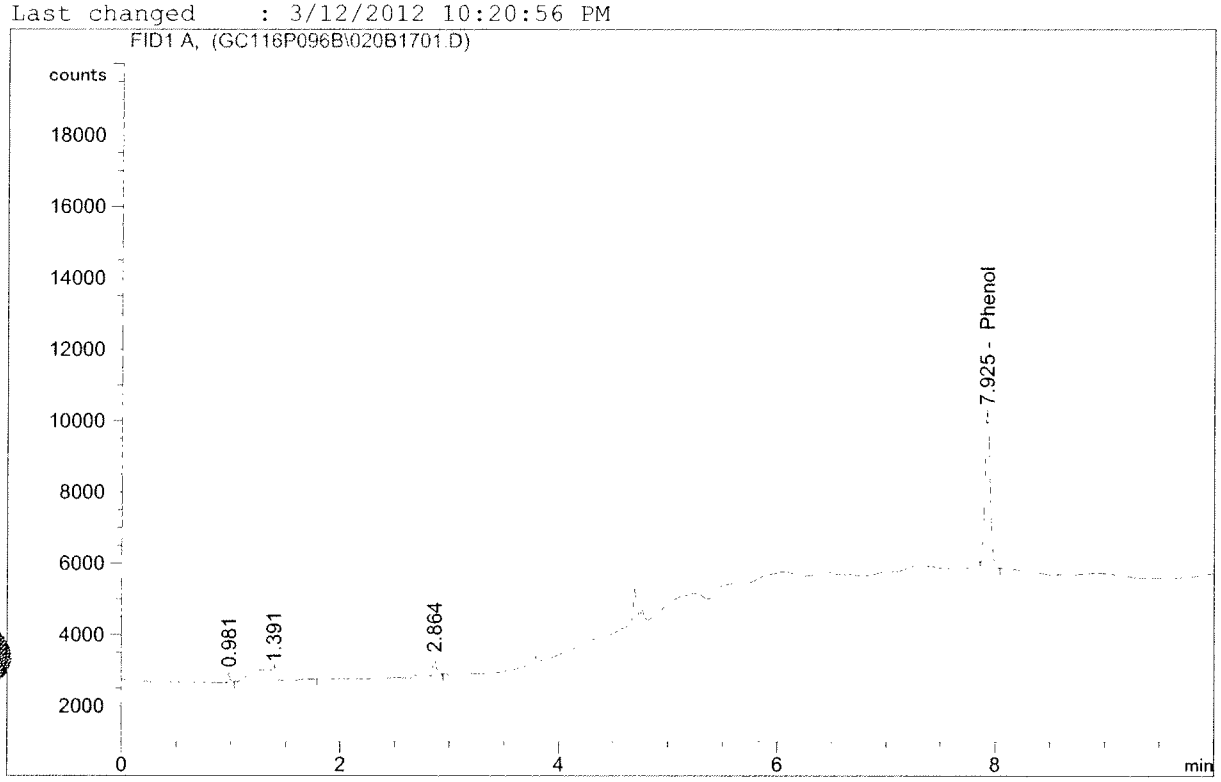
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BB     7249.30664 1.03854e-3    7.52873     Phenol

Totals :                                 7.52873

                          *** End of Report ***
```

```
Acq. Operator   : JBB                                  Seq. Line :  17
Acq. Instrument : Oscar                                 Location : Vial 20
Injection Date  : 3/11/2012 5:01:01 AM                      Inj :   1
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

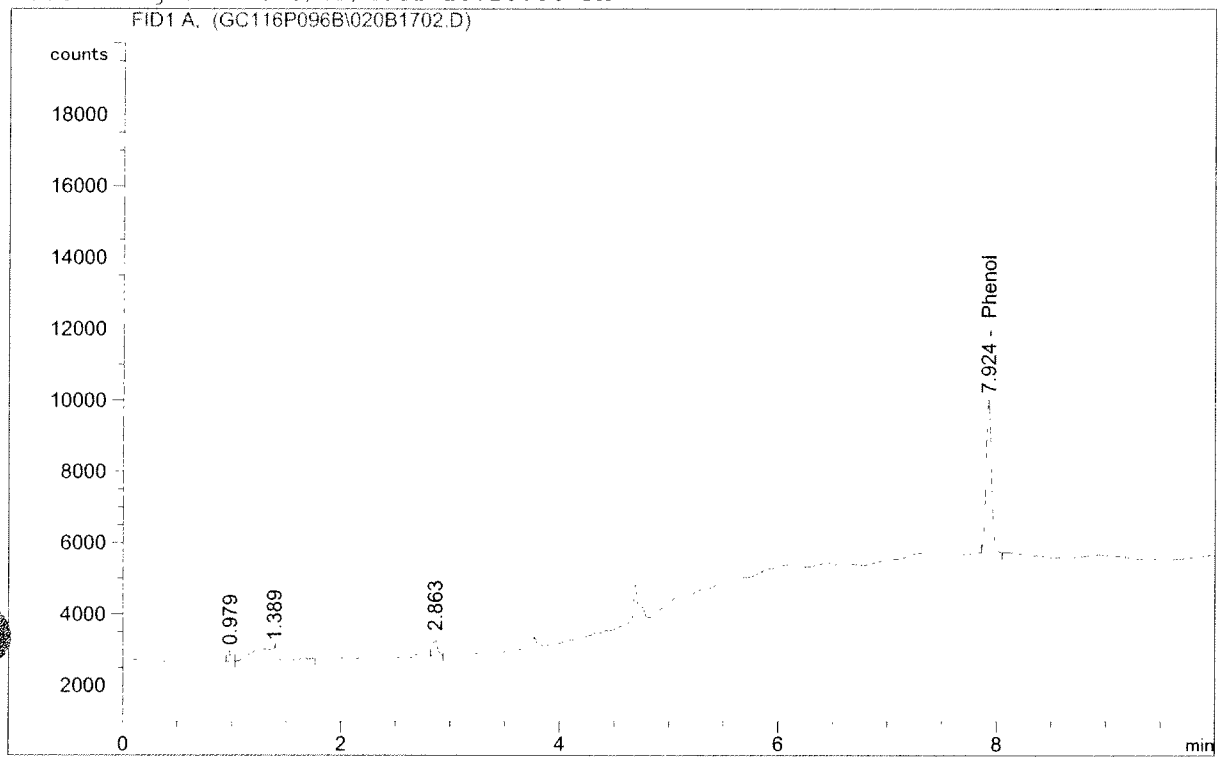
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.925 BB     1.51127e4  1.03623e-3   15.66025     Phenol

Totals :                                15.66025
```

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  17
Acq. Instrument : Oscar                                 Location : Vial 20
Injection Date  : 3/11/2012 5:14:28 AM                      Inj :   2
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

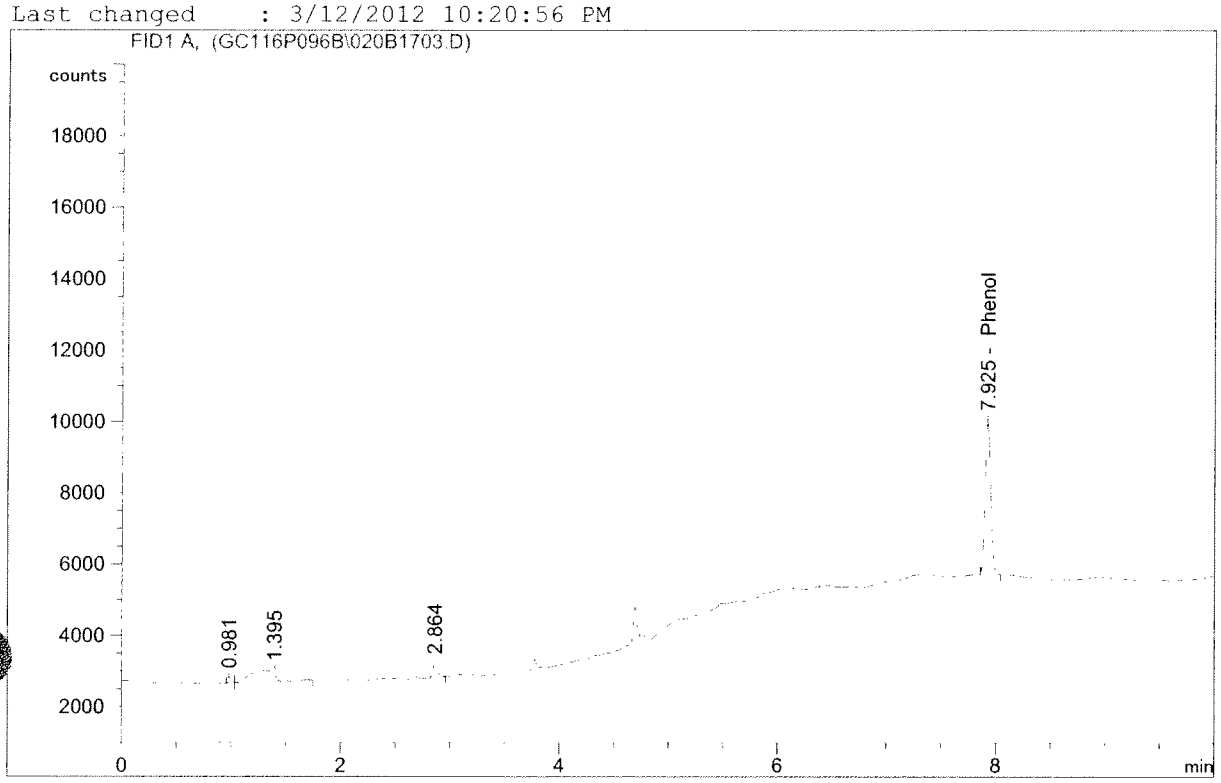
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.48205e4  1.03627e-3   15.35804     Phenol

Totals :                                15.35804

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  17
Acq. Instrument  : Oscar                                 Location : Vial 20
Injection Date   : 3/11/2012 5:27:56 AM                      Inj :   3
                                                      Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

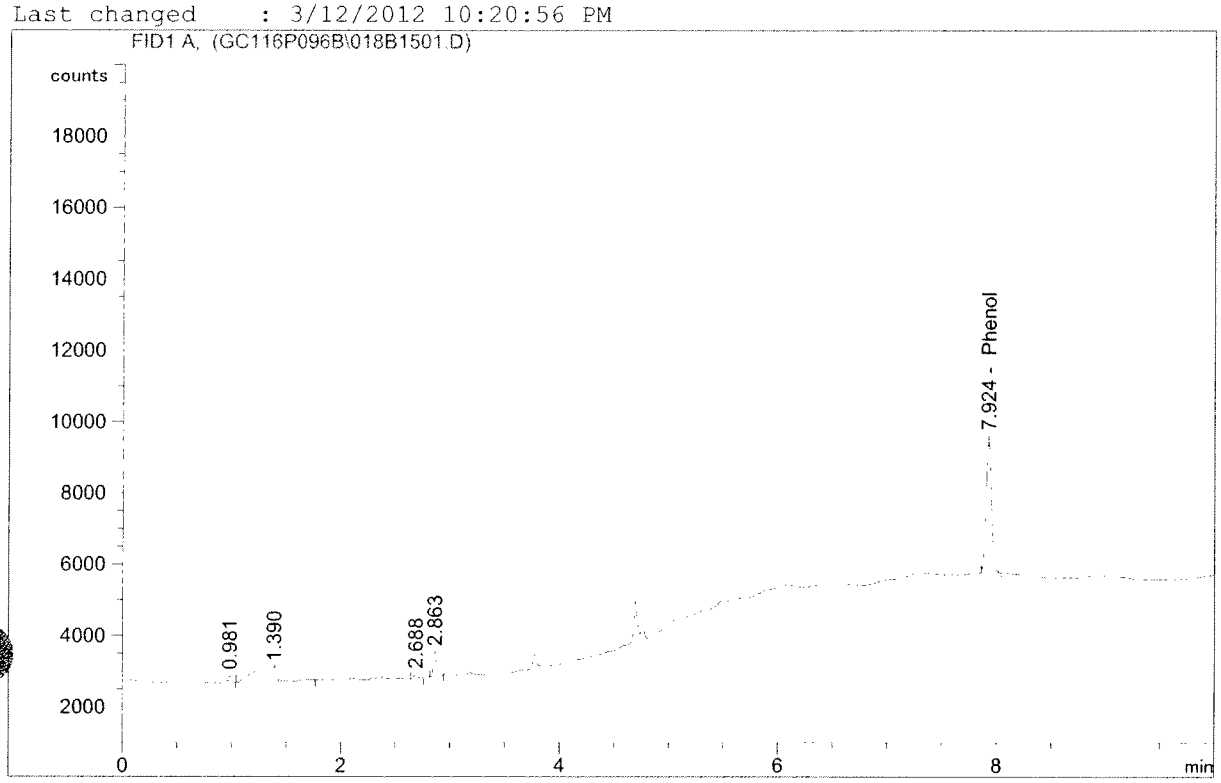
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.925 BB     1.52544e4  1.03621e-3   15.80674     Phenol

Totals :                                15.80674
```

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  15
Acq. Instrument : Oscar                                 Location : Vial 18
Injection Date  : 3/11/2012 3:40:06 AM                       Inj :   1
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

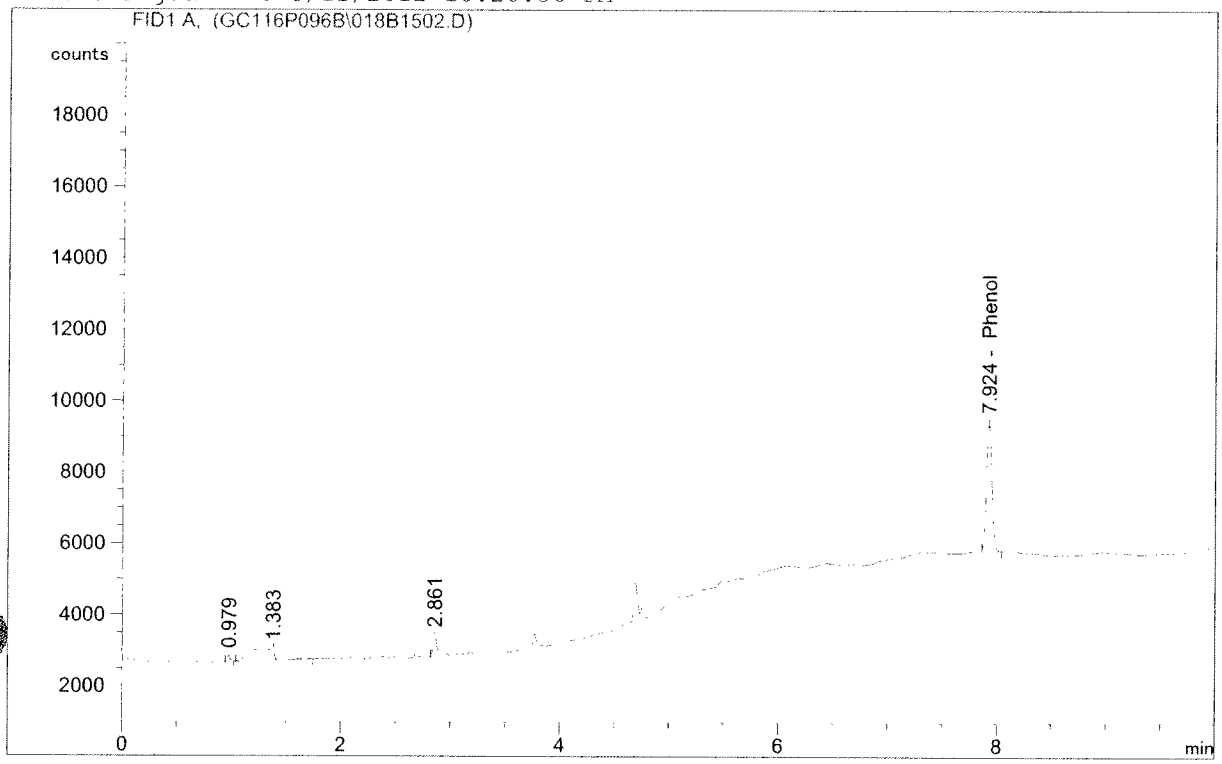
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.33193e4  1.03652e-3   13.80568     Phenol

Totals :                                13.80568


================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  15
Acq. Instrument  : Oscar                                 Location : Vial 18
Injection Date   : 3/11/2012 3:53:29 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

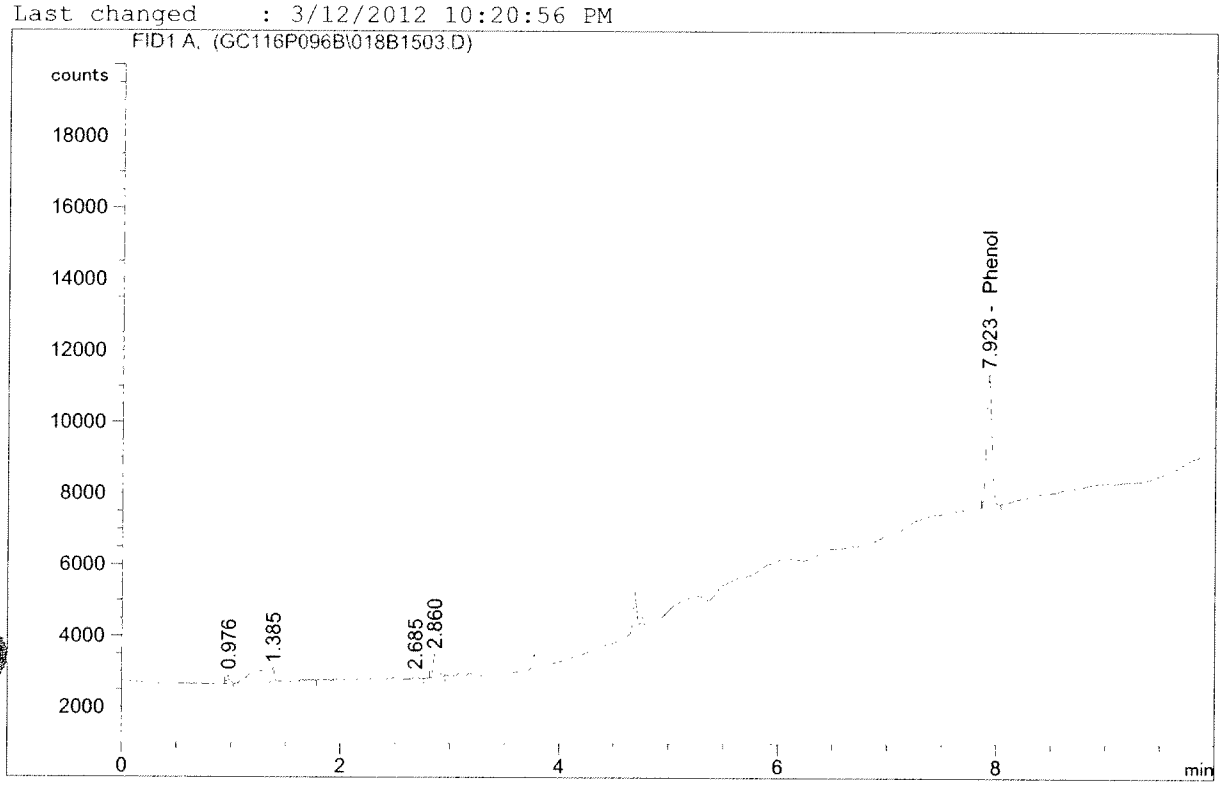
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.26707e4  1.03664e-3   13.13495     Phenol

Totals :                                13.13495
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  15
Acq. Instrument  : Oscar                             Location : Vial 18
Injection Date   : 3/11/2012 4:06:57 AM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

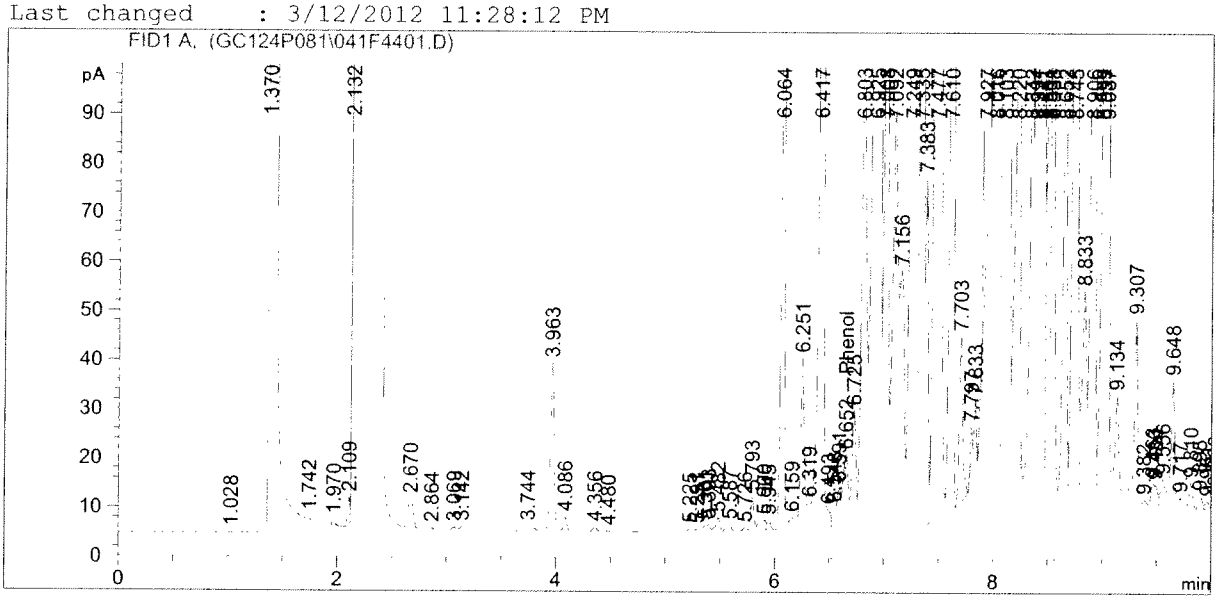
RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     1.24909e4  1.03668e-3   12.94904     Phenol

Totals :                                12.94904

==========================================================================
                        *** End of Report ***
```

Sample Chromatograms

```
Acq. Operator    : JBB                                  Seq. Line :  44
Acq. Instrument  : Lolita                                Location : Vial 41
Injection Date   : 12-Mar-12, 17:52:56                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

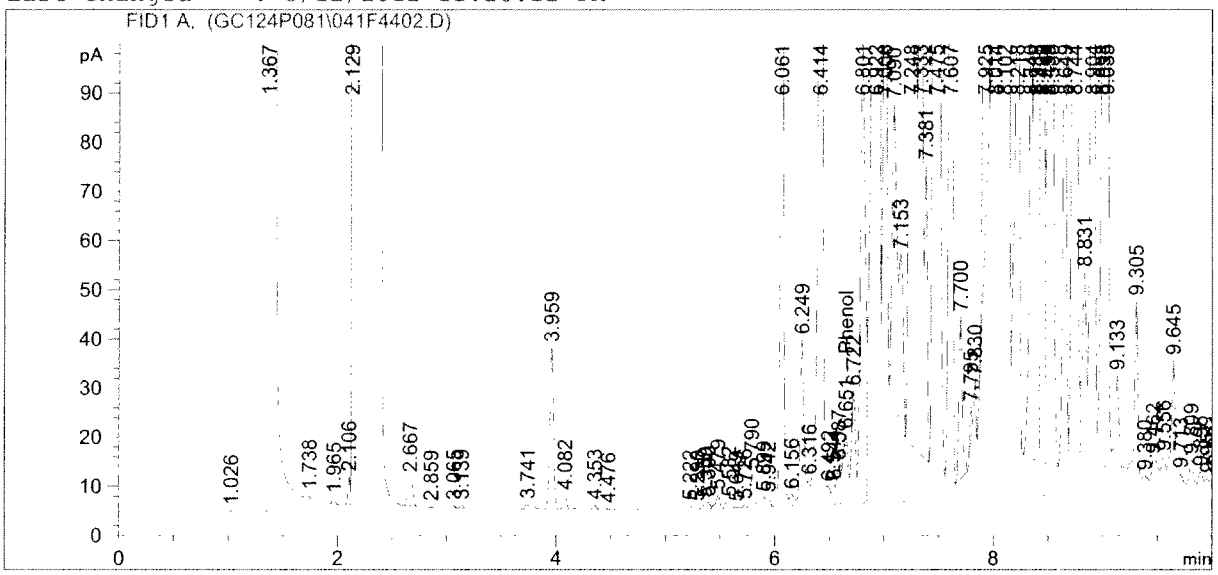
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.652 VV       50.45134 4.27692e-1   21.57766     Phenol

Totals :                                21.57766
```

*** End of Report ***

```
==============================================================================
Acq. Operator   : JBB                                  Seq. Line :  44
Acq. Instrument : Lolita                                Location : Vial 41
Injection Date  : 12-Mar-12, 18:09:48                       Inj :   2
                                                     Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 4:40:22 PM by JBB
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

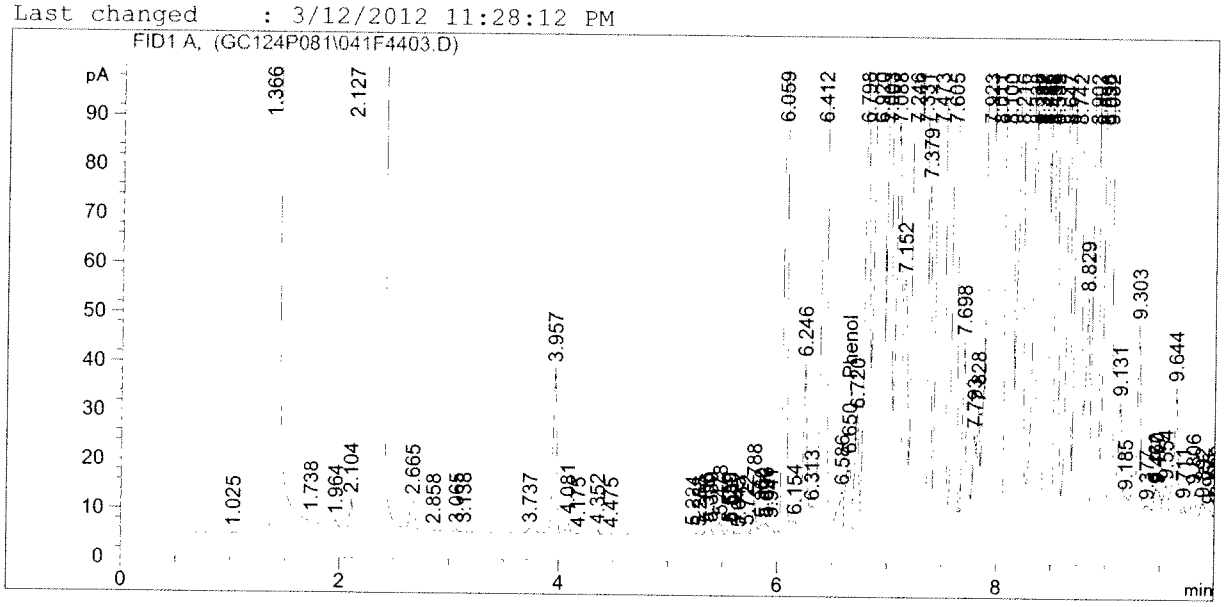
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.651 VV       48.59977 4.28033e-1   20.80230     Phenol

Totals :                                20.80230


==============================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  44
Acq. Instrument  : Lolita                               Location : Vial 41
Injection Date   : 12-Mar-12, 18:26:42                      Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

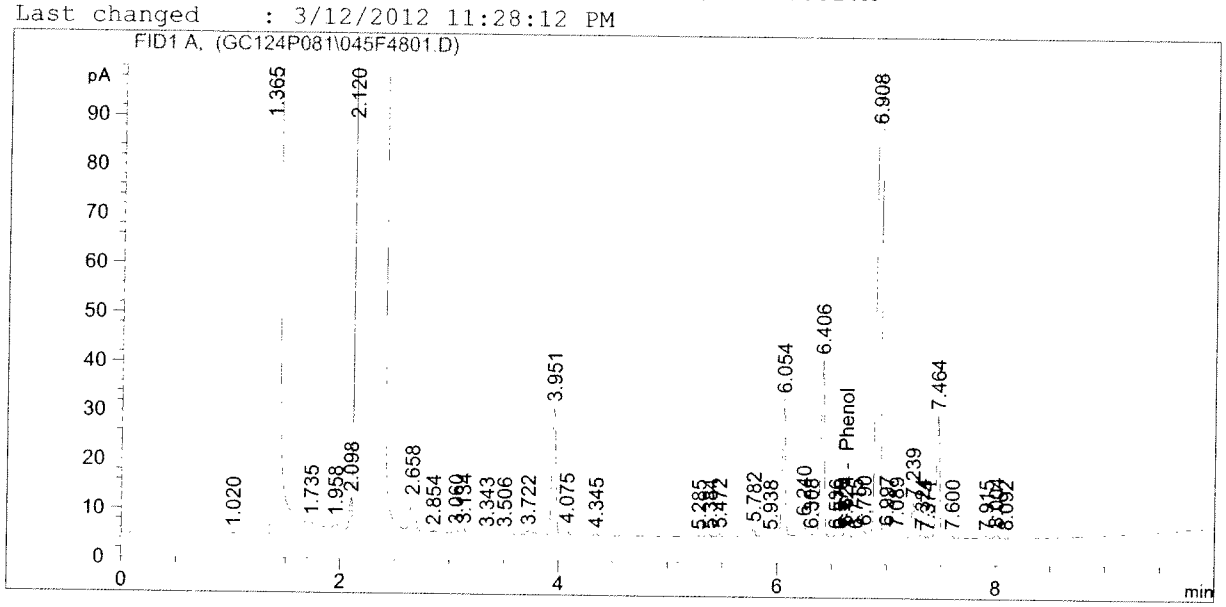
RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.650 VV       48.33583 4.28083e-1   20.69177     Phenol

Totals :                                20.69177
```

*** End of Report ***

Data File W:\GC2012Q1\LOLITA\DATA\MAR12\GC124P081\045F4801.D
Sample Name: 0212-67 T384 R1 US BH

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 12-Mar-12, 21:15:31
Seq. Line : 48
Location : Vial 45
Inj : 1
Inj Volume : External
Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 4:40:22 PM by JBB
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

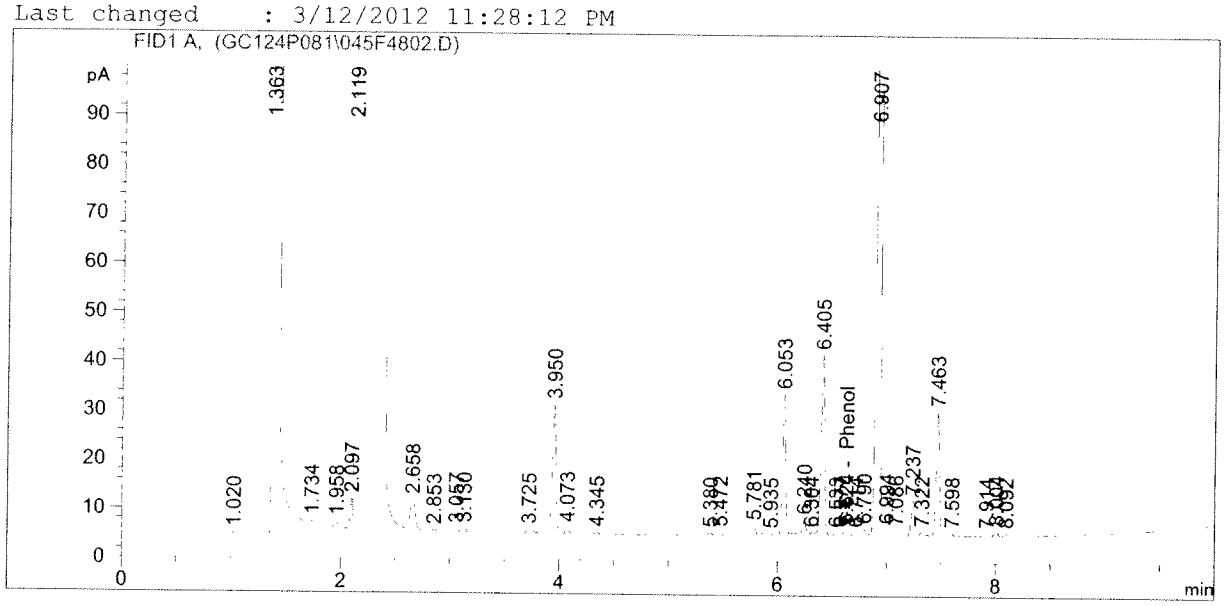
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.624	VV	3.46089	5.48992e-1	1.90000		Phenol

Totals : 1.90000

*** End of Report ***

Data File W:\GC2012Q1\LOLITA\DATA\MAR12\GC124P081\045F4802.D
Sample Name: 0212-67 T384 R1 US BH

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 12-Mar-12, 21:32:24
Seq. Line : 48
Location : Vial 45
Inj : 2
Inj Volume : External
Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 4:40:22 PM by JBB
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

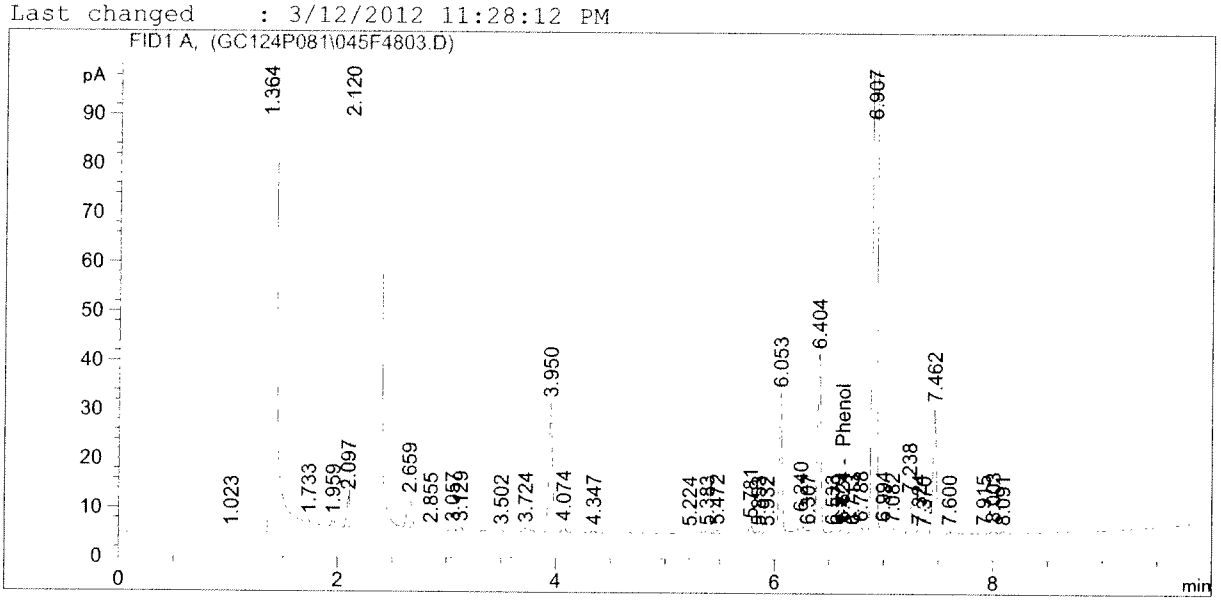
Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.624	VV	3.36049	5.52883e-1	1.85795		Phenol

Totals : 1.85795

*** End of Report ***

Acq. Operator : JBB
Seq. Line : 48
Acq. Instrument : Lolita
Location : Vial 45
Injection Date : 12-Mar-12, 21:49:15
Inj : 3
Inj Volume : External
Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 4:40:22 PM by JBB
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

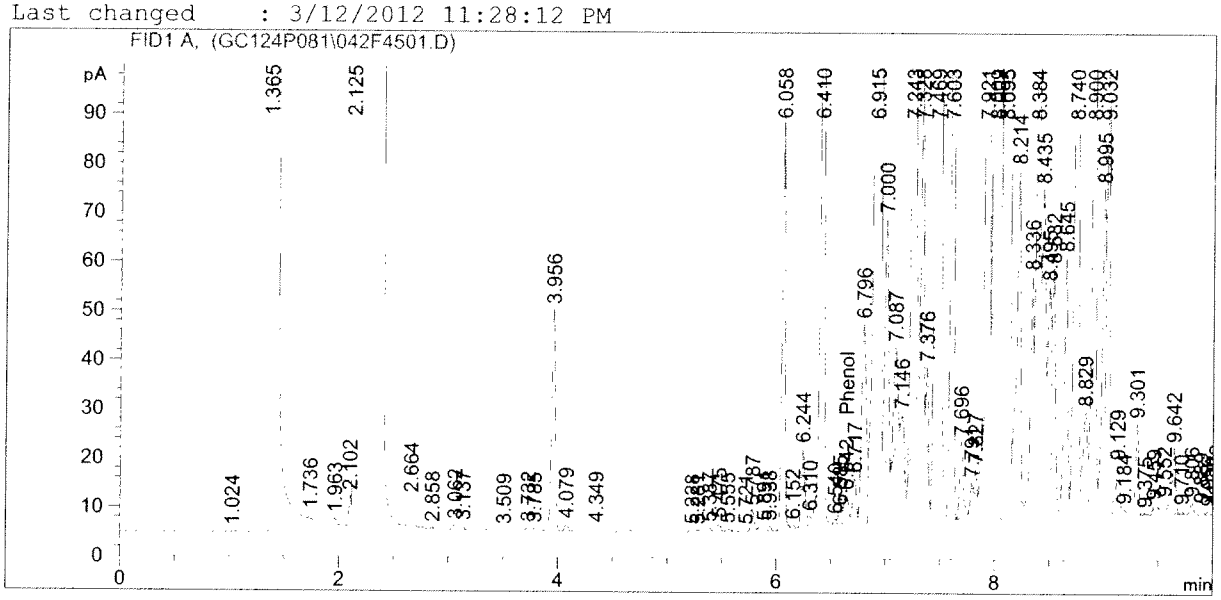
Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.624	VV	3.41301	5.50819e-1	1.87995		Phenol

Totals : 1.87995

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  45
Acq. Instrument  : Lolita                                Location : Vial 42
Injection Date   : 12-Mar-12, 18:43:34                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

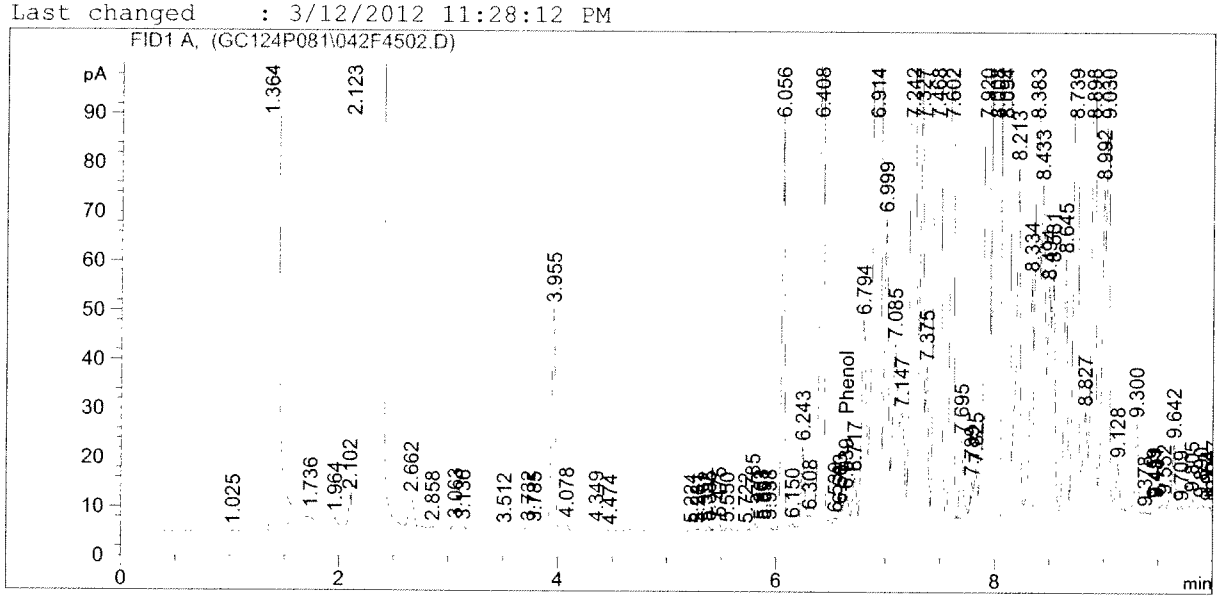
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.642 VV       18.52796 4.43085e-1    8.20947     Phenol

Totals :                                 8.20947
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  45
Acq. Instrument  : Lolita                                Location : Vial 42
Injection Date   : 12-Mar-12, 19:00:25                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.639 VV       18.24527 4.43462e-1    8.09109     Phenol

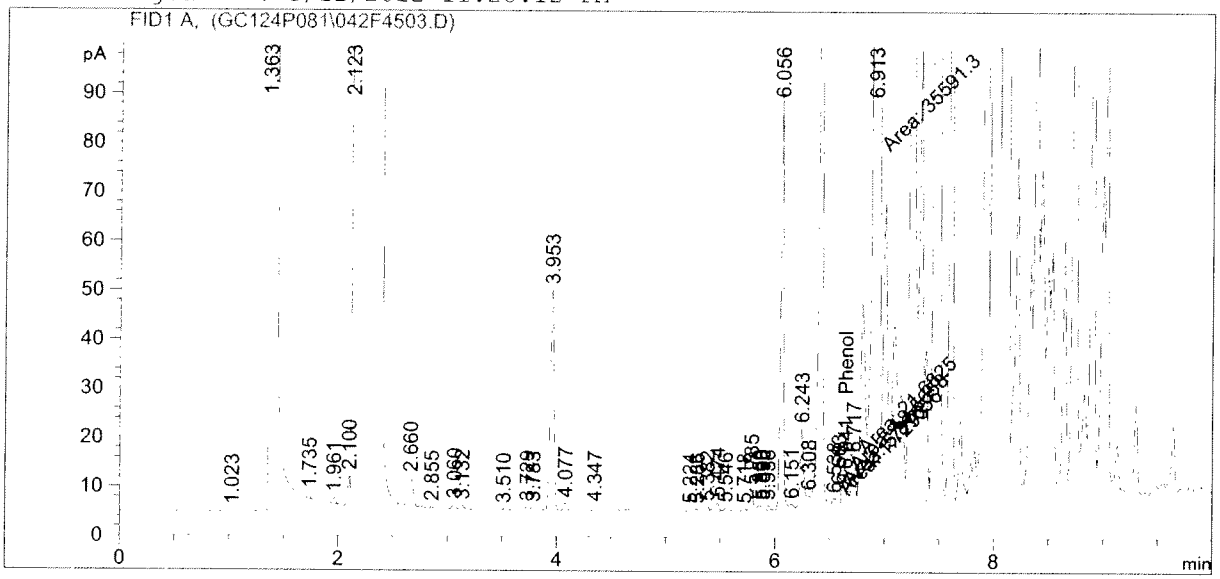
Totals :                                 8.09109
```

*** End of Report ***

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 12-Mar-12, 19:17:20

Seq. Line : 45
Location : Vial 42
Inj : 3
Inj Volume : External

Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 4:40:22 PM by JBB
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.641	FM	18.56580	4.43036e-1	8.22531		Phenol

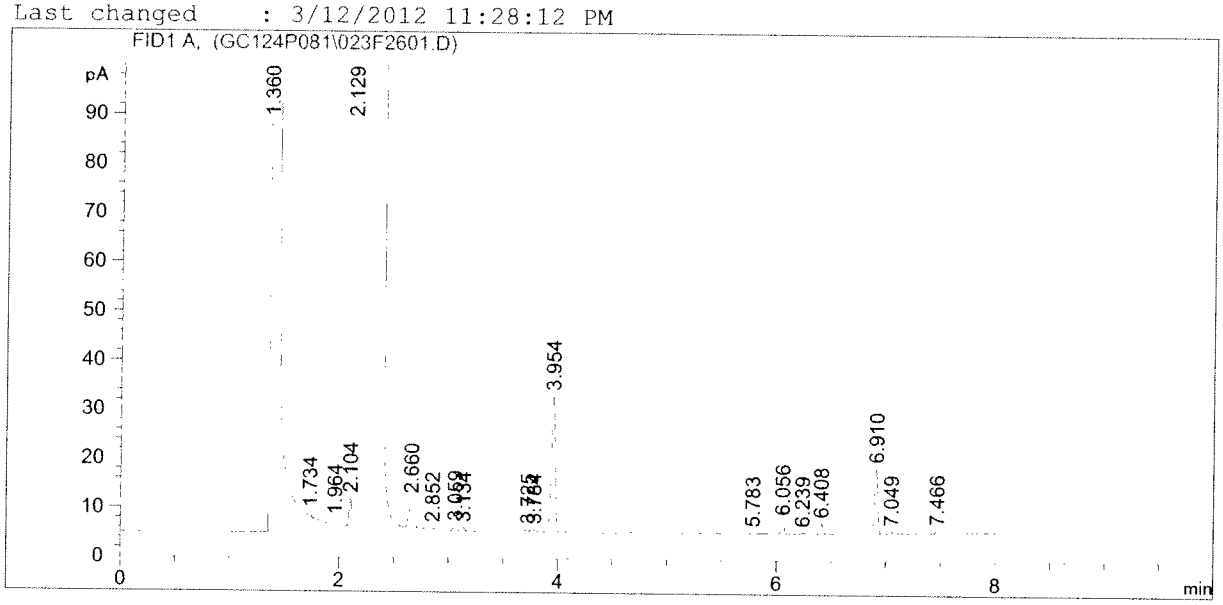
Totals : 8.22531

*** End of Report ***

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 11-Mar-12, 12:10:03

Seq. Line : 26
Location : Vial 23
Inj : 1
Inj Volume : External

Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.661		-	-	-		Phenol

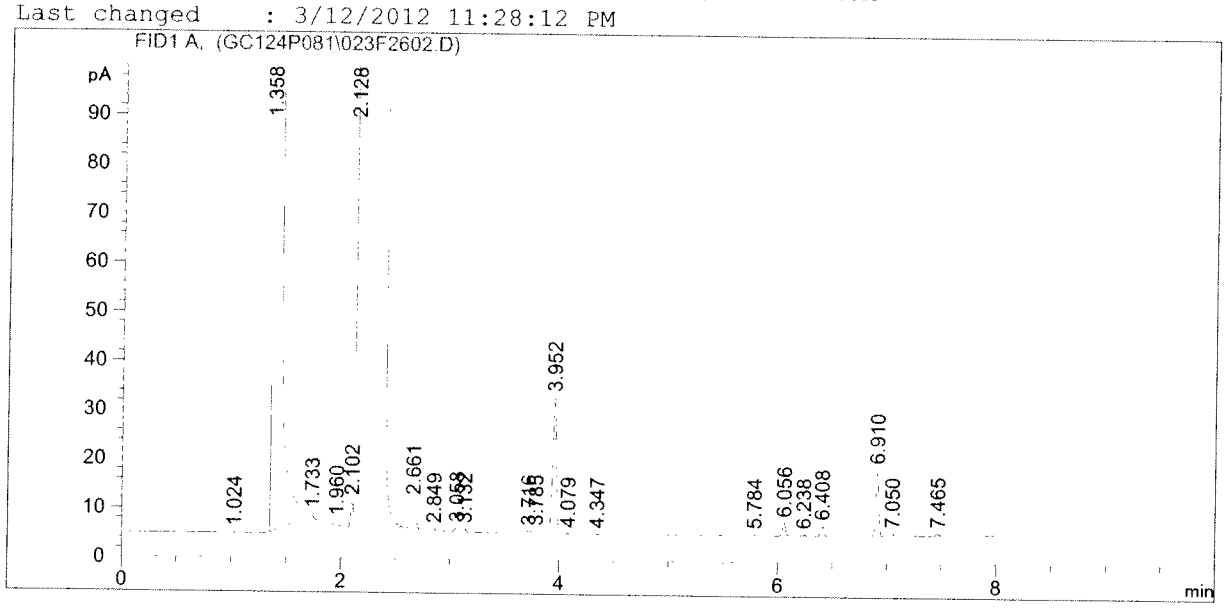
Totals : 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found

Data File W:\GC2012Q1\LOLITA\DATA\MAR12\GC124P081\023F2602.D
Sample Name: 0212-67 T384 R2 US BH

```
Acq. Operator    : JBB                                  Seq. Line :  26
Acq. Instrument  : Lolita                               Location : Vial 23
Injection Date   : 11-Mar-12, 12:23:15                      Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661            -          -          -          Phenol

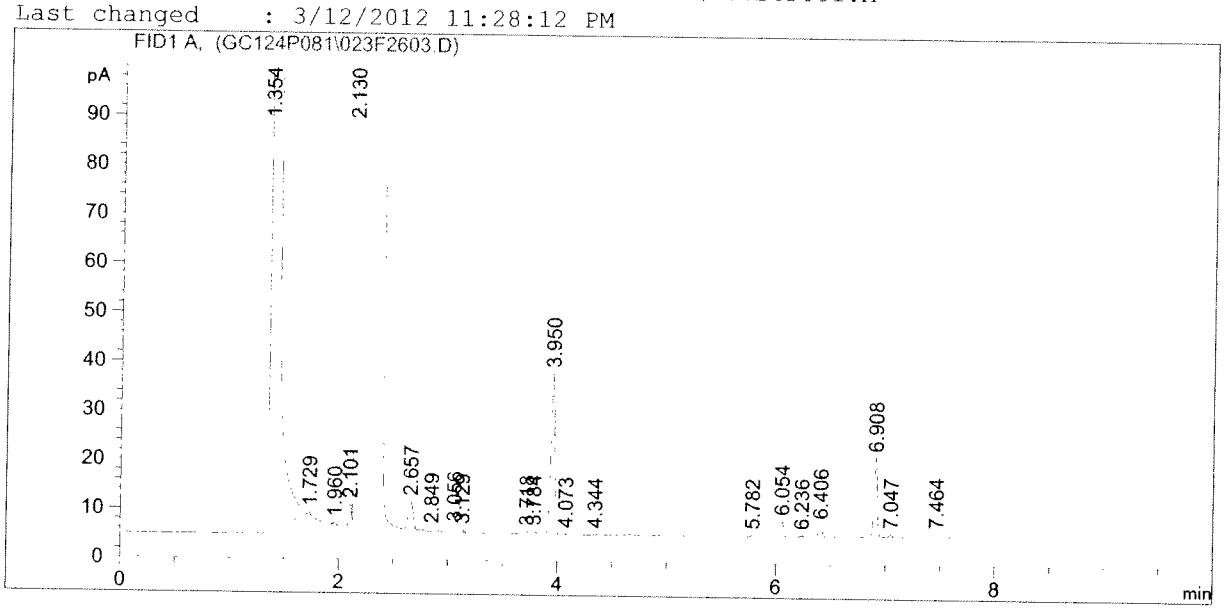
Totals :                                 0.00000

1 Warnings or Errors :

Warning : Calibrated compound(s) not found
```

Data File W:\GC2012Q1\LOLITA\DATA\MAR12\GC124P081\023F2603.D
Sample Name: 0212-67 T384 R2 US BH

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 11-Mar-12, 12:36:28
Seq. Line : 26
Location : Vial 23
Inj : 3
Inj Volume : External
Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.661		-	-	-		Phenol

Totals : 0.00000

1 Warnings or Errors :

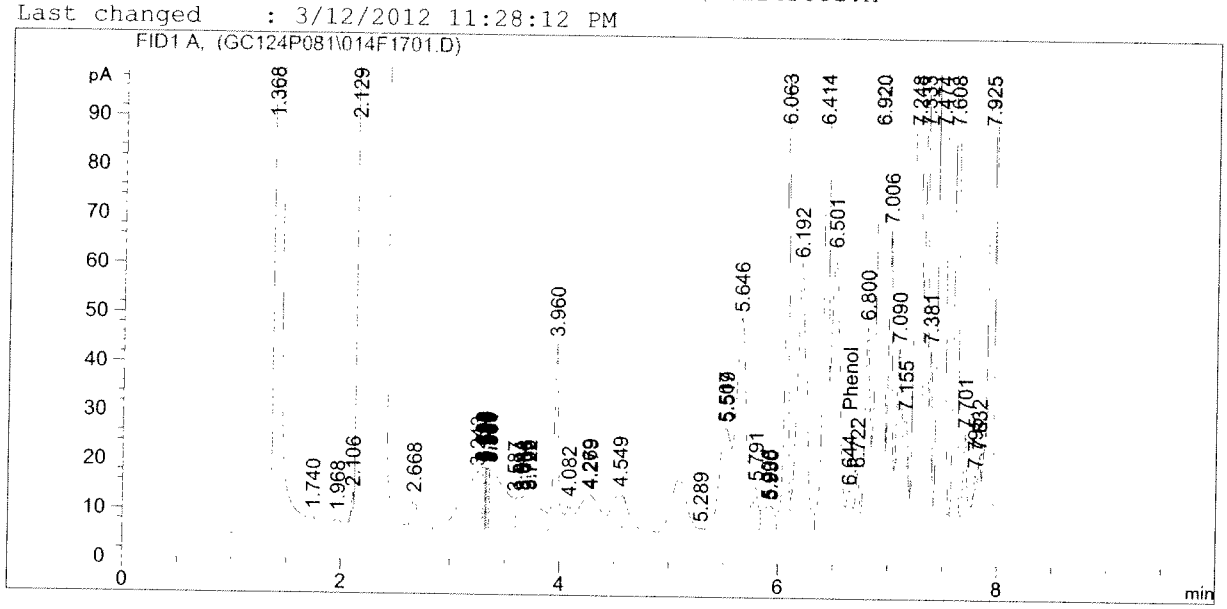
Warning : Calibrated compound(s) not found

Data File W:\GC2012Q1\LOLITA\DATA\MAR12\GC124P081\014F1701.D
Sample Name: 0212-67 T384 R3 US FH

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 11-Mar-12, 06:15:01

Seq. Line : 17
Location : Vial 14
Inj : 1
Inj Volume : External

Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

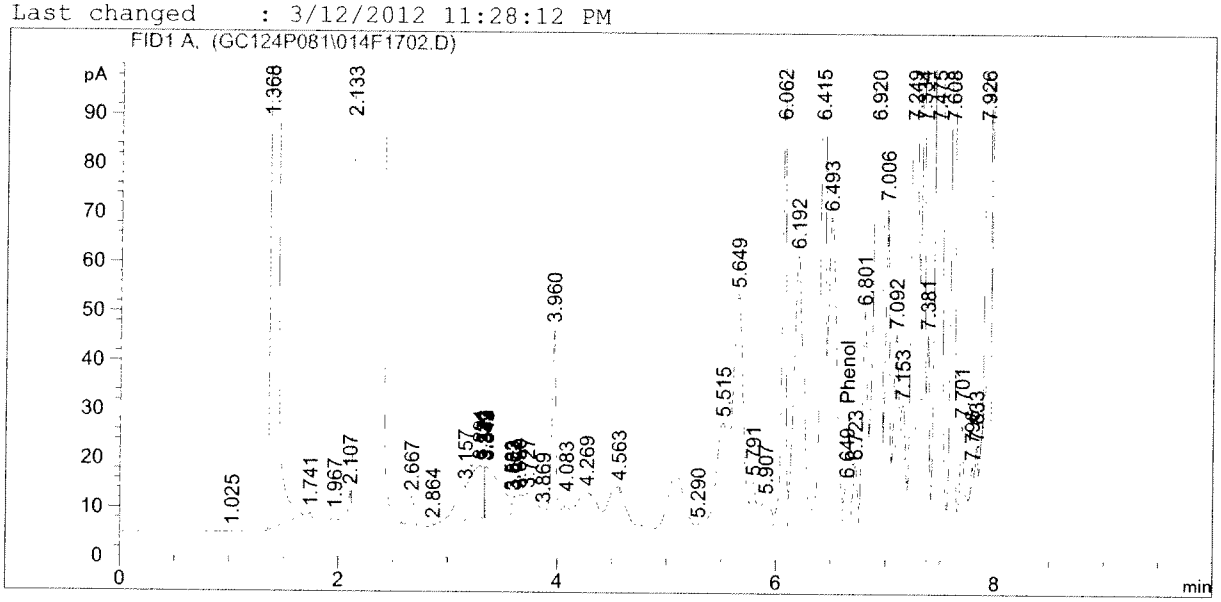
RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.644	VV	29.46297	4.34057e-1	12.78859		Phenol
Totals :				12.78859		

*** End of Report ***

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 11-Mar-12, 06:28:10

Seq. Line : 17
Location : Vial 14
Inj : 2
Inj Volume : External

Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

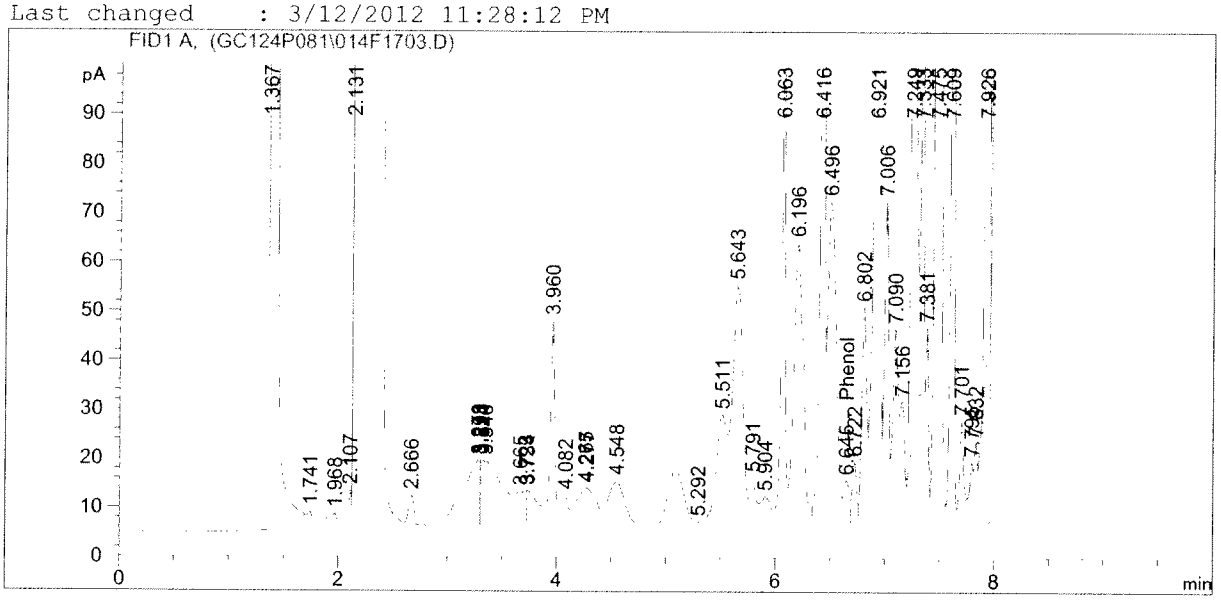
Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.649	VV	30.83854	4.33374e-1	13.36463		Phenol

Totals : 13.36463

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  17
Acq. Instrument  : Lolita                                Location : Vial 14
Injection Date   : 11-Mar-12, 06:41:17                       Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

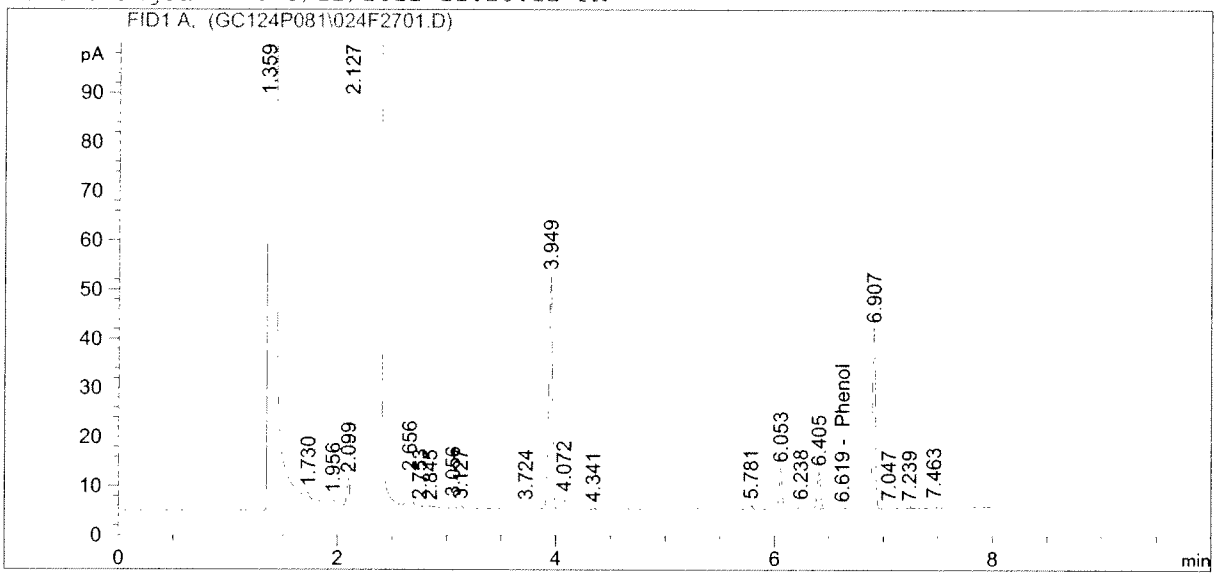
RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.645 VV       31.04384 4.33278e-1   13.45060     Phenol

Totals :                                13.45060
```

*** End of Report ***

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :  27
Acq. Instrument  : Lolita                                Location : Vial 24
Injection Date   : 11-Mar-12, 12:49:40                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

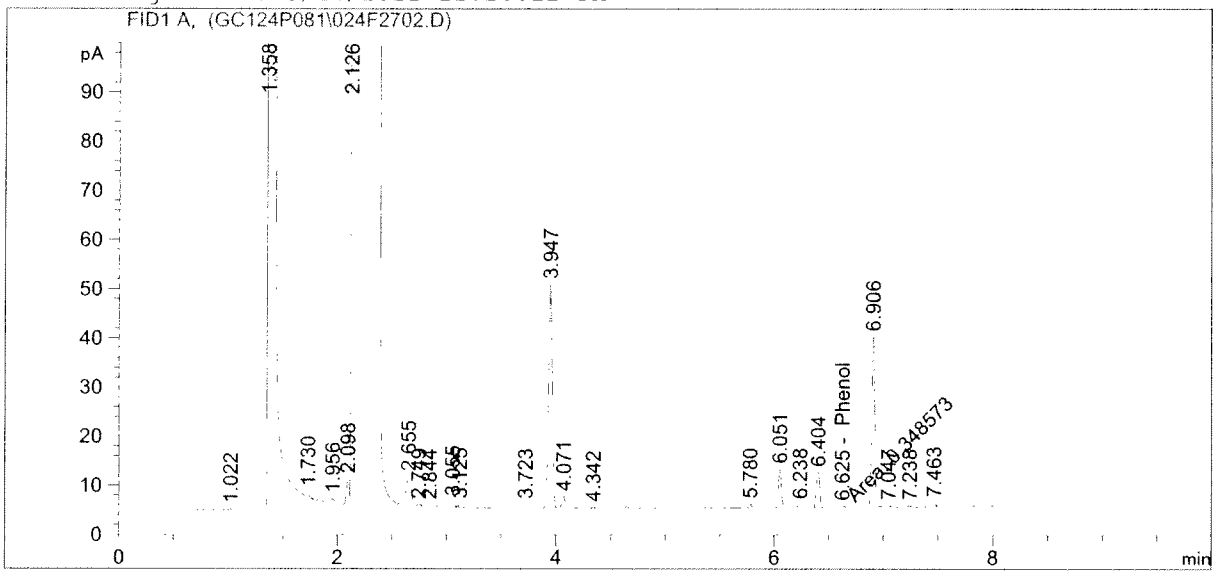
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.619 BB     4.46647e-1    1.42788 6.37759e-1     Phenol

Totals :                               6.37759e-1
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  27
Acq. Instrument  : Lolita                                Location : Vial 24
Injection Date   : 11-Mar-12, 13:02:55                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

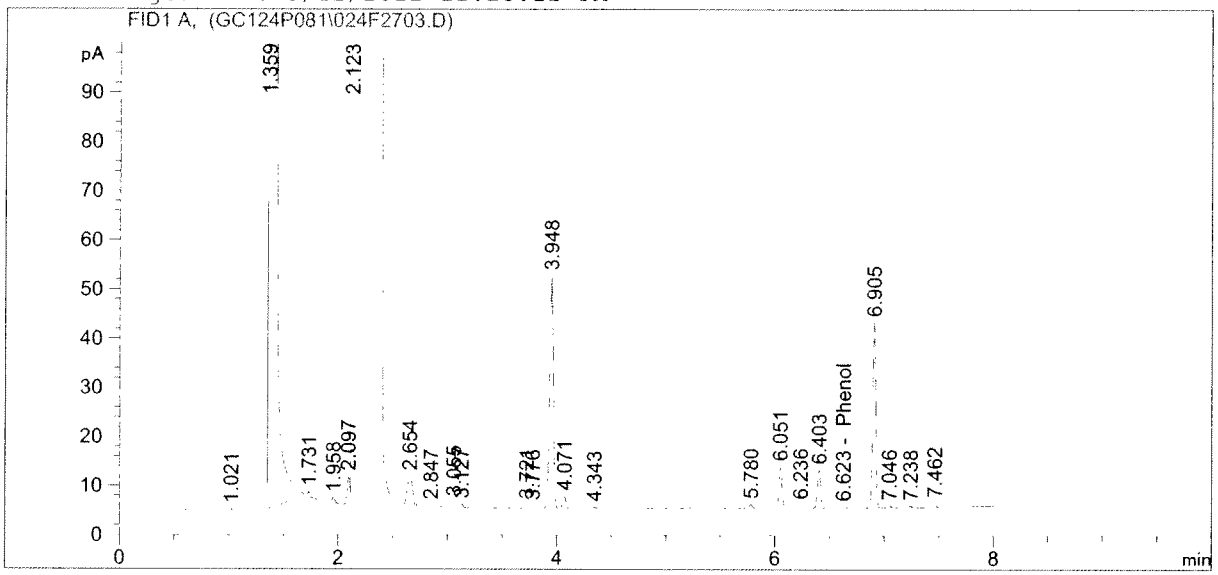
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.625 MM     3.48573e-1    1.71181 5.96690e-1     Phenol

Totals :                               5.96690e-1
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  27
Acq. Instrument  : Lolita                                Location : Vial 24
Injection Date   : 11-Mar-12, 13:16:09                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

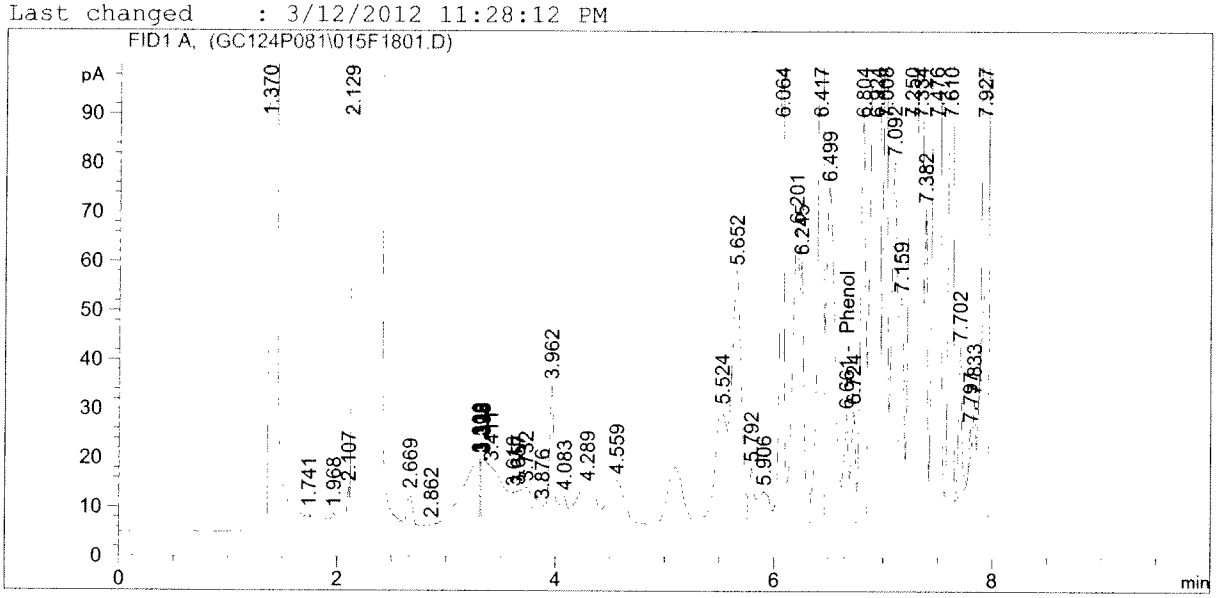
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.623 BB     4.47622e-1    1.42568 6.38168e-1     Phenol

Totals :                               6.38168e-1
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument  : Lolita                                Location : Vial 15
Injection Date   : 11-Mar-12, 06:54:23                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

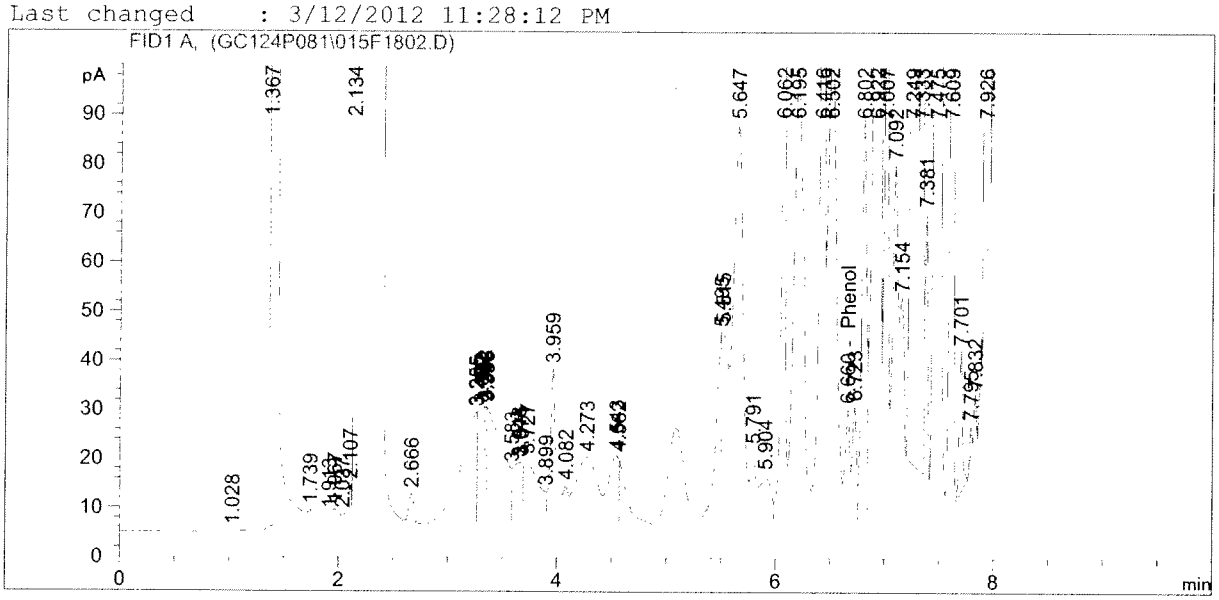
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661 VV       65.90094 4.25598e-1   28.04731     Phenol

Totals :                                28.04731
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument  : Lolita                                Location : Vial 15
Injection Date   : 11-Mar-12, 07:07:32                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

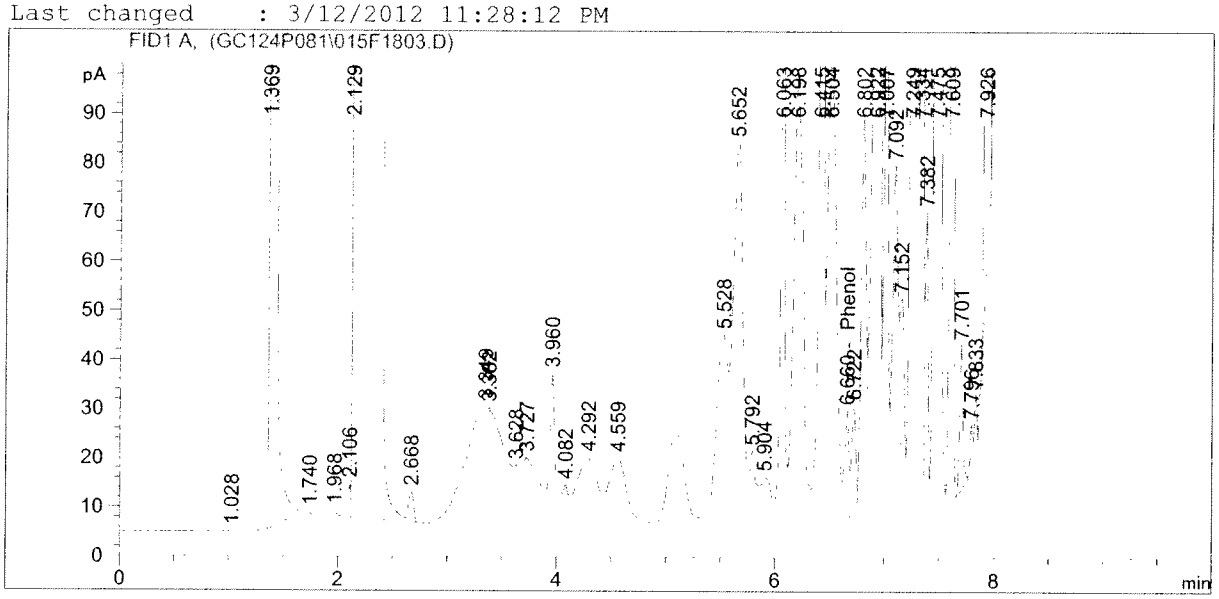
Signal 1: FID1 A,
```

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.660	VV	67.00861	4.25485e-1	28.51116		Phenol

```
Totals :                                  28.51116
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument  : Lolita                                Location : Vial 15
Injection Date   : 11-Mar-12, 07:20:38                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

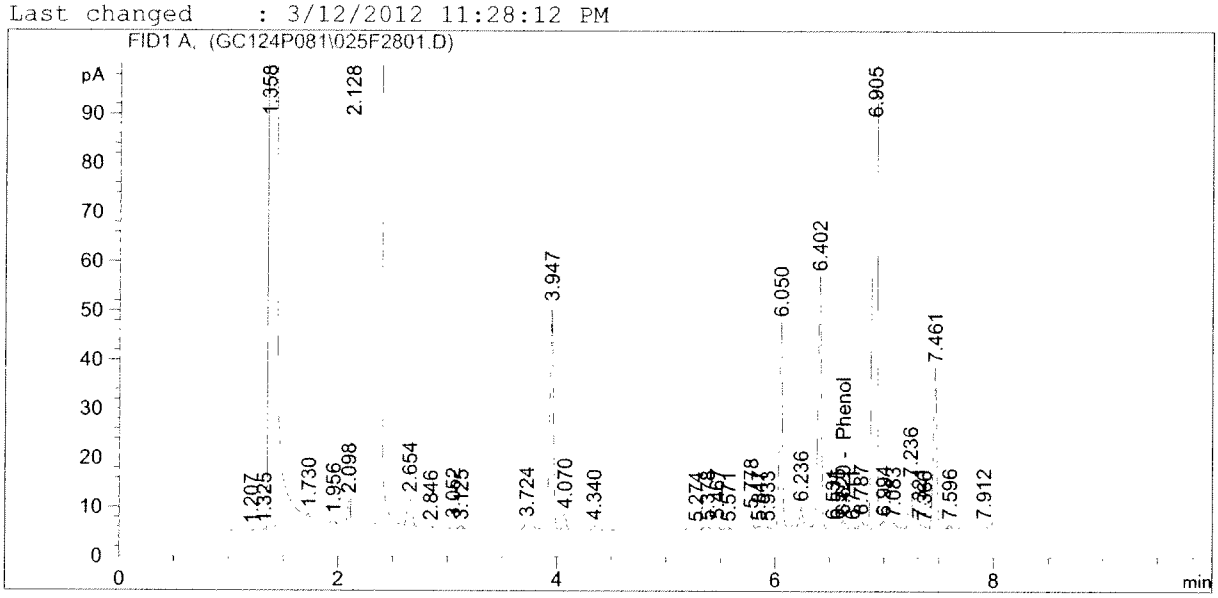
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.660 VV       65.37418 4.25653e-1   27.82673     Phenol

Totals :                                27.82673
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  28
Acq. Instrument  : Lolita                               Location  : Vial 25
Injection Date   : 11-Mar-12, 13:29:24                      Inj   :  1
                                                        Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

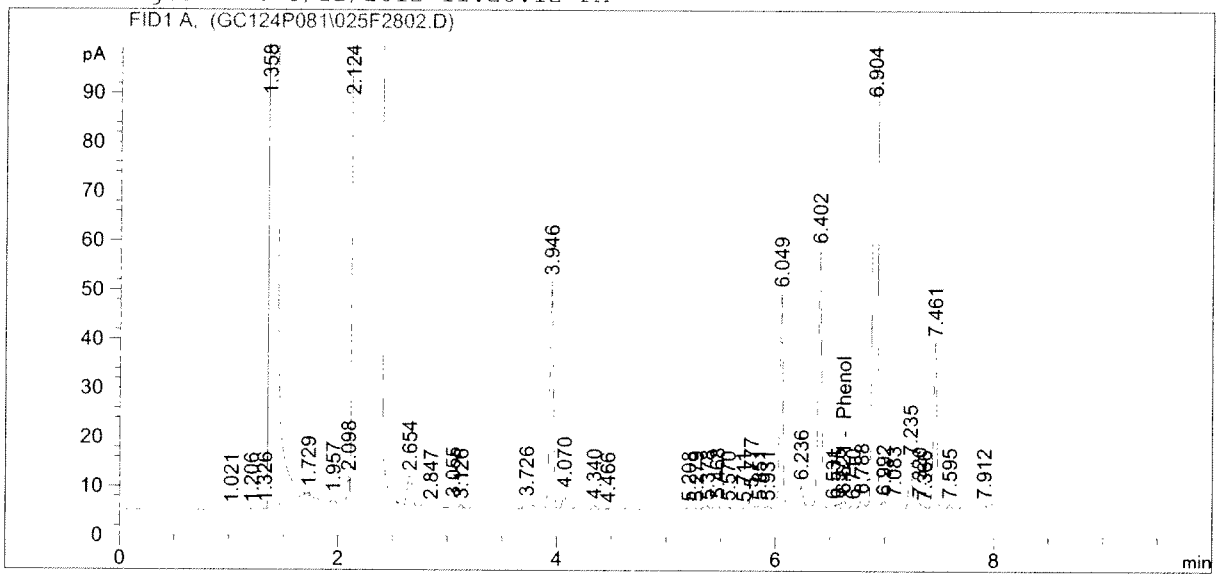
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.620 VV        4.70733 5.14508e-1    2.42196     Phenol

Totals :                                2.42196
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  28
Acq. Instrument  : Lolita                               Location : Vial 25
Injection Date   : 11-Mar-12, 13:42:41                      Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

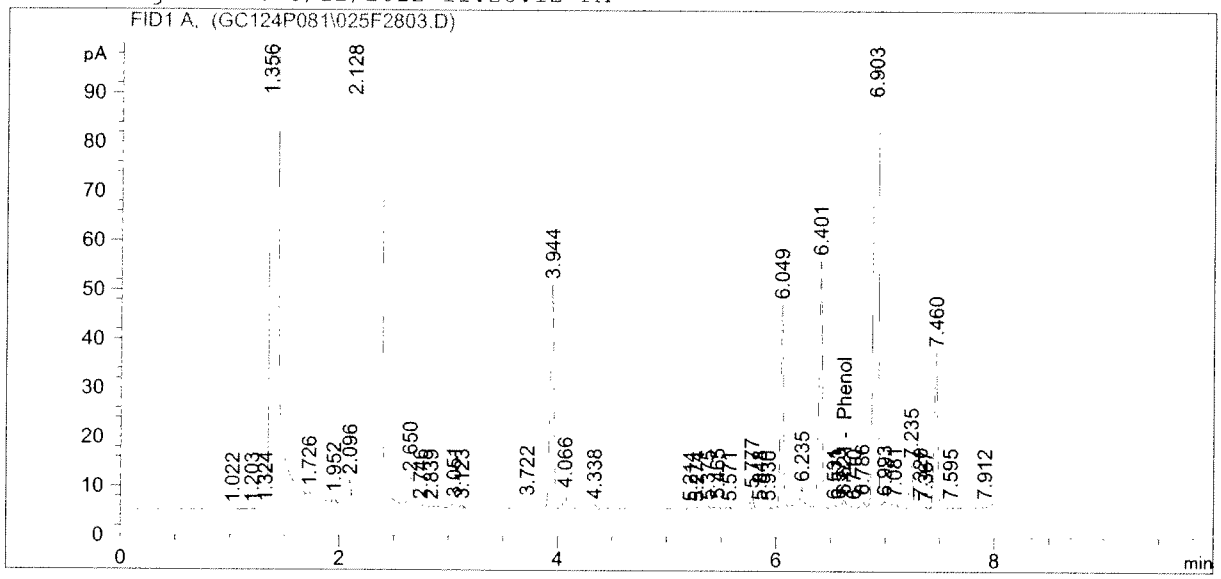
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.621 VV        4.86186 5.11464e-1    2.48667     Phenol

Totals :                                2.48667
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  28
Acq. Instrument  : Lolita                                Location : Vial 25
Injection Date   : 11-Mar-12, 13:55:57                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

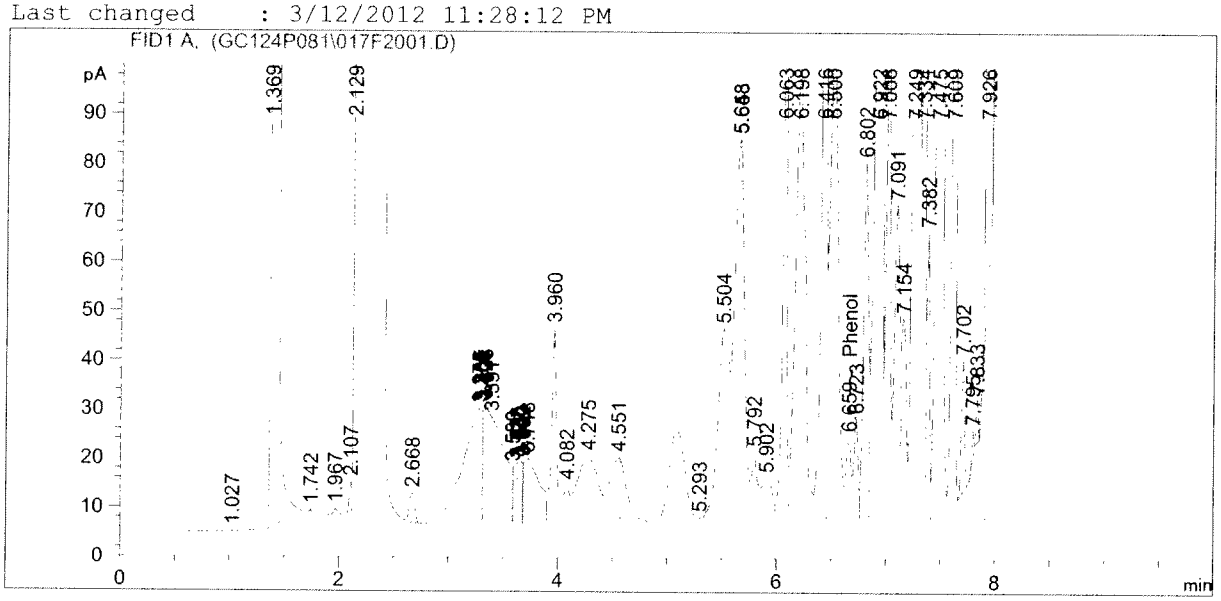
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.621 VV        4.61987 5.16320e-1    2.38533     Phenol

Totals :                                2.38533
```

*** End of Report ***

Acq. Operator : JBB
Acq. Instrument : Lolita
Injection Date : 11-Mar-12, 08:13:05
Seq. Line : 20
Location : Vial 17
Inj : 1
Inj Volume : External
Sequence File : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed : 3/12/2012 11:28:12 PM



External Standard Report

Sorted By : Signal
Calib. Data Modified : 3/12/2012 11:27:44 PM
Multiplier: : 1.0000
Dilution: : 1.0000
Use Multiplier & Dilution Factor with ISTDs

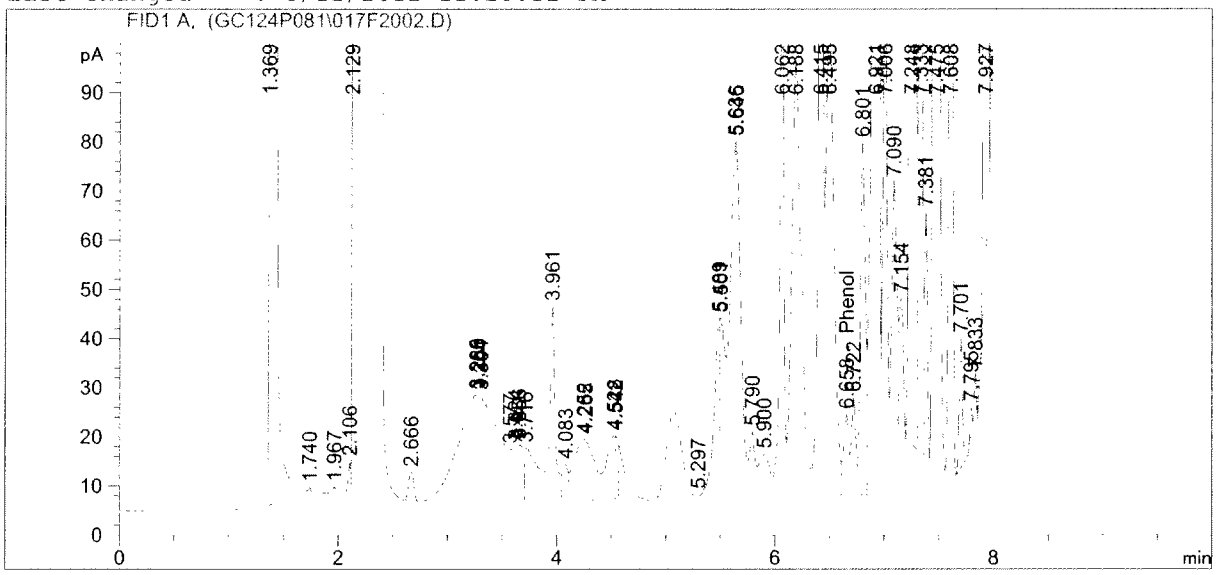
Signal 1: FID1 A,

RetTime [min]	Type	Area [pA*s]	Amt/Area	Amount	Grp	Name
6.659	VV	53.94244	4.27114e-1	23.03959		Phenol

Totals : 23.03959

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Lolita                                Location : Vial 17
Injection Date   : 11-Mar-12, 08:26:14                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

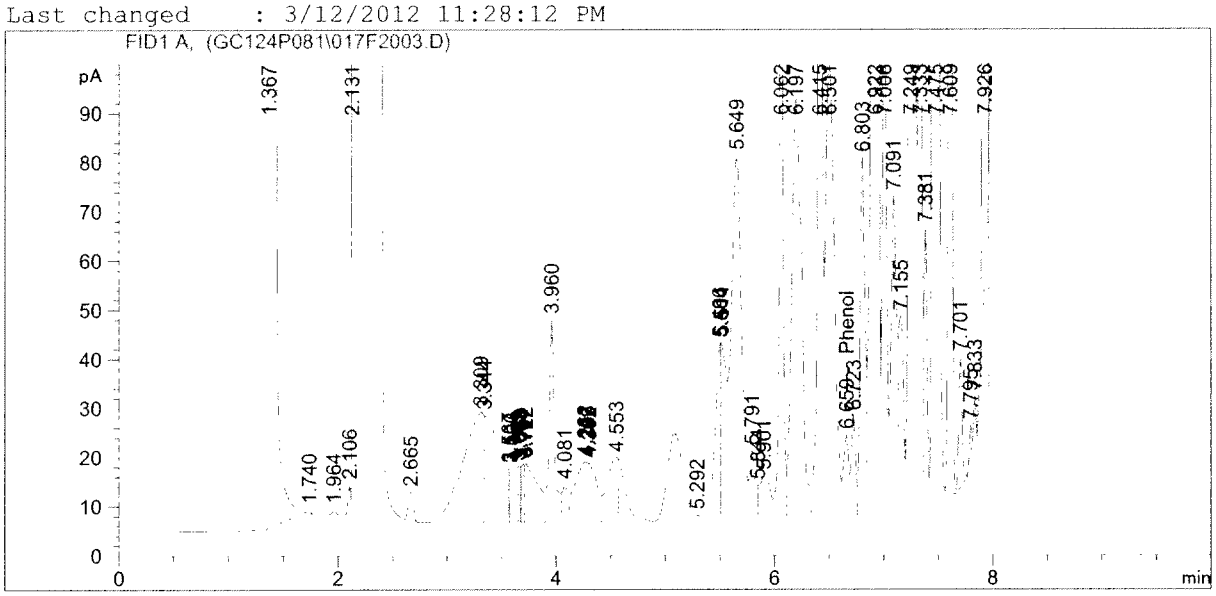
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 VV       54.75373 4.26990e-1   23.37932     Phenol

Totals :                                23.37932

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Lolita                                Location : Vial 17
Injection Date   : 11-Mar-12, 08:39:19                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

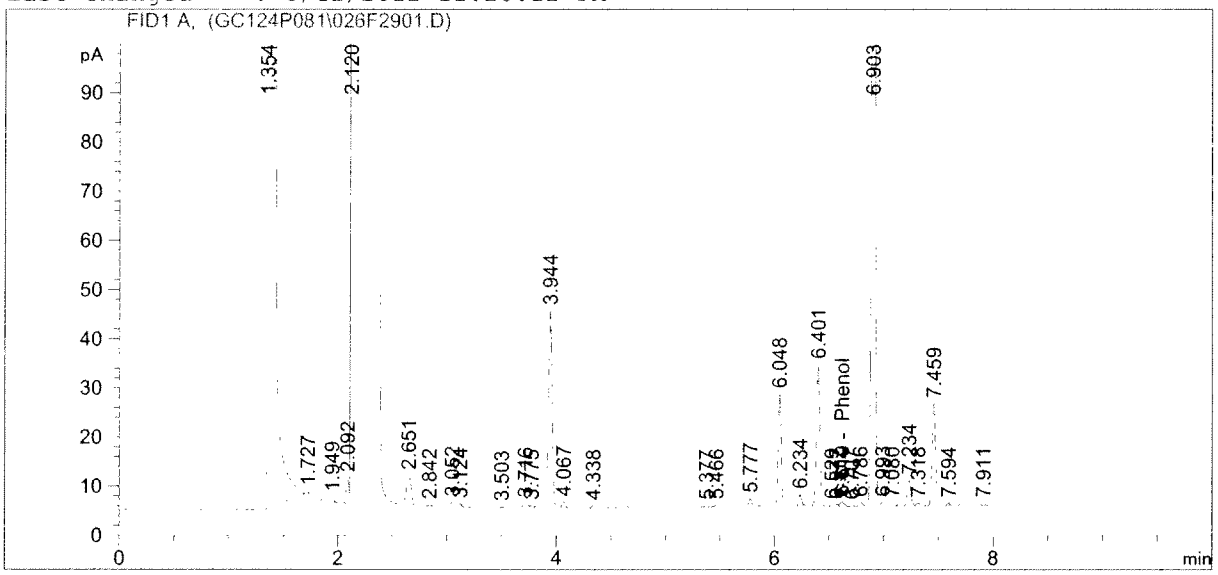
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.659 VV       54.07946 4.27093e-1   23.09696     Phenol

Totals :                                23.09696

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  29
Acq. Instrument  : Lolita                                Location : Vial 26
Injection Date   : 11-Mar-12, 14:09:14                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

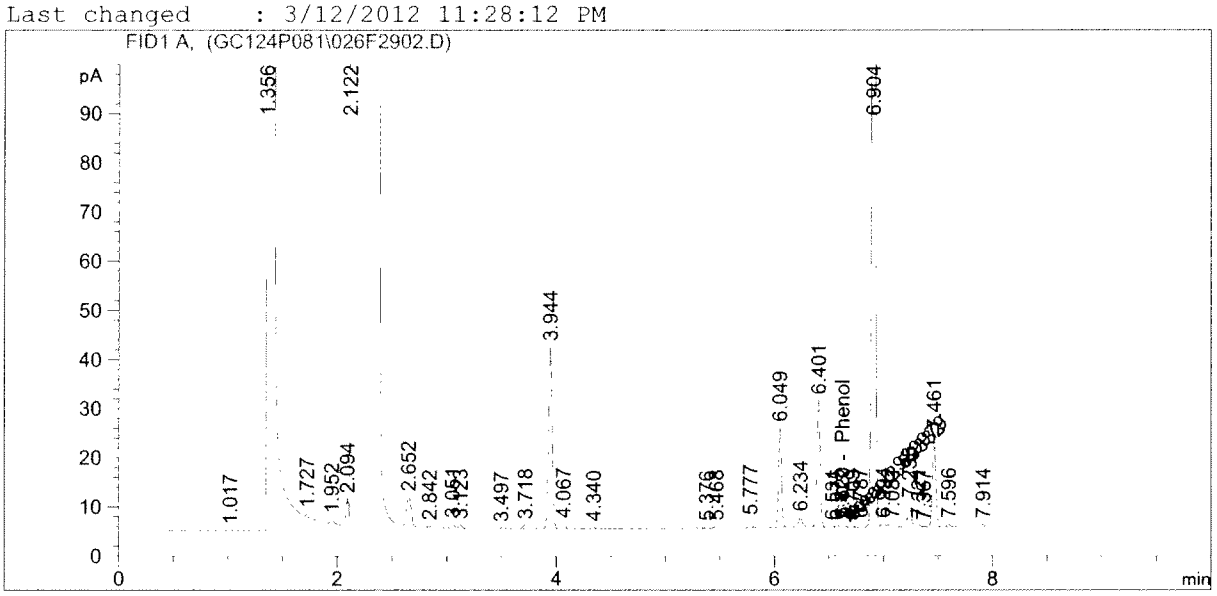
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.619 VV        2.79569 5.79979e-1    1.62144     Phenol

Totals :                                 1.62144

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  29
Acq. Instrument  : Lolita                                Location : Vial 26
Injection Date   : 11-Mar-12, 14:22:28                       Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

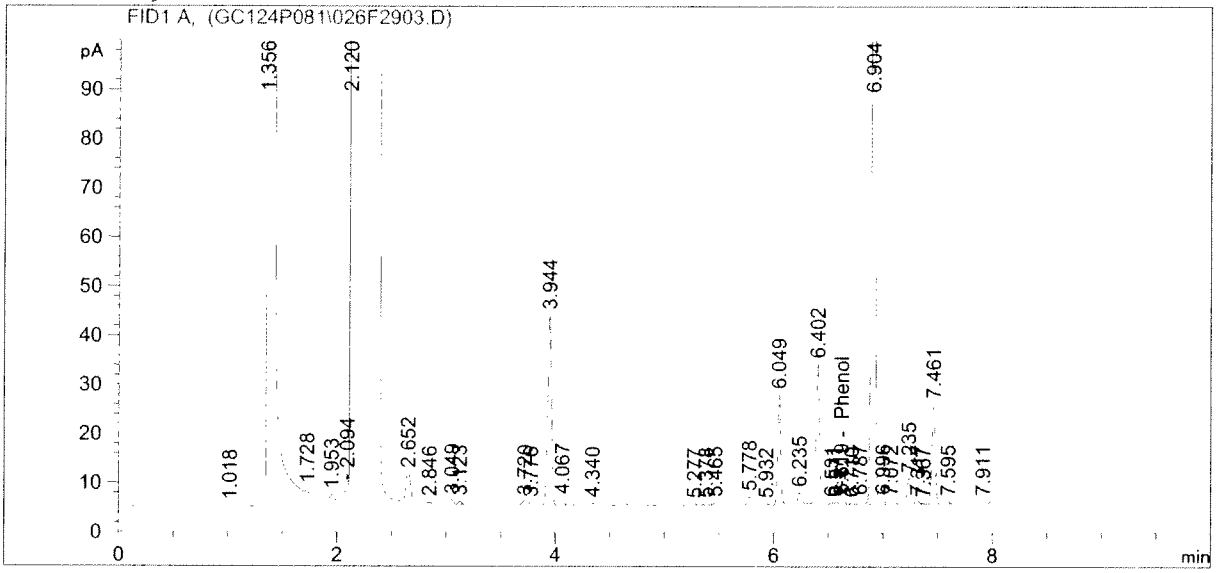
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.620 FM        2.59332 5.92560e-1    1.53670     Phenol

Totals :                                 1.53670


================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  29
Acq. Instrument  : Lolita                               Location : Vial 26
Injection Date   : 11-Mar-12, 14:35:47                      Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

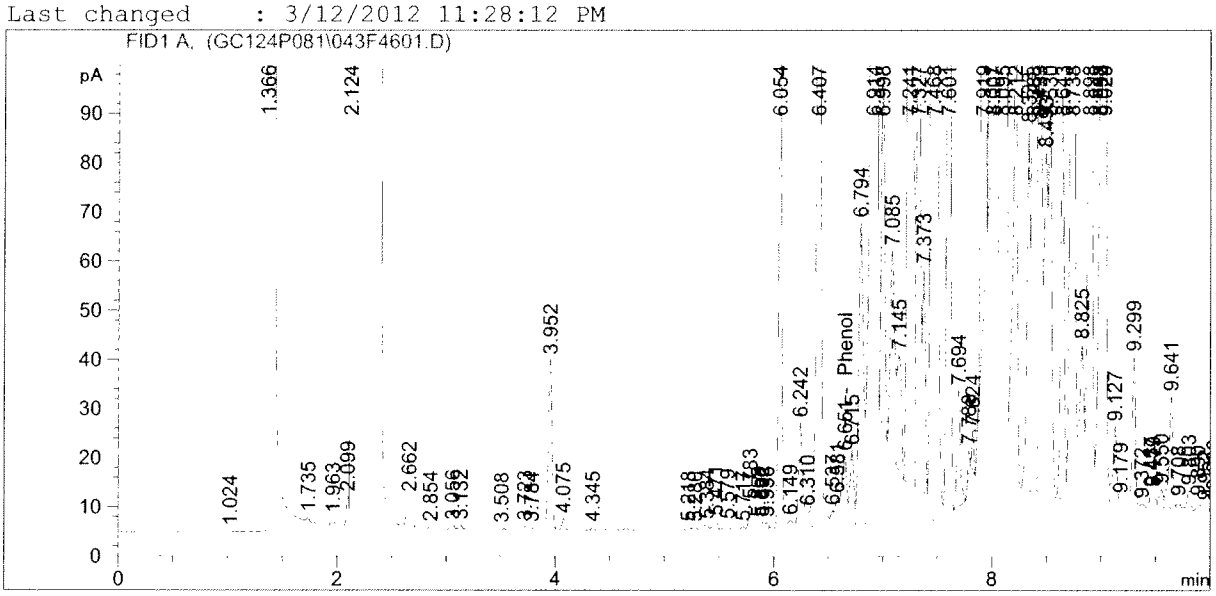
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.619 VV        2.73728 5.83419e-1    1.59698     Phenol

Totals :                                1.59698
```

*** End of Report ***

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :  46
Acq. Instrument  : Lolita                                Location : Vial 43
Injection Date   : 12-Mar-12, 19:34:13                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

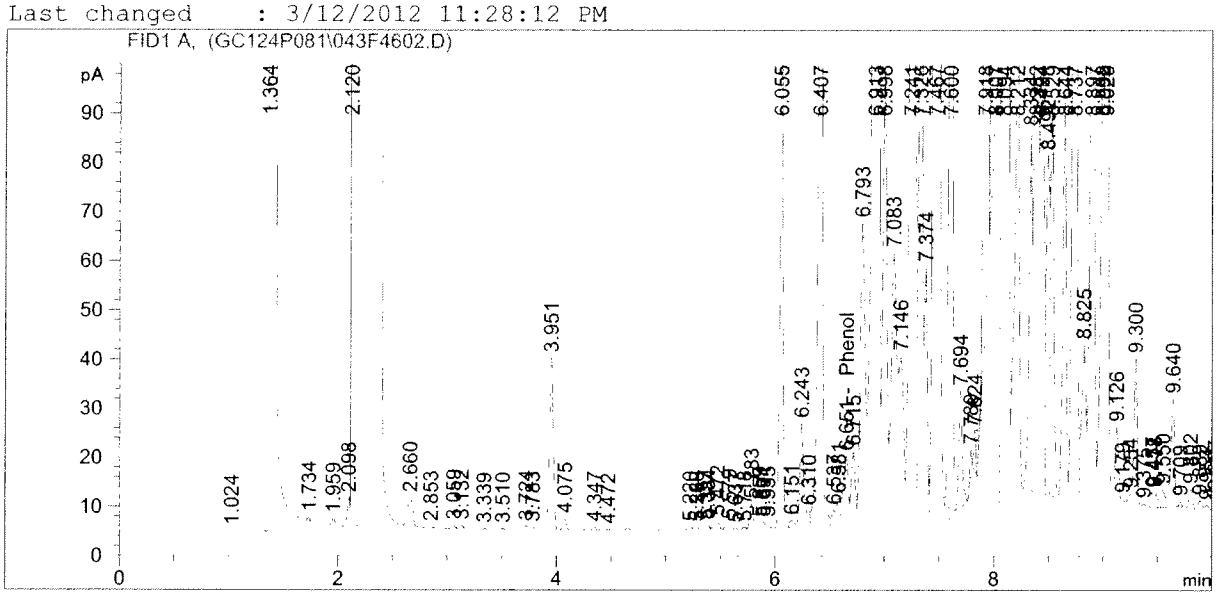
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.651 VV       44.77678 4.28825e-1   19.20139     Phenol

Totals :                                19.20139

==============================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  46
Acq. Instrument  : Lolita                                Location : Vial 43
Injection Date   : 12-Mar-12, 19:51:08                       Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

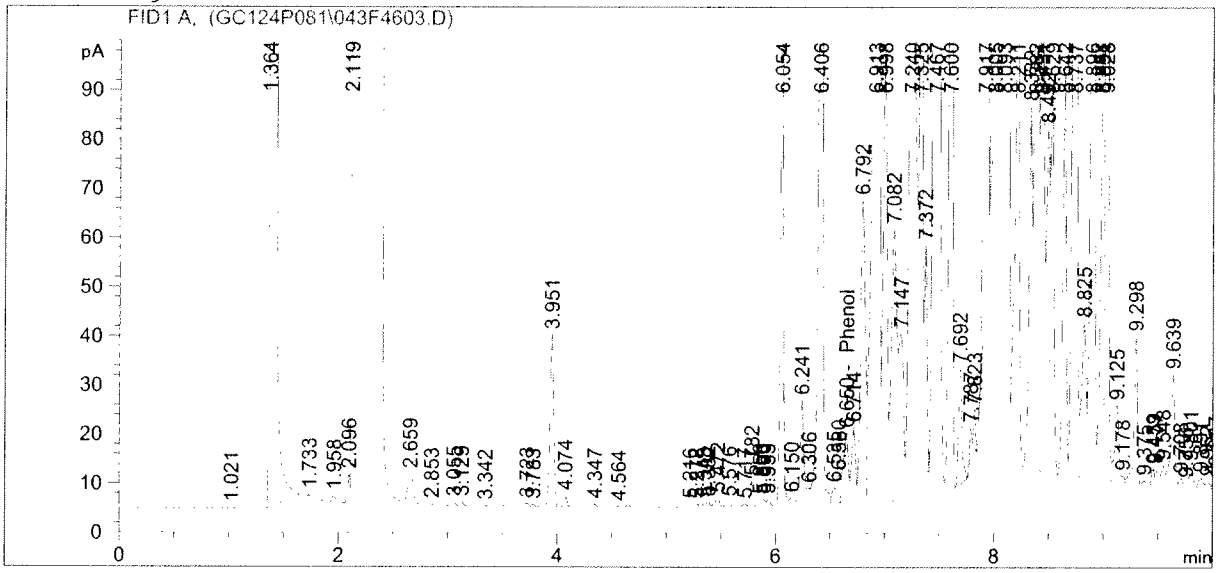
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.651 VV       44.62769 4.28858e-1   19.13895     Phenol

Totals :                                19.13895
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  46
Acq. Instrument  : Lolita                               Location : Vial 43
Injection Date   : 12-Mar-12, 20:08:01                      Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

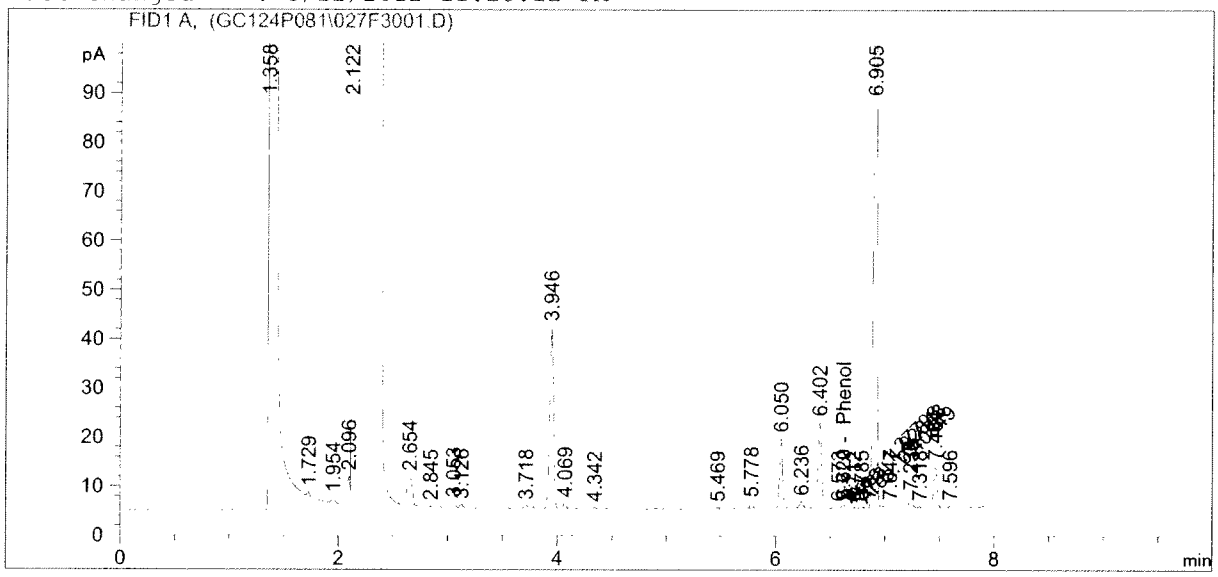
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.650 VV       45.68245 4.28625e-1   19.58064     Phenol

Totals :                                19.58064
```

*** End of Report ***

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :  30
Acq. Instrument  : Lolita                                Location : Vial 27
Injection Date   : 11-Mar-12, 14:49:04                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

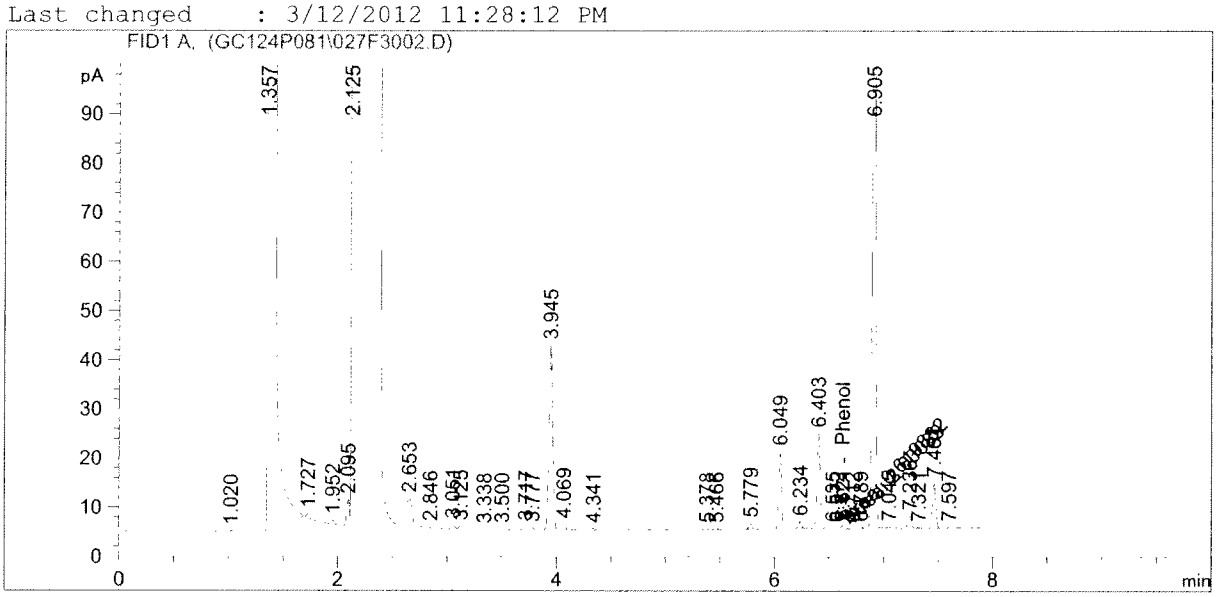
RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.620 MF        1.92843 6.52483e-1    1.25827     Phenol

Totals :                                1.25827

==============================================================================
                          *** End of Report ***
```

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :  30
Acq. Instrument  : Lolita                                Location : Vial 27
Injection Date   : 11-Mar-12, 15:02:18                       Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

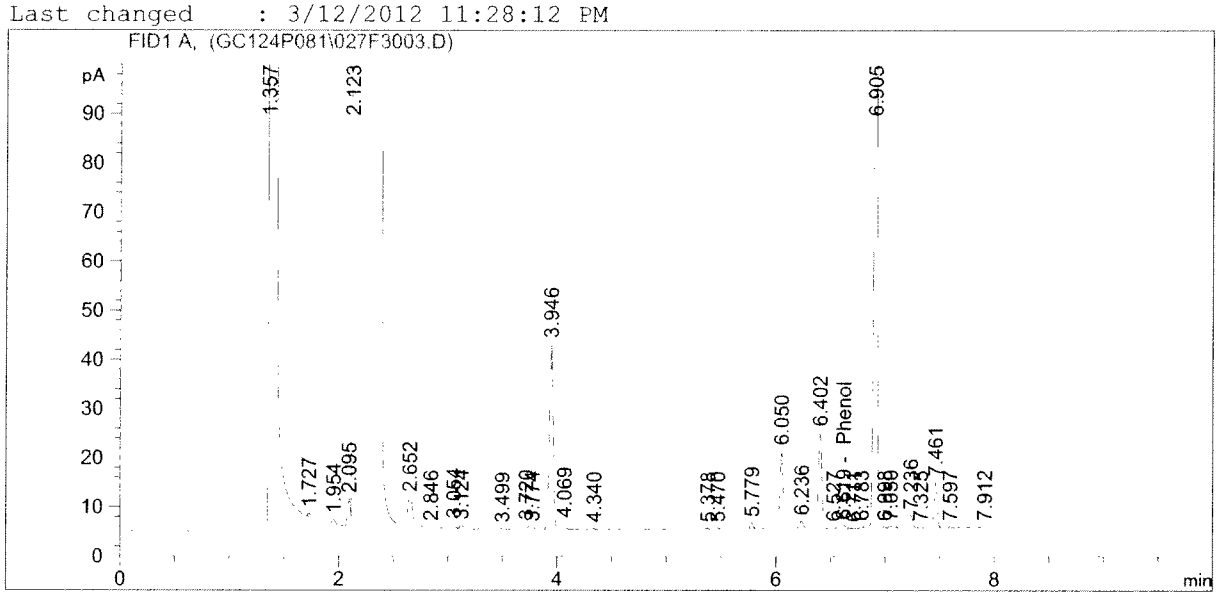
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.621 FM        2.03089 6.40692e-1    1.30117     Phenol

Totals :                                 1.30117
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                 Seq. Line :  30
Acq. Instrument  : Lolita                               Location : Vial 27
Injection Date   : 11-Mar-12, 15:15:36                      Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

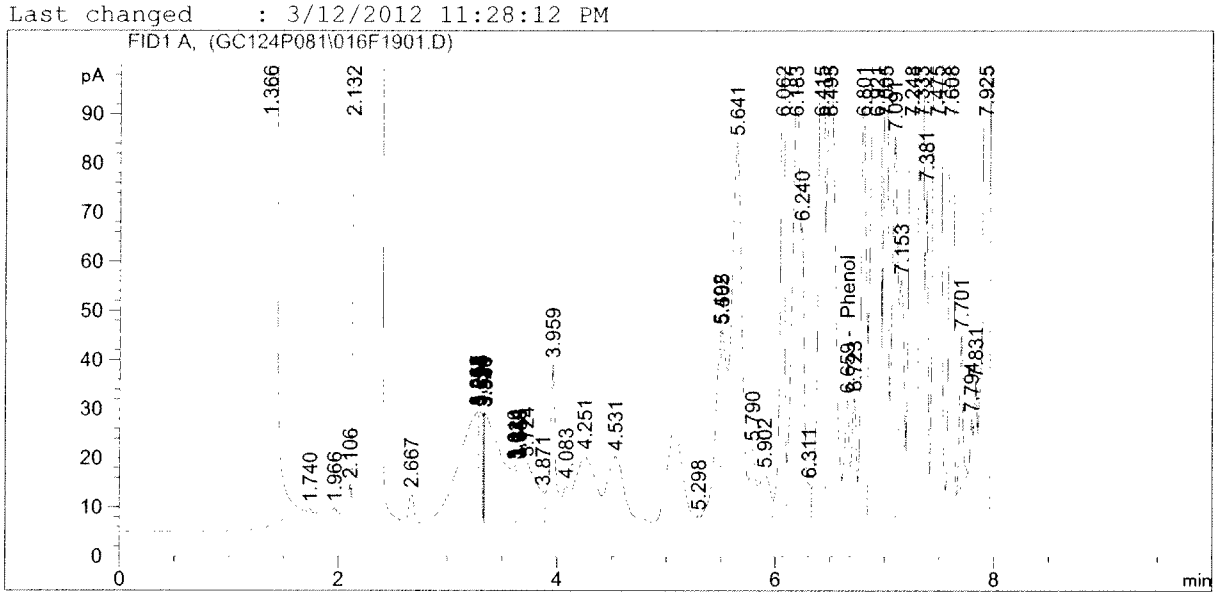
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.619 BV        1.98155 6.46218e-1    1.28051     Phenol

Totals :                                1.28051

==========================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Lolita                                Location : Vial 16
Injection Date   : 11-Mar-12, 07:33:48                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

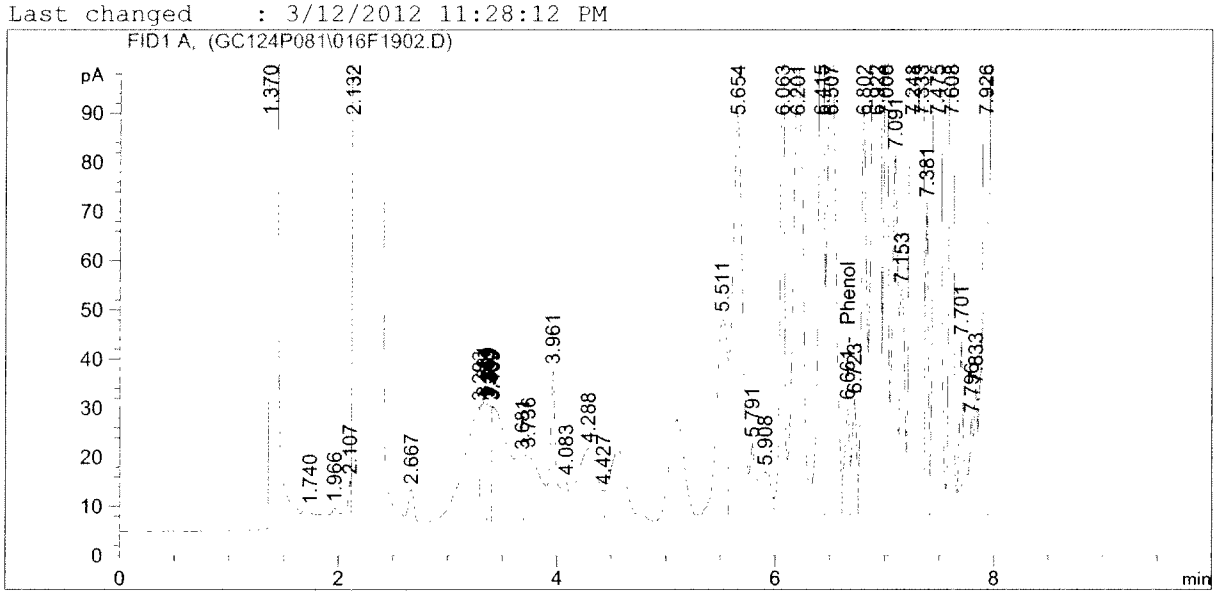
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|--------------------
  6.659 VV       72.28999 4.24994e-1   30.72278     Phenol

Totals :                                30.72278
```

*** End of Report ***

```
Acq. Operator   : JBB                                  Seq. Line :  19
Acq. Instrument : Lolita                                Location : Vial 16
Injection Date  : 11-Mar-12, 07:46:53                       Inj :   2
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

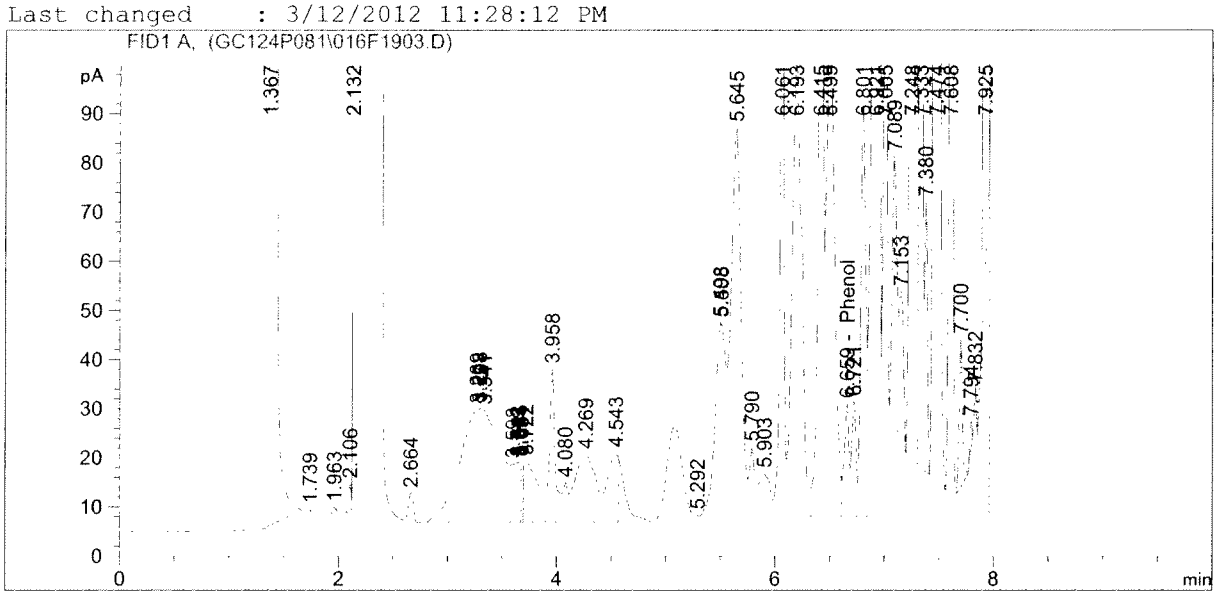
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661 VV       66.27138 4.25560e-1   28.20244     Phenol

Totals :                                 28.20244
```

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  19
Acq. Instrument : Lolita                                Location : Vial 16
Injection Date  : 11-Mar-12, 08:00:00                       Inj :   3
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

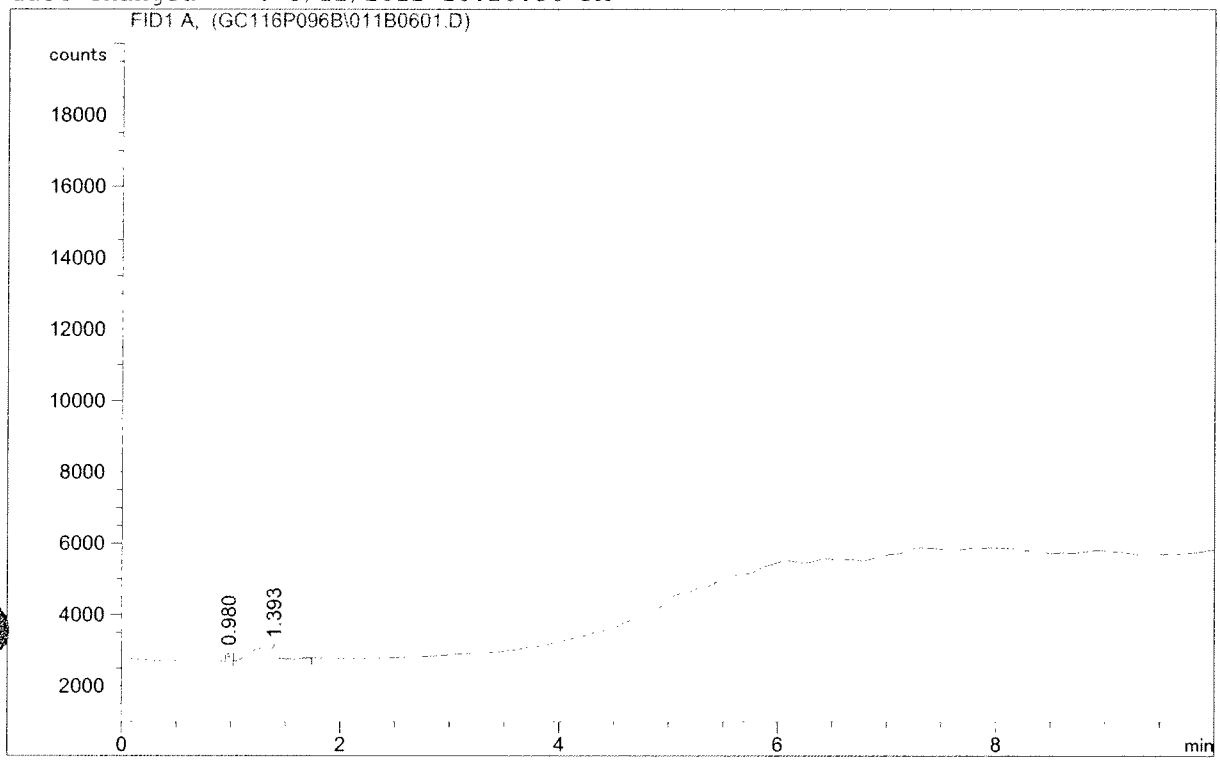
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.659 VV       68.54169 4.25335e-1   29.15315     Phenol

Totals :                                29.15315

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Oscar                                 Location : Vial 11
Injection Date   : 3/10/2012 8:35:37 PM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -          -          -          Phenol

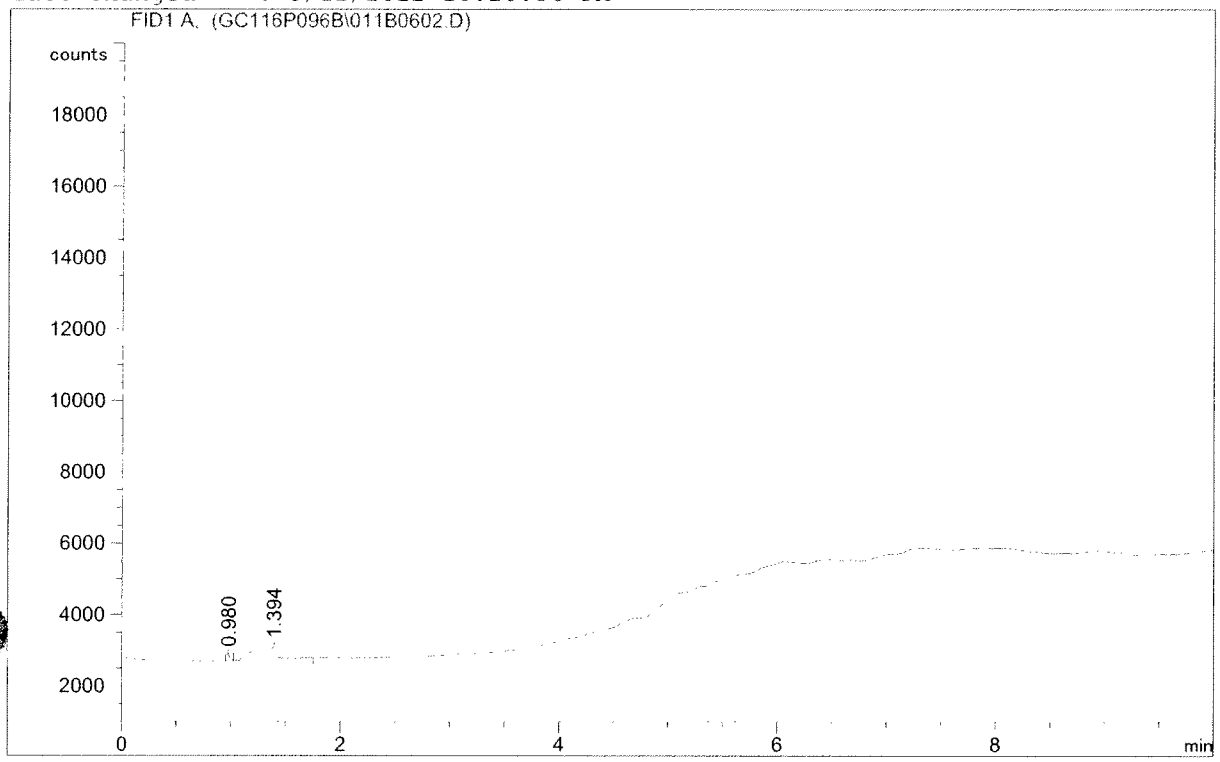
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Oscar                                 Location : Vial 11
Injection Date   : 3/10/2012 8:49:05 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -          -          -          Phenol

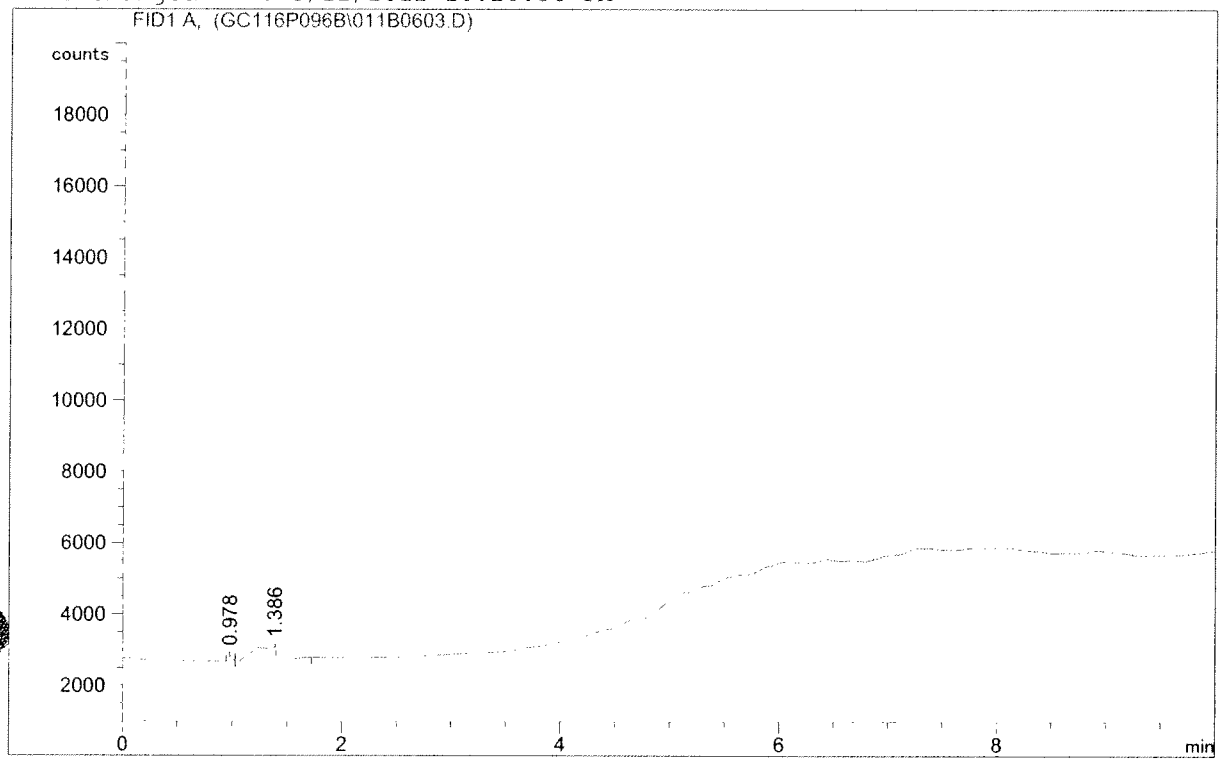
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   6
Acq. Instrument  : Oscar                             Location : Vial 11
Injection Date   : 3/10/2012 9:02:33 PM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903           -          -          -          Phenol

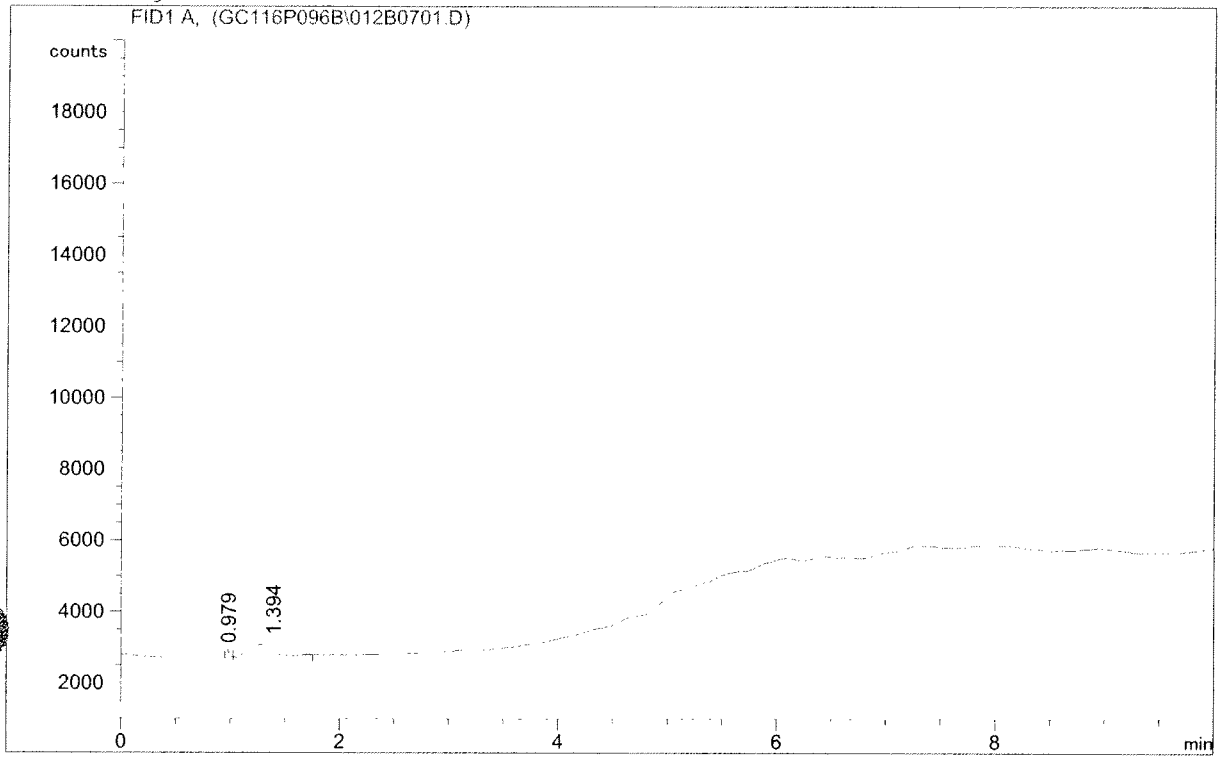
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   7
Acq. Instrument  : Oscar                             Location : Vial 12
Injection Date   : 3/10/2012 9:16:03 PM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903           -           -          -          Phenol

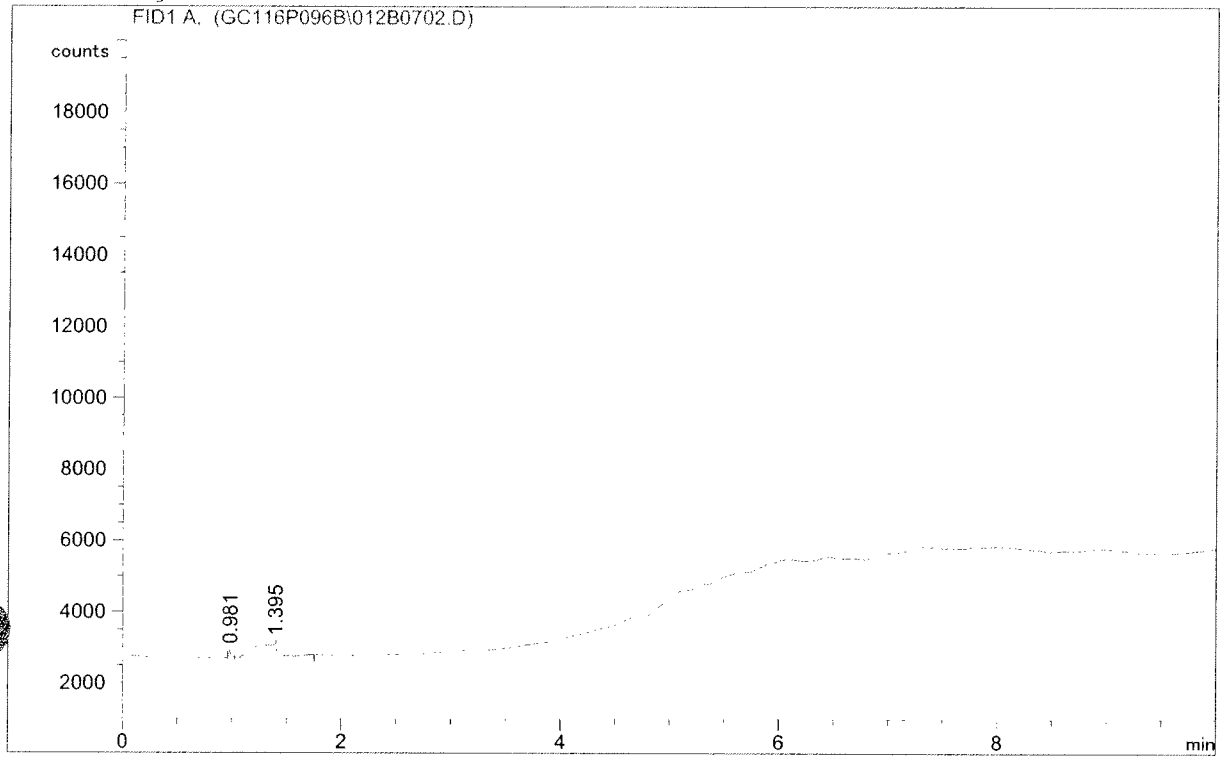
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Oscar                                 Location : Vial 12
Injection Date   : 3/10/2012 9:29:36 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903            -           -          -          Phenol

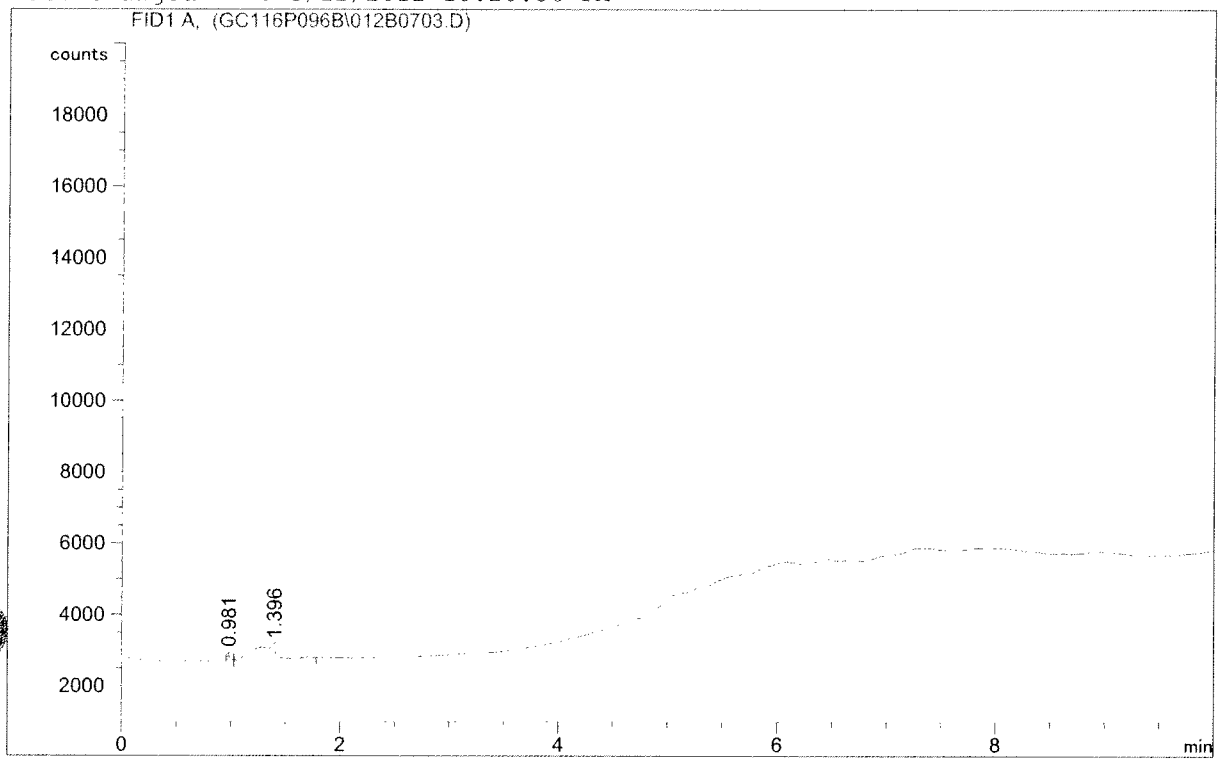
Totals :                                 0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   7
Acq. Instrument  : Oscar                             Location : Vial 12
Injection Date   : 3/10/2012 9:43:03 PM                  Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.903           -          -          -          Phenol

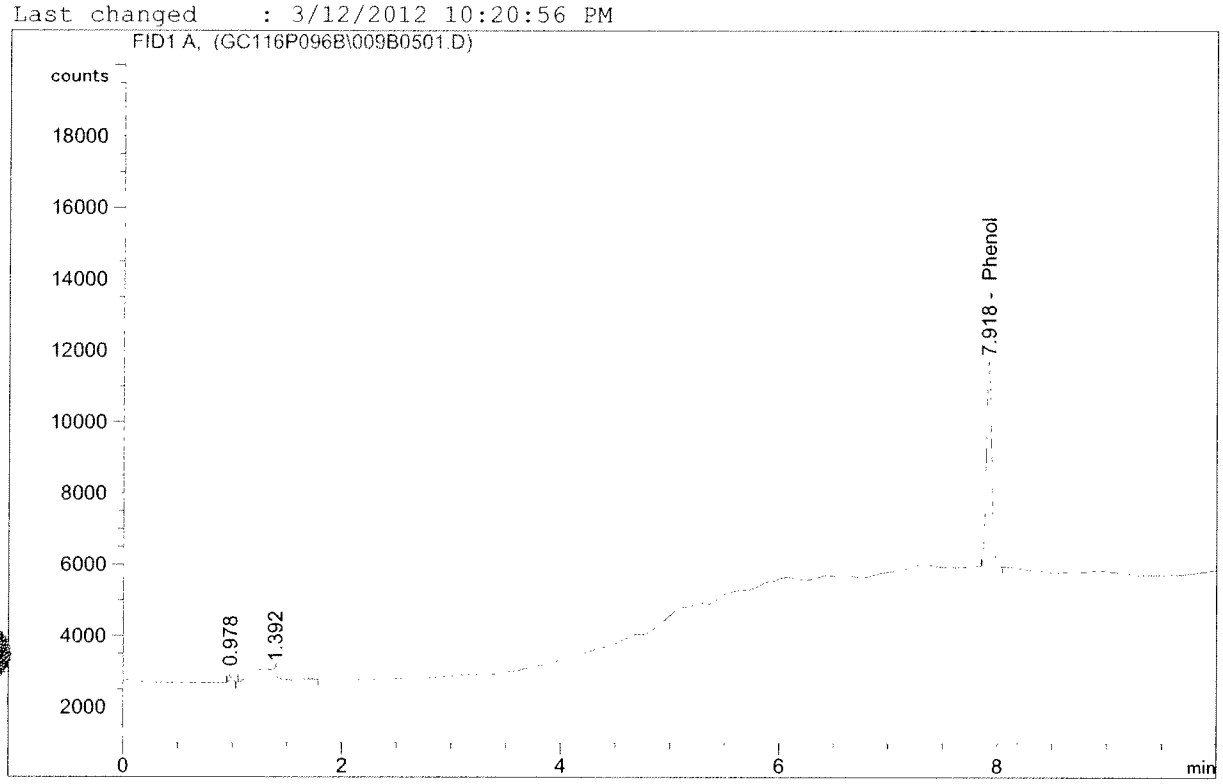
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Oscar                                 Location : Vial 9
Injection Date   : 3/10/2012 7:55:04 PM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

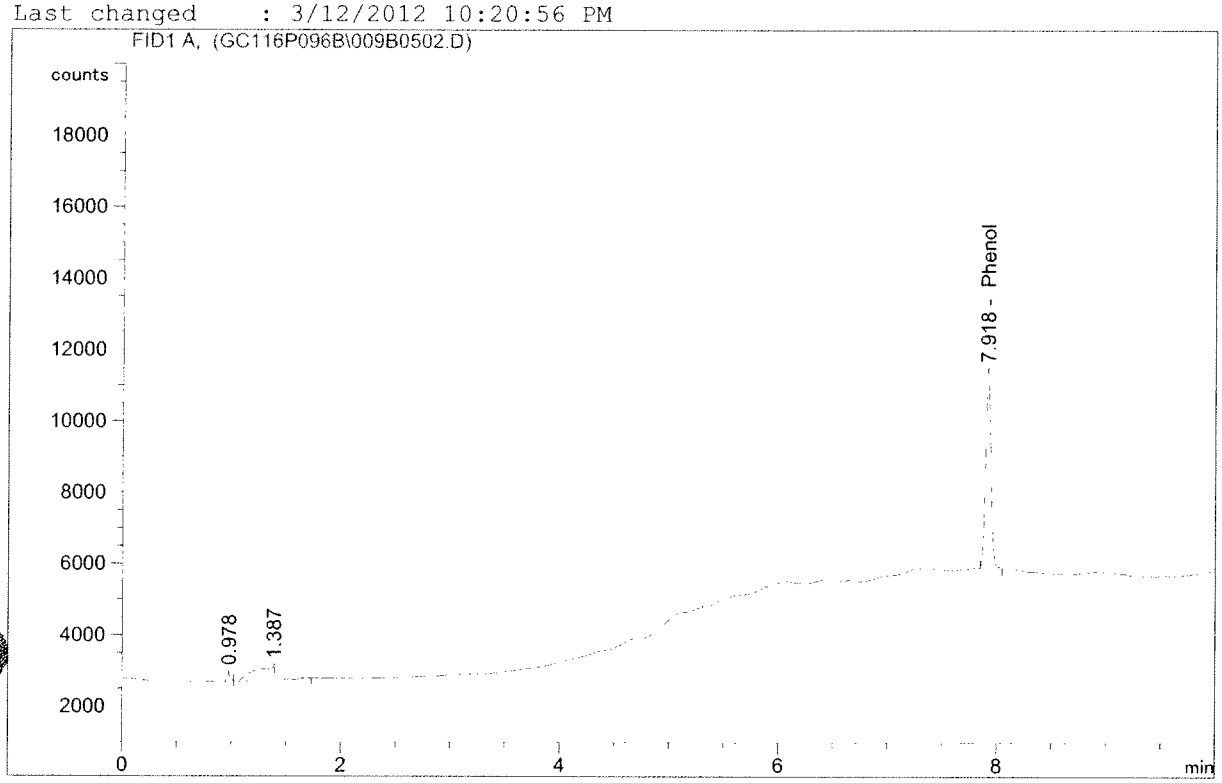
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.918 BB     1.95548e4  1.03575e-3   20.25382     Phenol

Totals :                                20.25382

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Oscar                                 Location : Vial 9
Injection Date   : 3/10/2012 8:08:37 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

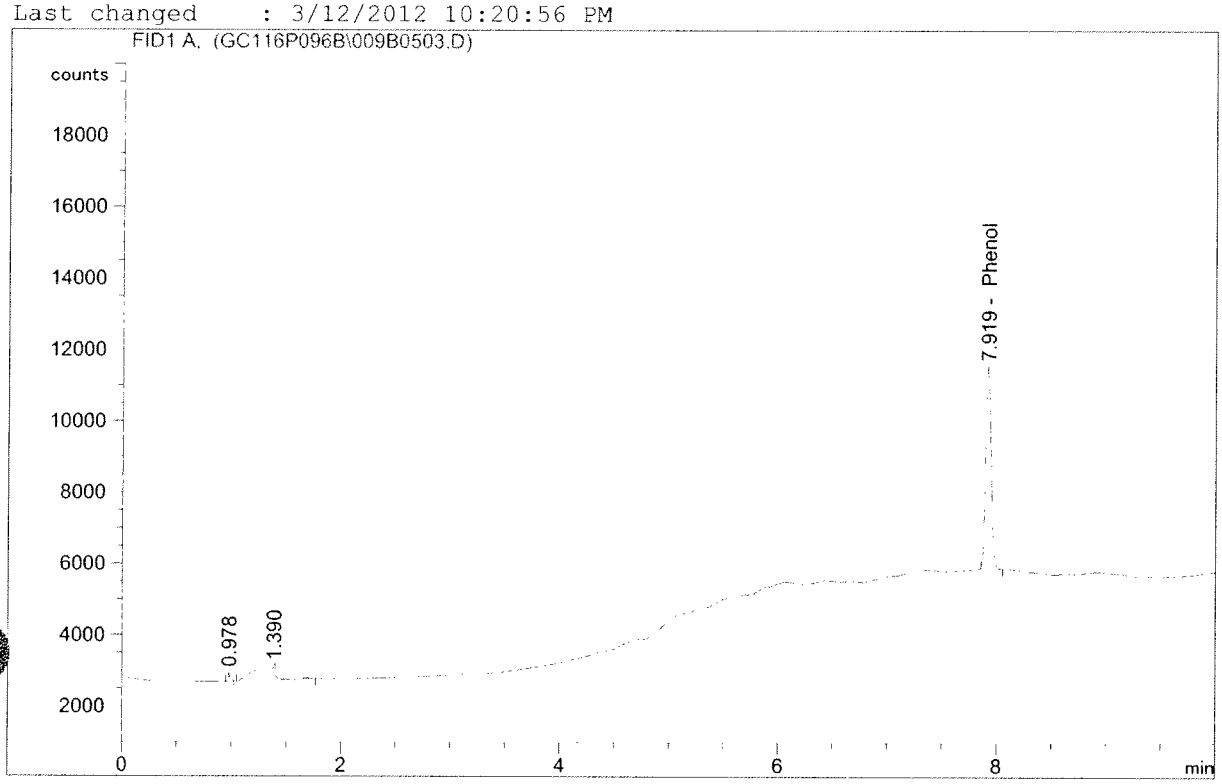
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.918 BB     1.93165e4  1.03577e-3   20.00744     Phenol

Totals :                                20.00744

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Oscar                                 Location : Vial 9
Injection Date   : 3/10/2012 8:22:05 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

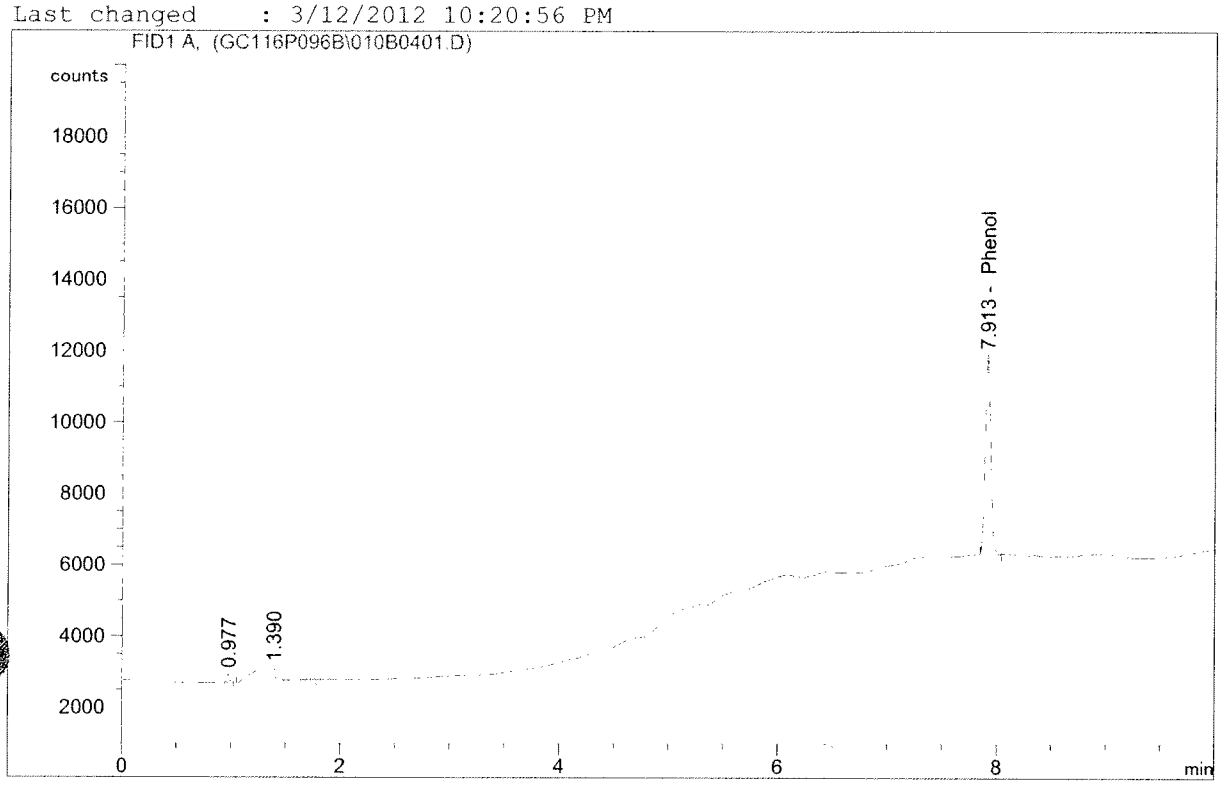
RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.919 BB     1.95511e4  1.03575e-3   20.25001     Phenol

Totals :                                20.25001
```

*** End of Report ***

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Oscar                                 Location : Vial 10
Injection Date   : 3/10/2012 7:14:25 PM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

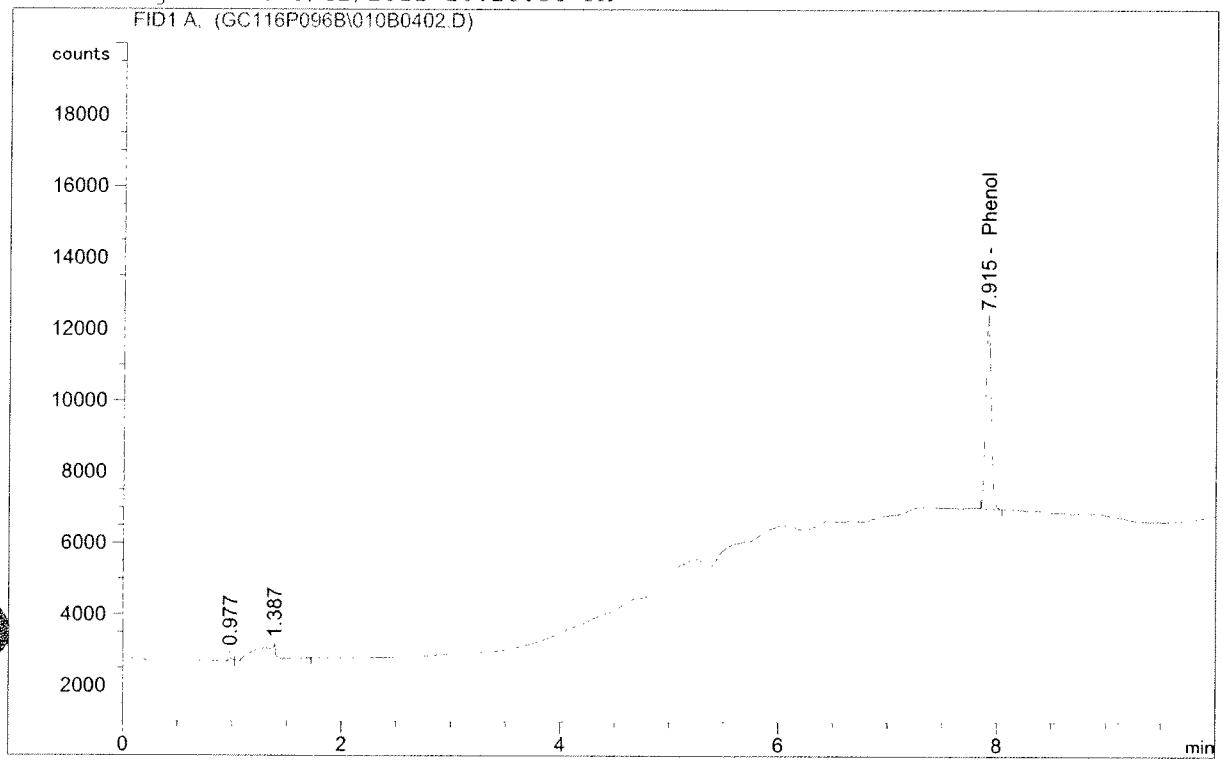
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.913 BB     1.91248e4  1.03578e-3   19.80915     Phenol

Totals :                                19.80915

                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Oscar                                 Location : Vial 10
Injection Date   : 3/10/2012 7:27:58 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

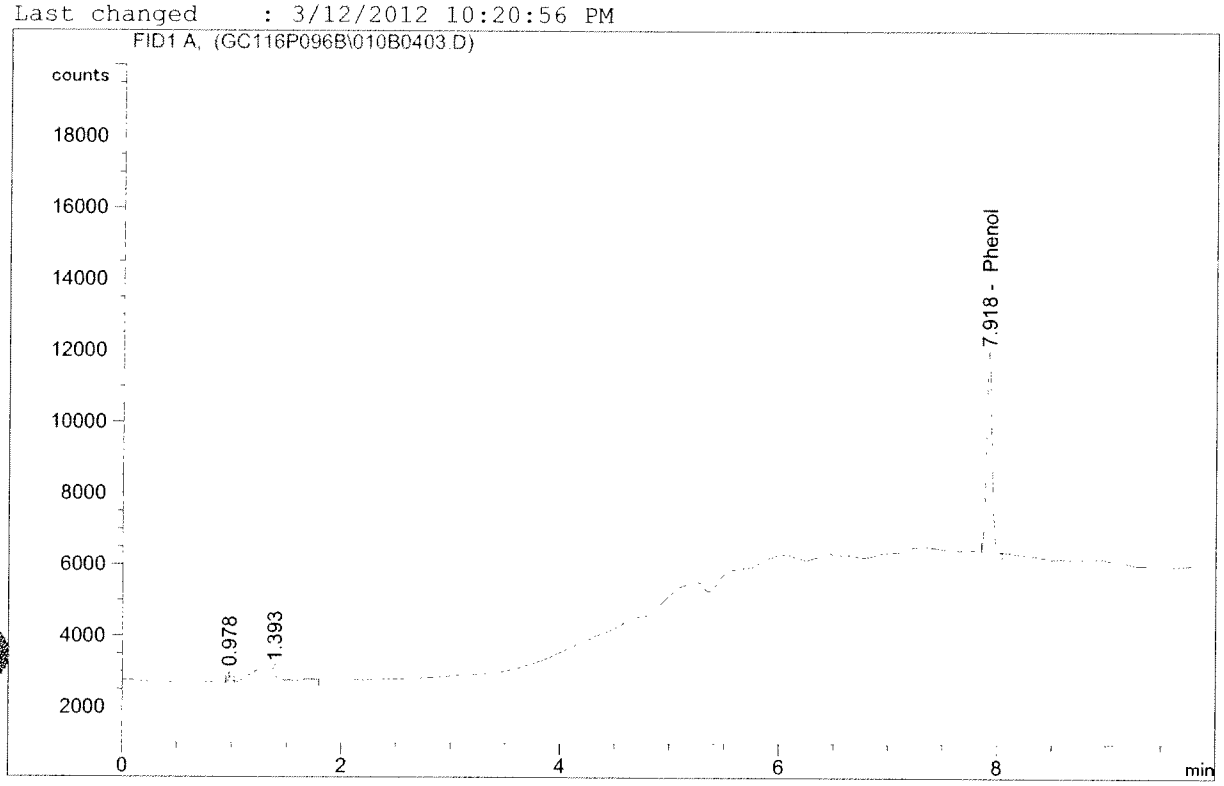
RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.915 BB     1.83621e4  1.03585e-3   19.02042     Phenol

Totals :                                19.02042
```

*** End of Report ***

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Oscar                                 Location : Vial 10
Injection Date   : 3/10/2012 7:41:31 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

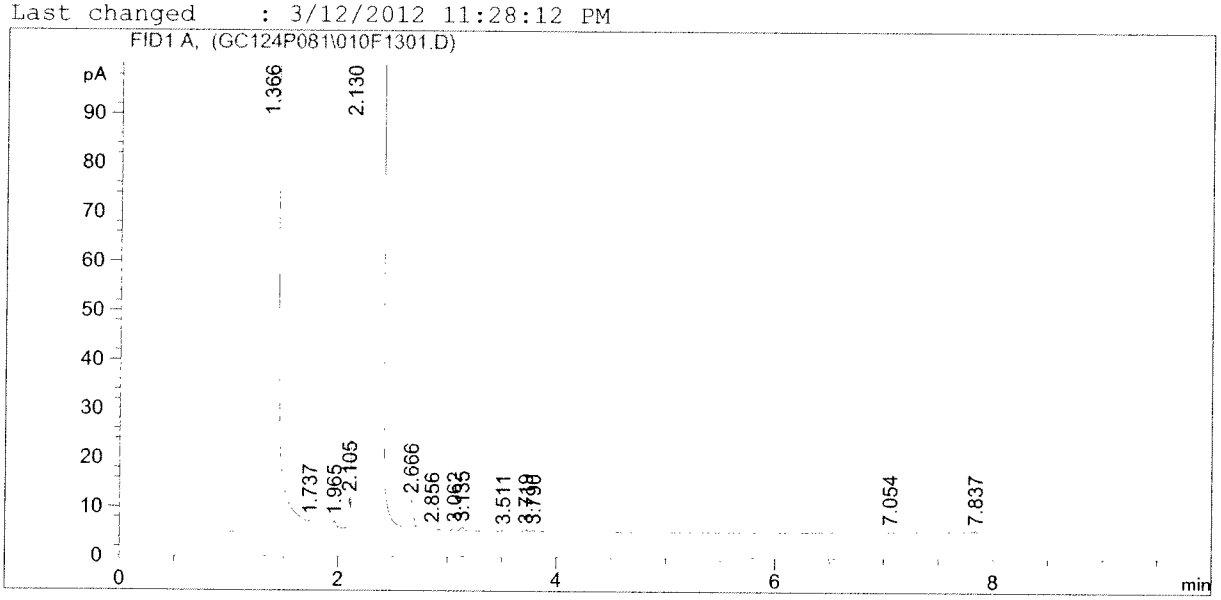
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.918 BB     1.91695e4  1.03578e-3   19.85539     Phenol

Totals :                                19.85539
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  13
Acq. Instrument  : Lolita                               Location : Vial 10
Injection Date   : 11-Mar-12, 03:37:24                      Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

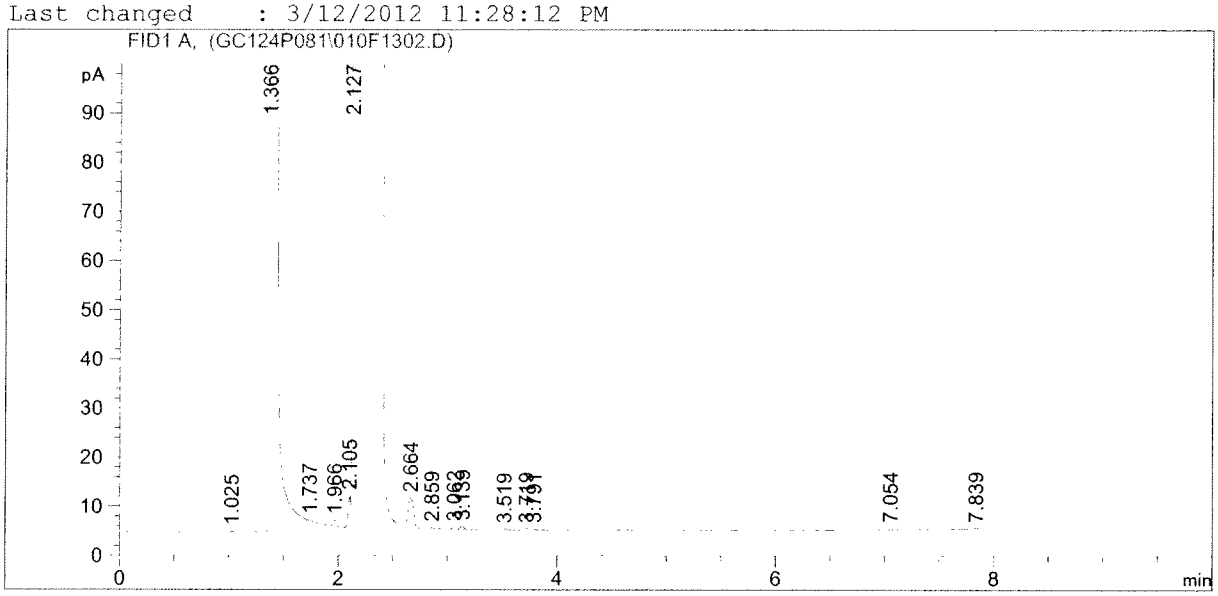
RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661           -          -          -          Phenol

Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  13
Acq. Instrument  : Lolita                                Location : Vial 10
Injection Date   : 11-Mar-12, 03:50:33                       Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661            -           -          -          Phenol

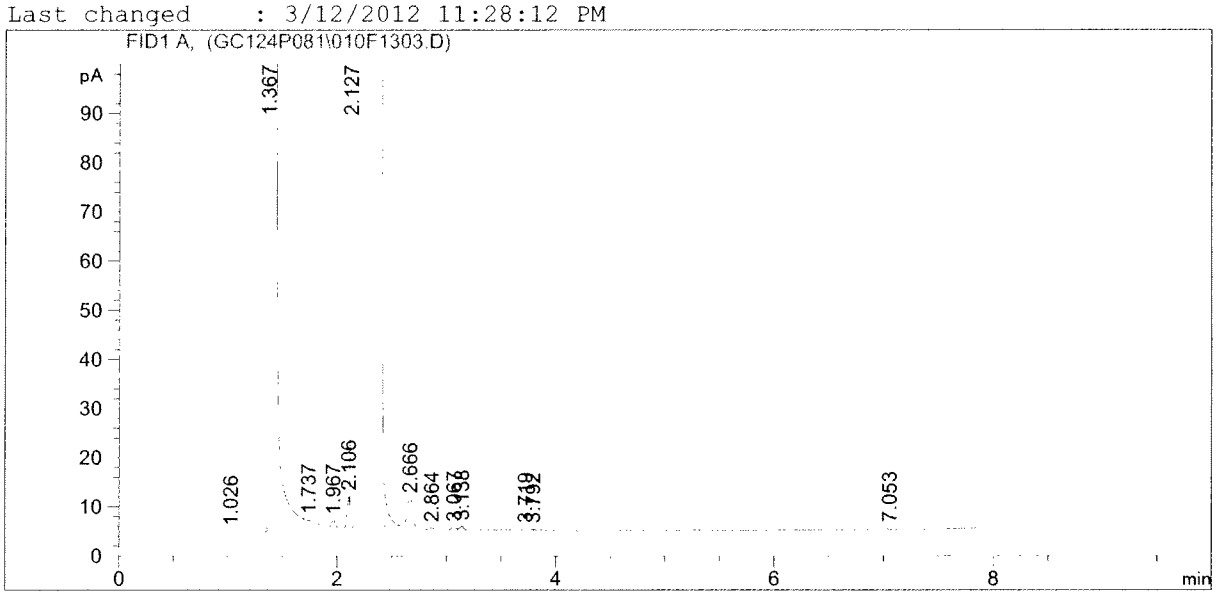
Totals :                                  0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

================================================================================
```

```
==========================================================================
Acq. Operator   : JBB                                Seq. Line :  13
Acq. Instrument : Lolita                              Location : Vial 10
Injection Date  : 11-Mar-12, 04:03:42                     Inj :   3
                                                    Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661           -          -          -          Phenol

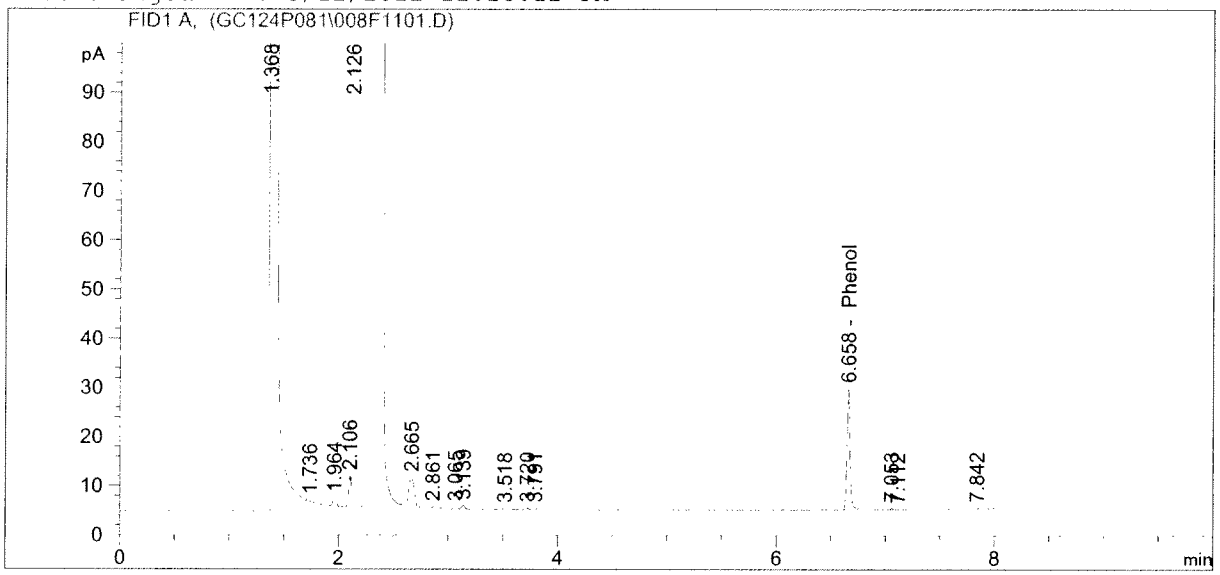
Totals :                                0.00000


1 Warnings or Errors :

Warning : Calibrated compound(s) not found

==========================================================================
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  11
Acq. Instrument  : Lolita                                Location : Vial 8
Injection Date   : 11-Mar-12, 01:18:29                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

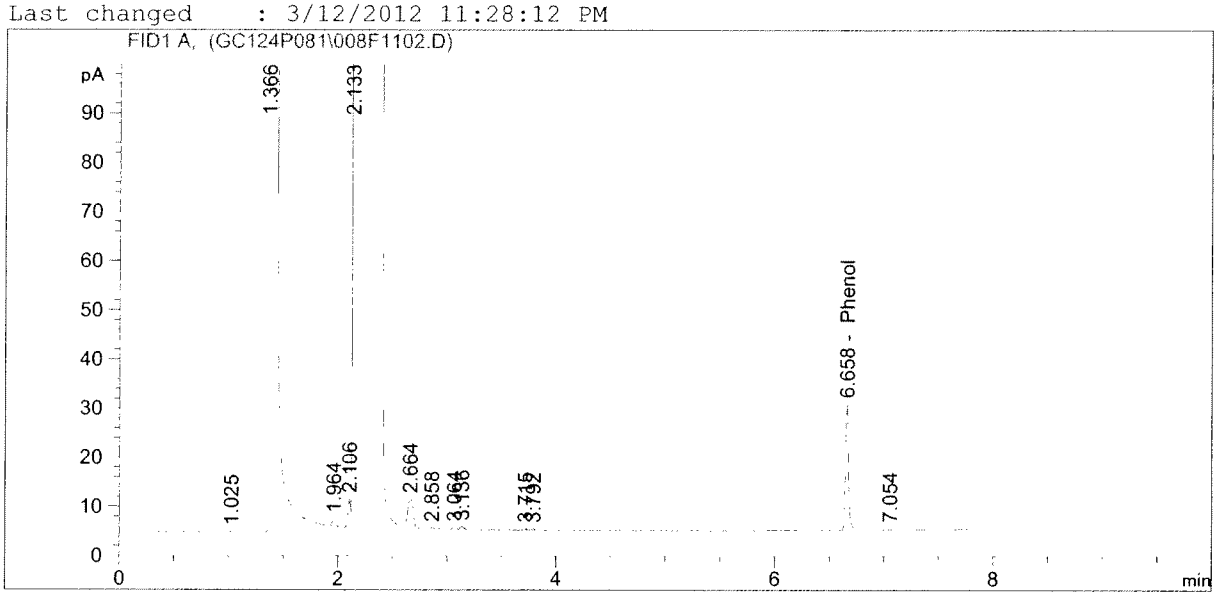
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount   Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       47.66133 4.28215e-1   20.40932     Phenol

Totals :                                20.40932

================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  11
Acq. Instrument : Lolita                                Location : Vial 8
Injection Date  : 11-Mar-12, 01:31:43                       Inj :   2
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

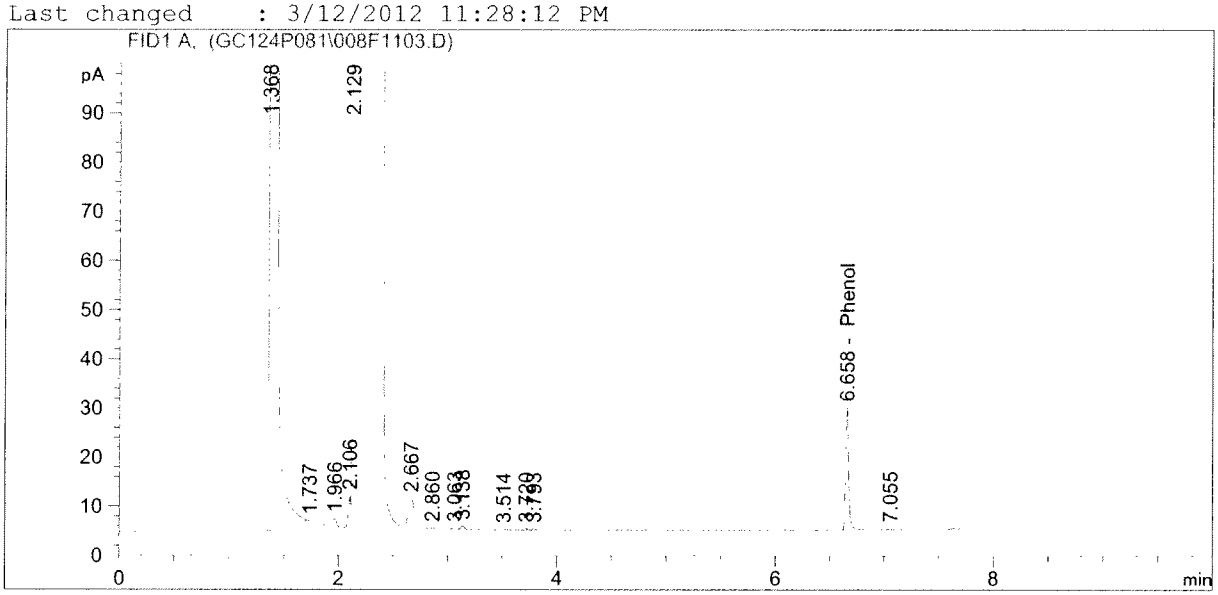
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       49.48517 4.27867e-1   21.17307     Phenol

Totals :                                21.17307


================================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  11
Acq. Instrument : Lolita                                Location : Vial 8
Injection Date  : 11-Mar-12, 01:44:48                       Inj :   3
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

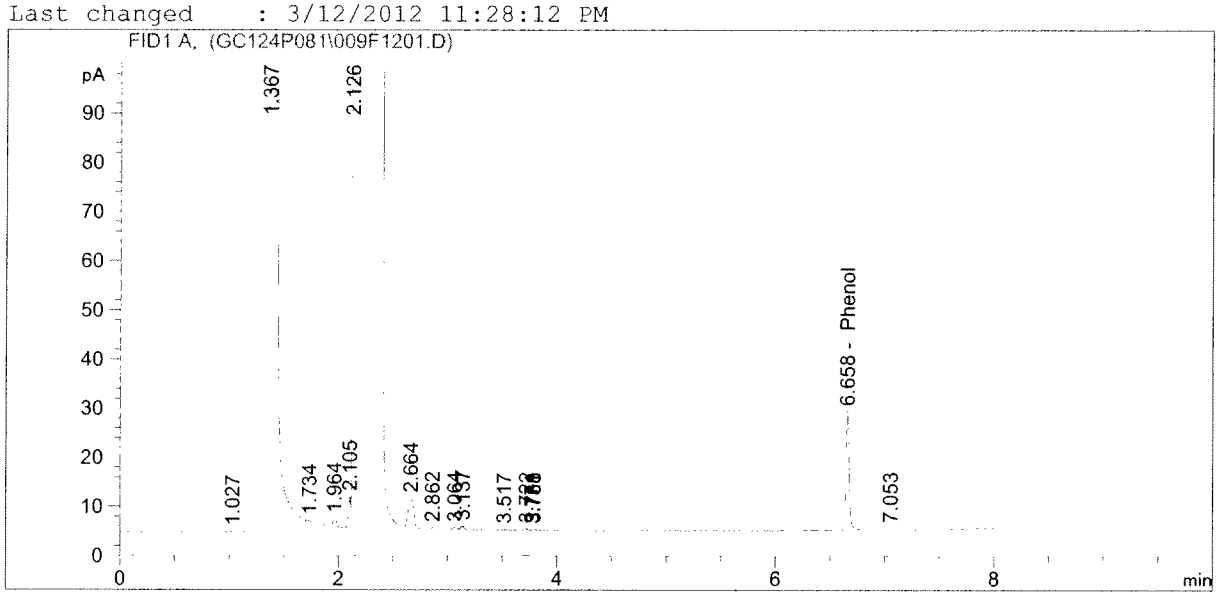
RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       48.20168 4.28109e-1   20.63559     Phenol

Totals :                                20.63559


================================================================================
                          *** End of Report ***
```

PGE T384 Scrubber 2012-37

```
Acq. Operator   : JBB                                  Seq. Line :  12
Acq. Instrument : Lolita                               Location : Vial 9
Injection Date  : 11-Mar-12, 01:57:58                      Inj :   1
                                                     Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

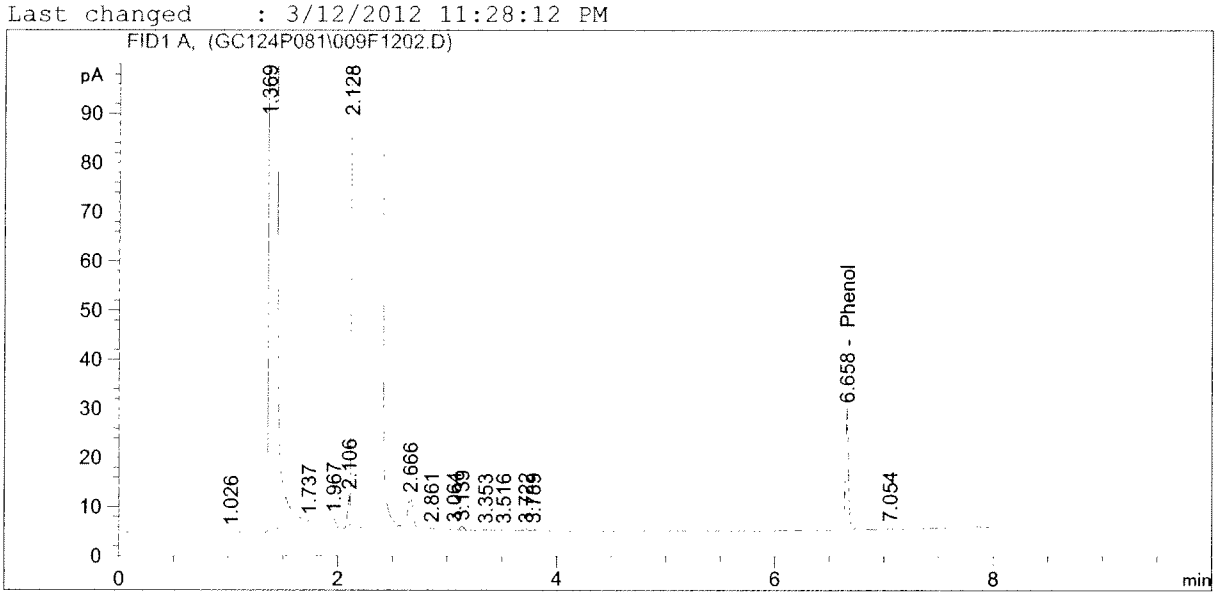
RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       47.01084 4.28346e-1   20.13692     Phenol

Totals :                                20.13692
```

*** End of Report ***

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Lolita                                Location : Vial 9
Injection Date   : 11-Mar-12, 03:11:07                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

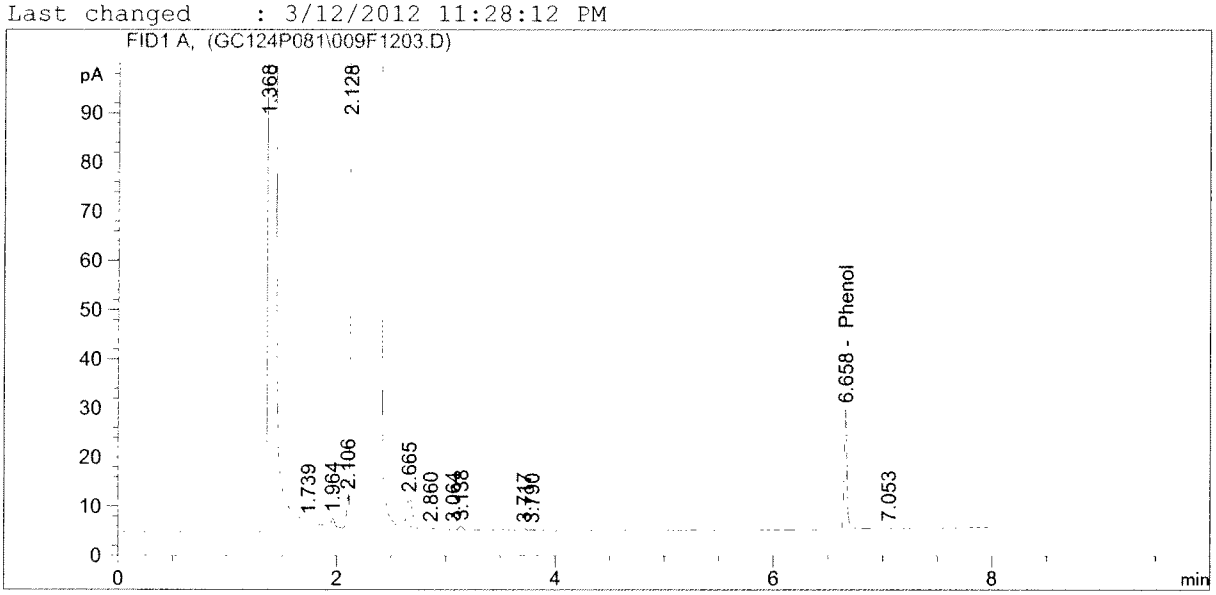
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       47.71600 4.28205e-1   20.43221     Phenol

Totals :                                20.43221
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  12
Acq. Instrument  : Lolita                                Location : Vial 9
Injection Date   : 11-Mar-12, 03:24:16                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       47.26175 4.28295e-1   20.24199     Phenol

Totals :                                20.24199
```

*** End of Report ***

Calibration Curve Chromatograms

Calibration Table

Calib. Data Modified : 3/12/2012 11:26:10 PM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.200 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

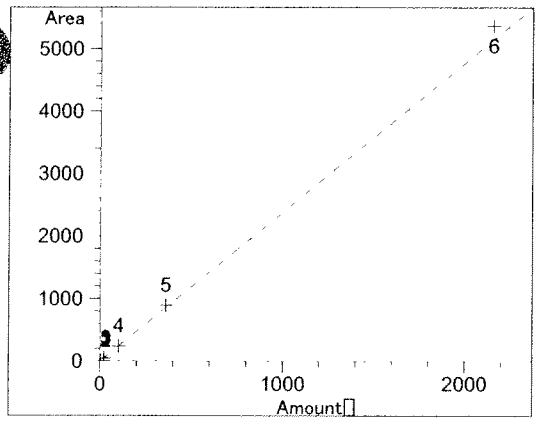
Signal 1: FID1 A,

RetTime [min]	Sig	Lvl	Amount	Area	Amt/Area	Ref	Grp	Name
6.661	1	1	2.15600	4.17582	5.16306e-1			Phenol
		2	4.30700	8.91454	4.83143e-1			
		3	21.36500	47.04663	4.54124e-1			
		4	102.75400	240.25687	4.27684e-1			
		5	359.64000	891.19924	4.03546e-1			
		6	2157.84000	5372.42350	4.01651e-1			

Peak Sum Table

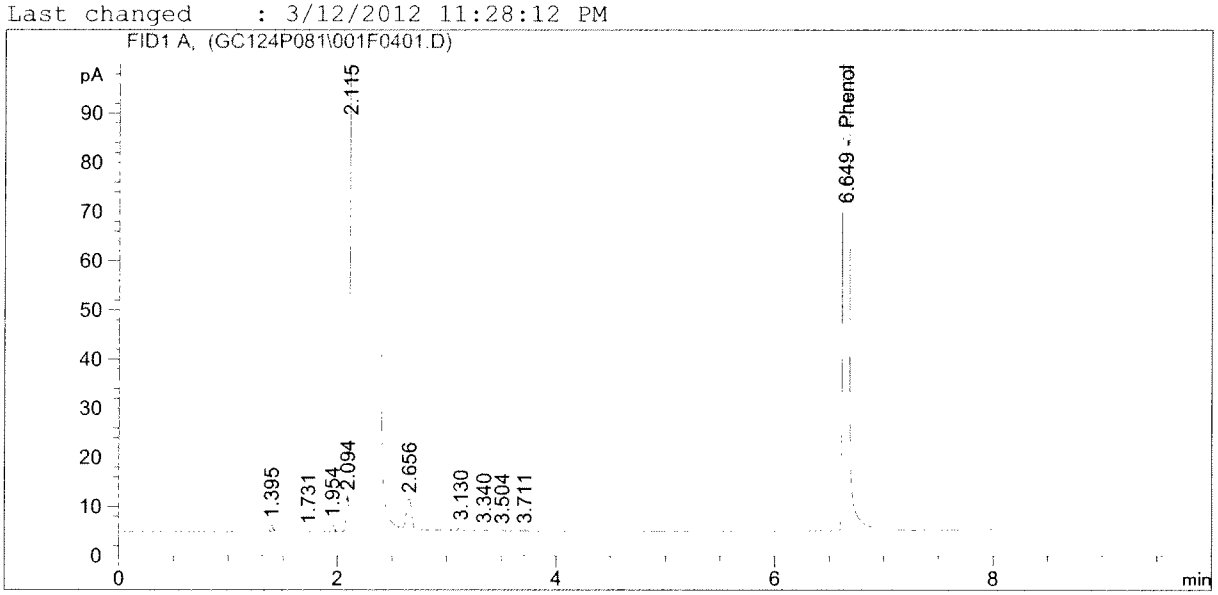
No Entries in table

Calibration Curves



Phenol at exp. RT: 6.661
FID1 A,
Correlation: 0.99897
Residual Std. Dev.: 111.56700
Formula: y = mx + b
m: 2.38801
b: -1.07633
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.250581
Level 3 : 0.010183
Level 4 : 0.00044
Level 5 : 0.000036
Level 6 : 9.98295e-007

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :   4
Acq. Instrument : Lolita                                Location : Vial 1
Injection Date  : 10-Mar-12, 20:42:16                       Inj :   1
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 7:02:25 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

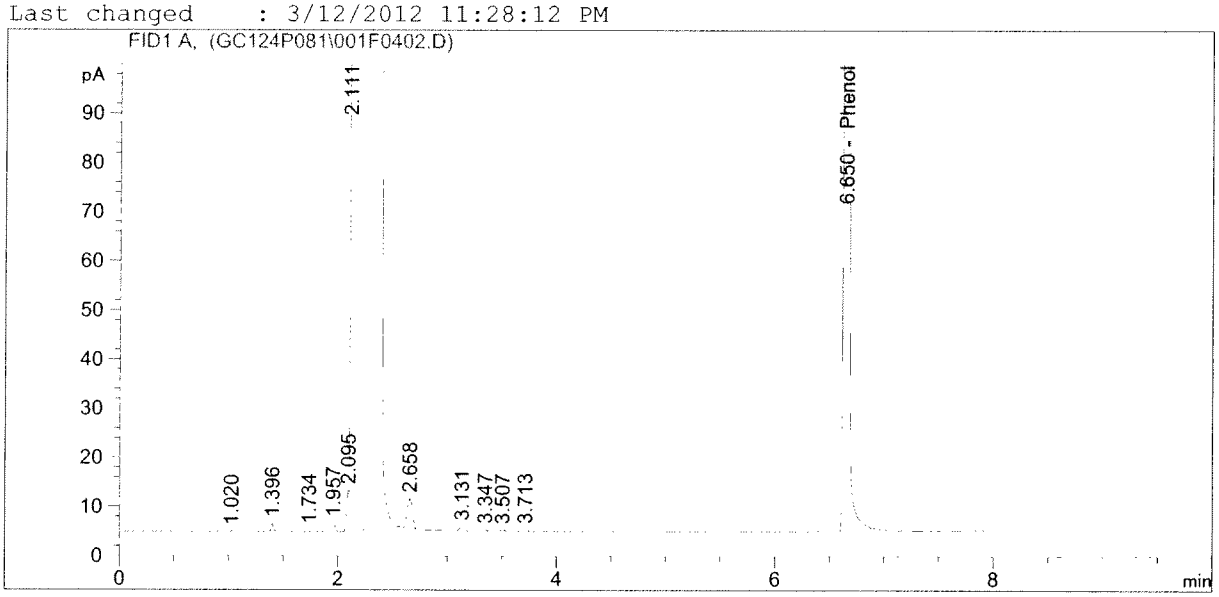
RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.649 BB S   5381.31006 4.18842e-1 2253.92104     Phenol

Totals :                              2253.92104


================================================================================
                          *** End of Report ***
```

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Lolita                                Location : Vial 1
Injection Date   : 10-Mar-12, 20:55:25                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 7:02:25 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

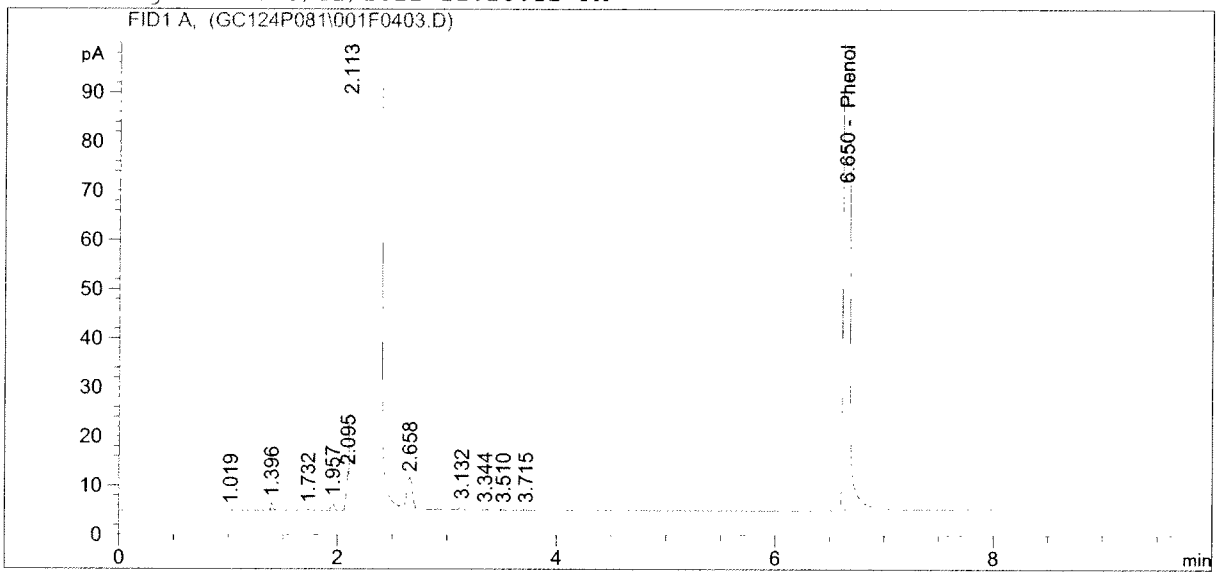
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.650 BB S   5354.77832 4.18843e-1 2242.81064     Phenol

Totals :                              2242.81064
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Lolita                                Location : Vial 1
Injection Date   : 10-Mar-12, 21:08:35                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 7:02:25 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

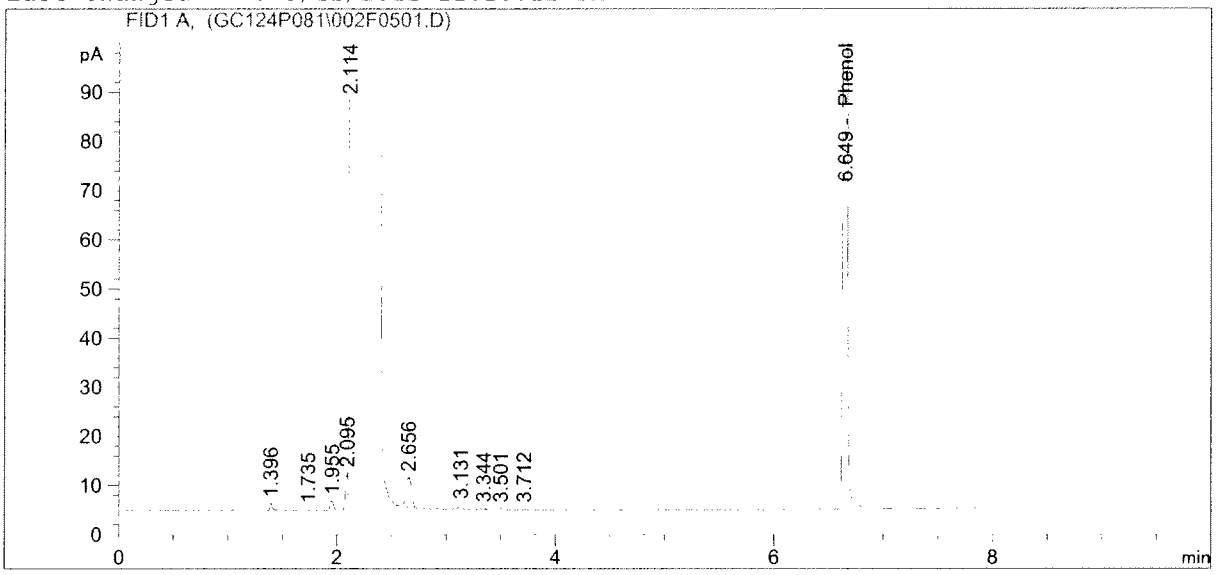
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.650 BB S    5381.18213 4.18842e-1 2253.86747     Phenol

Totals :                               2253.86747
```

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Lolita                                Location : Vial 2
Injection Date   : 10-Mar-12, 21:21:44                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

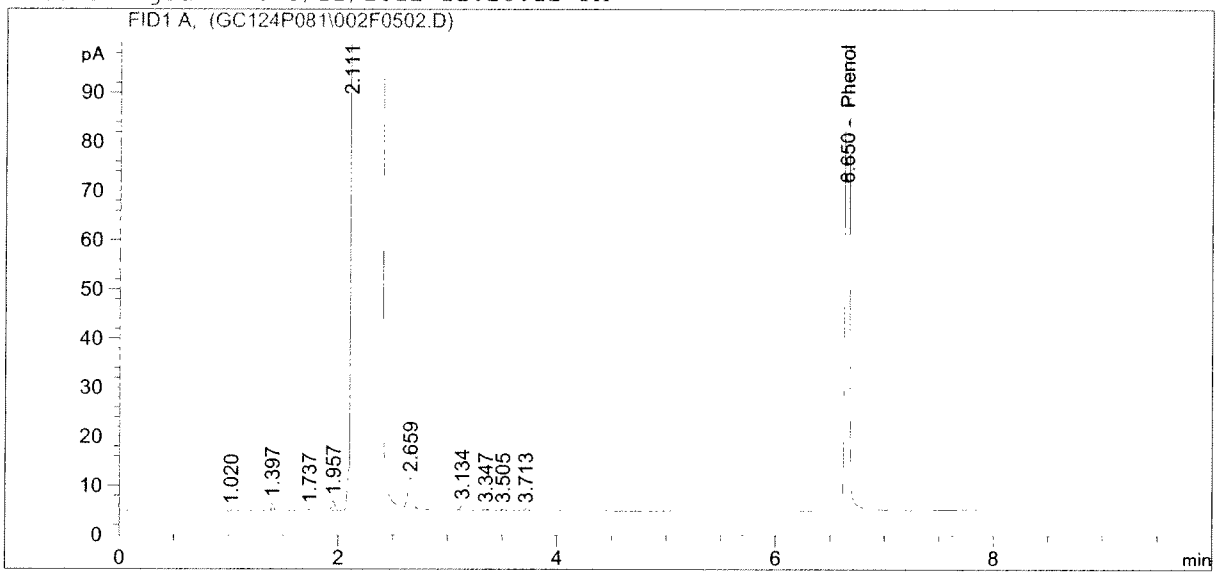
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.649 BB      894.87207 4.19262e-1  375.18617     Phenol

Totals :                               375.18617

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Lolita                                Location : Vial 2
Injection Date   : 10-Mar-12, 21:34:50                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

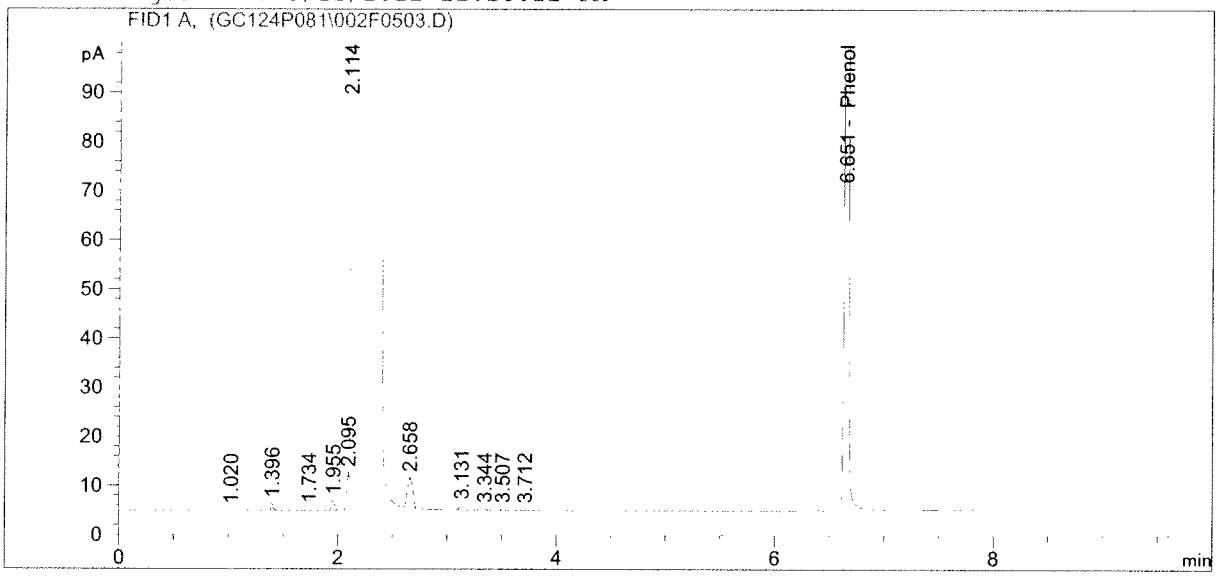
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.650 BB      852.44019 4.19287e-1  357.41745     Phenol

Totals :                               357.41745
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Lolita                                Location : Vial 2
Injection Date   : 10-Mar-12, 21:48:01                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

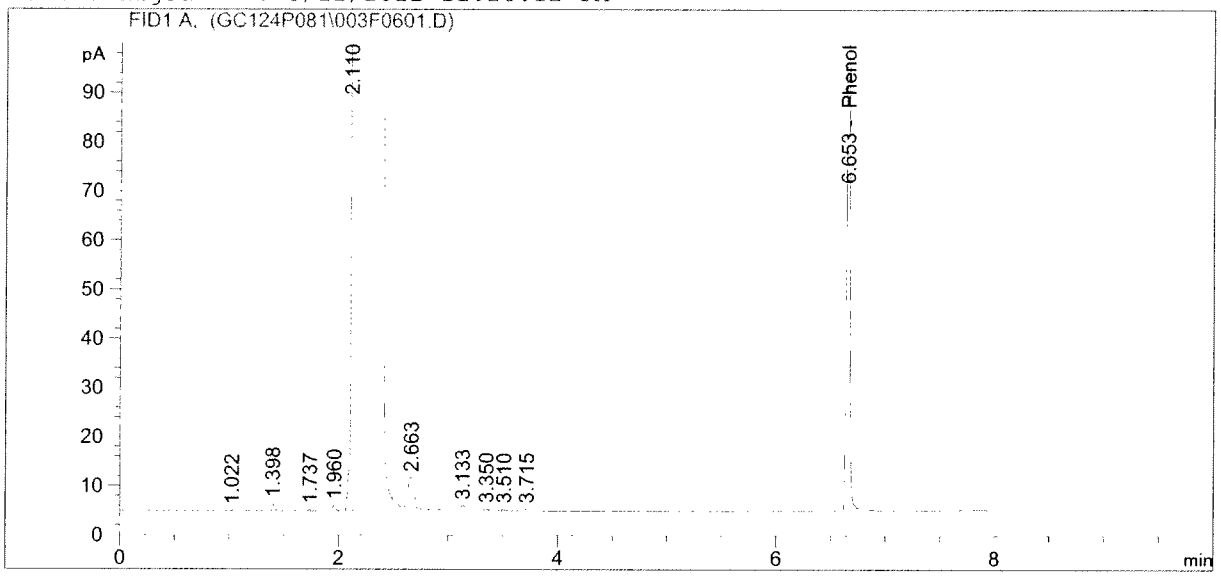
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.651 BB      926.28546 4.19245e-1  388.34080     Phenol

Totals :                                388.34080
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Lolita                                Location : Vial 3
Injection Date   : 10-Mar-12, 22:01:11                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

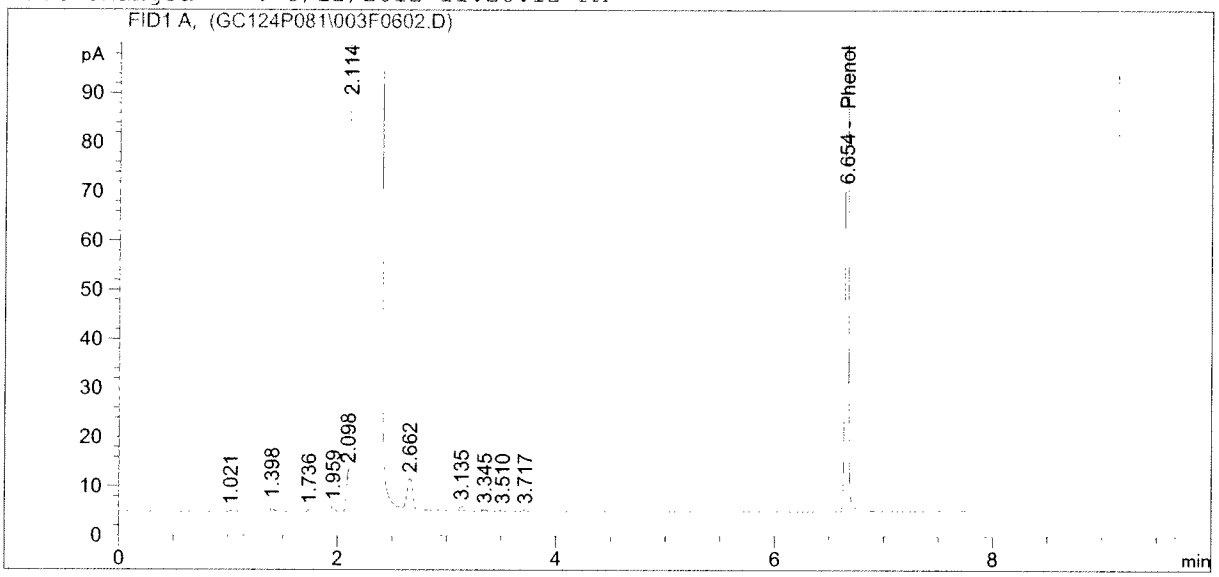
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.653 BB      242.62477 4.20616e-1  102.05195     Phenol

Totals :                                102.05195
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   6
Acq. Instrument  : Lolita                                Location : Vial 3
Injection Date   : 10-Mar-12, 22:14:21                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

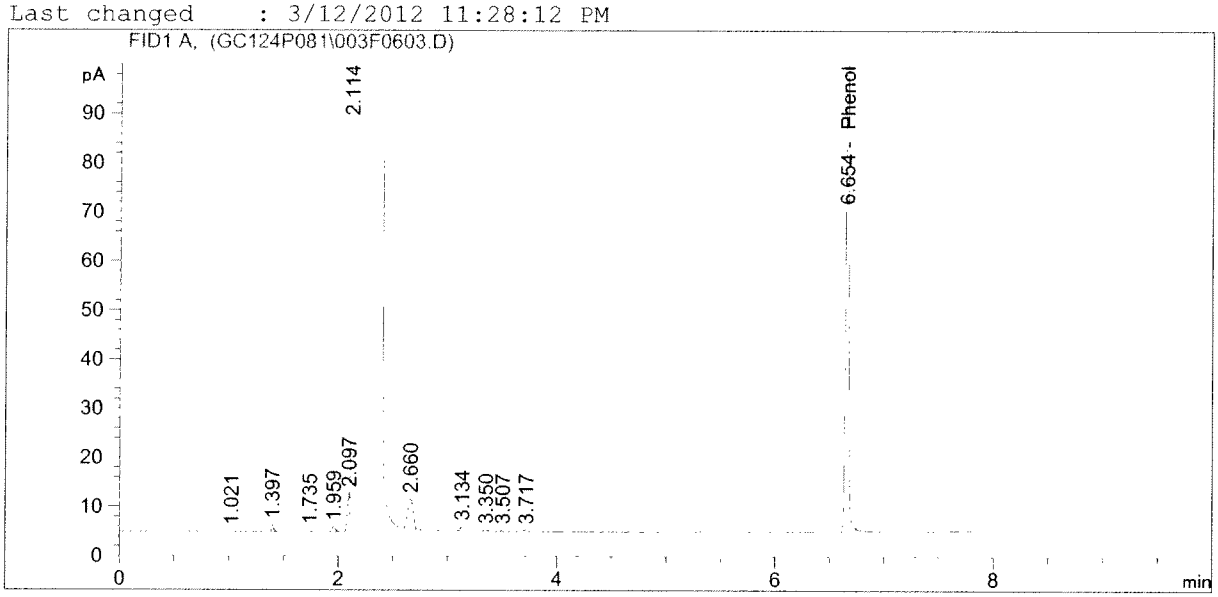
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.654 BB      232.42233 4.20698e-1   97.77959     Phenol

Totals :                                97.77959
```

*** End of Report ***

```
Acq. Operator   : JBB                                  Seq. Line :   6
Acq. Instrument : Lolita                               Location : Vial 3
Injection Date  : 10-Mar-12, 22:27:32                      Inj :   3
                                                     Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

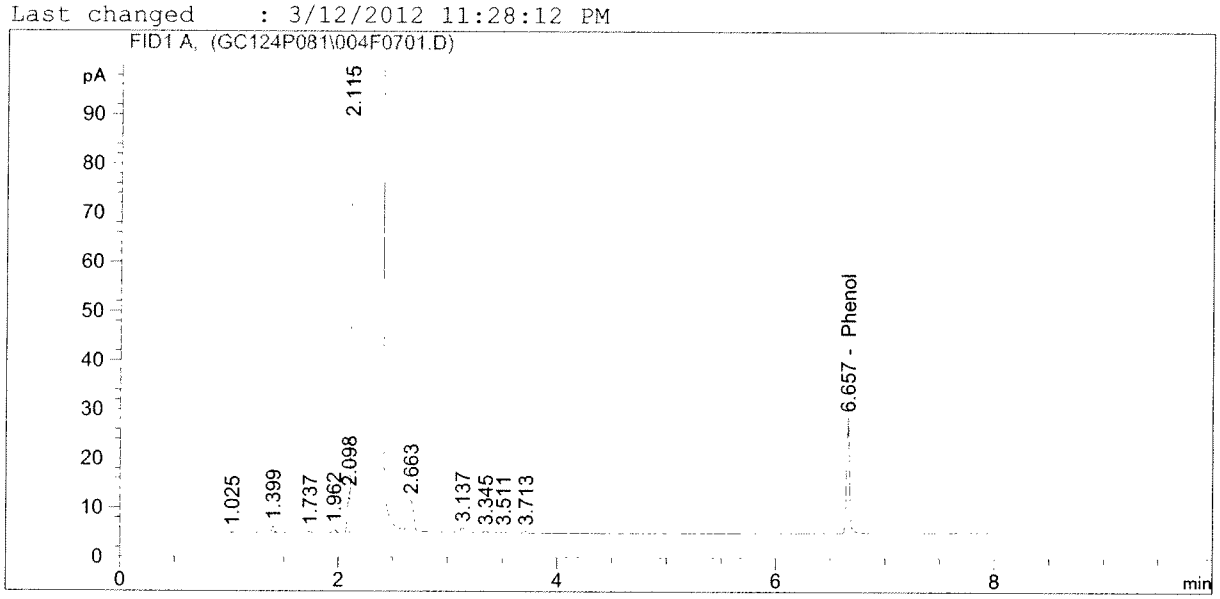
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.654 BB      245.72350 4.20593e-1  103.34957     Phenol

Totals :                               103.34957
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Lolita                                Location : Vial 4
Injection Date   : 10-Mar-12, 22:40:39                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

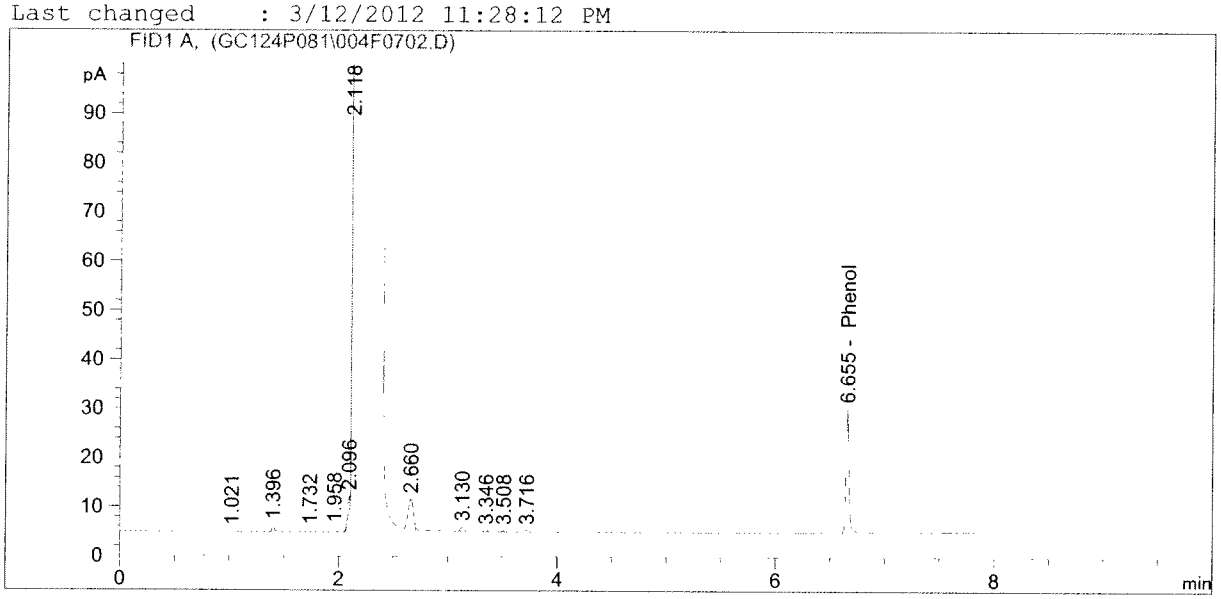
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area     Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       45.42933 4.28680e-1   19.47465     Phenol

Totals :                                19.47465
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Lolita                                Location : Vial 4
Injection Date   : 10-Mar-12, 22:53:52                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

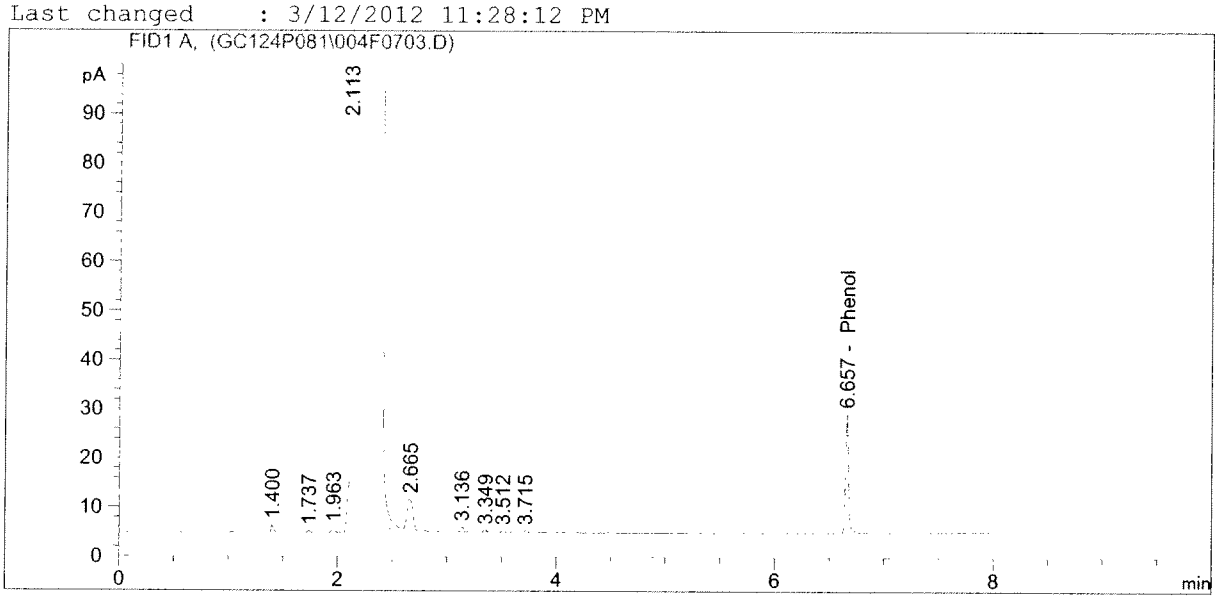
RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.655 BB       48.62118 4.28029e-1   20.81126     Phenol

Totals :                                20.81126
```

*** End of Report ***

PGE T384 Scrubber 2012-37

```
Acq. Operator    : JBB                                  Seq. Line :   7
Acq. Instrument  : Lolita                                Location : Vial 4
Injection Date   : 10-Mar-12, 23:06:59                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

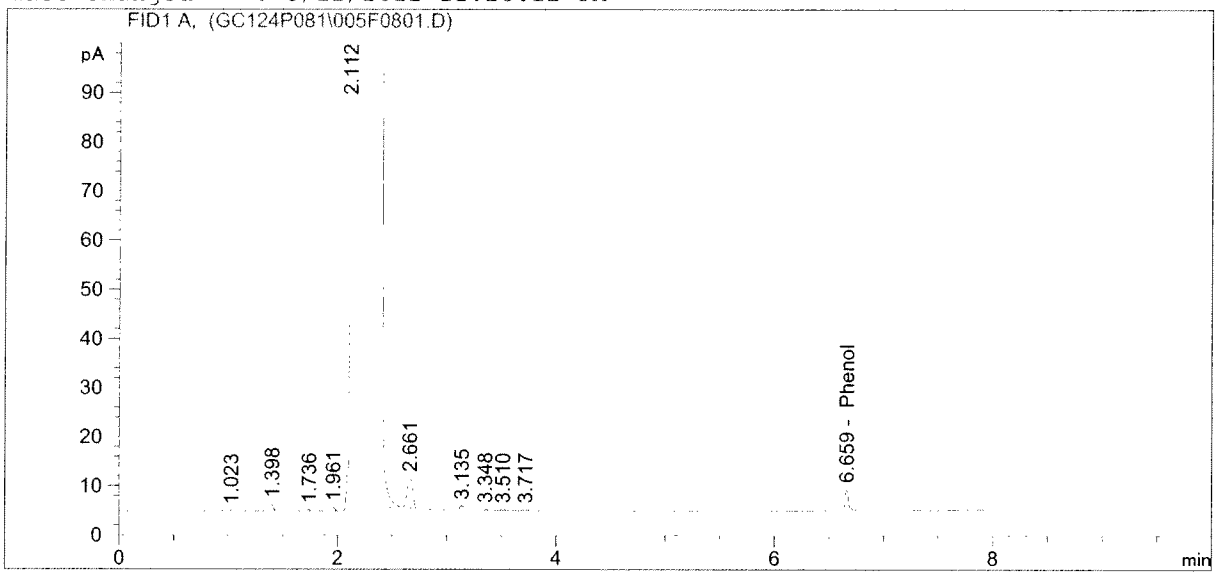
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       47.08937 4.28330e-1   20.16981     Phenol

Totals :                                20.16981
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Lolita                                Location : Vial 5
Injection Date   : 10-Mar-12, 23:20:10                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

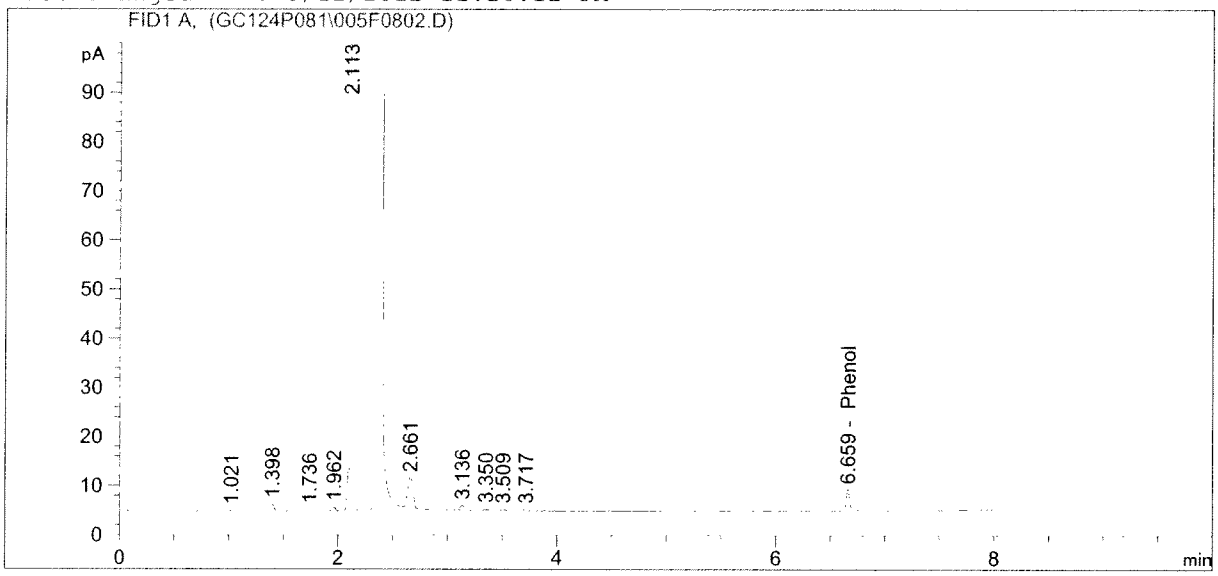
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.659 BB        9.20066 4.67747e-1    4.30358     Phenol

Totals :                                 4.30358
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Lolita                                Location : Vial 5
Injection Date   : 10-Mar-12, 23:33:18                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

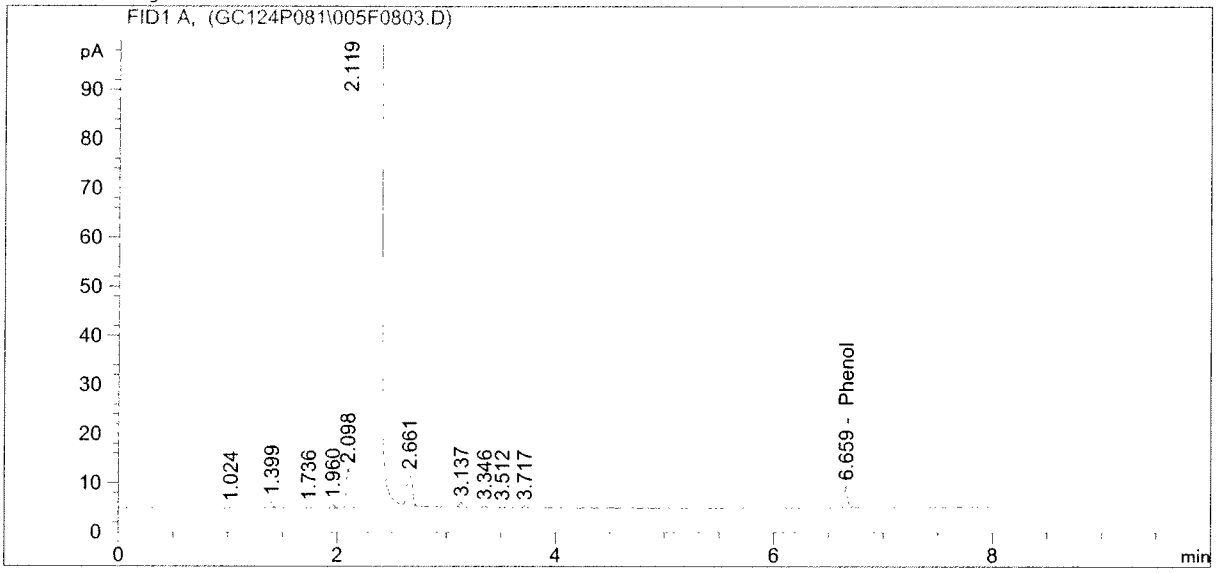
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.659 BB        8.75352 4.70249e-1    4.11633     Phenol

Totals :                                4.11633

                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Lolita                                Location : Vial 5
Injection Date   : 10-Mar-12, 23:46:29                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

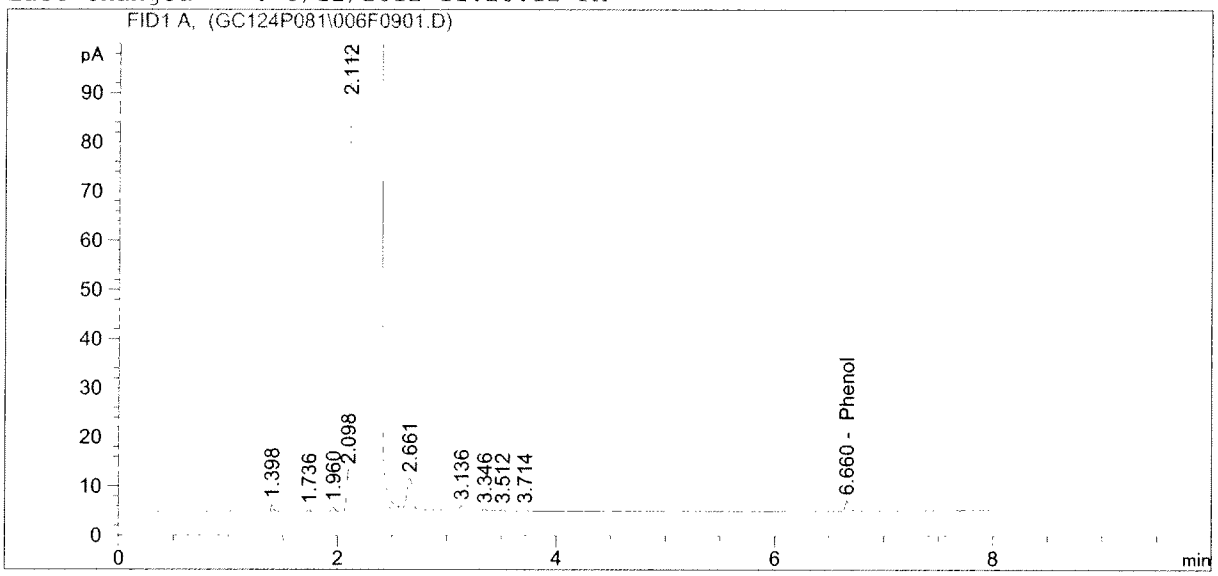
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.659 BB        8.78945 4.70039e-1    4.13138     Phenol

Totals :                                 4.13138

================================================================================
                          *** End of Report ***
```

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :   9
Acq. Instrument  : Lolita                                Location : Vial 6
Injection Date   : 10-Mar-12, 23:59:37                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

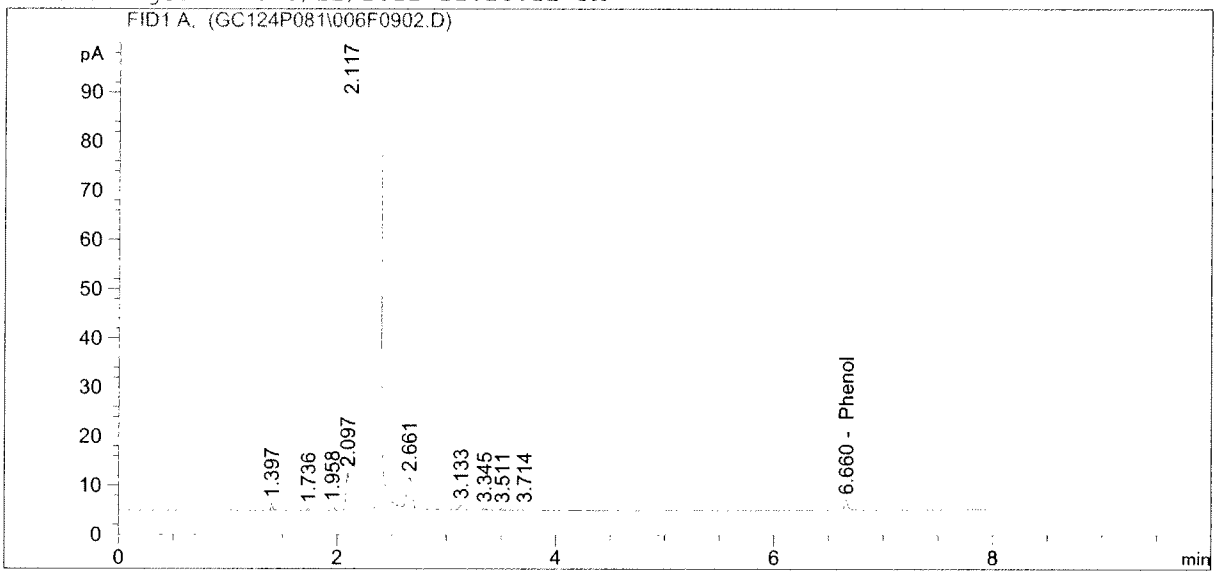
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.660 BB        4.14515 5.27493e-1    2.18654     Phenol

Totals :                                2.18654

==============================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                                Seq. Line :   9
Acq. Instrument : Lolita                              Location : Vial 6
Injection Date  : 11-Mar-12, 00:12:50                     Inj :   2
                                                    Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

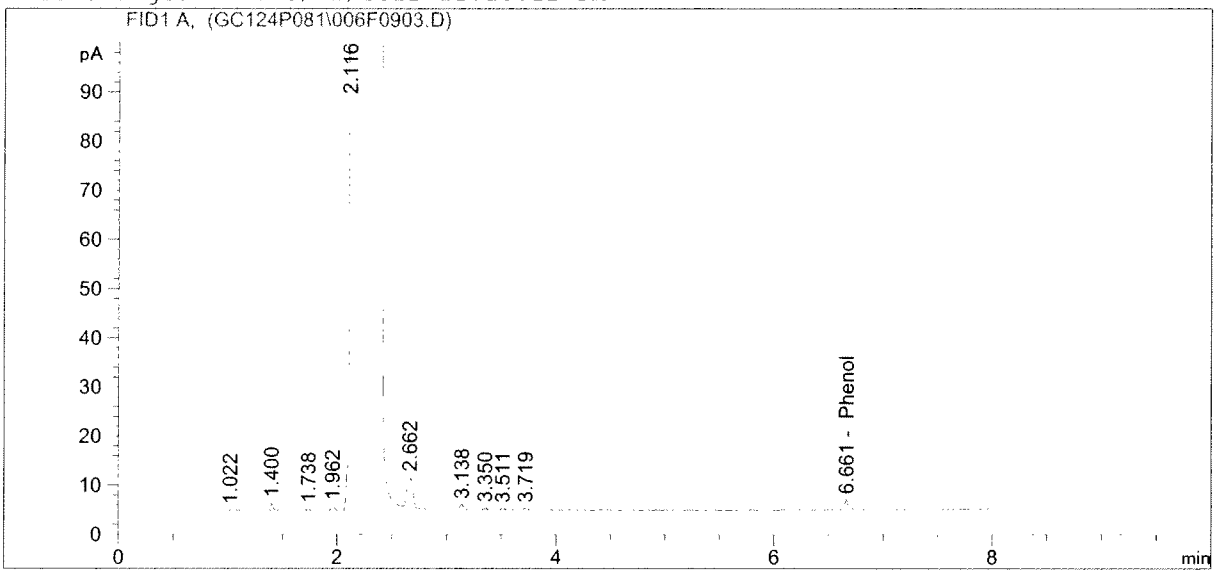
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.660 BB        4.15078 5.27346e-1    2.18890     Phenol

Totals :                                2.18890

==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :   9
Acq. Instrument : Lolita                                Location : Vial 6
Injection Date  : 11-Mar-12, 00:25:55                       Inj :   3
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

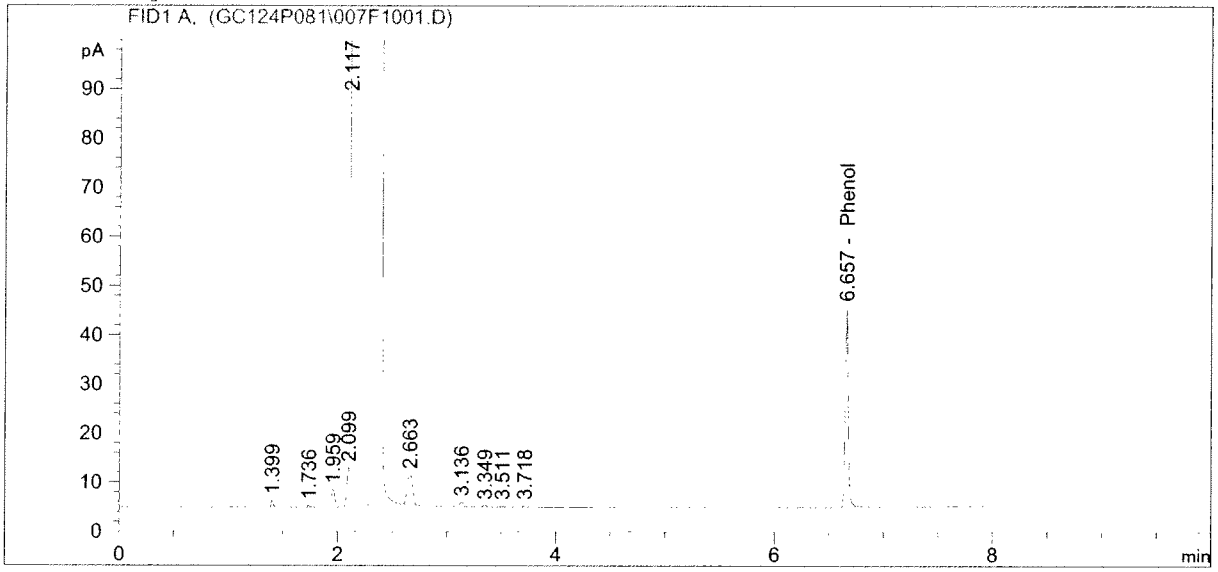
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.661 BB        4.23153 5.25274e-1    2.22271     Phenol

Totals :                                2.22271

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Lolita                                Location : Vial 7
Injection Date   : 11-Mar-12, 00:39:06                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

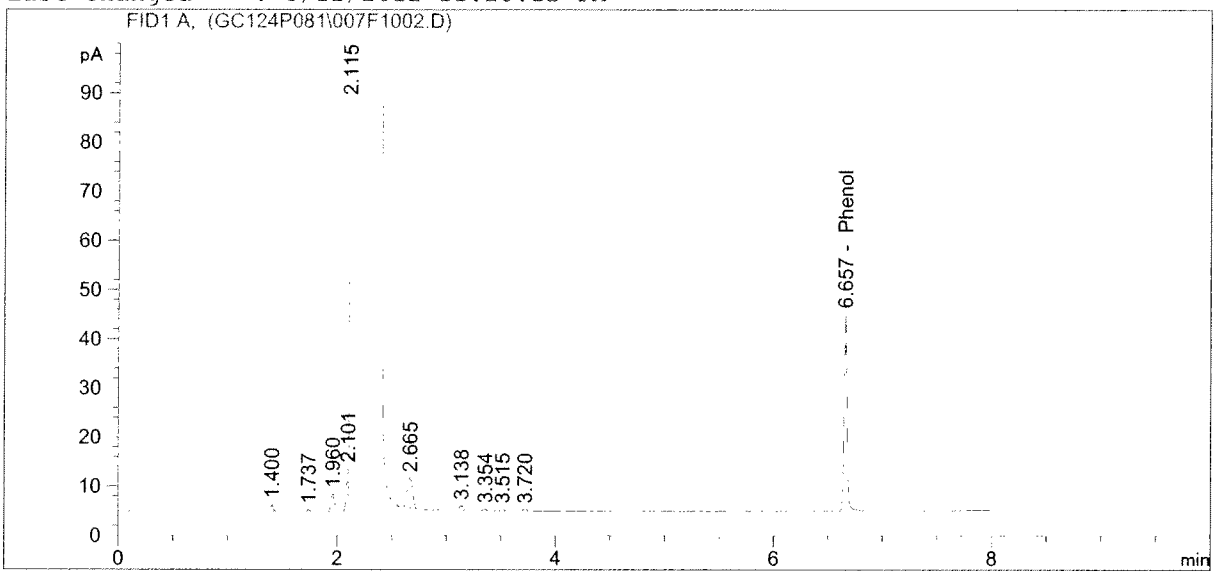
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       76.35020 4.24662e-1   32.42303     Phenol

Totals :                                32.42303

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                 Seq. Line :  10
Acq. Instrument  : Lolita                               Location : Vial 7
Injection Date   : 11-Mar-12, 00:52:11                      Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

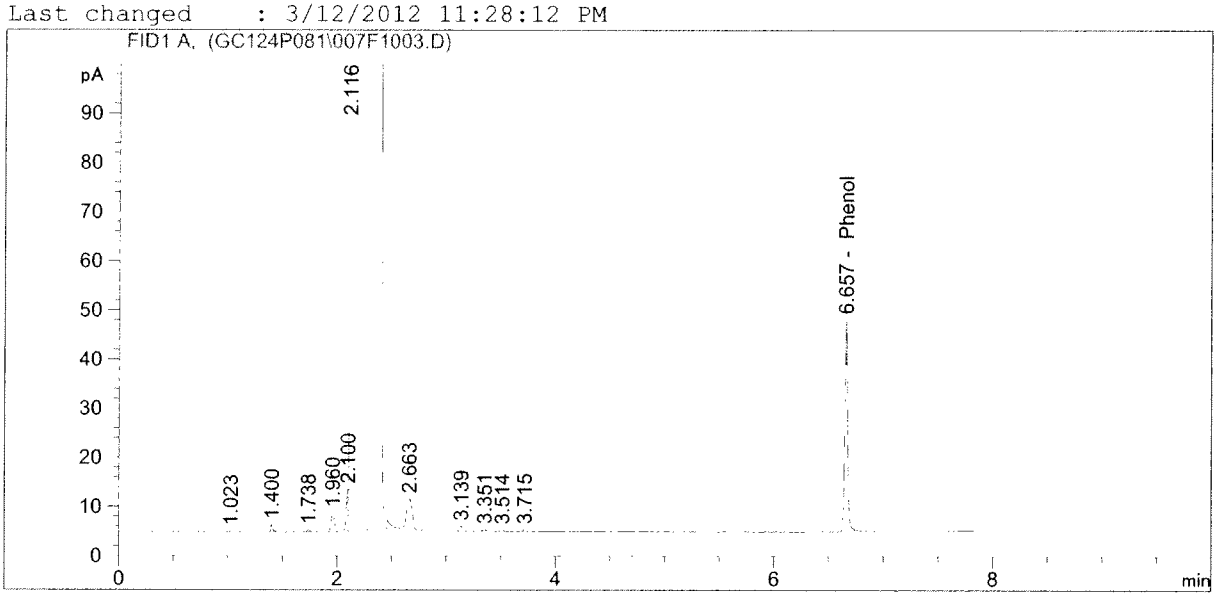
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       75.91985 4.24695e-1   32.24282     Phenol

Totals :                                32.24282


==========================================================================
                          *** End of Report ***
```

```
==============================================================================
Acq. Operator    : JBB                                  Seq. Line :  10
Acq. Instrument  : Lolita                                Location : Vial 7
Injection Date   : 11-Mar-12, 01:05:24                       Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==============================================================================
                        External Standard Report
==============================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

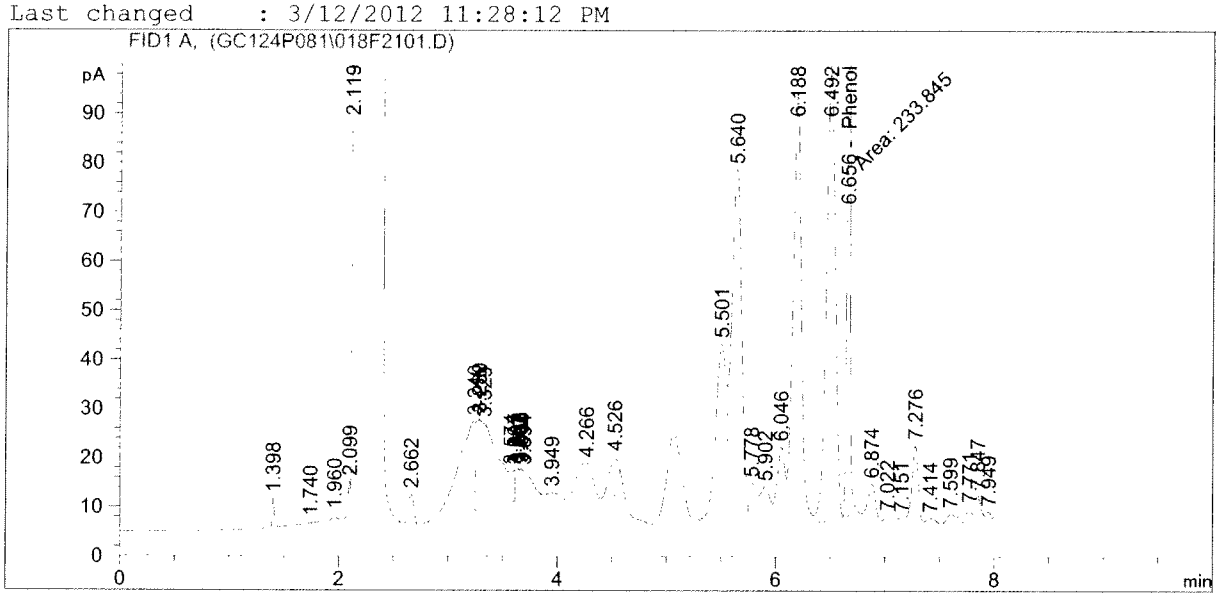
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|-------------------
  6.657 BB       81.12257 4.24315e-1   34.42150     Phenol

Totals :                                34.42150


==============================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Lolita                                Location : Vial 18
Injection Date   : 11-Mar-12, 08:52:30                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

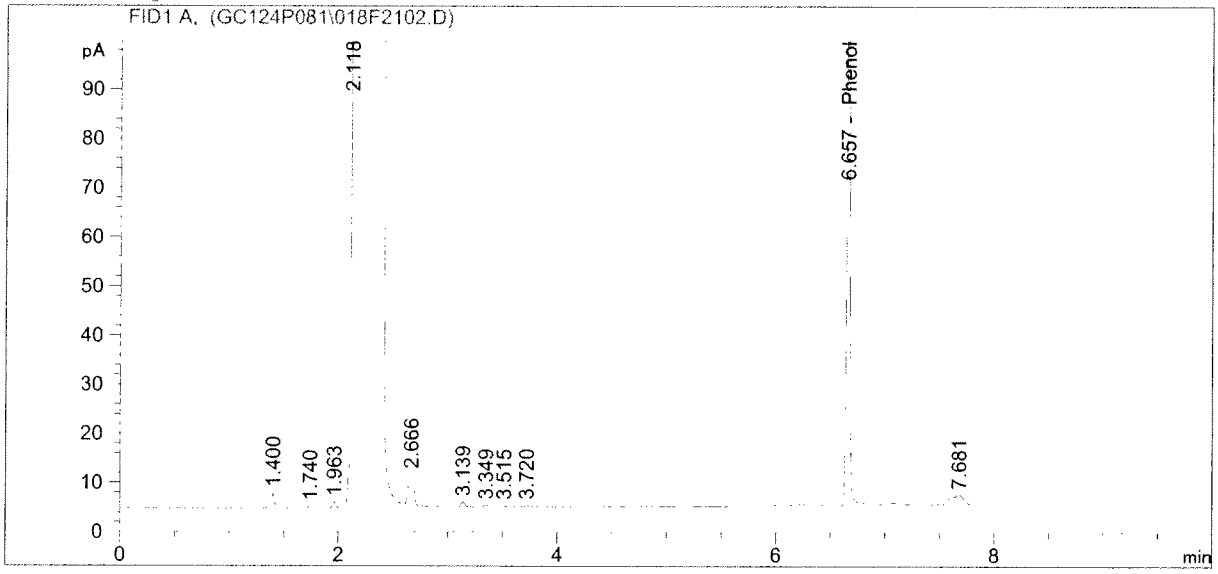
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.656 MM      233.84532 4.20686e-1   98.37548     Phenol

Totals :                                98.37548
```

*** End of Report ***

```
================================================================================
Acq. Operator   : JBB                                  Seq. Line :  21
Acq. Instrument : Lolita                                Location : Vial 18
Injection Date  : 11-Mar-12, 09:05:38                       Inj :   2
                                                      Inj Volume : External
Sequence File   : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method     : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/10/2012 9:16:53 PM
Analysis Method : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed    : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

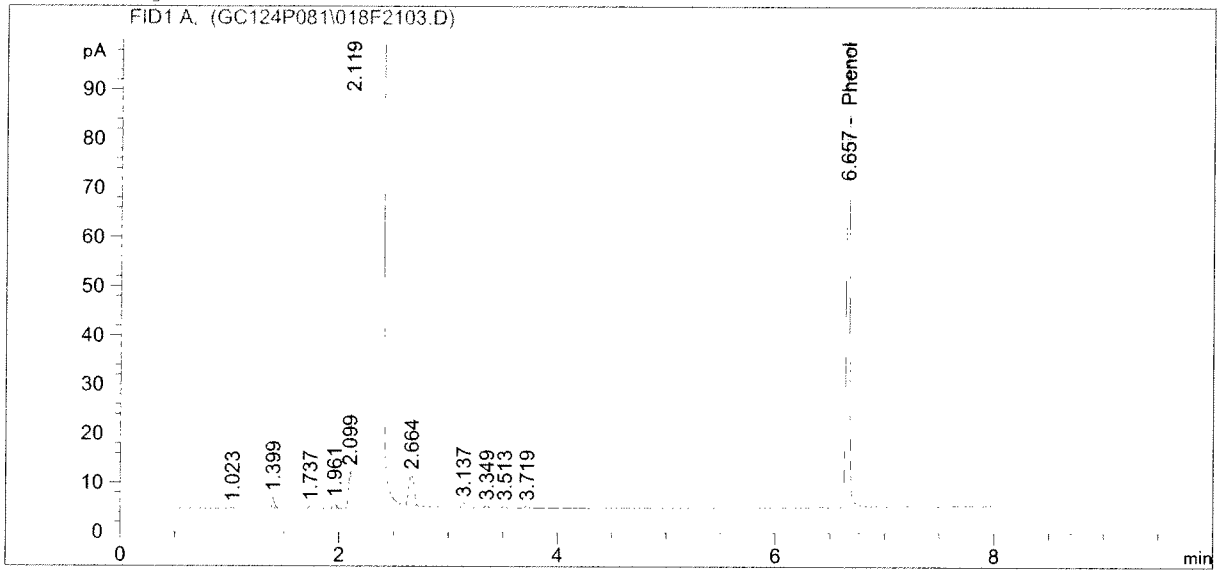
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB      221.57619 4.20793e-1   93.23767     Phenol

Totals :                                93.23767

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Lolita                                Location : Vial 18
Injection Date   : 11-Mar-12, 09:18:47                       Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

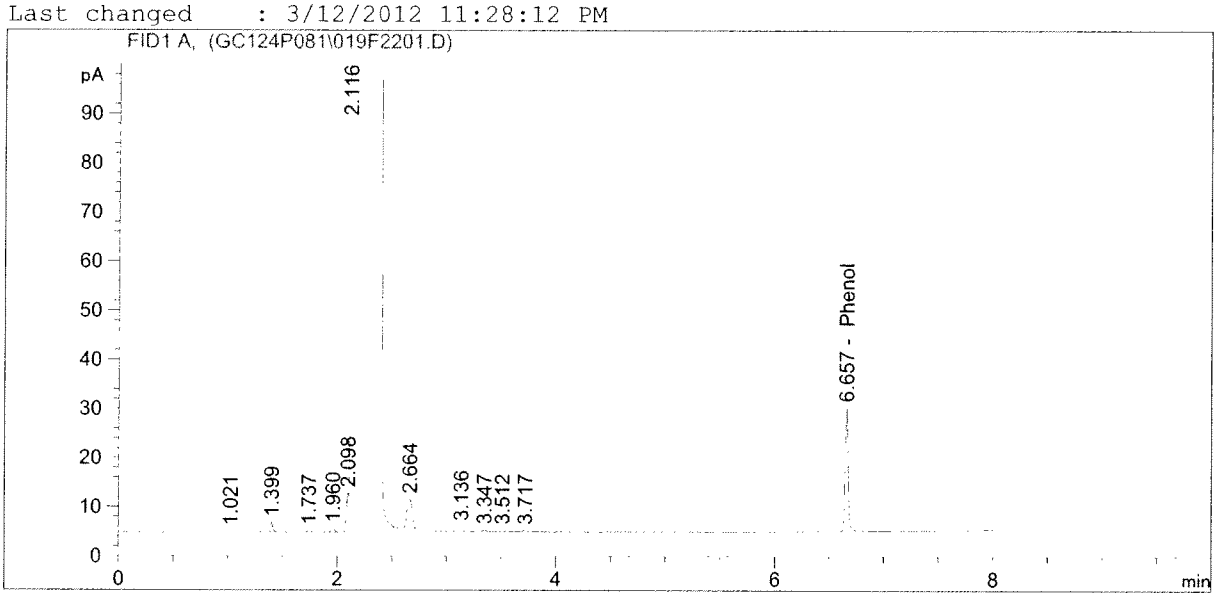
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB      218.41959 4.20822e-1   91.91582     Phenol

Totals :                                91.91582
```

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Lolita                                Location : Vial 19
Injection Date   : 11-Mar-12, 09:31:59                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

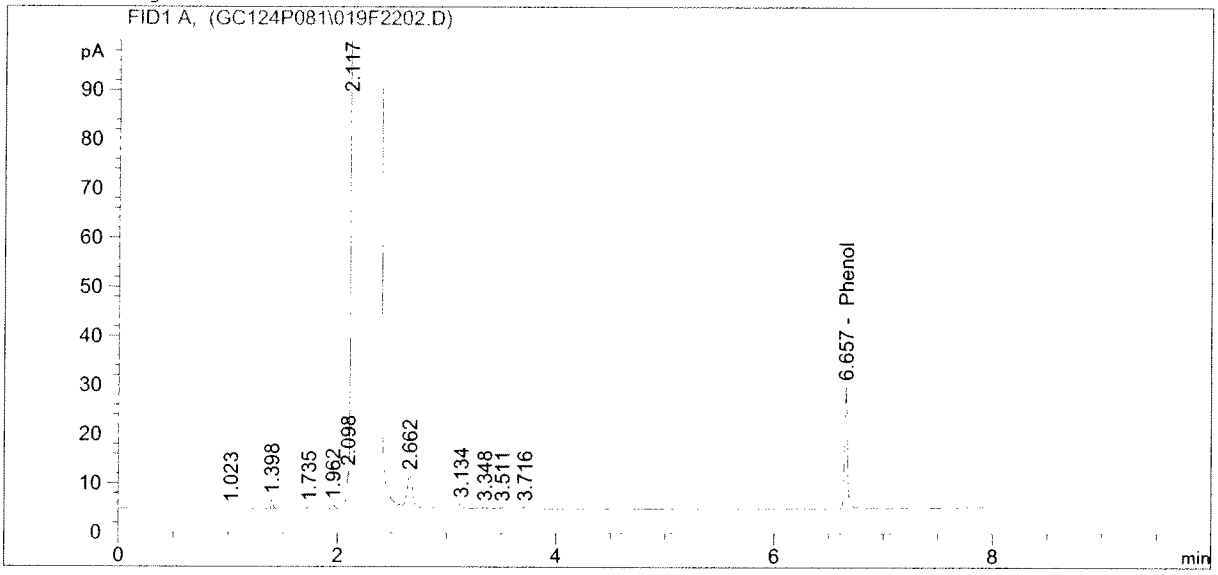
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       47.25837 4.28296e-1   20.24057     Phenol

Totals :                                20.24057

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Lolita                                Location : Vial 19
Injection Date   : 11-Mar-12, 09:45:07                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

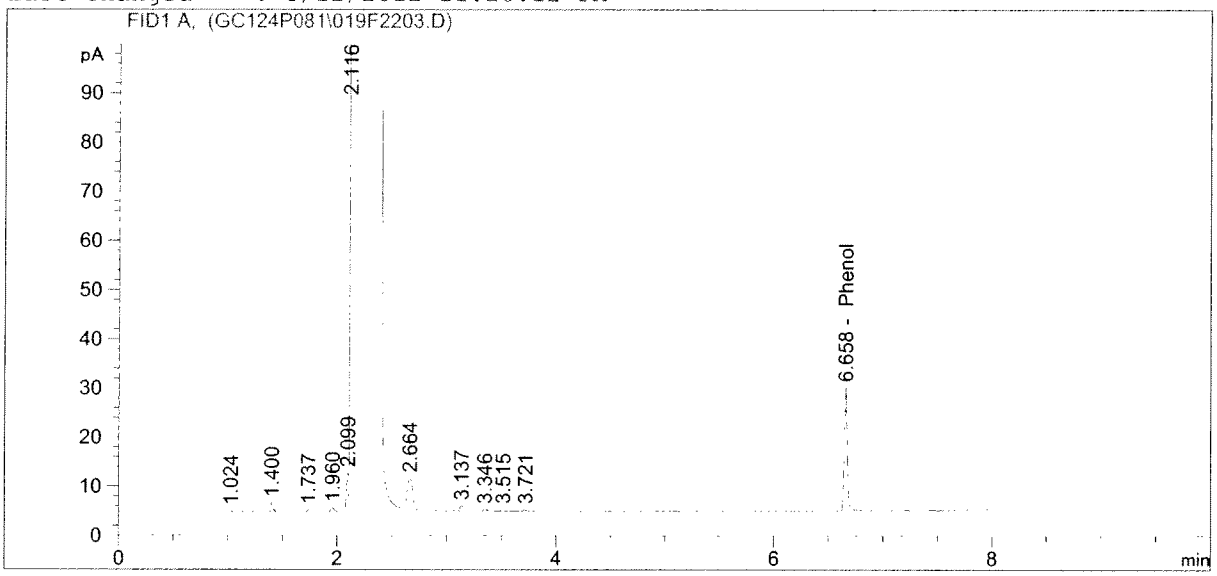
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       47.38401 4.28271e-1   20.29319     Phenol

Totals :                                20.29319
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  22
Acq. Instrument  : Lolita                            Location : Vial 19
Injection Date   : 11-Mar-12, 09:58:14                    Inj :   3
                                                   Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

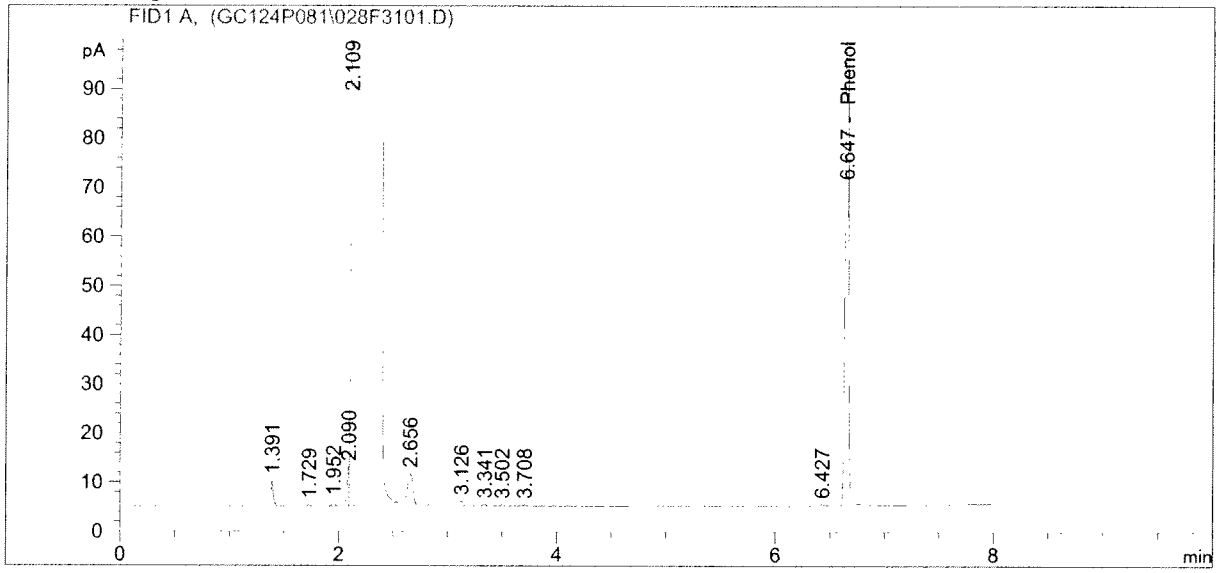
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.658 BB       47.06637 4.28335e-1   20.16017     Phenol

Totals :                                20.16017

==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  31
Acq. Instrument  : Lolita                                Location : Vial 28
Injection Date   : 11-Mar-12, 15:28:53                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

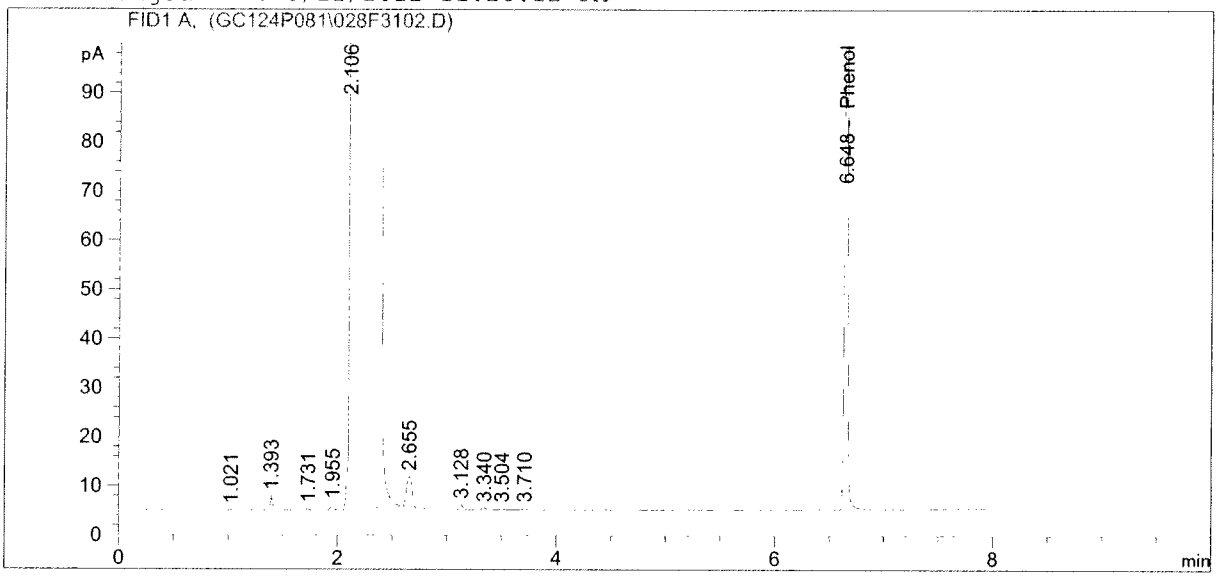
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.647 BB      267.77365 4.20442e-1  112.58326     Phenol

Totals :                               112.58326

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  31
Acq. Instrument  : Lolita                               Location : Vial 28
Injection Date   : 11-Mar-12, 15:42:10                      Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

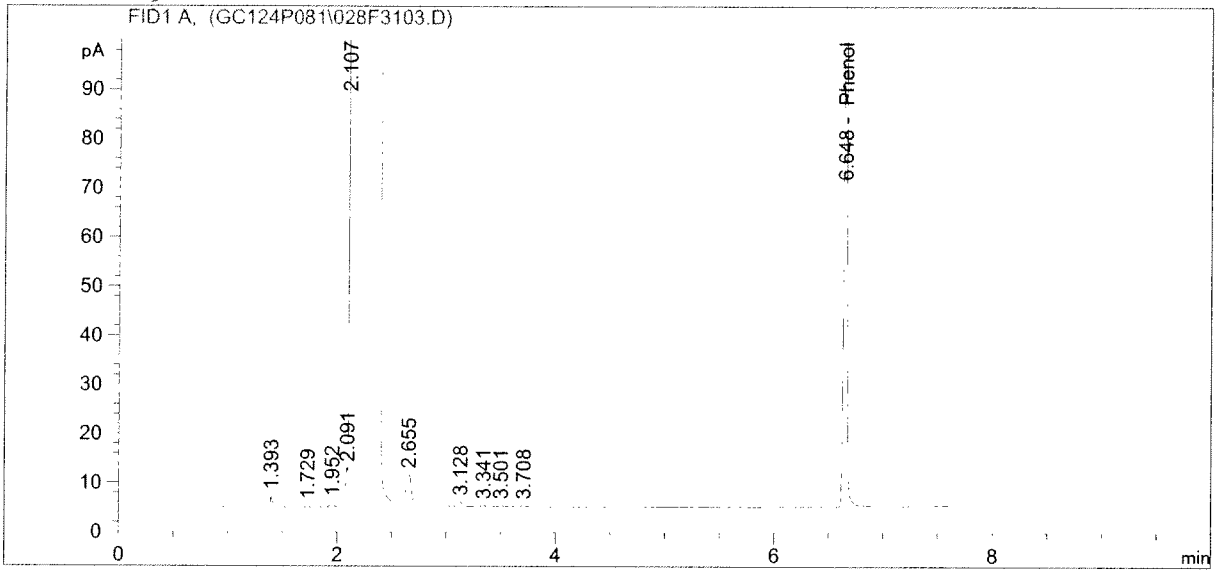
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.648 BB      268.21973 4.20439e-1  112.77006     Phenol

Totals :                               112.77006
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  31
Acq. Instrument  : Lolita                                Location : Vial 28
Injection Date   : 11-Mar-12, 15:55:25                       Inj :   3
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

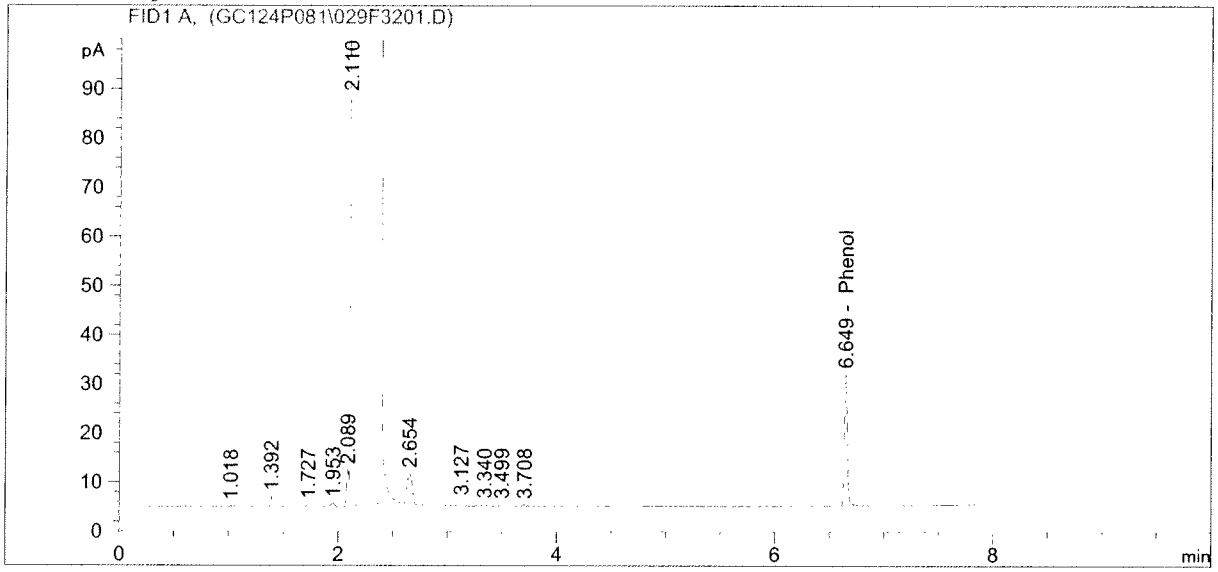
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.648 BB      266.31494 4.20451e-1  111.97242     Phenol

Totals :                               111.97242

==========================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  32
Acq. Instrument  : Lolita                                Location : Vial 29
Injection Date   : 11-Mar-12, 16:08:41                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

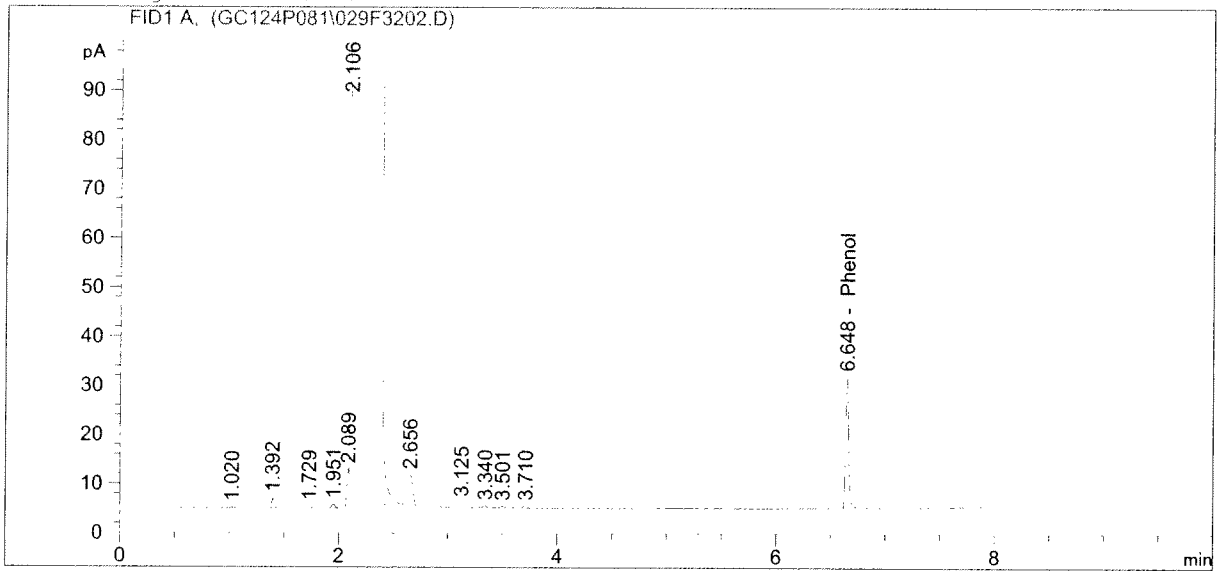
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.649 BB       50.77412 4.27636e-1   21.71283     Phenol

Totals :                                21.71283
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  32
Acq. Instrument  : Lolita                                Location : Vial 29
Injection Date   : 11-Mar-12, 16:21:56                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

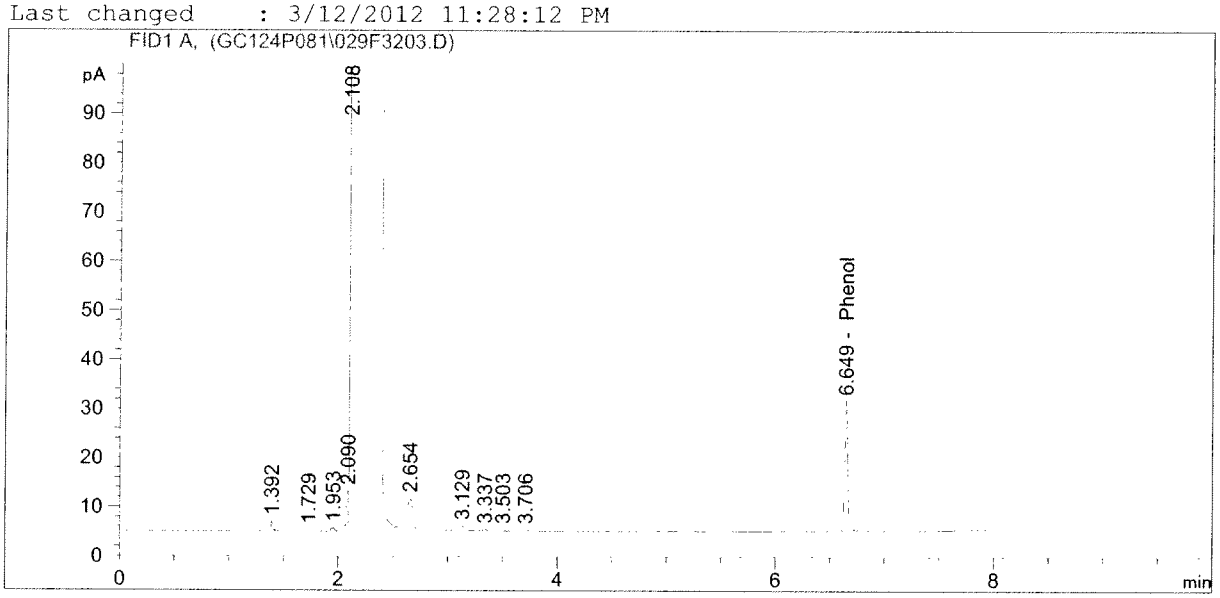
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.648 BB       51.20426 4.27561e-1   21.89295     Phenol

Totals :                                21.89295
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  32
Acq. Instrument  : Lolita                               Location : Vial 29
Injection Date   : 11-Mar-12, 16:35:12                      Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

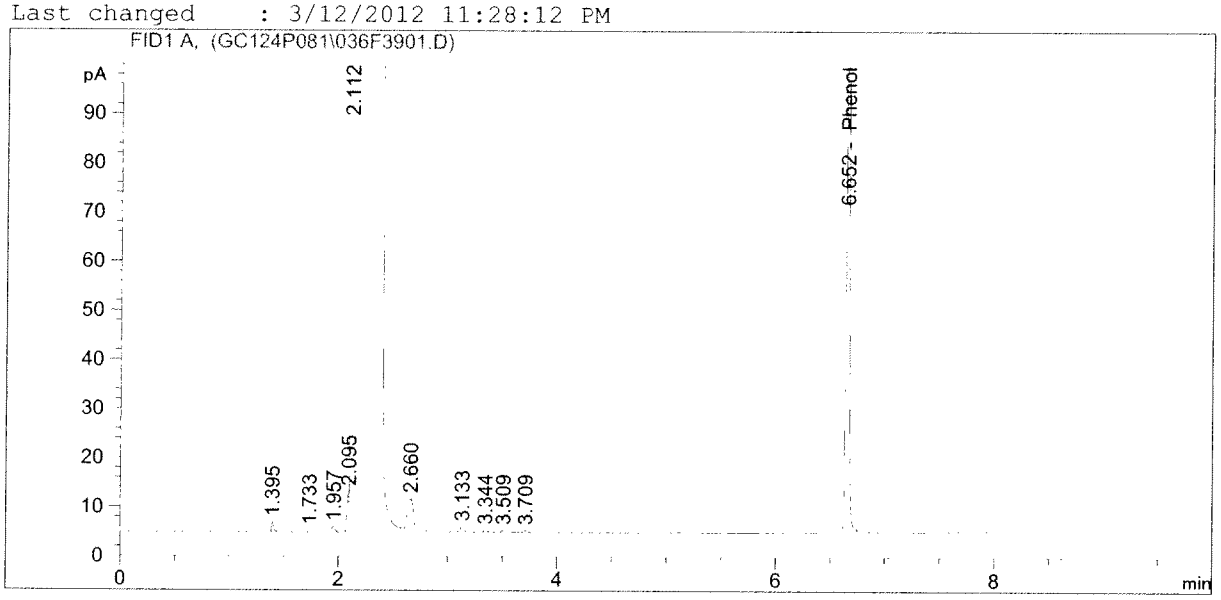
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.649 BB       50.01776 4.27770e-1   21.39609     Phenol

Totals :                                21.39609
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  39
Acq. Instrument  : Lolita                                Location : Vial 36
Injection Date   : 11-Mar-12, 20:46:54                       Inj :   1
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

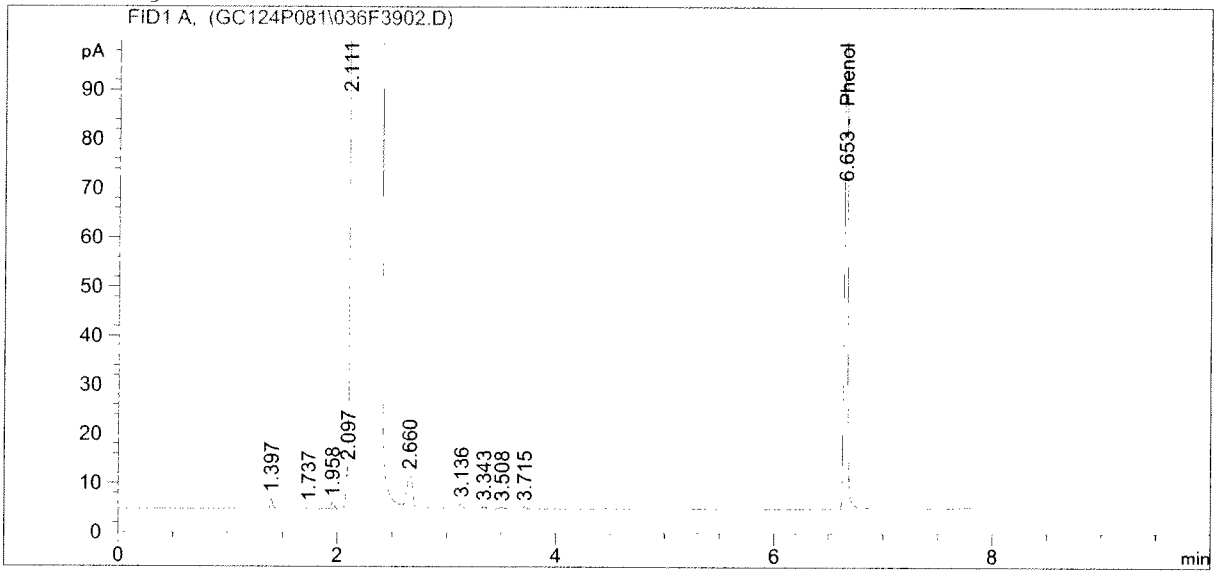
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.652 BB      237.29976 4.20658e-1   99.82206     Phenol

Totals :                                99.82206
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  39
Acq. Instrument  : Lolita                                Location : Vial 36
Injection Date   : 11-Mar-12, 21:00:03                       Inj :   2
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

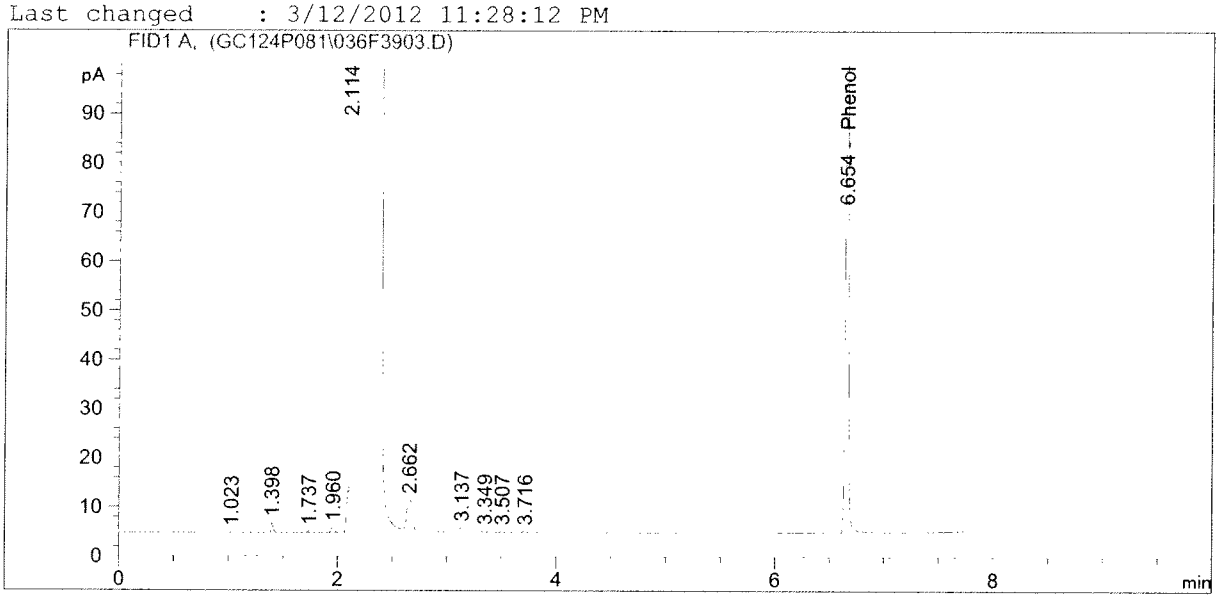
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.653 BB      239.33972 4.20642e-1  100.67631     Phenol

Totals :                               100.67631
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  39
Acq. Instrument  : Lolita                                Location : Vial 36
Injection Date   : 11-Mar-12, 21:13:11                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

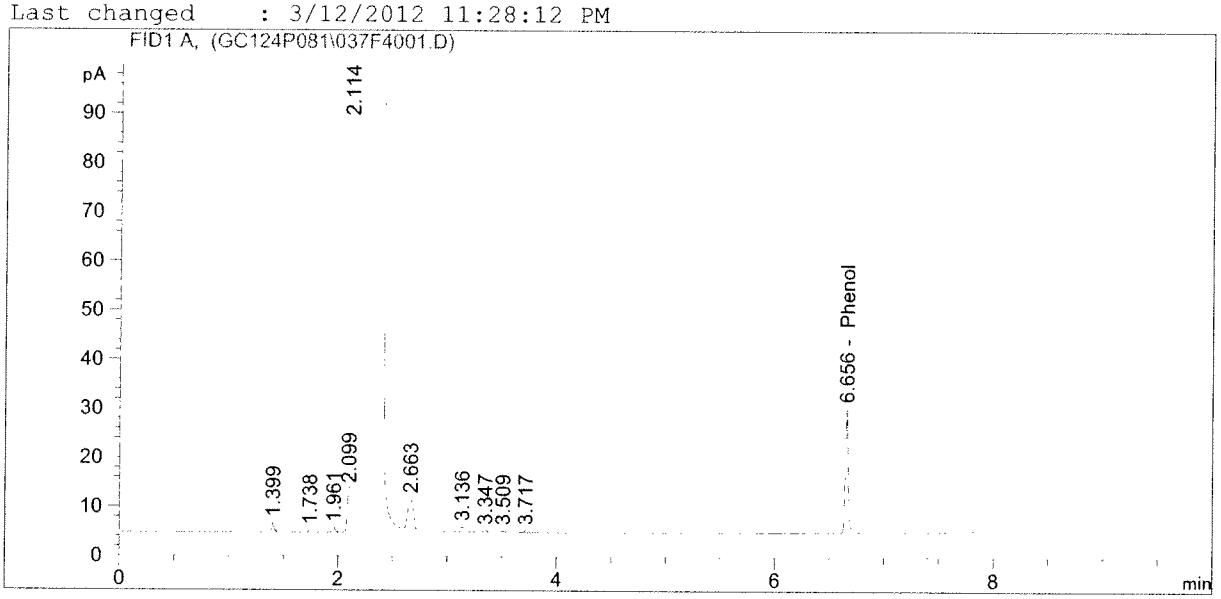
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.654 BB      233.61337 4.20688e-1   98.27835     Phenol

Totals :                                98.27835
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  40
Acq. Instrument  : Lolita                                Location : Vial 37
Injection Date   : 11-Mar-12, 21:26:22                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

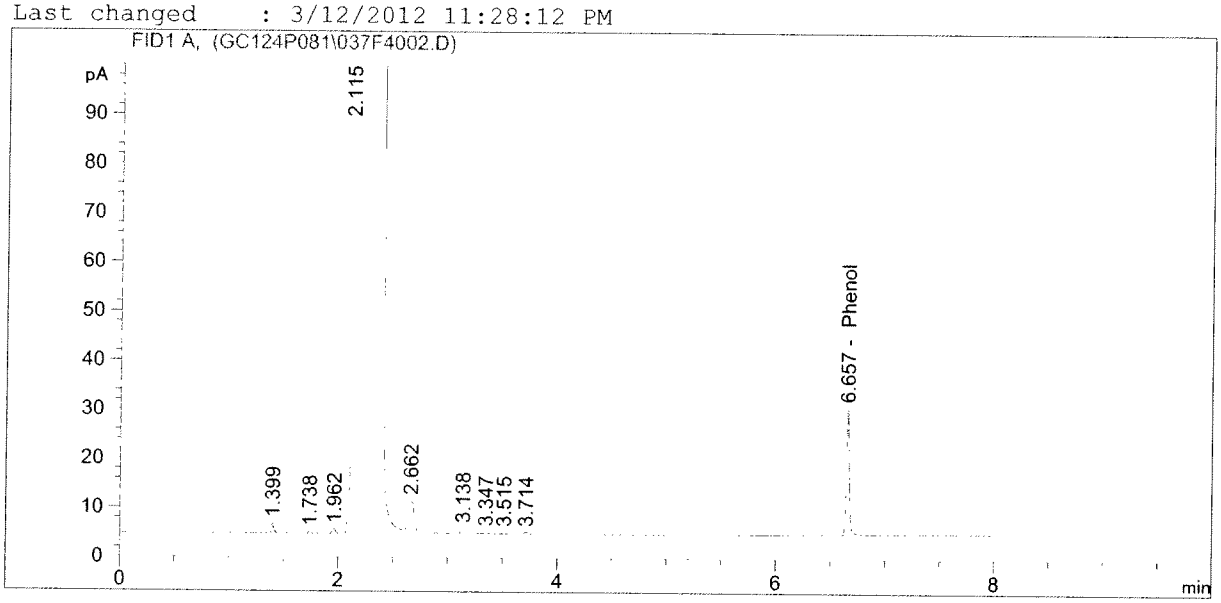
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.656 BB       48.41502 4.28068e-1   20.72493     Phenol

Totals :                                20.72493
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  40
Acq. Instrument  : Lolita                               Location : Vial 37
Injection Date   : 11-Mar-12, 21:39:28                      Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

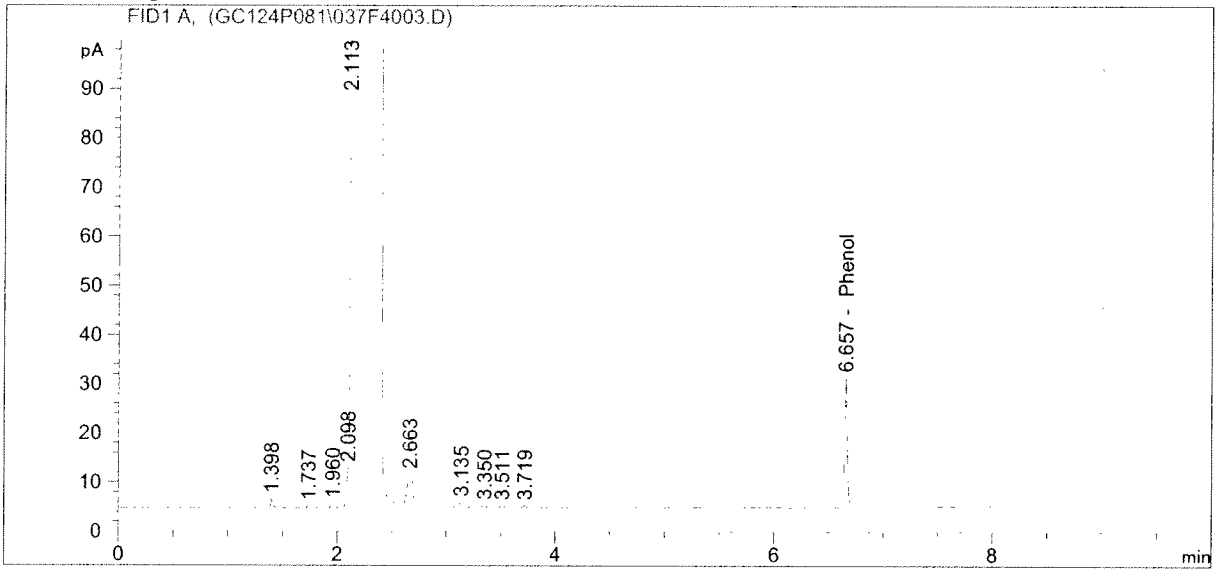
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       48.89000 4.27978e-1   20.92384     Phenol

Totals :                                20.92384
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  40
Acq. Instrument  : Lolita                                Location : Vial 37
Injection Date   : 11-Mar-12, 21:52:40                       Inj :   3
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/10/2012 9:16:53 PM
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

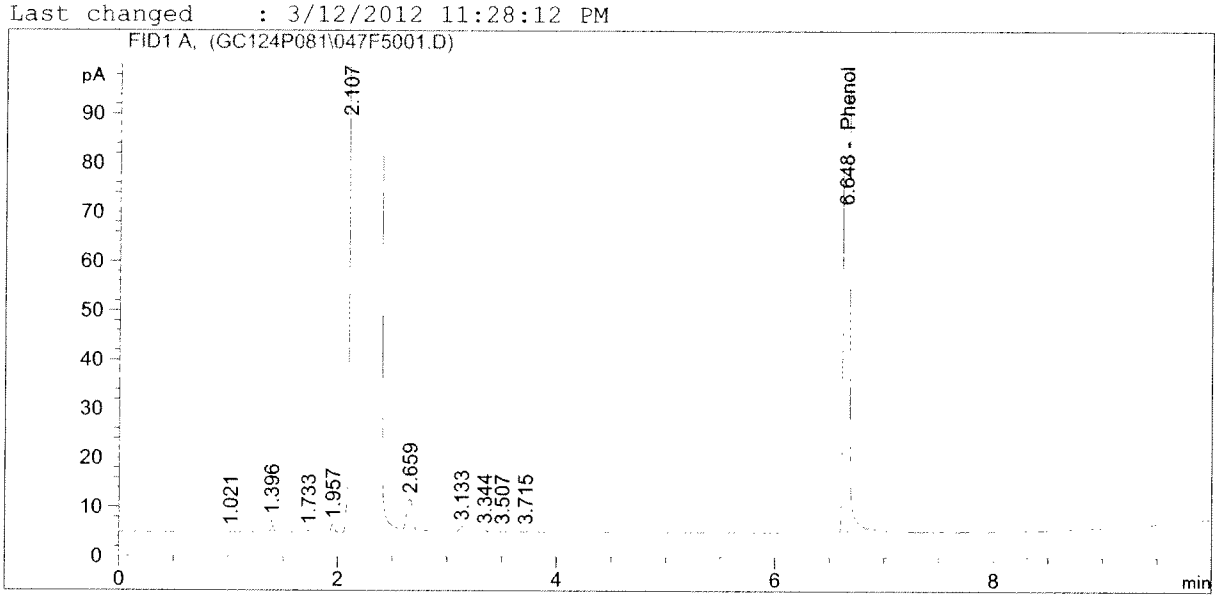
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.657 BB       49.78028 4.27813e-1   21.29665     Phenol

Totals :                                21.29665
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  50
Acq. Instrument  : Lolita                                Location : Vial 47
Injection Date   : 12-Mar-12, 22:56:42                       Inj :   1
                                                      Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

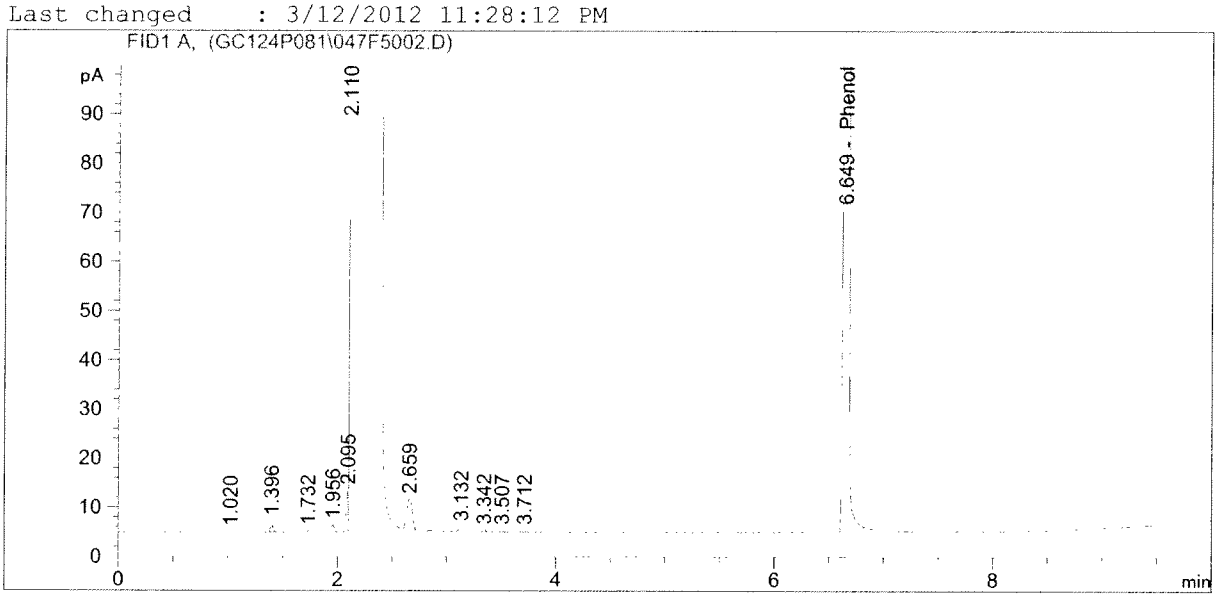
Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount   Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.648 BB S    5569.99072 4.18840e-1 2332.93271     Phenol

Totals :                                2332.93271
```

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  50
Acq. Instrument  : Lolita                                Location : Vial 47
Injection Date   : 12-Mar-12, 23:13:35                       Inj :   2
                                                       Inj Volume : External
Sequence File    : W:\GC2012Q1\LOLITA\SEQUENCE\GC124P081.S
Acq. Method      : G:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 4:40:22 PM by JBB
Analysis Method  : W:\GC2012Q1\LOLITA\METHODS\GC124P081.M
Last changed     : 3/12/2012 11:28:12 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 11:27:44 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type      Area      Amt/Area    Amount    Grp   Name
 [min]           [pA*s]
-------|------|----------|----------|----------|--|------------------
  6.649 BB S   5752.62891 4.18837e-1 2409.41403     Phenol

Totals :                              2409.41403


================================================================================
                          *** End of Report ***
```

6890 GC METHOD

OVEN
- Initial temp: 40 'C (On)
- Initial time: 1.00 min
- Ramps:

#	Rate	Final temp	Final time
1	20.00	240	5.00
2	0.0(Off)		

- Post temp: 50 'C
- Post time: 0.00 min
- Run time: 16.00 min
- Maximum temp: 350 'C
- Equilibration time: 1.00 min

FRONT INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 225 'C (On)
- Pressure: 5.26 psi (On)
- Split ratio: 10:1
- Split flow: 20.7 mL/min
- Total flow: 31.4 mL/min
- Gas saver: Off
- Gas type: Hydrogen

BACK INLET (SPLIT/SPLITLESS)
- Mode: Split
- Initial temp: 200 'C (On)
- Pressure: 18.49 psi (On)
- Split ratio: 10:1
- Split flow: 18.7 mL/min
- Total flow: 23.4 mL/min
- Gas saver: Off
- Gas type: Helium

COLUMN 1
- Capillary Column
- Model Number: Restek 10198
- Rtx-1 30m x 0.32mm x 4.0um
- Max temperature: 280 'C
- Nominal length: 30.0 m
- Nominal diameter: 320.00 um
- Nominal film thickness: 4.00 um
- Mode: constant flow
- Initial flow: 2.1 mL/min
- Nominal init pressure: 5.26 psi
- Average velocity: 40 cm/sec
- Inlet: Front Inlet
- Outlet: Front Detector
- Outlet pressure: ambient

COLUMN 2
- Capillary Column
- Model Number: Restek 15023
- RTX-200 30m x 0.25mm, 0.25um film
- Max temperature: 340 'C
- Nominal length: 30.0 m
- Nominal diameter: 250.00 um
- Nominal film thickness: 0.25 um
- Mode: constant flow
- Initial flow: 1.9 mL/min
- Nominal init pressure: 18.50 psi
- Average velocity: 39 cm/sec
- Inlet: Back Inlet
- Outlet: Back Detector
- Outlet pressure: ambient

FRONT DETECTOR (FID)
- Temperature: 300 'C (On)
- Hydrogen flow: 40.0 mL/min (On)
- Air flow: 450.0 mL/min (On)
- Mode: Constant makeup flow
- Makeup flow: 45.0 mL/min (On)
- Makeup Gas Type: Nitrogen
- Flame: On
- Electrometer: On
- Lit offset: 2.0

BACK DETECTOR (NPD)
- Temperature: 325 'C (On)
- Hydrogen flow: 3.0 mL/min (Off)
- Air flow: 60.0 mL/min (Off)
- Mode: Constant column+makeup flow
- Combined flow: 4.0 mL/min
- Makeup flow: On
- Makeup Gas Type: Helium
- Adjust offset: 30.00
- Electrometer: On
- Bead: Off
- Equilibration time: 1.00

SIGNAL 1
- Data rate: 50 Hz
- Type: front detector
- Save Data: On
- Zero: 0.0 (Off)
- Range: 0
- Fast Peaks: Off
- Attenuation: 0

SIGNAL 2
- Data rate: 20 Hz
- Type: back detector
- Save Data: Off
- Zero: 0.0 (Off)
- Range: 0
- Fast Peaks: Off
- Attenuation: 0

method: G:\GC2012Q1\LOLITA\METHODS\GC124P080.M
Modified on: 3/9/2012 at 10:11:56 PM

COLUMN COMP 1
Derive from front detector

COLUMN COMP 2
Derive from back detector

POST RUN
Post Time: 0.00 min

TIME TABLE

Time	Specifier	Parameter & Setpoint

Calibration Curve Chromatograms

Calibration Table

Calib. Data Modified : Monday, March 12, 2012 10:18:13 PM

Rel. Reference Window : 0.000 %
Abs. Reference Window : 0.100 min
Rel. Non-ref. Window : 0.000 %
Abs. Non-ref. Window : 0.200 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Connected
Weight : Quadratic (Amnt)

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :
Printout of recalibrations within a sequence:
Calibration Table after Recalibration
Normal Report after Recalibration
If the sequence is done with bracketing:
Results of first cycle (ending previous bracket)

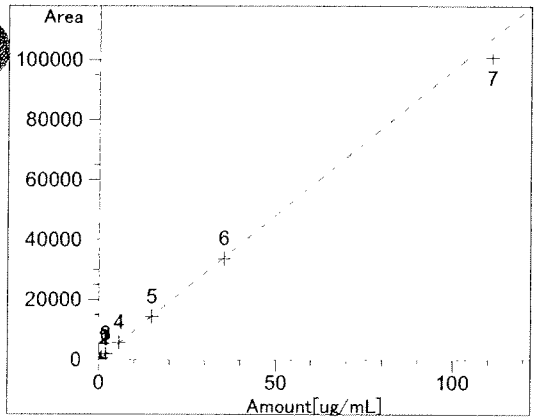
Signal 1: FID1 A,

RetTime [min]	Sig	Lvl	Amount [ug/mL]	Area	Amt/Area	Ref	Grp	Name
7.903	1	1	3.88000e-1	339.64201	1.14238e-3			Phenol
		2	7.76000e-1	717.06960	1.08218e-3			
		3	1.93300	1944.54834	9.94061e-4			
		4	5.74300	5701.11914	1.00735e-3			
		5	14.94700	1.43566e4	1.04113e-3			
		6	35.32800	3.38188e4	1.04463e-3			
		7	111.03200	1.00818e5	1.10131e-3			

Peak Sum Table

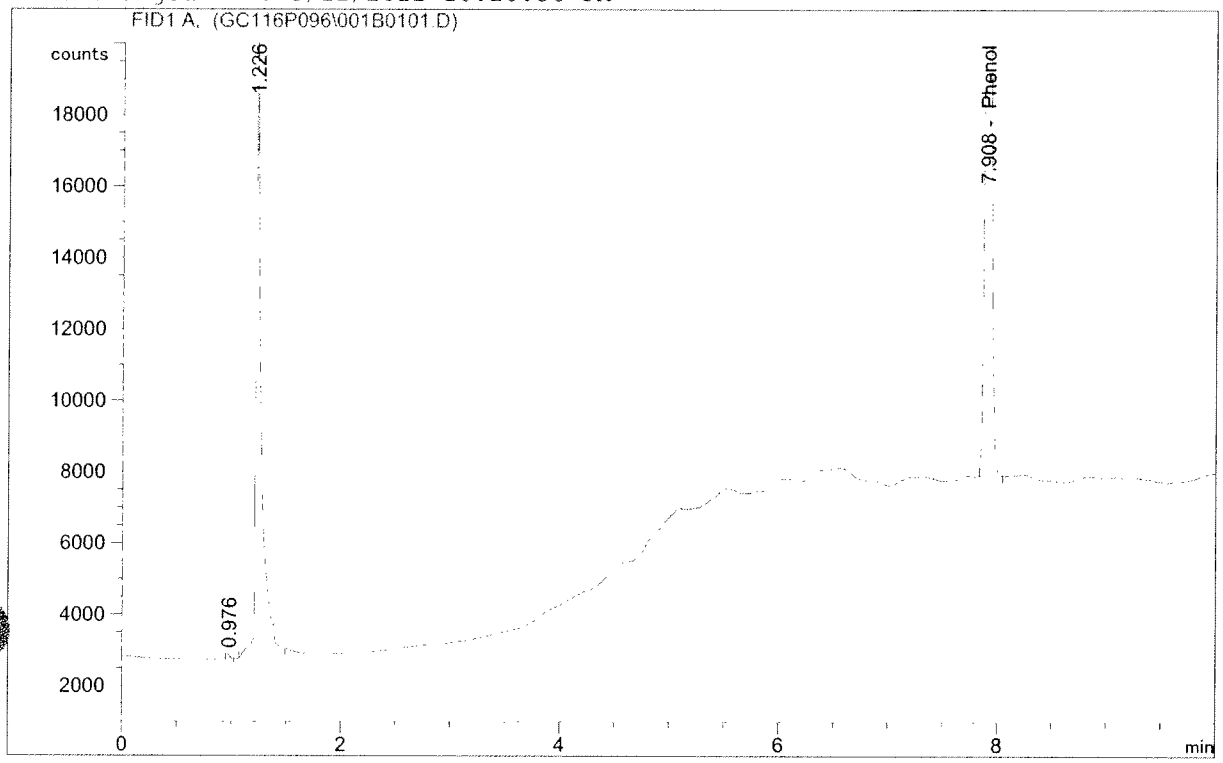
No Entries in table

Calibration Curves



Phenol at exp. RT: 7.903
FID1 A,
Correlation: 0.99908
Residual Std. Dev.: 2921.45189
Formula: y = mx + b
m: 967.02559
b: -31.16570
x: Amount
y: Area
Calibration Level Weights:
Level 1 : 1
Level 2 : 0.25
Level 3 : 0.04029
Level 4 : 0.004564
Level 5 : 0.000674
Level 6 : 0.000121
Level 7 : 0.000012

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   1
Acq. Instrument  : Oscar                             Location : Vial 1
Injection Date   : 3/9/2012 5:54:41 PM                    Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 5:12:22 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
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Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

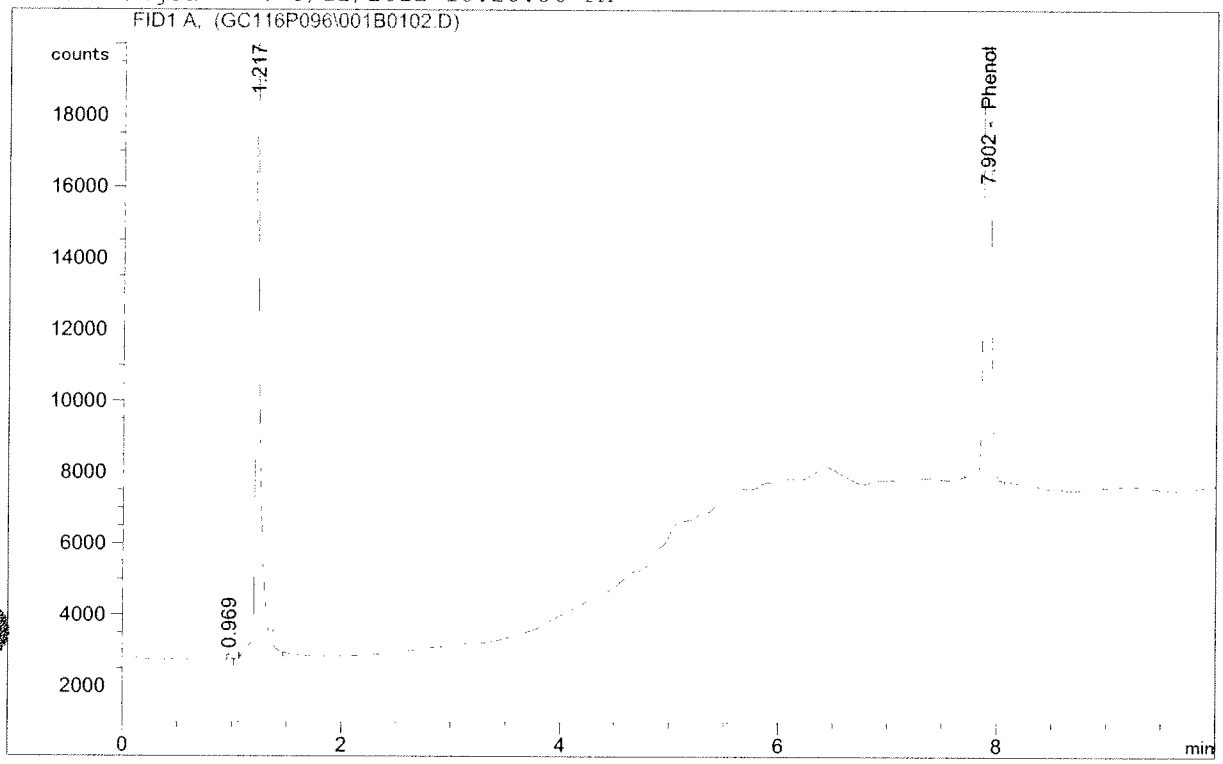
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.908 BB     1.01491e5  1.03442e-3  104.98395     Phenol

Totals :                               104.98395

==========================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Oscar                                 Location : Vial 1
Injection Date   : 3/9/2012 6:13:14 PM                       Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 5:12:22 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

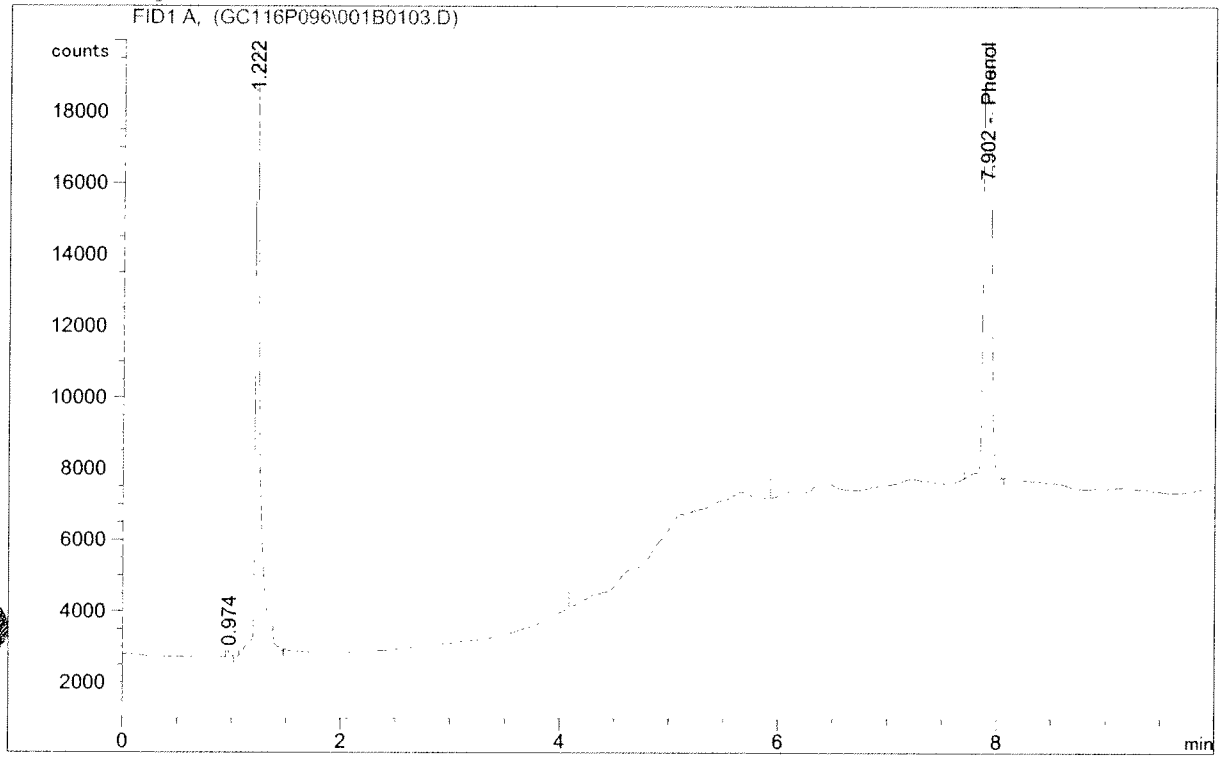
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.902 BB     9.91834e4  1.03442e-3  102.59768     Phenol

Totals :                               102.59768
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   1
Acq. Instrument  : Oscar                             Location : Vial 1
Injection Date   : 3/9/2012 6:31:55 PM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 5:12:22 PM by JBB
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

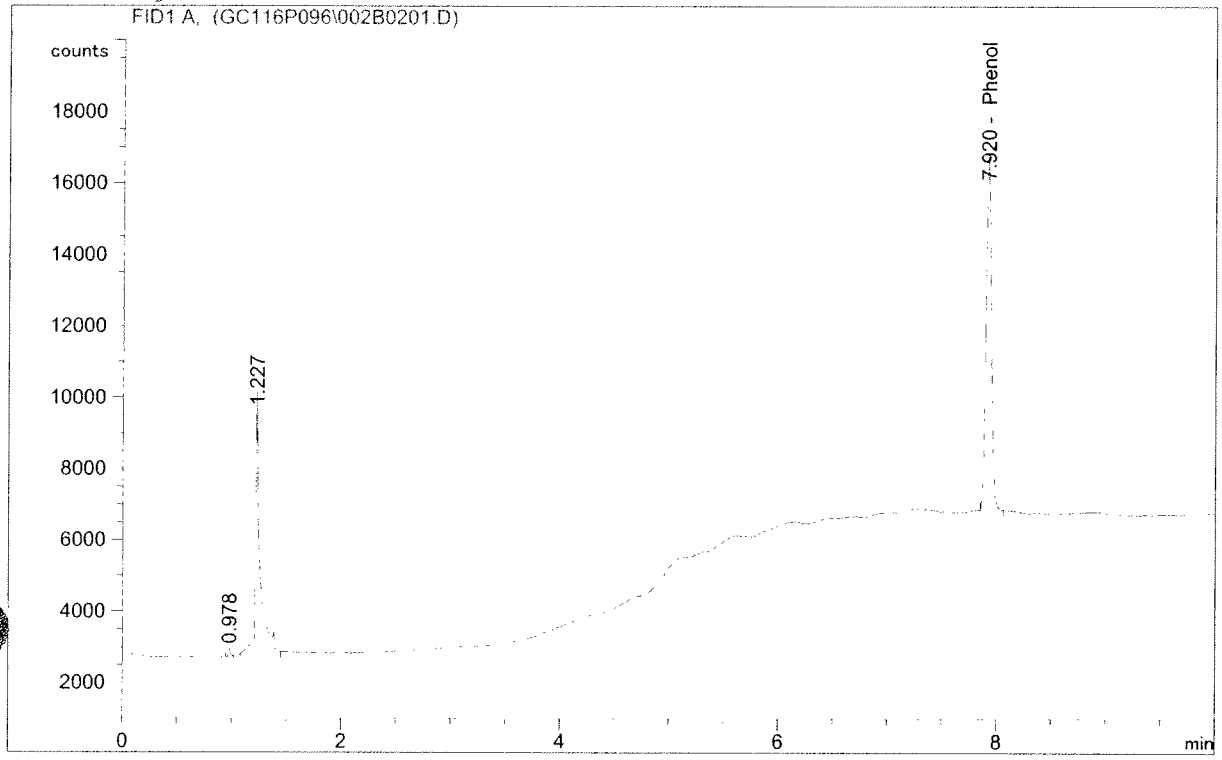
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.902 BB     1.01780e5  1.03442e-3  105.28305     Phenol

Totals :                               105.28305

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   2
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/9/2012 8:37:11 PM                       Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

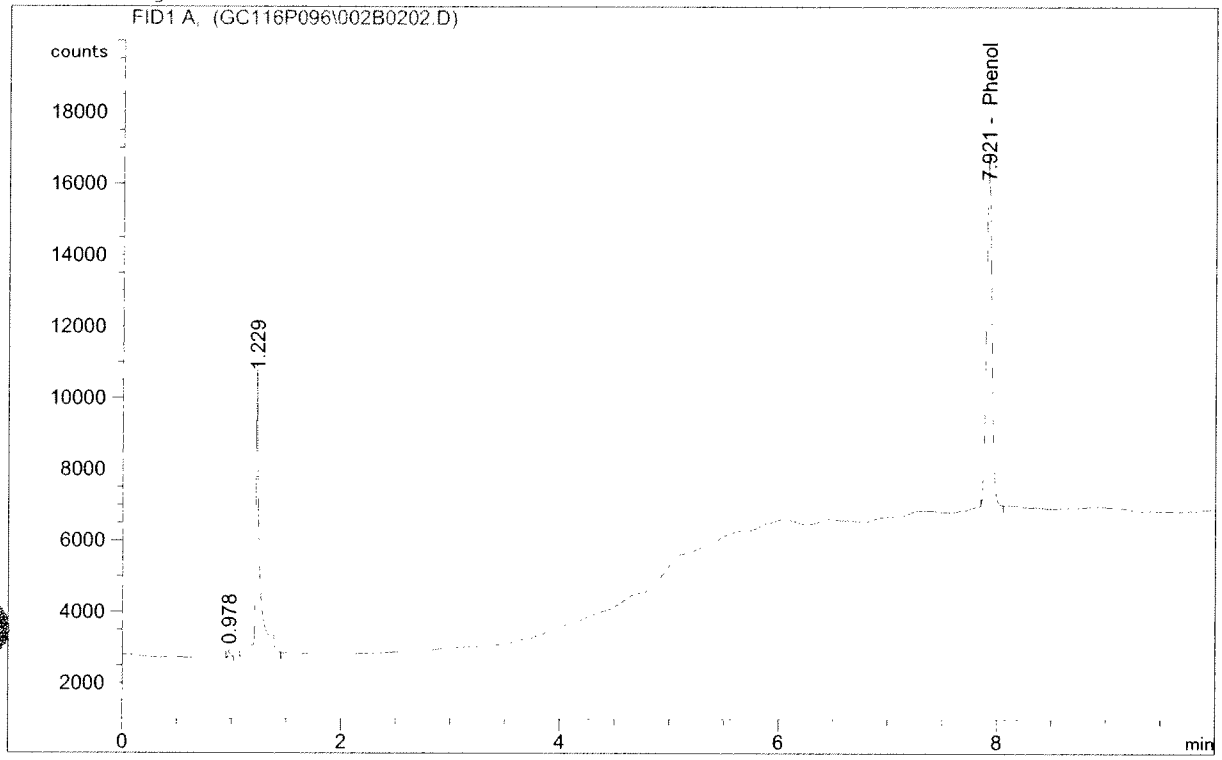
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.920 BB     3.39649e4  1.03505e-3   35.15532     Phenol

Totals :                                35.15532
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   2
Acq. Instrument  : Oscar                             Location : Vial 2
Injection Date   : 3/9/2012 8:50:45 PM                   Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

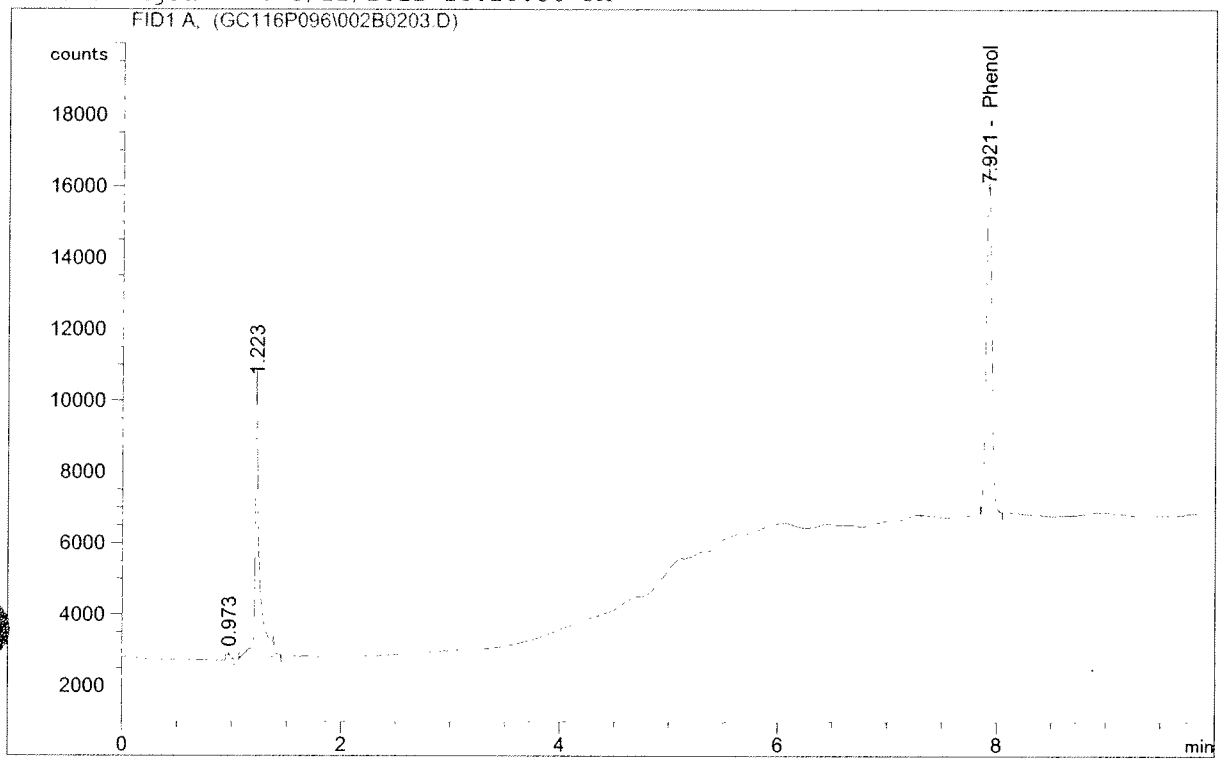
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.921 BB     3.37664e4  1.03505e-3   34.95007     Phenol

Totals :                                34.95007

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   2
Acq. Instrument  : Oscar                             Location : Vial 2
Injection Date   : 3/9/2012 9:04:12 PM                    Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

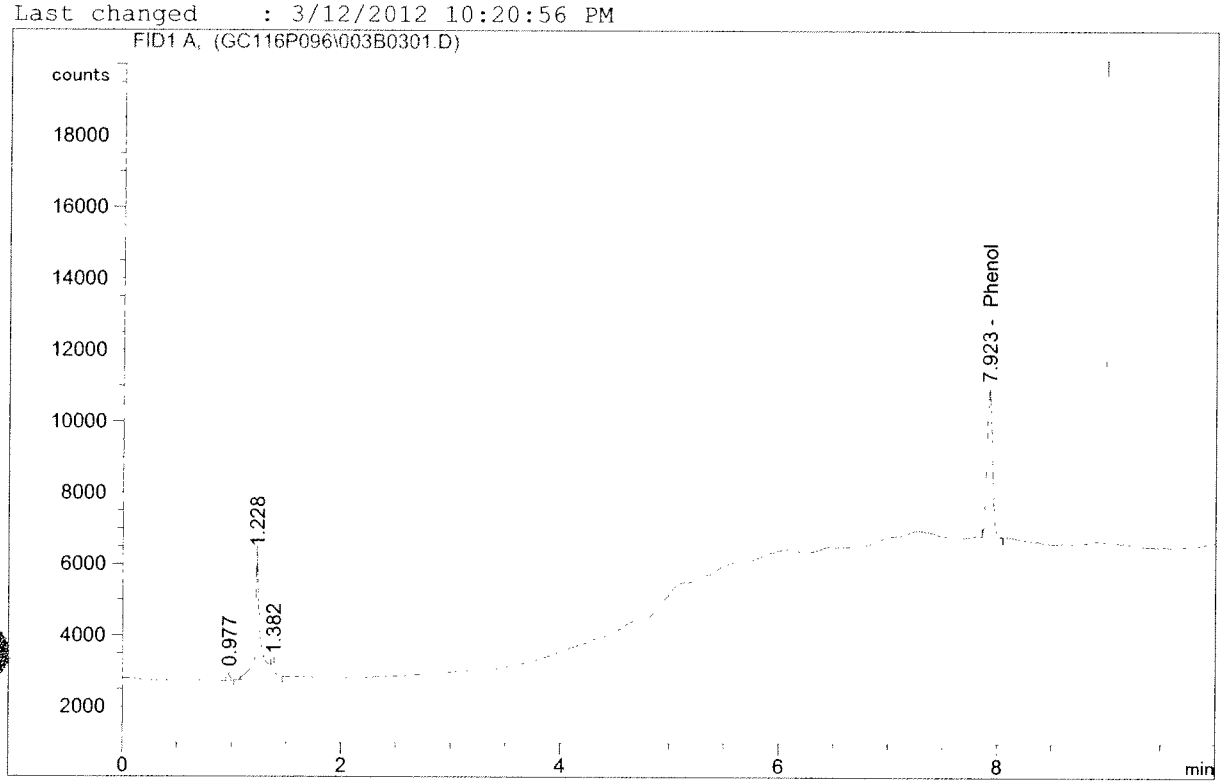
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.921 BB     3.37251e4  1.03505e-3   34.90732     Phenol

Totals :                                34.90732

==========================================================================
                      *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   3
Acq. Instrument  : Oscar                                 Location : Vial 3
Injection Date   : 3/9/2012 9:17:44 PM                       Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

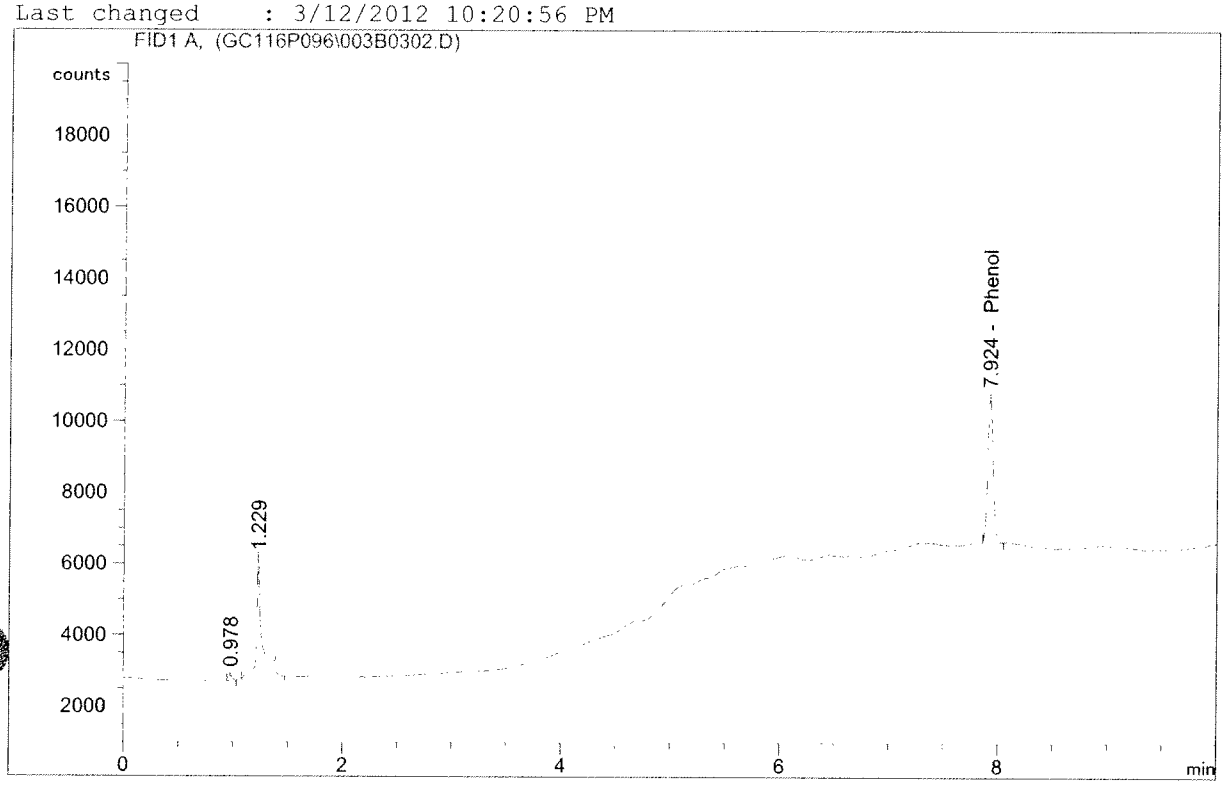
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     1.43608e4  1.03634e-3   14.88270     Phenol

Totals :                                14.88270
```

*** End of Report ***

```
Acq. Operator   : JBB                                  Seq. Line :   3
Acq. Instrument : Oscar                                 Location : Vial 3
Injection Date  : 3/9/2012 9:31:12 PM                       Inj :   2
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 8:30:09 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

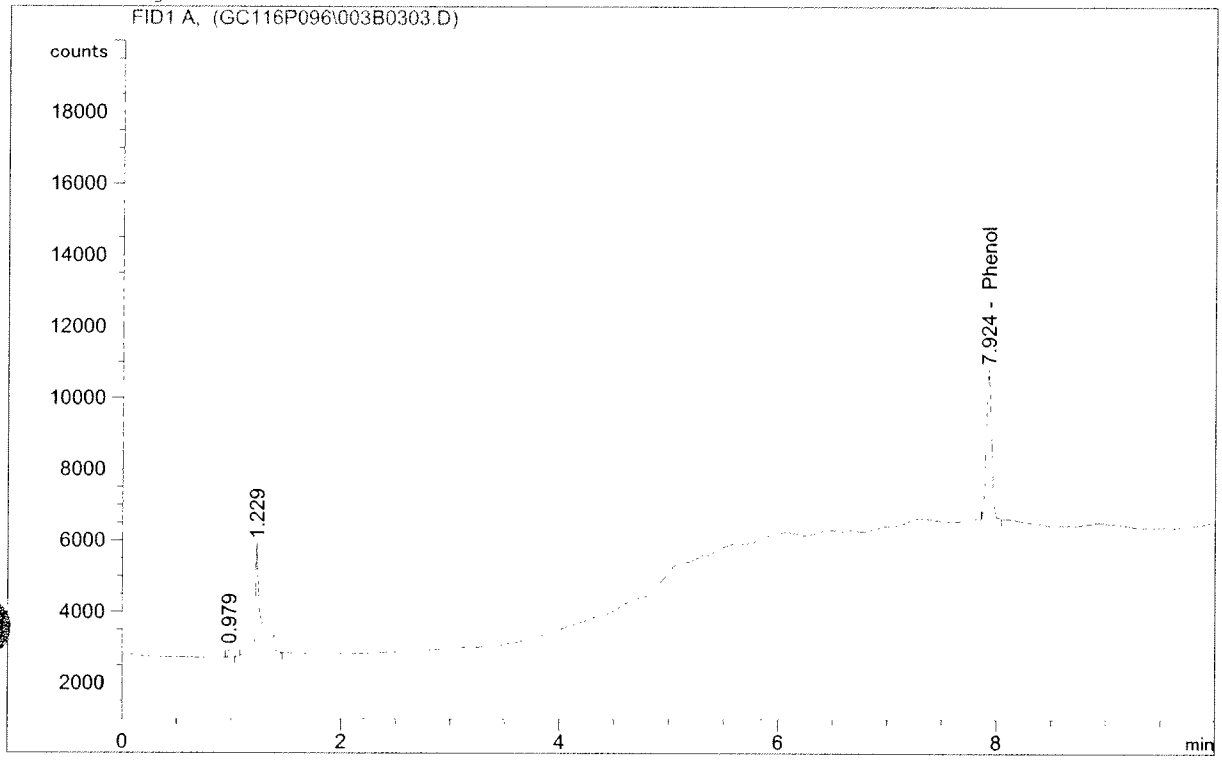
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.43901e4  1.03634e-3   14.91299     Phenol

Totals :                                14.91299
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :   3
Acq. Instrument  : Oscar                               Location : Vial 3
Injection Date   : 3/9/2012 9:44:50 PM                     Inj :   3
                                                     Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

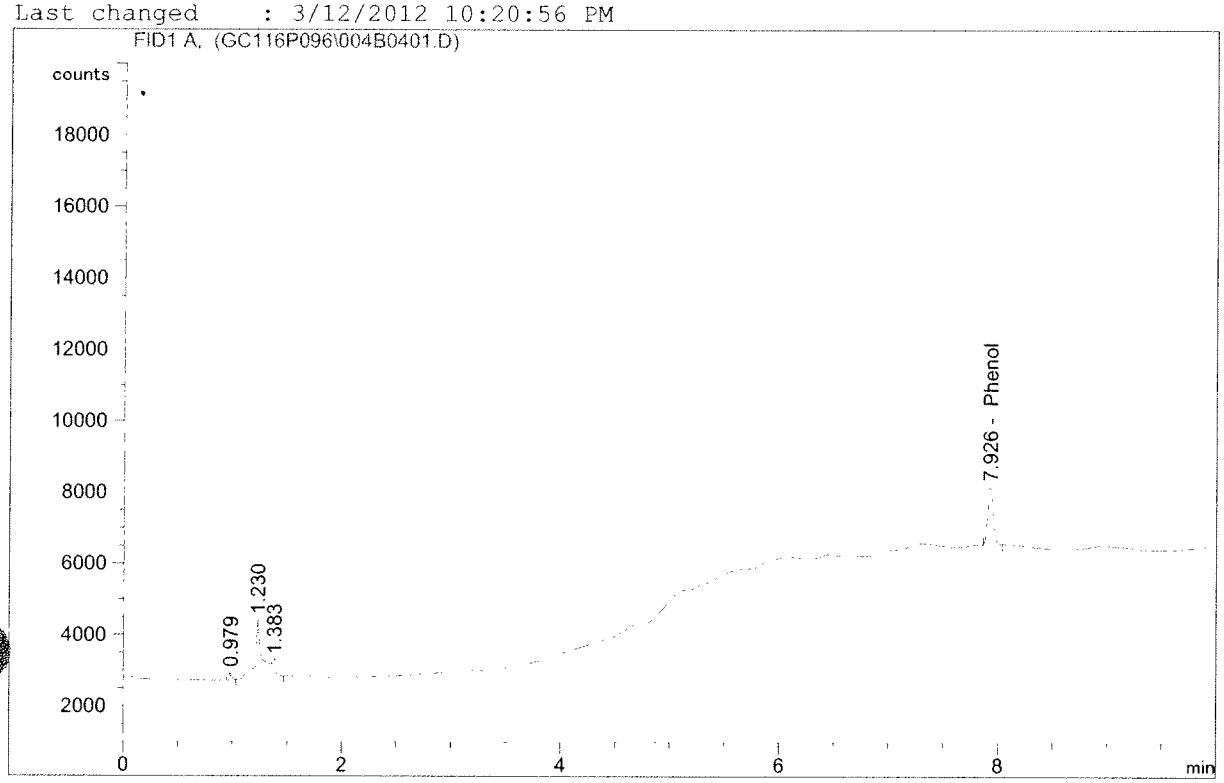
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|-----------------
  7.924 BB     1.43188e4  1.03635e-3   14.83928     Phenol

Totals :                                14.83928

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/9/2012 9:58:17 PM                       Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

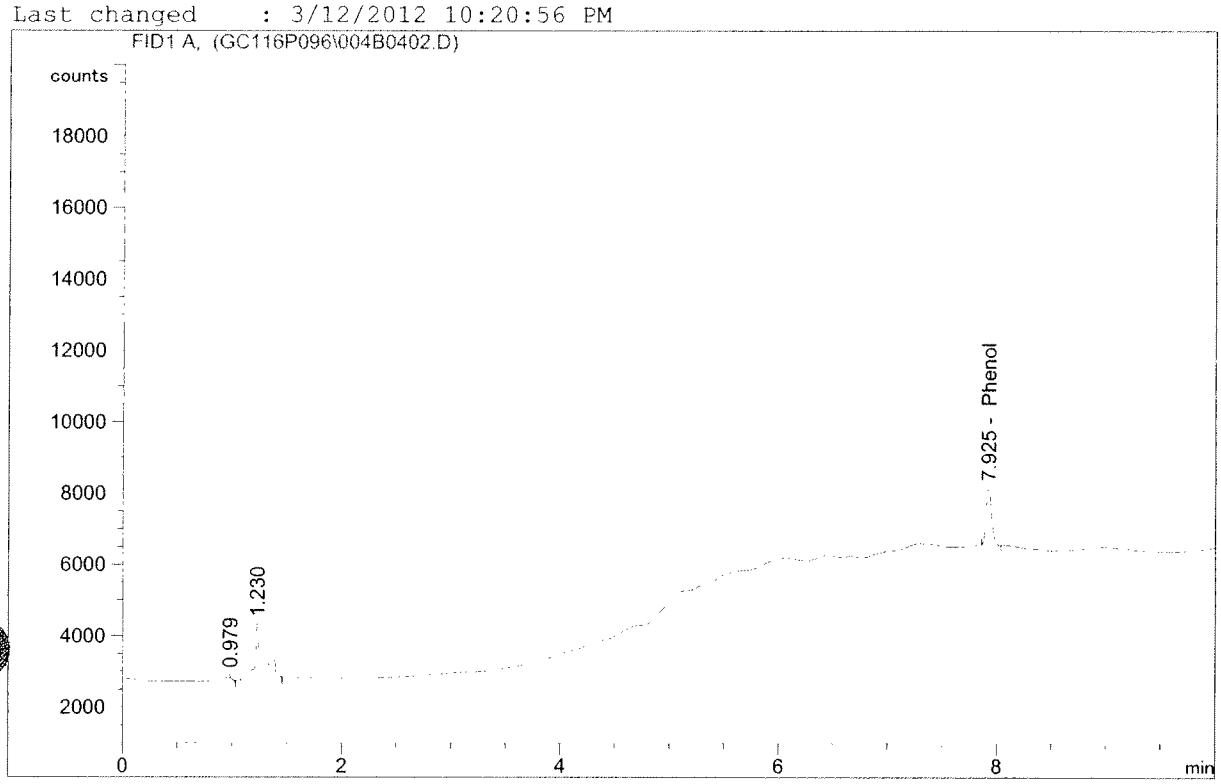
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BB     5700.61084 1.03975e-3    5.92722     Phenol

Totals :                                5.92722
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :   4
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/9/2012 10:11:49 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

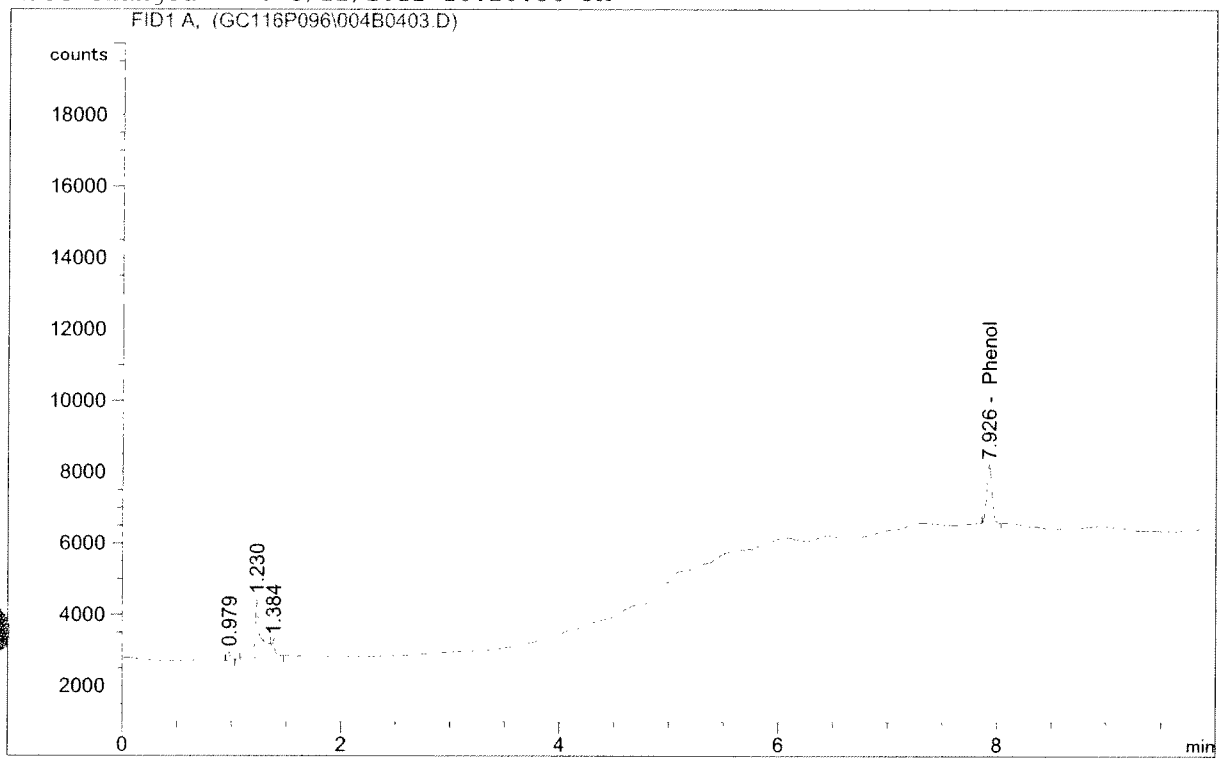
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.925 BB     5705.97900 1.03975e-3    5.93277     Phenol

Totals :                                5.93277
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   4
Acq. Instrument  : Oscar                             Location : Vial 4
Injection Date   : 3/9/2012 10:25:21 PM                  Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

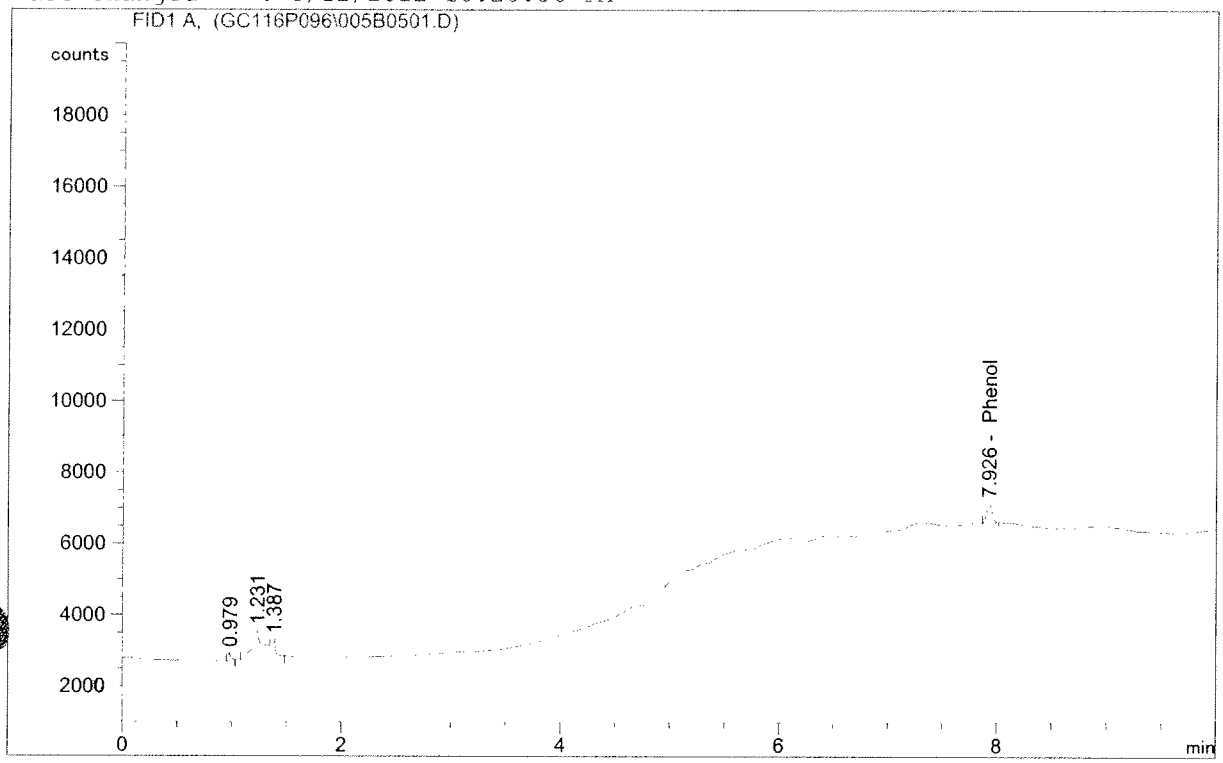
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BB     5696.76758 1.03976e-3    5.92325     Phenol

Totals :                                5.92325

==========================================================================
                      *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   5
Acq. Instrument  : Oscar                                 Location : Vial 5
Injection Date   : 3/9/2012 10:38:54 PM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

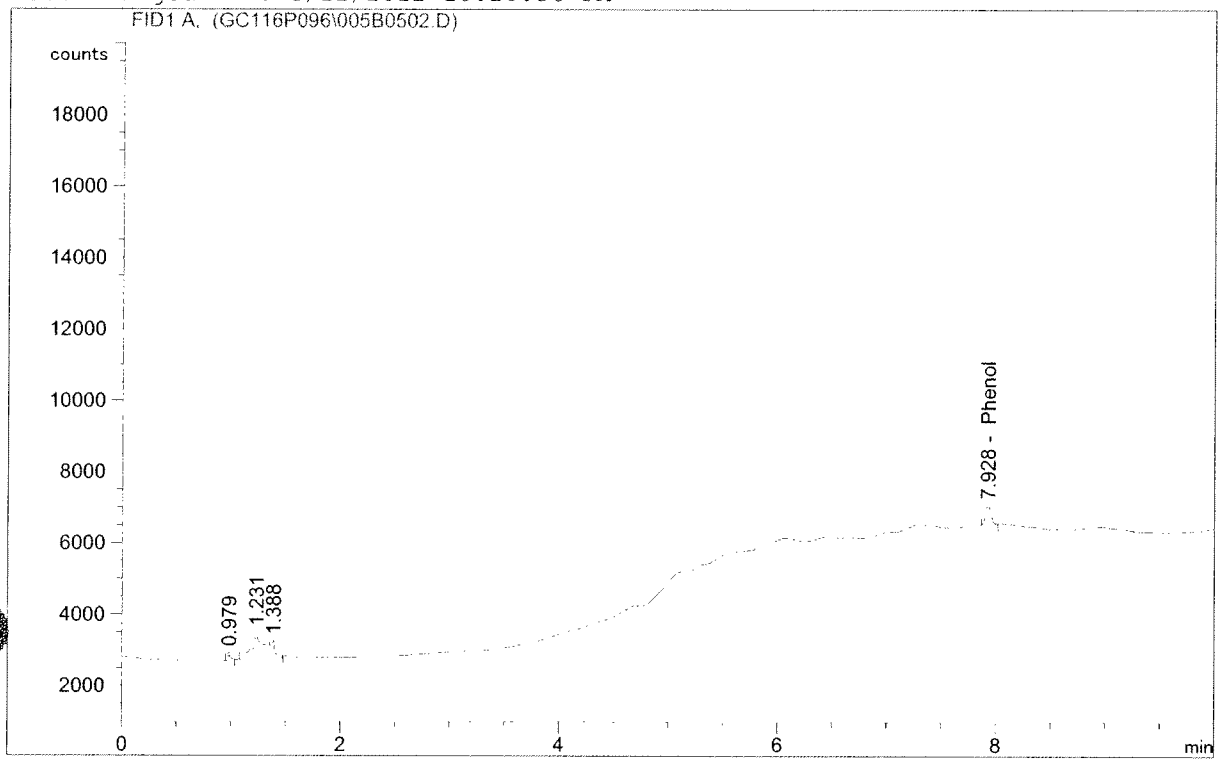
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BB     1983.68384 1.05035e-3    2.08355     Phenol

Totals :                                2.08355
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   5
Acq. Instrument  : Oscar                             Location : Vial 5
Injection Date   : 3/9/2012 10:52:26 PM                  Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

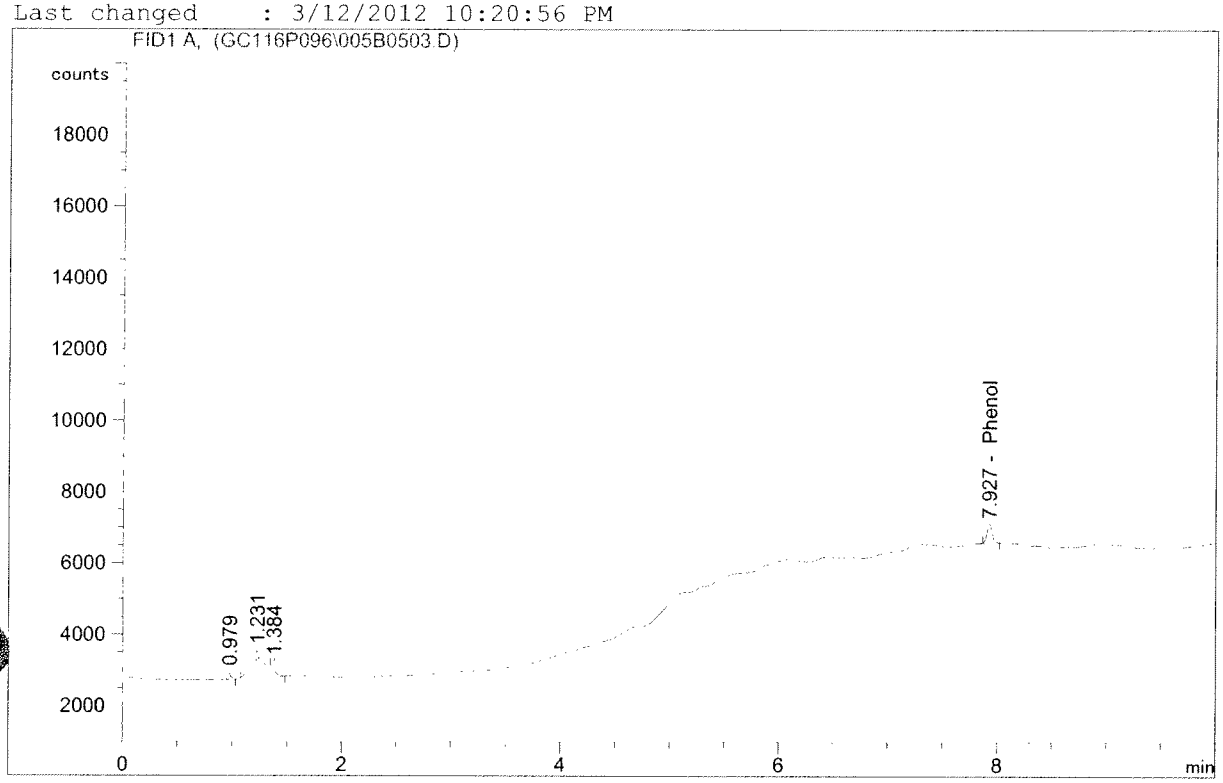
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.928 BB     1938.57617 1.05072e-3    2.03691     Phenol

Totals :                                2.03691

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :   5
Acq. Instrument  : Oscar                               Location : Vial 5
Injection Date   : 3/9/2012 11:05:58 PM                     Inj :   3
                                                      Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

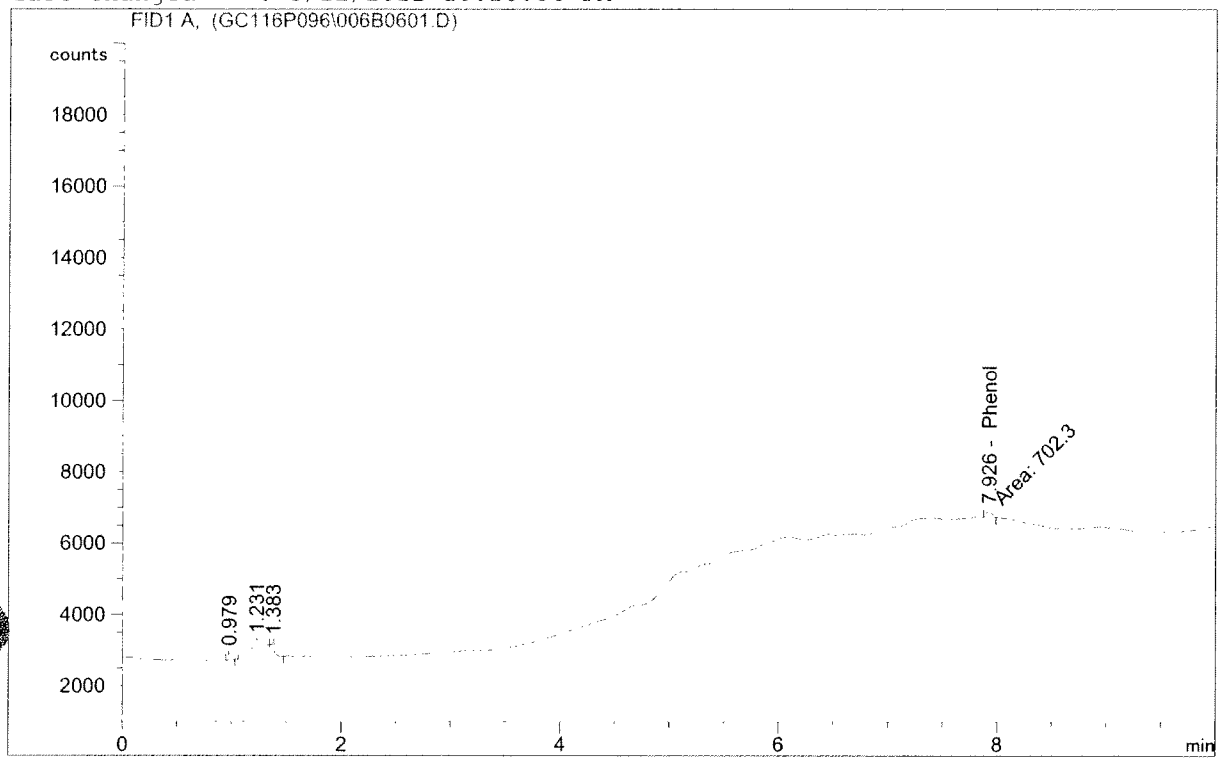
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.927 BB     1911.38501 1.05096e-3    2.00879     Phenol

Totals :                                2.00879

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   6
Acq. Instrument  : Oscar                             Location : Vial 6
Injection Date   : 3/9/2012 11:19:21 PM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

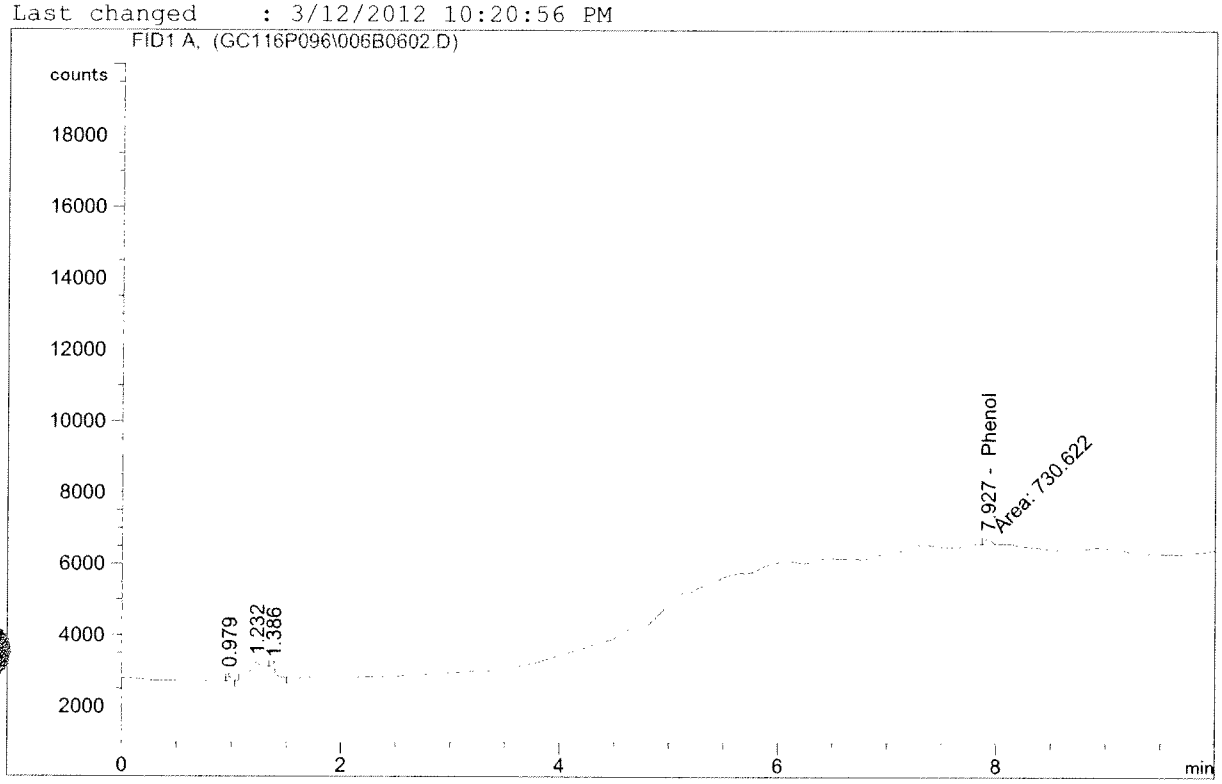
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 MM      702.29962 1.07999e-3 7.58476e-1     Phenol

Totals :                              7.58476e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   6
Acq. Instrument  : Oscar                             Location : Vial 6
Injection Date   : 3/9/2012 11:32:50 PM                  Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 8:30:09 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

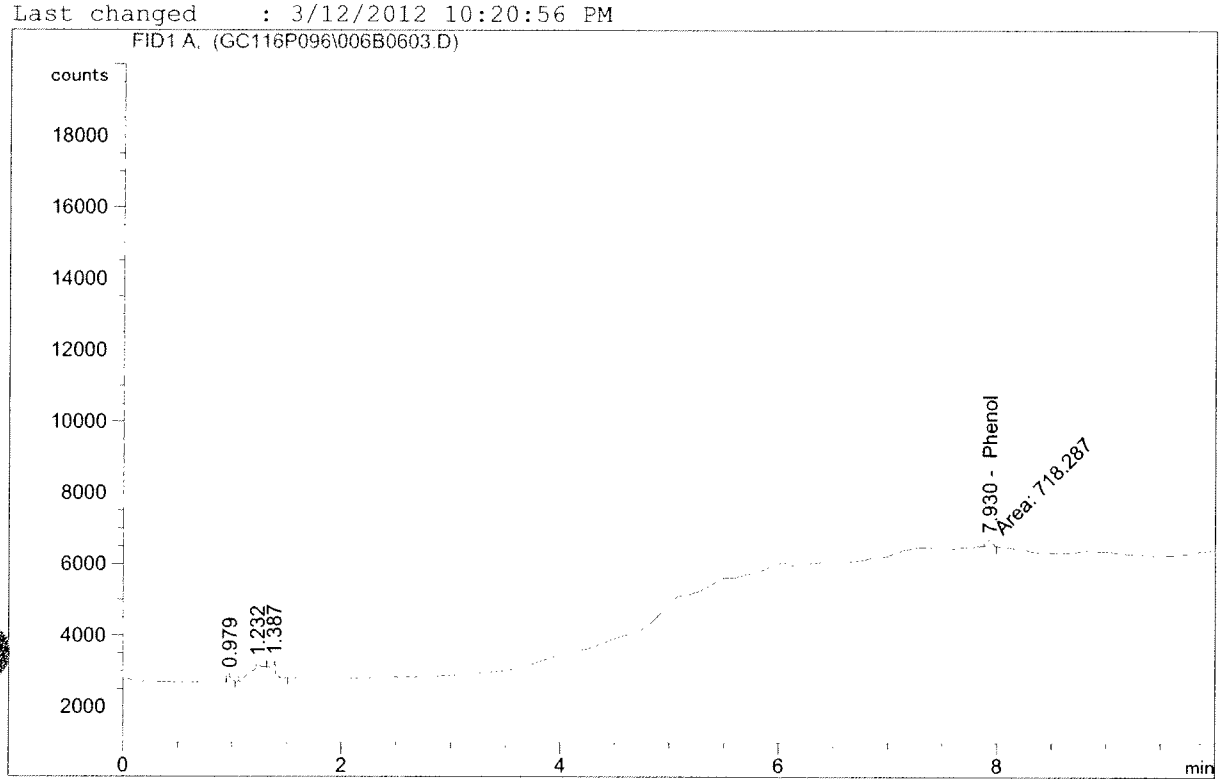
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.927 MM      730.62189 1.07821e-3 7.87764e-1     Phenol

Totals :                              7.87764e-1

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :   6
Acq. Instrument : Oscar                             Location : Vial 6
Injection Date  : 3/9/2012 11:50:28 PM                   Inj :   3
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

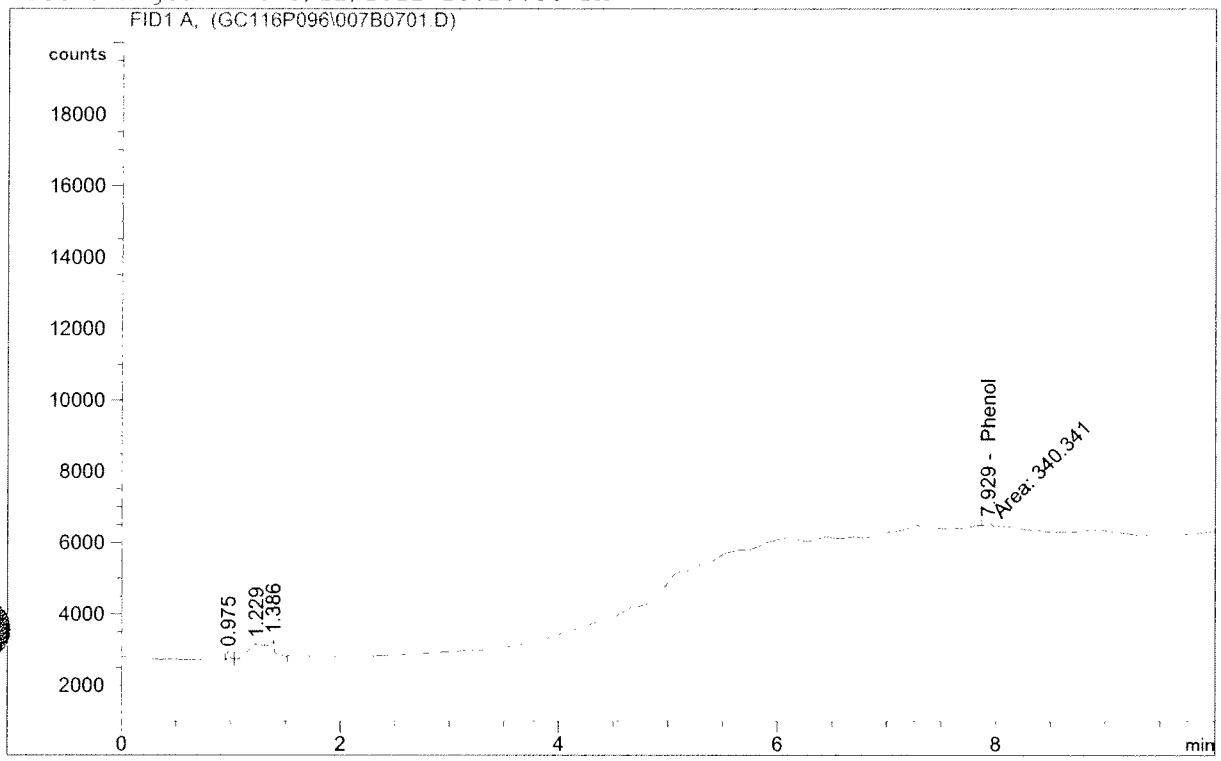
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.930 MM      718.28729 1.07897e-3 7.75008e-1     Phenol

Totals :                              7.75008e-1

==========================================================================
                        *** End of Report ***
```

```
================================================================================
Acq. Operator   : JBB                              Seq. Line :   7
Acq. Instrument : Oscar                             Location : Vial 7
Injection Date  : 3/10/2012 12:03:51 AM                  Inj :   1
                                                  Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

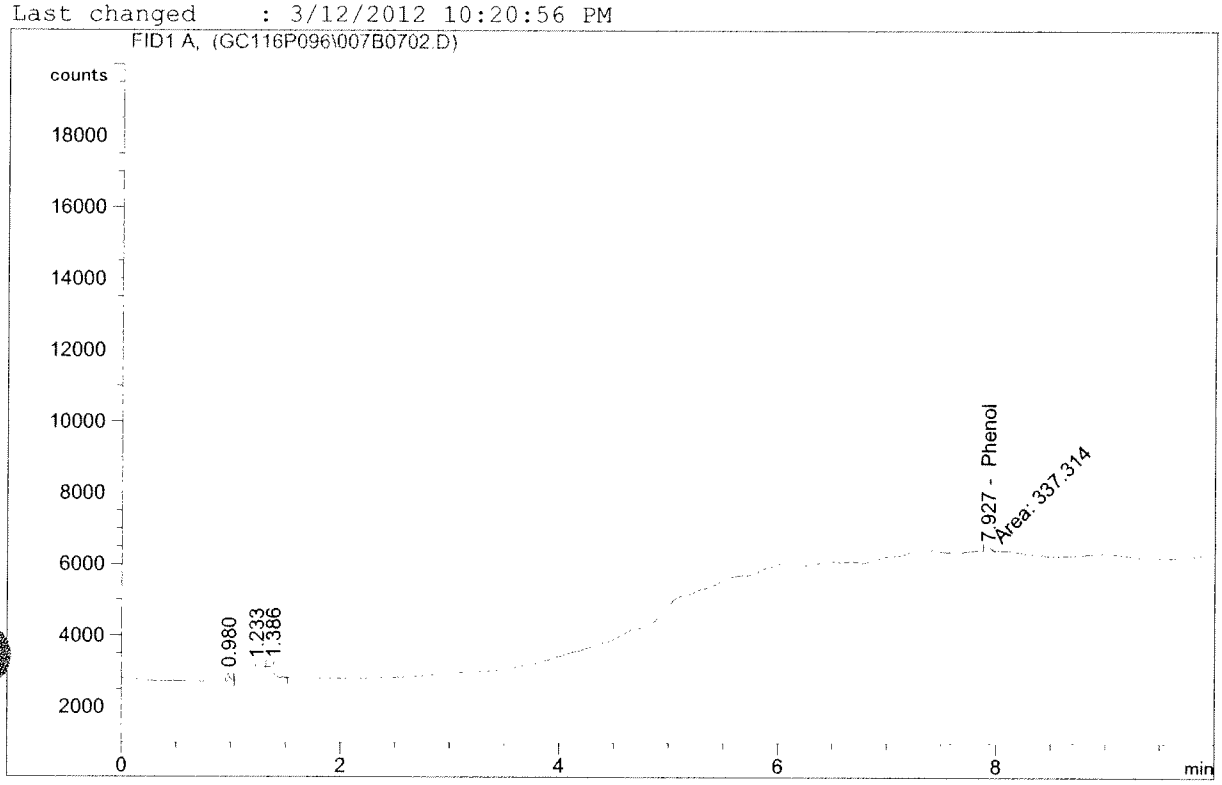
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.929 MM      340.34131 1.12778e-3 3.83828e-1     Phenol

Totals :                              3.83828e-1

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   7
Acq. Instrument  : Oscar                             Location : Vial 7
Injection Date   : 3/10/2012 12:17:19 AM                 Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

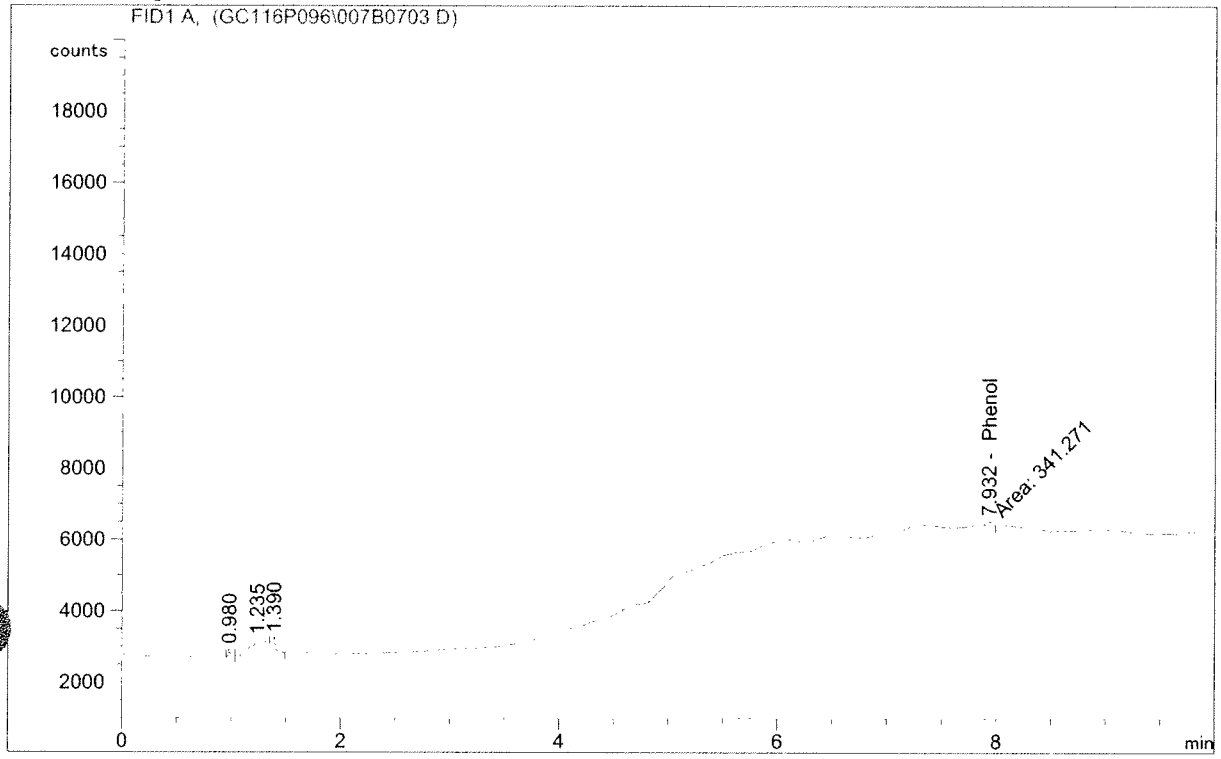
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.927 MM      337.31393 1.12778e-3 3.80414e-1     Phenol

Totals :                              3.80414e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                          Seq. Line :   7
Acq. Instrument  : Oscar                         Location : Vial 7
Injection Date   : 3/10/2012 12:30:46 AM              Inj :   3
                                                Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

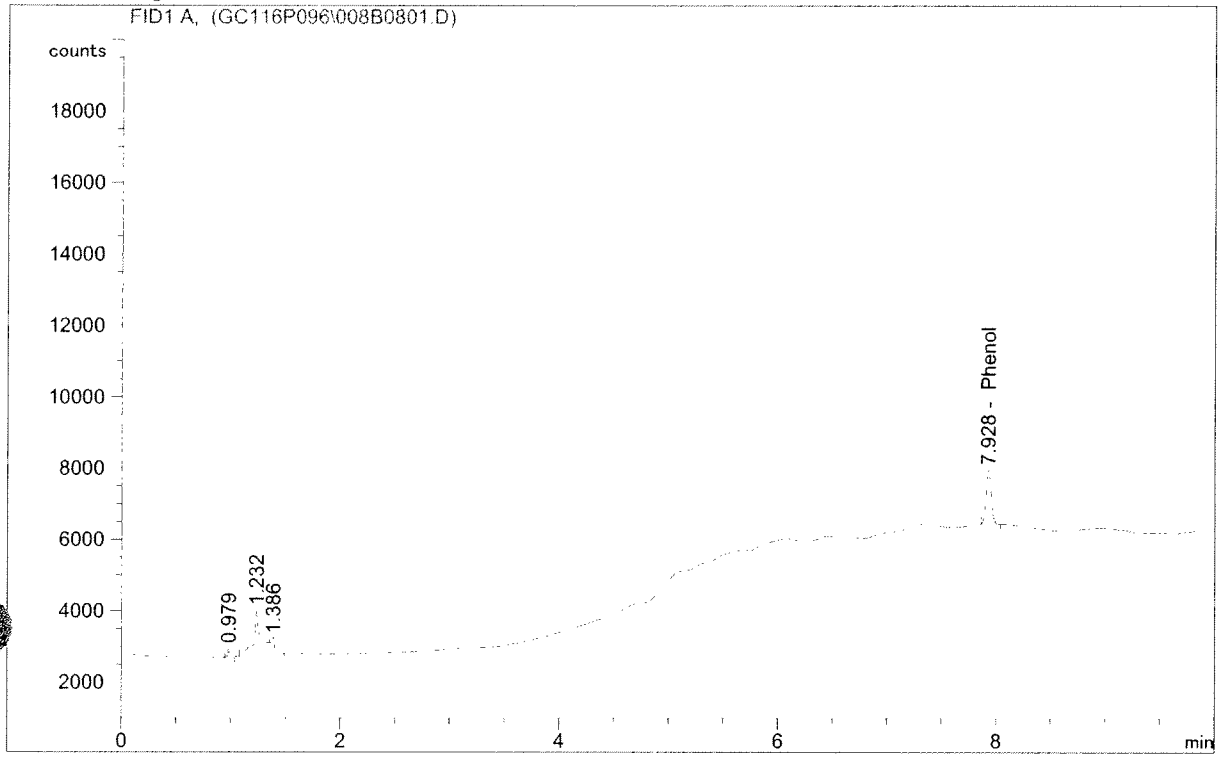
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.932 MM      341.27078 1.12778e-3 3.84877e-1     Phenol

Totals :                              3.84877e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   8
Acq. Instrument  : Oscar                             Location : Vial 8
Injection Date   : 3/10/2012 12:44:15 AM                  Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

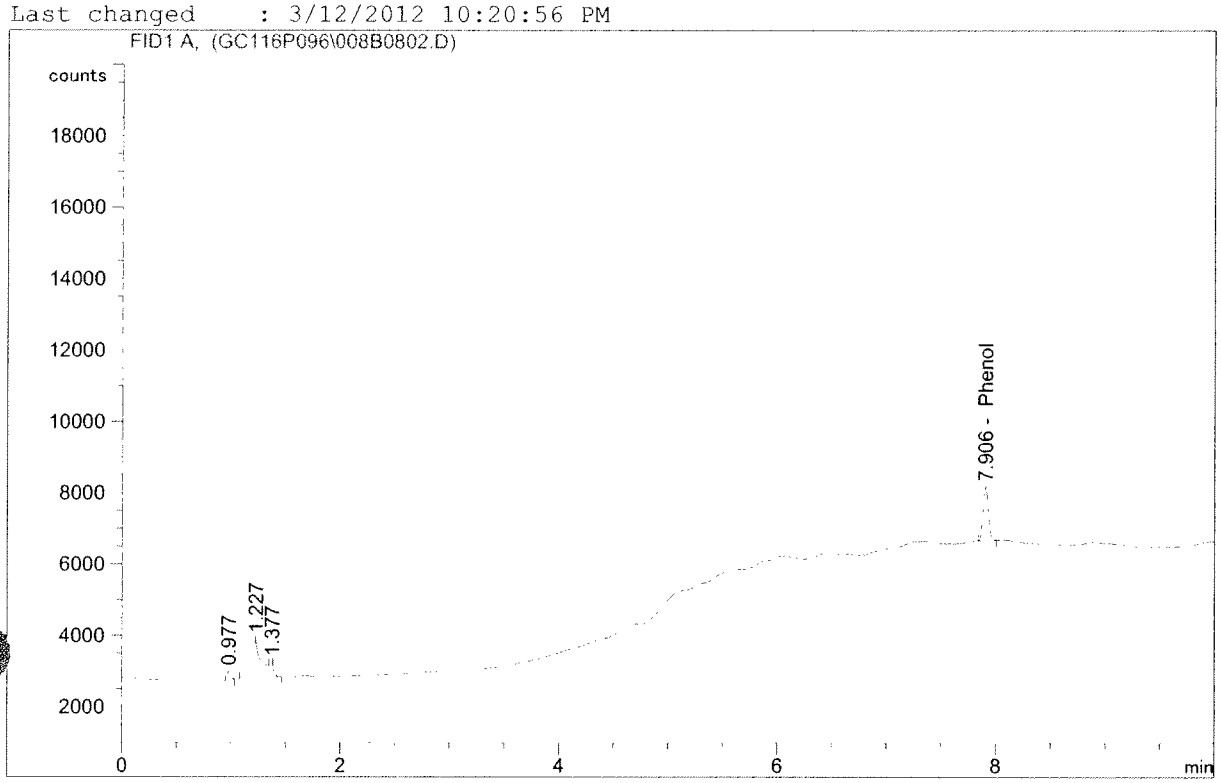
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.928 BB     5277.75391 1.04021e-3    5.48995     Phenol

Totals :                                5.48995

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   8
Acq. Instrument  : Oscar                                 Location : Vial 8
Injection Date   : 3/10/2012 12:57:48 AM                      Inj :   2
                                                      Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

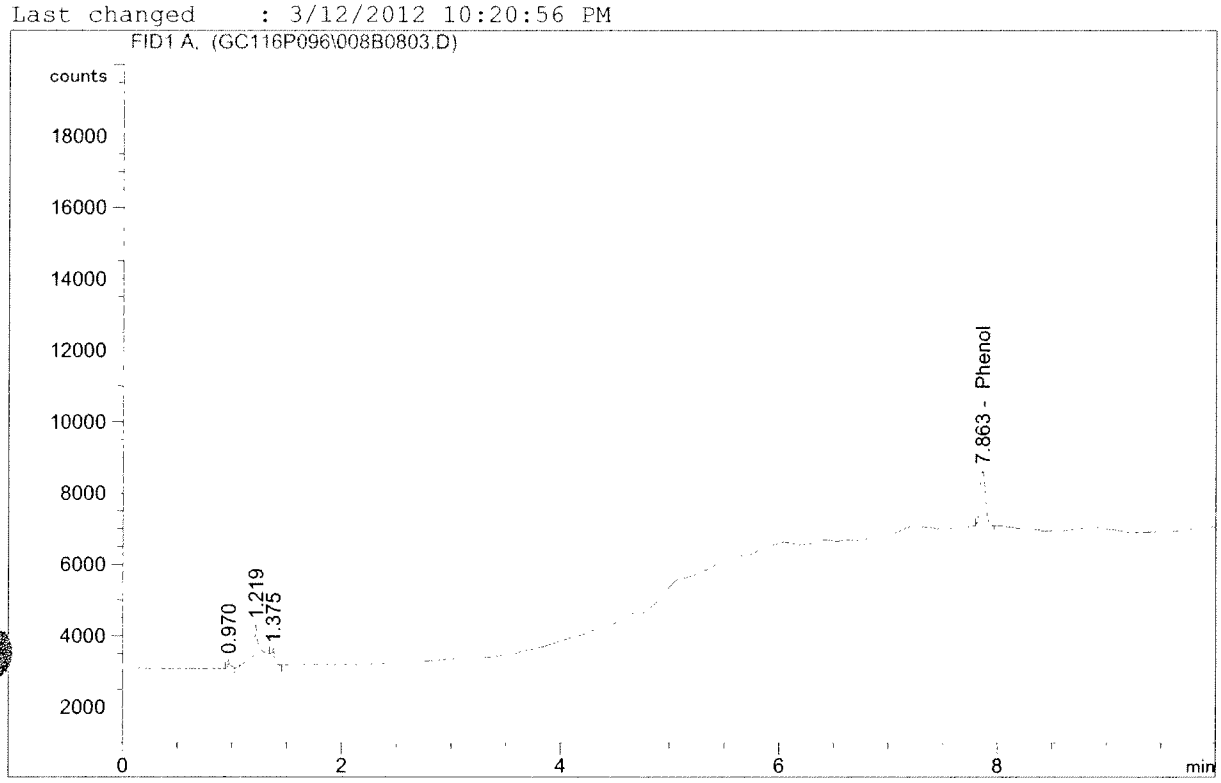
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.906 BB     5190.94824 1.04031e-3    5.40018     Phenol

Totals :                                5.40018
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   8
Acq. Instrument  : Oscar                             Location : Vial 8
Injection Date   : 3/10/2012 1:11:16 AM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

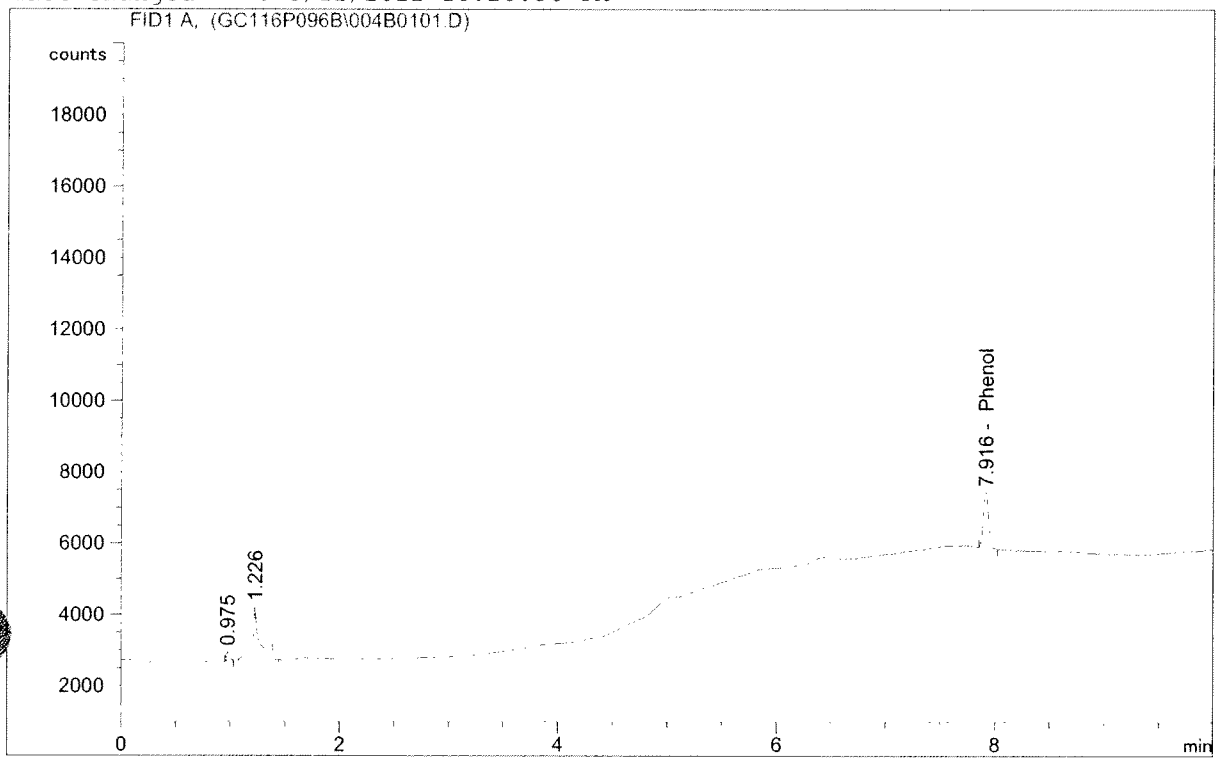
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.863 BB     5406.91357 1.04006e-3    5.62351     Phenol

Totals :                                5.62351

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   1
Acq. Instrument  : Oscar                             Location : Vial 4
Injection Date   : 3/10/2012 5:11:13 PM                  Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

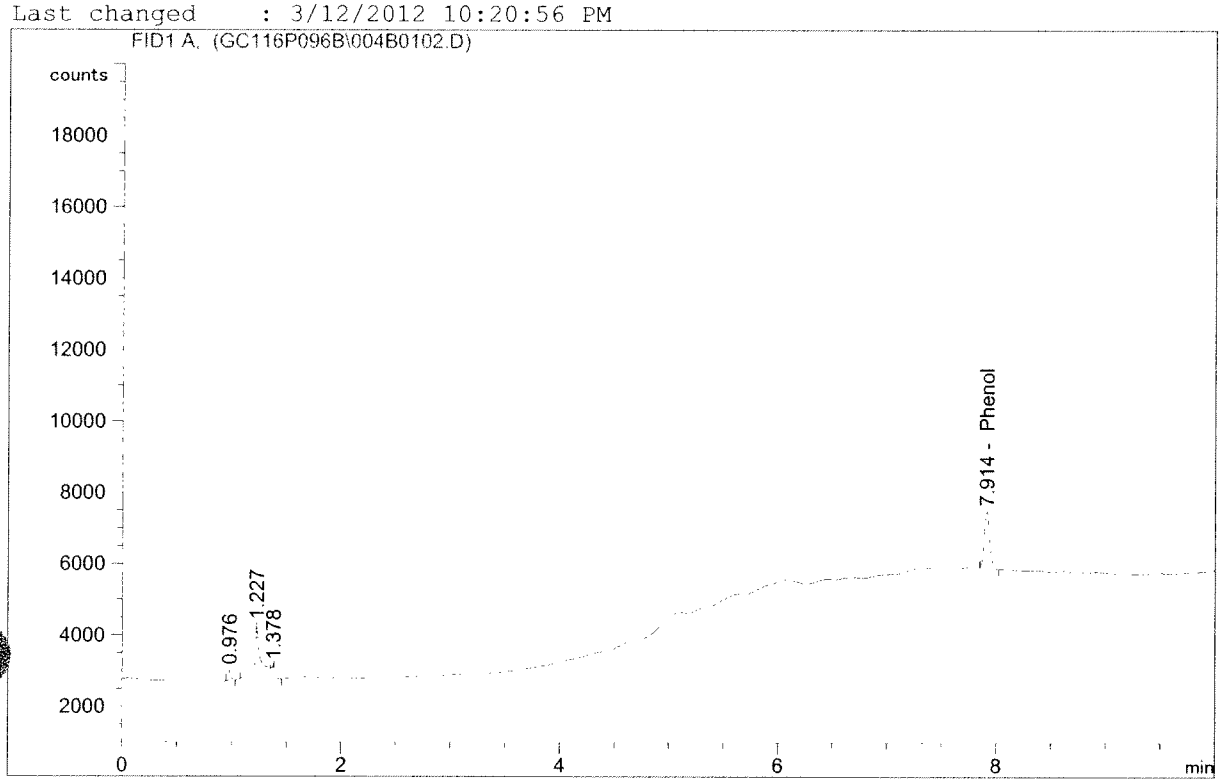
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.916 BB     5275.06689 1.04021e-3    5.48717     Phenol

Totals :                                5.48717

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :   1
Acq. Instrument  : Oscar                             Location : Vial 4
Injection Date   : 3/10/2012 5:24:46 PM                   Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

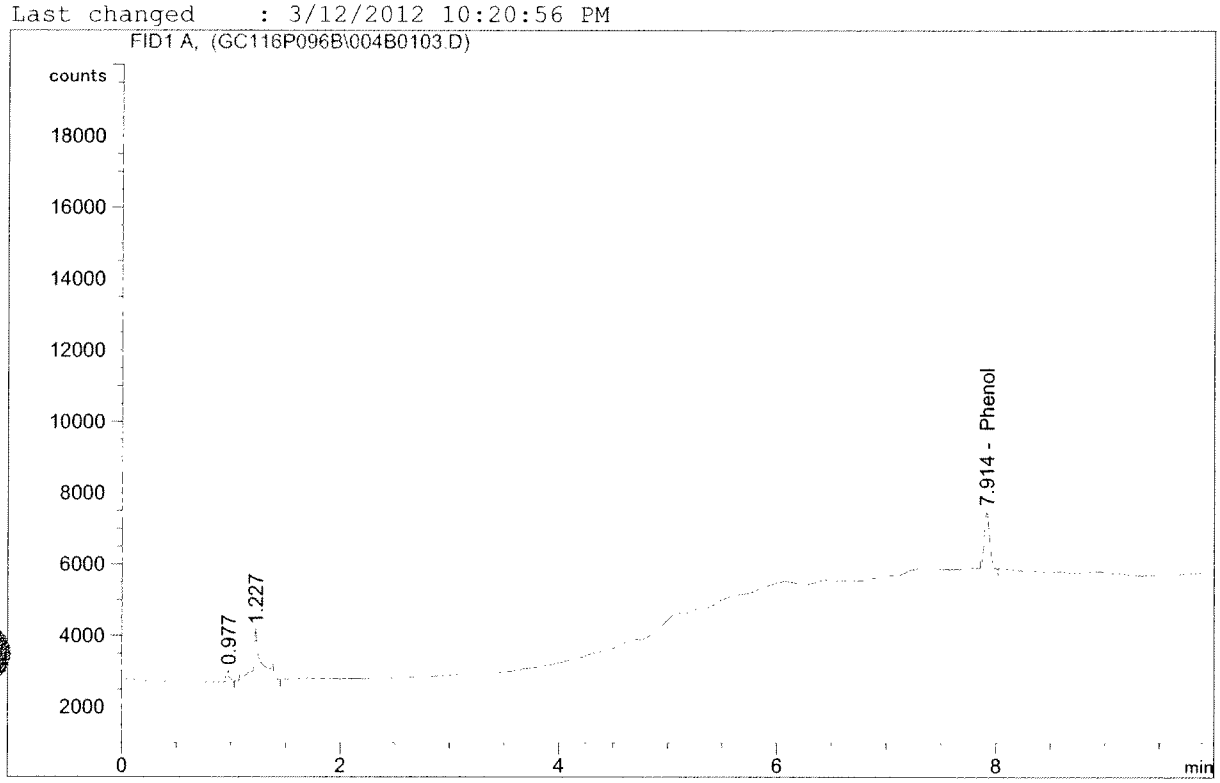
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.914 BB     5455.09082 1.04001e-3    5.67333     Phenol

Totals :                                5.67333

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :   1
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/10/2012 5:38:18 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

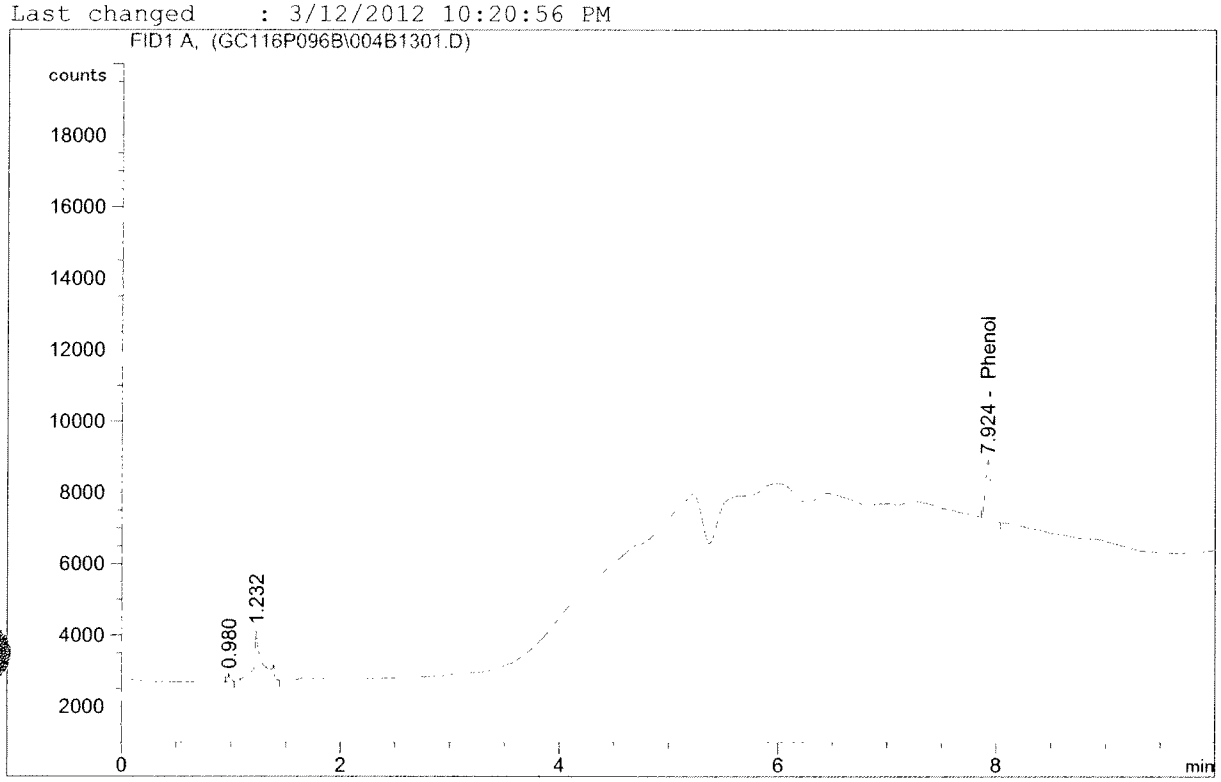
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.914 BB     5476.99463 1.03998e-3    5.69598     Phenol

Totals :                                5.69598

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  13
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/11/2012 1:18:56 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

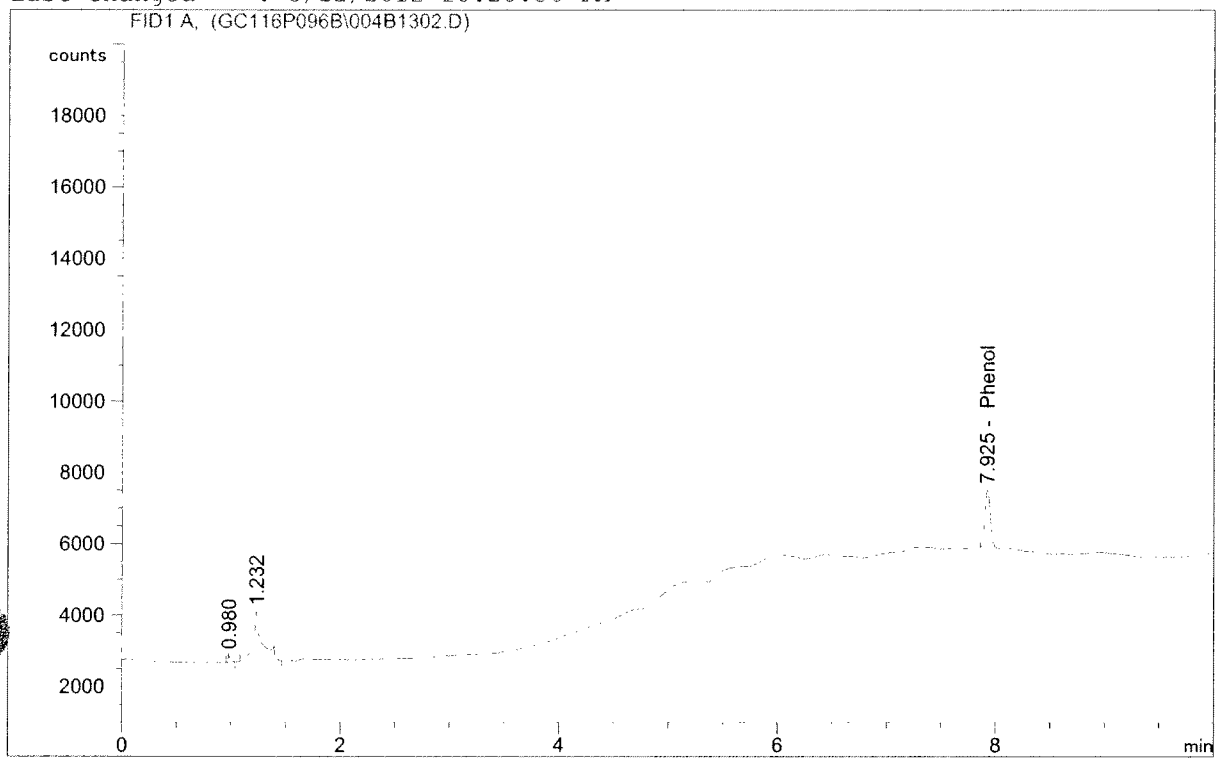
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     5543.09521 1.03991e-3    5.76434     Phenol

Totals :                                 5.76434
```

*** End of Report ***

```
==========================================================================
Acq. Operator   : JBB                          Seq. Line :  13
Acq. Instrument : Oscar                         Location : Vial 4
Injection Date  : 3/11/2012 1:32:28 AM               Inj :   2
                                               Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

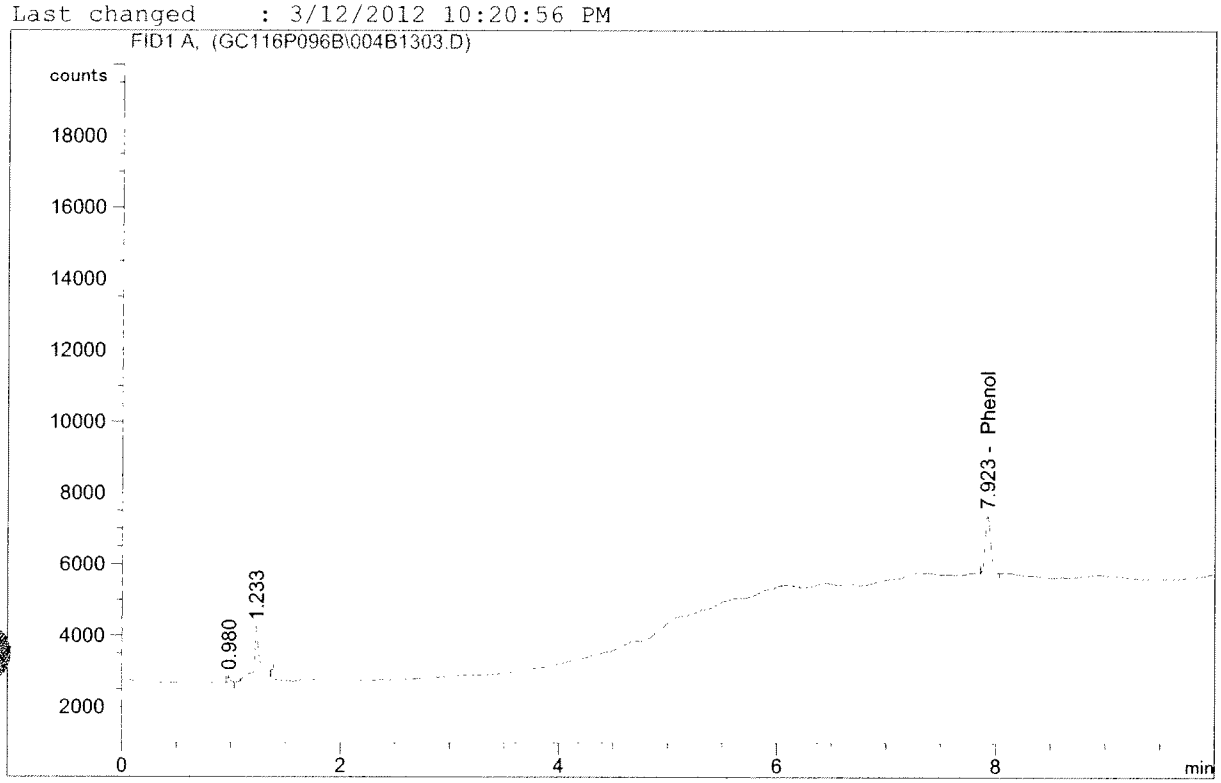
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.925 BB     5695.61768 1.03976e-3    5.92206    Phenol

Totals :                                5.92206

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator   : JBB                                  Seq. Line :  13
Acq. Instrument : Oscar                                 Location : Vial 4
Injection Date  : 3/11/2012 1:45:56 AM                      Inj :   3
                                                      Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

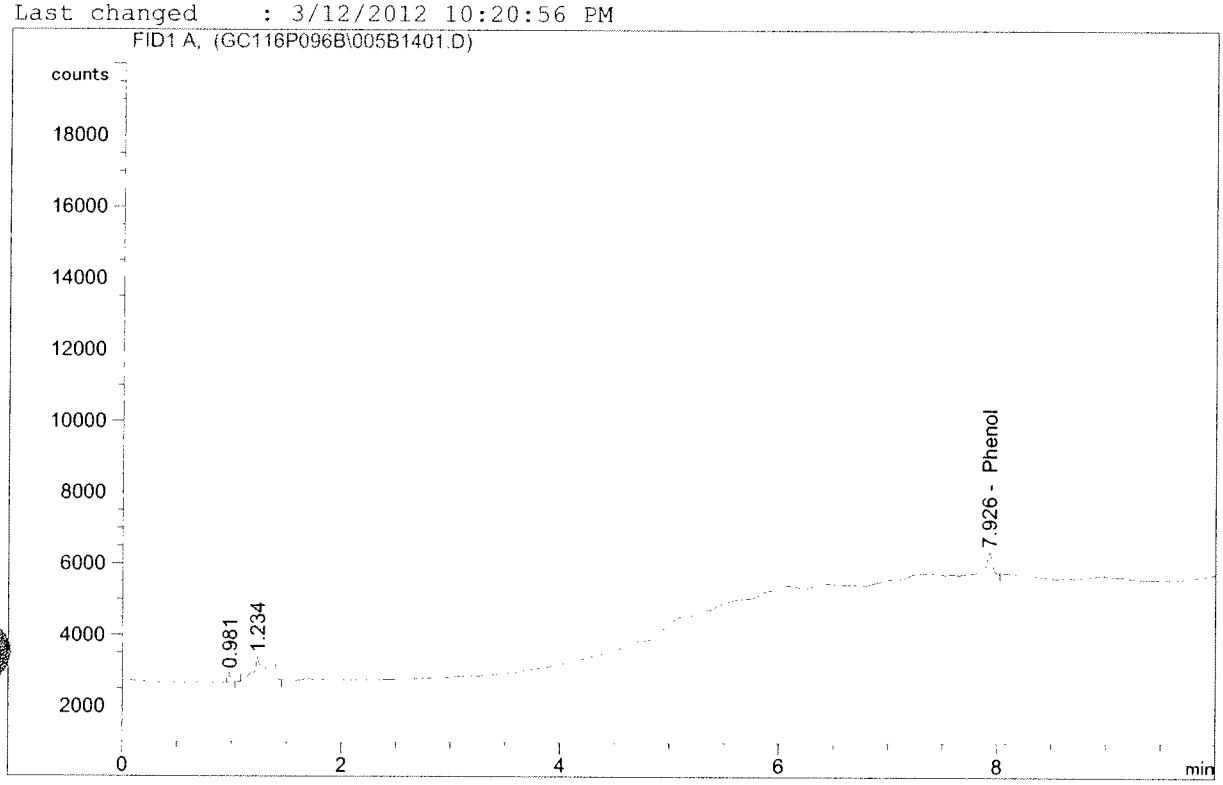
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     5689.99023 1.03976e-3    5.91624     Phenol

Totals :                                5.91624
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  14
Acq. Instrument  : Oscar                                 Location : Vial 5
Injection Date   : 3/11/2012 1:59:28 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

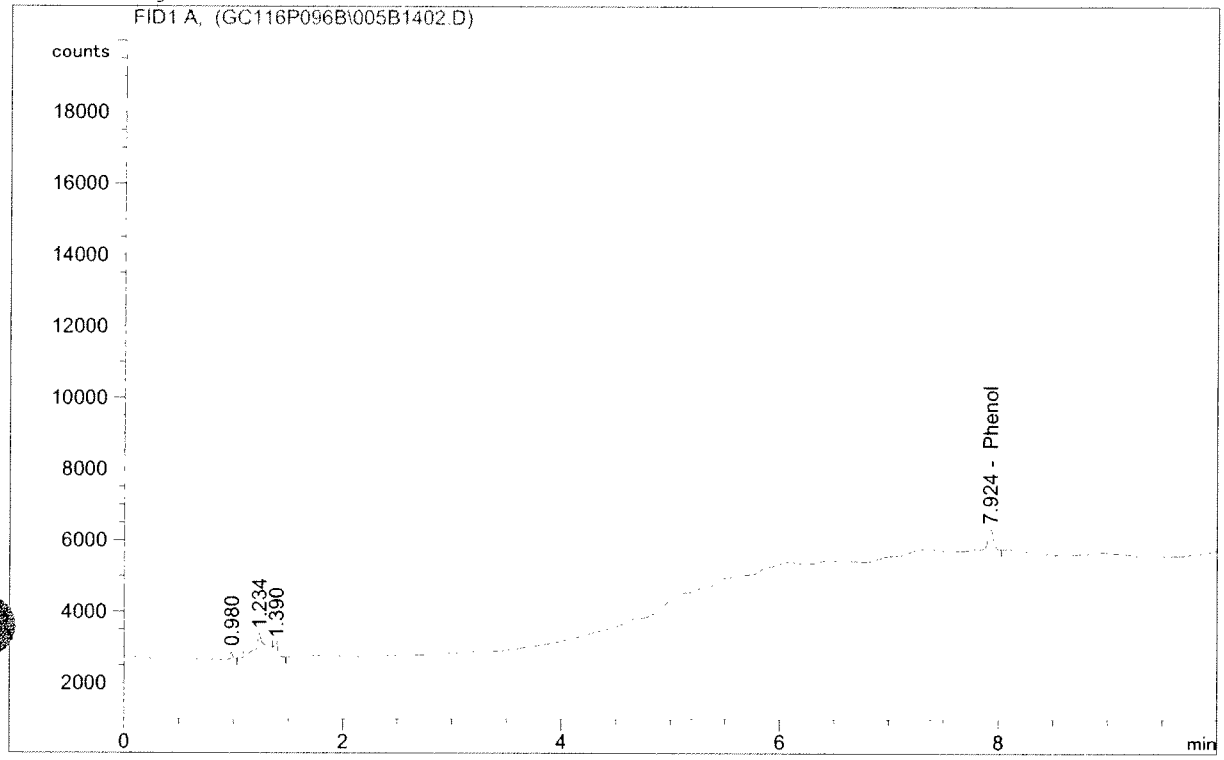
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BB     2018.23242 1.05007e-3    2.11928     Phenol

Totals :                                2.11928
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  14
Acq. Instrument  : Oscar                                 Location : Vial 5
Injection Date   : 3/11/2012 3:13:00 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

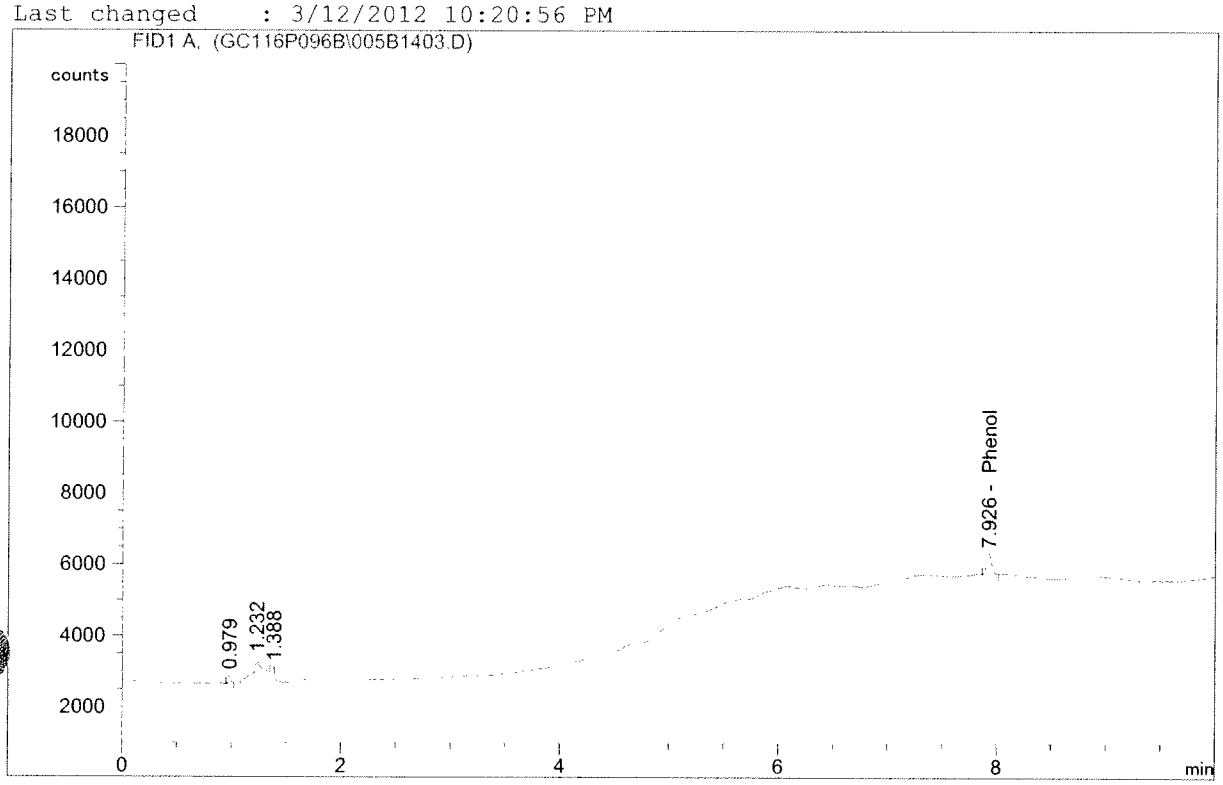
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     2055.74756 1.04978e-3    2.15807     Phenol

Totals :                                2.15807
```

*** End of Report ***

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  14
Acq. Instrument  : Oscar                             Location : Vial 5
Injection Date   : 3/11/2012 3:26:34 AM                  Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

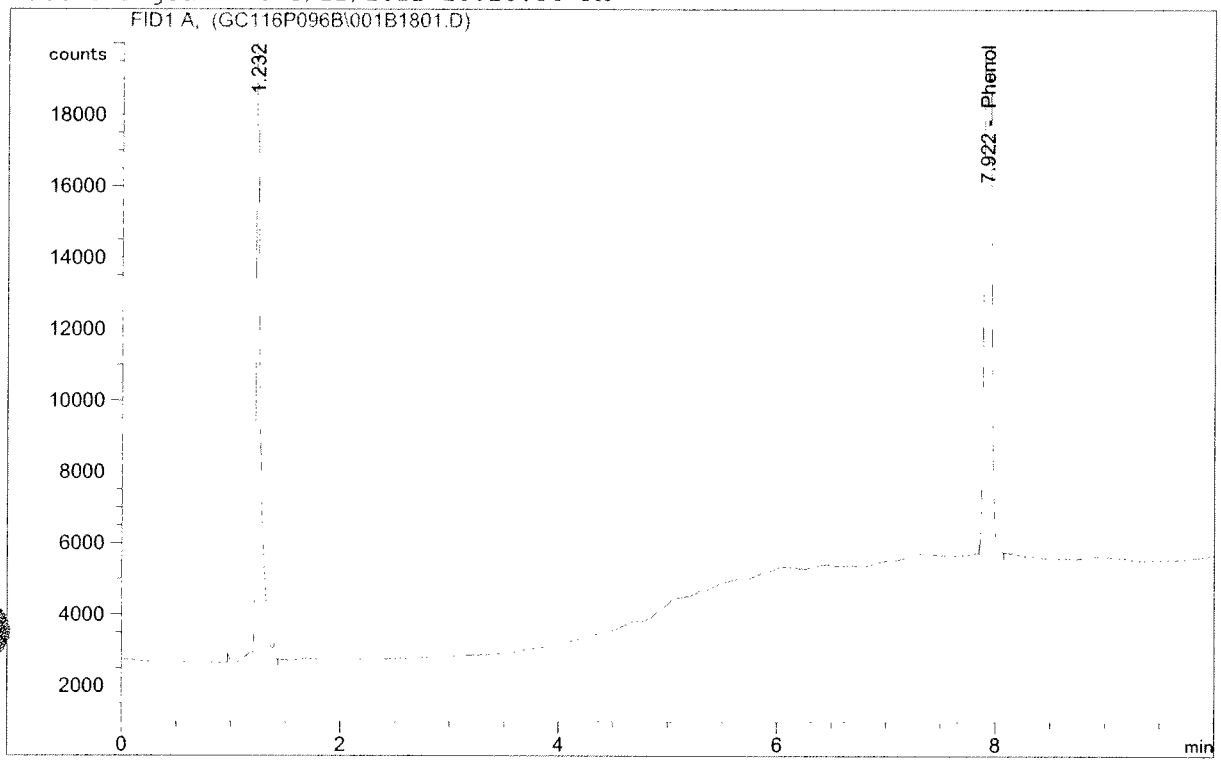
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 BB     2049.78223 1.04982e-3    2.15191     Phenol

Totals :                                2.15191

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  18
Acq. Instrument  : Oscar                             Location : Vial 1
Injection Date   : 3/11/2012 5:41:23 AM                  Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

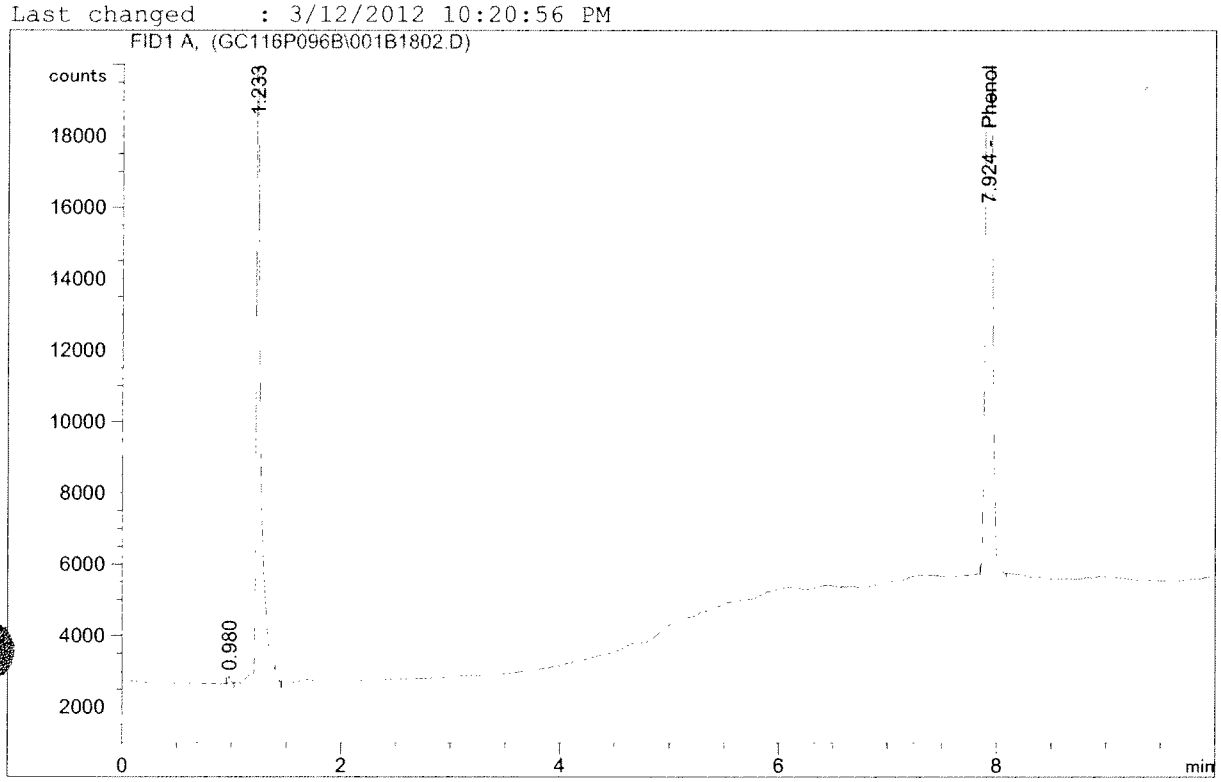
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.922 BB     1.04998e5  1.03441e-3  108.61039     Phenol

Totals :                               108.61039

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument  : Oscar                                 Location : Vial 1
Injection Date   : 3/11/2012 5:54:50 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

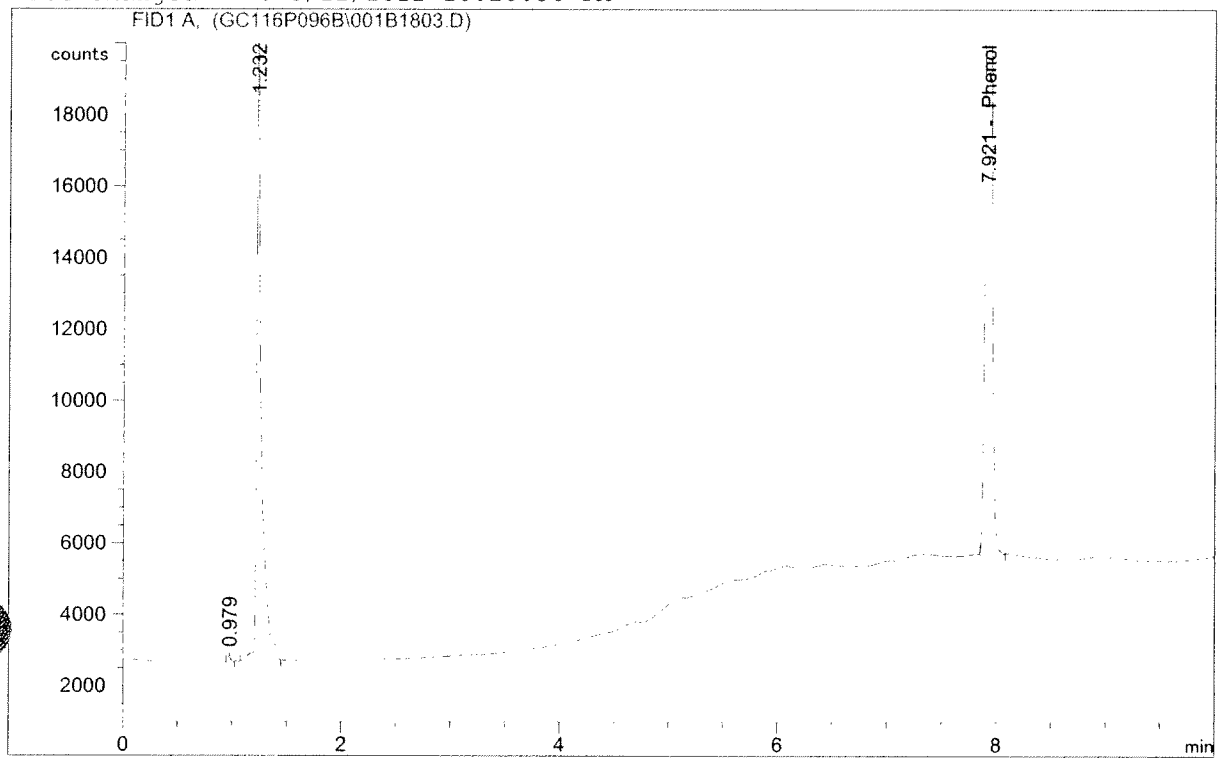
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.04853e5  1.03441e-3  108.46076     Phenol

Totals :                               108.46076

                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument  : Oscar                                 Location : Vial 1
Injection Date   : 3/11/2012 6:08:18 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

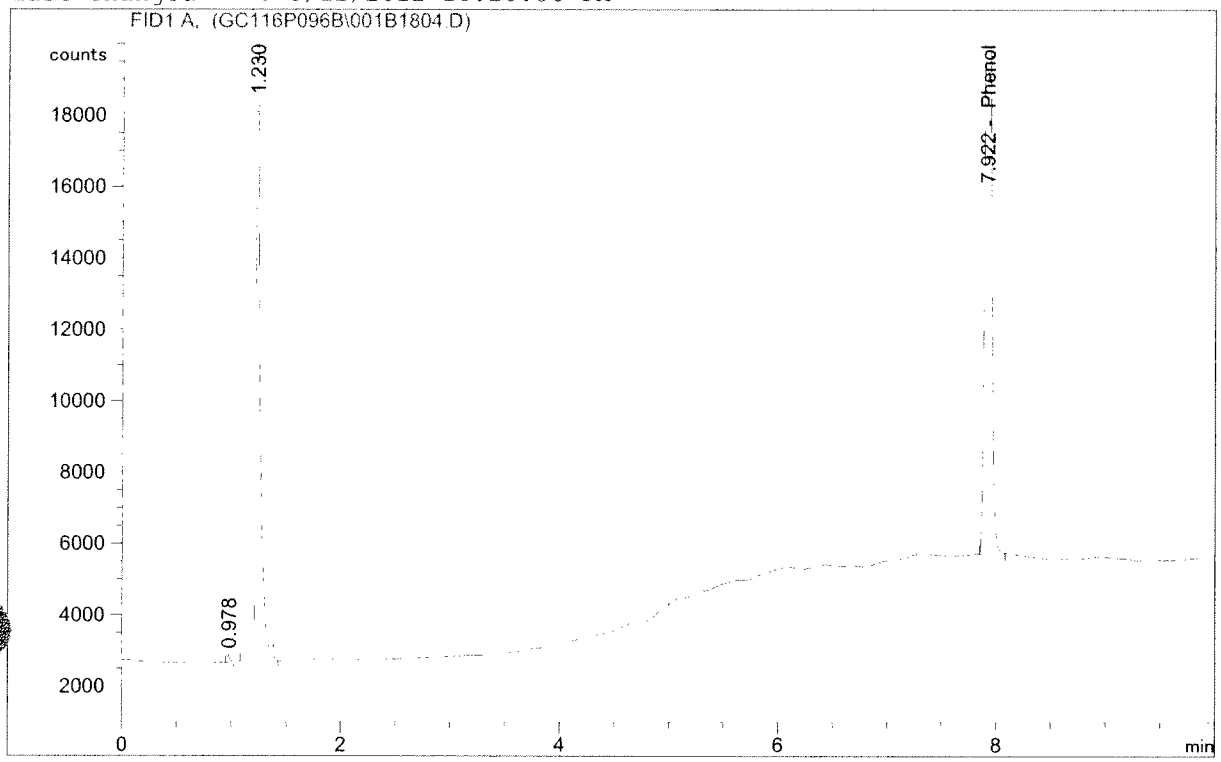
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.921 BB     1.02283e5  1.03441e-3  105.80334     Phenol

Totals :                               105.80334
```

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  18
Acq. Instrument  : Oscar                                 Location : Vial 1
Injection Date   : 3/11/2012 6:21:46 AM                      Inj :   4
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                          External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

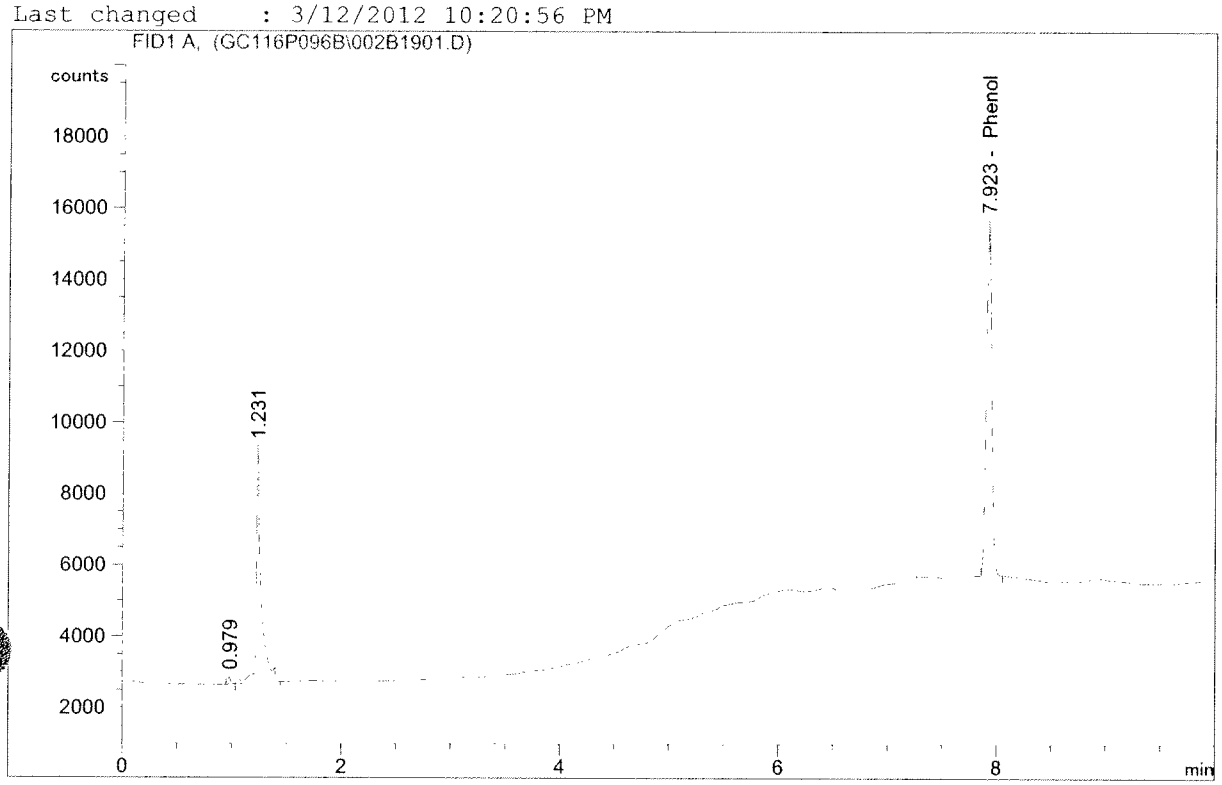
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.922 BB     1.01179e5  1.03442e-3  104.66151     Phenol

Totals :                               104.66151

================================================================================
                          *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/11/2012 6:35:18 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

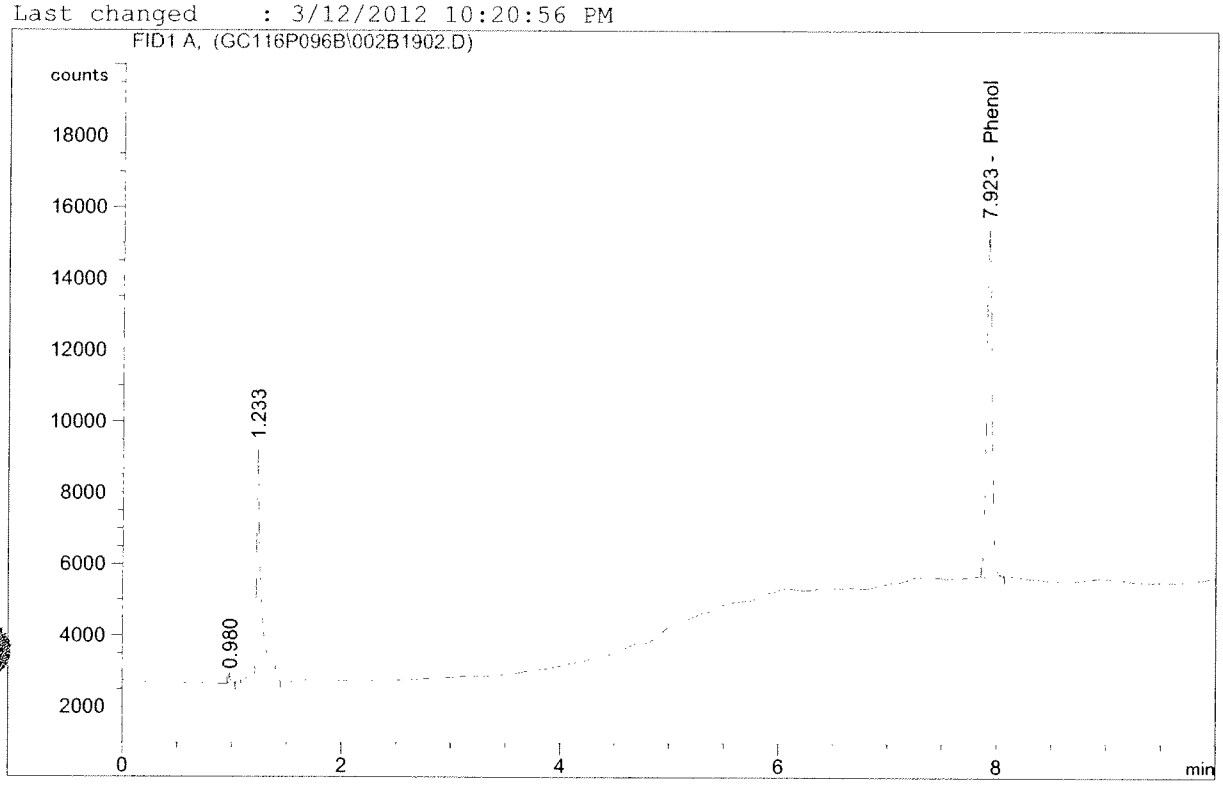
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     3.40626e4  1.03504e-3   35.25630     Phenol

Totals :                                35.25630
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/11/2012 6:48:45 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

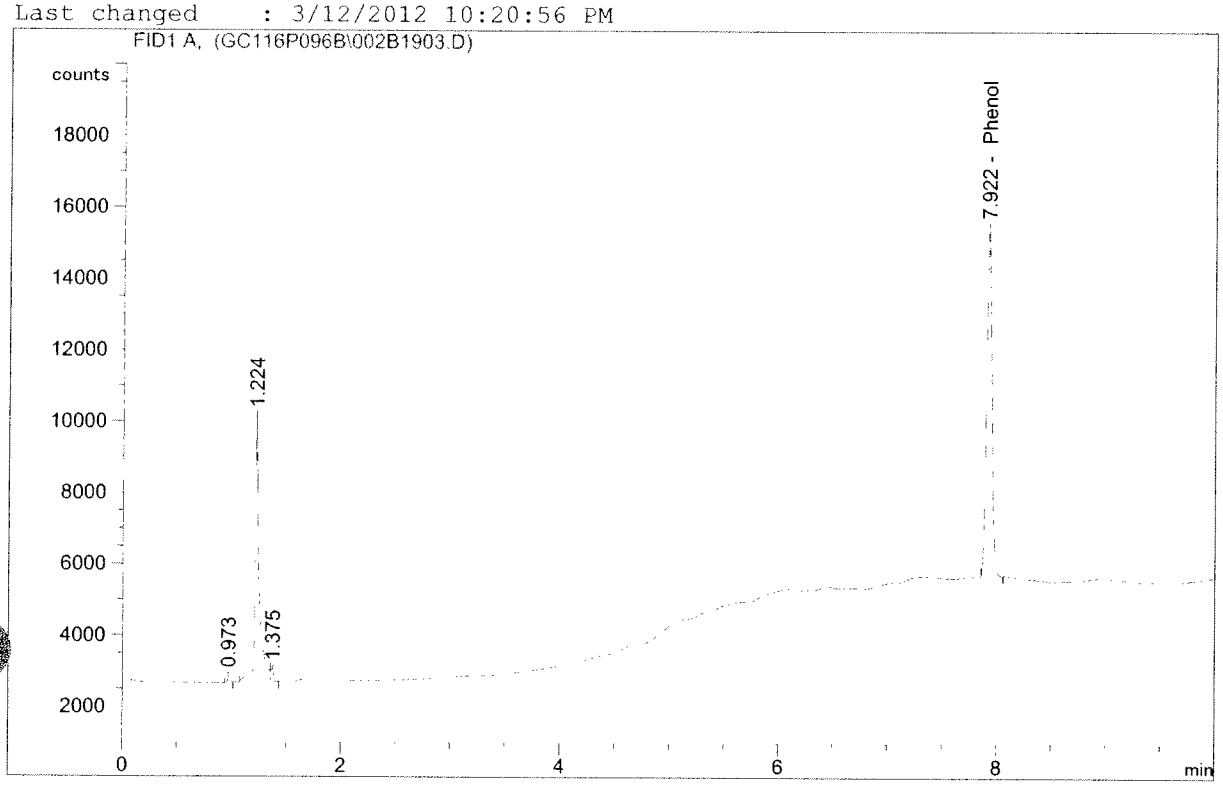
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     3.40883e4  1.03504e-3   35.28288     Phenol

Totals :                                35.28288
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  19
Acq. Instrument  : Oscar                                 Location : Vial 2
Injection Date   : 3/11/2012 7:02:08 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

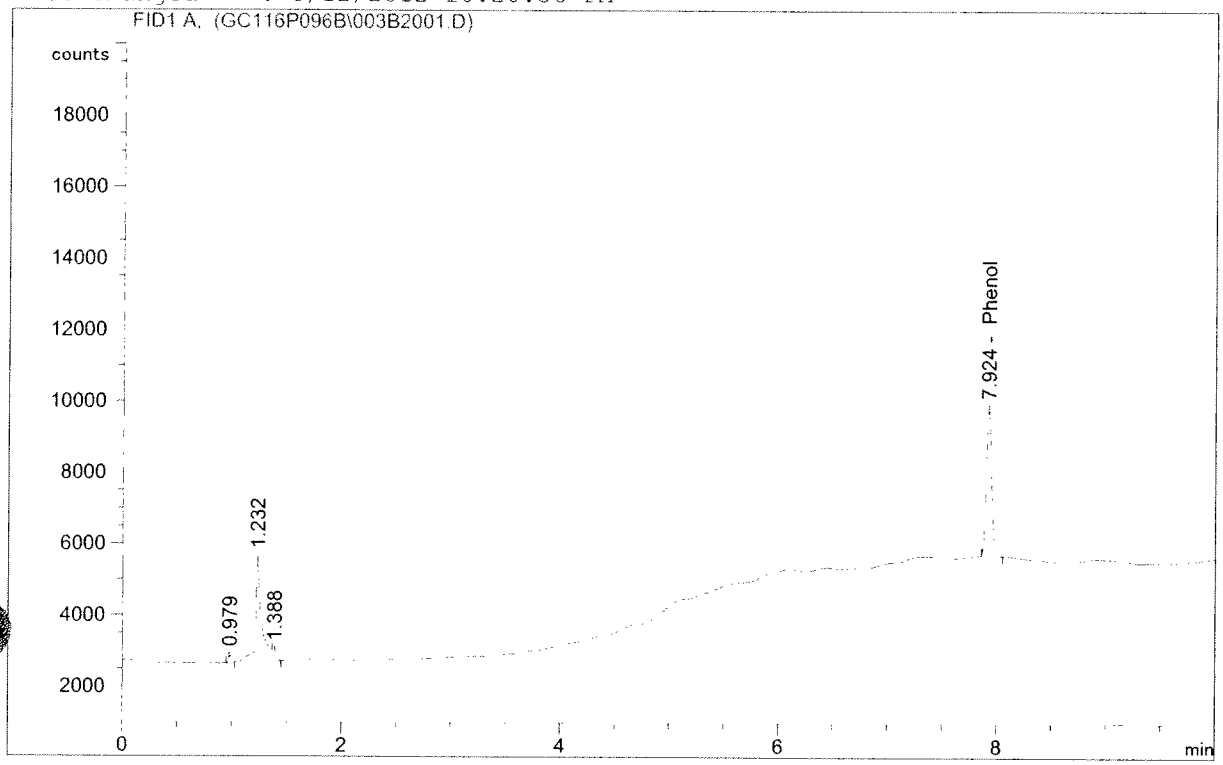
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.922 BB     3.34118e4  1.03506e-3   34.58333     Phenol

Totals :                                34.58333
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Oscar                                 Location : Vial 3
Injection Date   : 3/11/2012 7:15:42 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

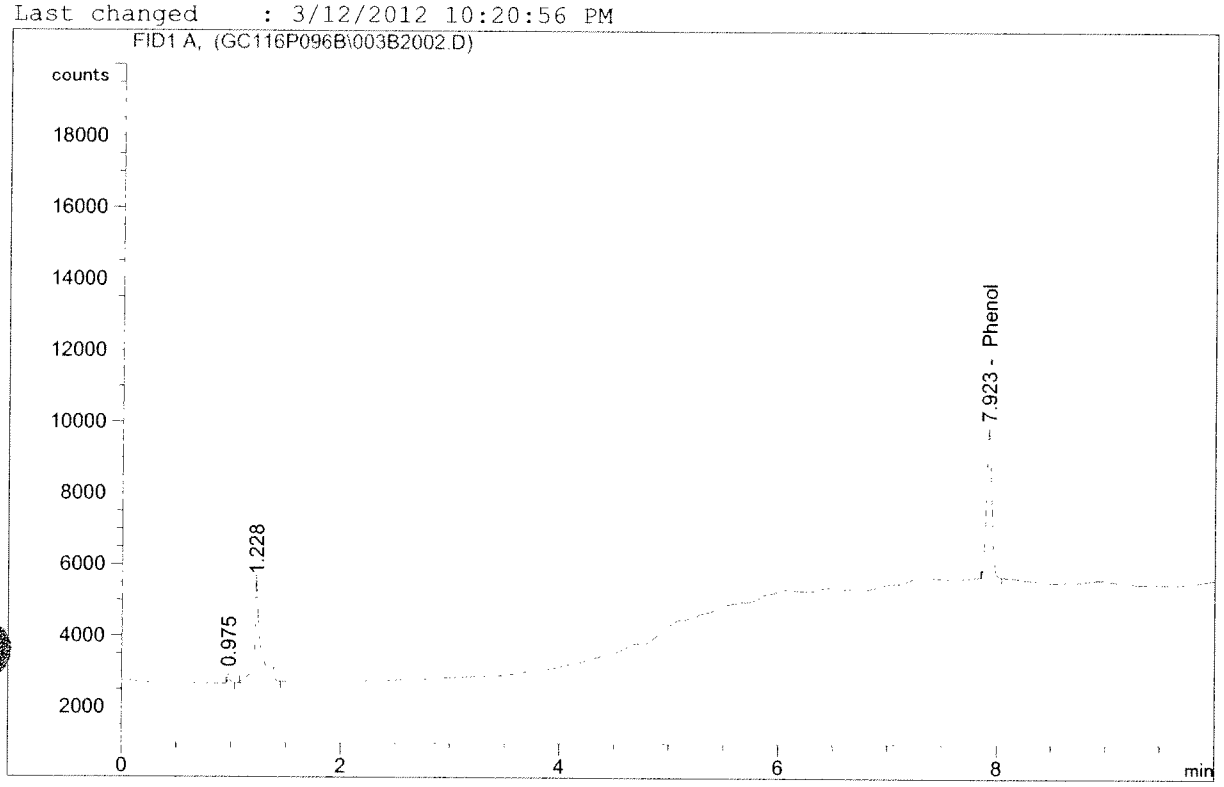
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1.47018e4  1.03629e-3   15.23531     Phenol

Totals :                                15.23531
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Oscar                                 Location : Vial 3
Injection Date   : 3/11/2012 7:29:04 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

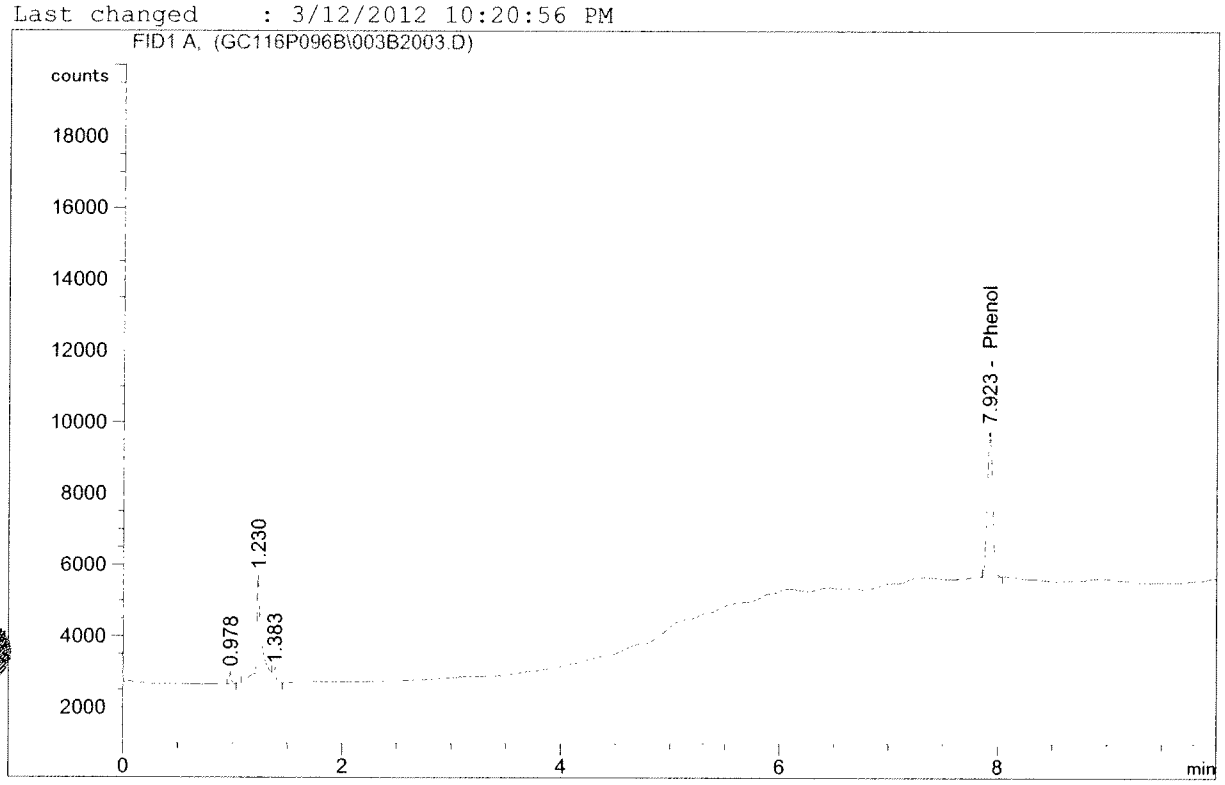
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     1.44934e4  1.03632e-3   15.01987     Phenol

Totals :                                15.01987

                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  20
Acq. Instrument  : Oscar                                 Location : Vial 3
Injection Date   : 3/11/2012 7:42:38 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

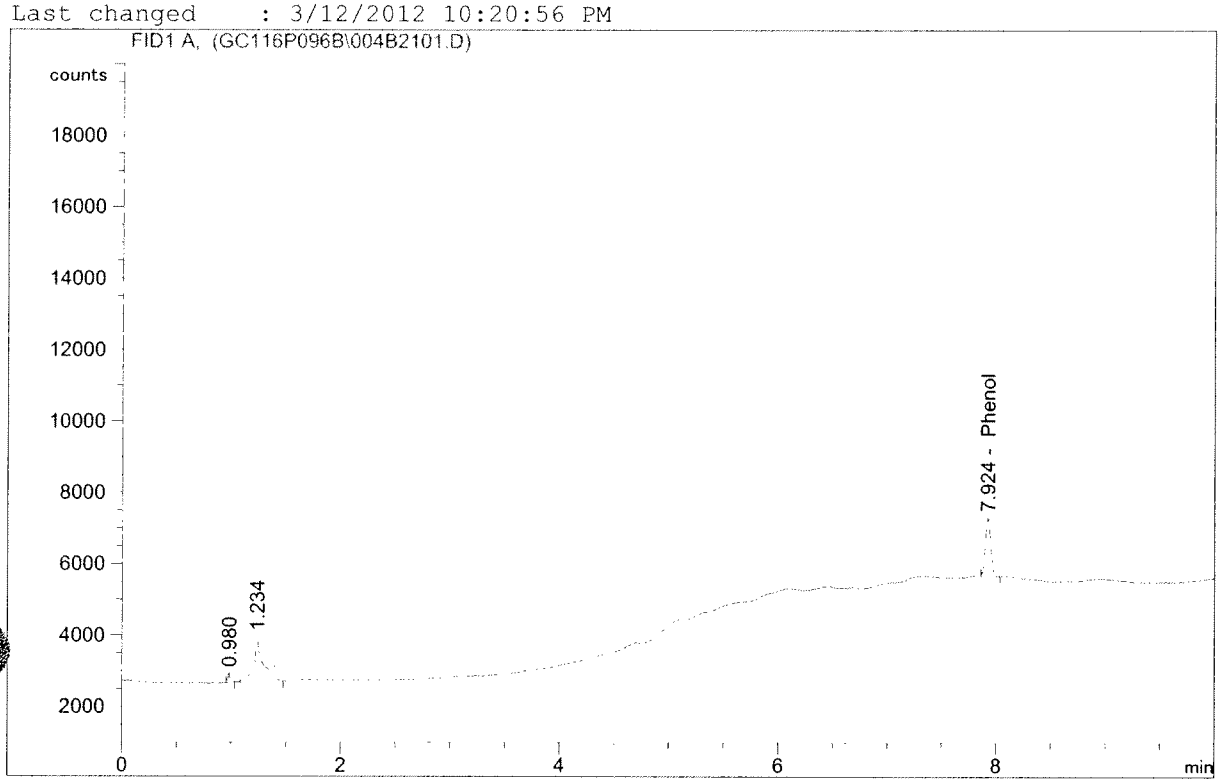
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 BB     1.41071e4  1.03638e-3   14.62036     Phenol

Totals :                                14.62036
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/11/2012 7:56:05 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

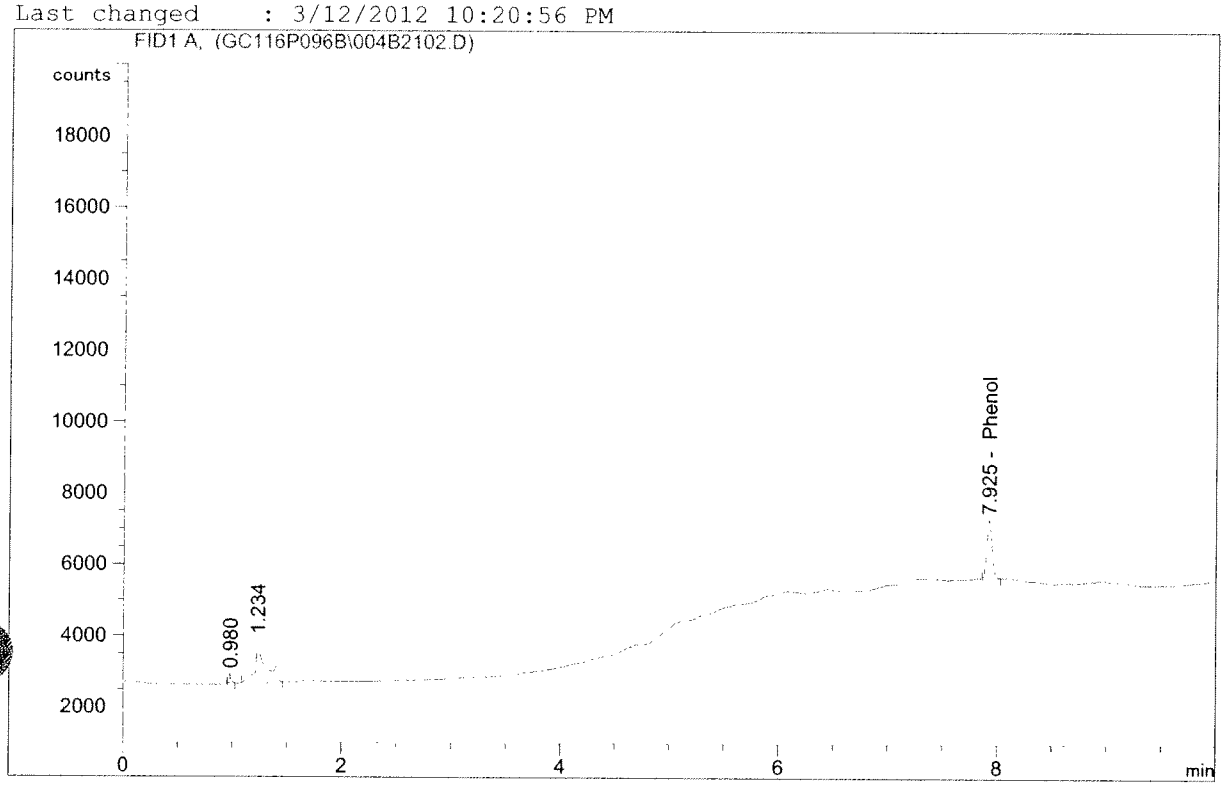
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     5769.26123 1.03969e-3    5.99821     Phenol

Totals :                                5.99821
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/11/2012 8:09:33 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

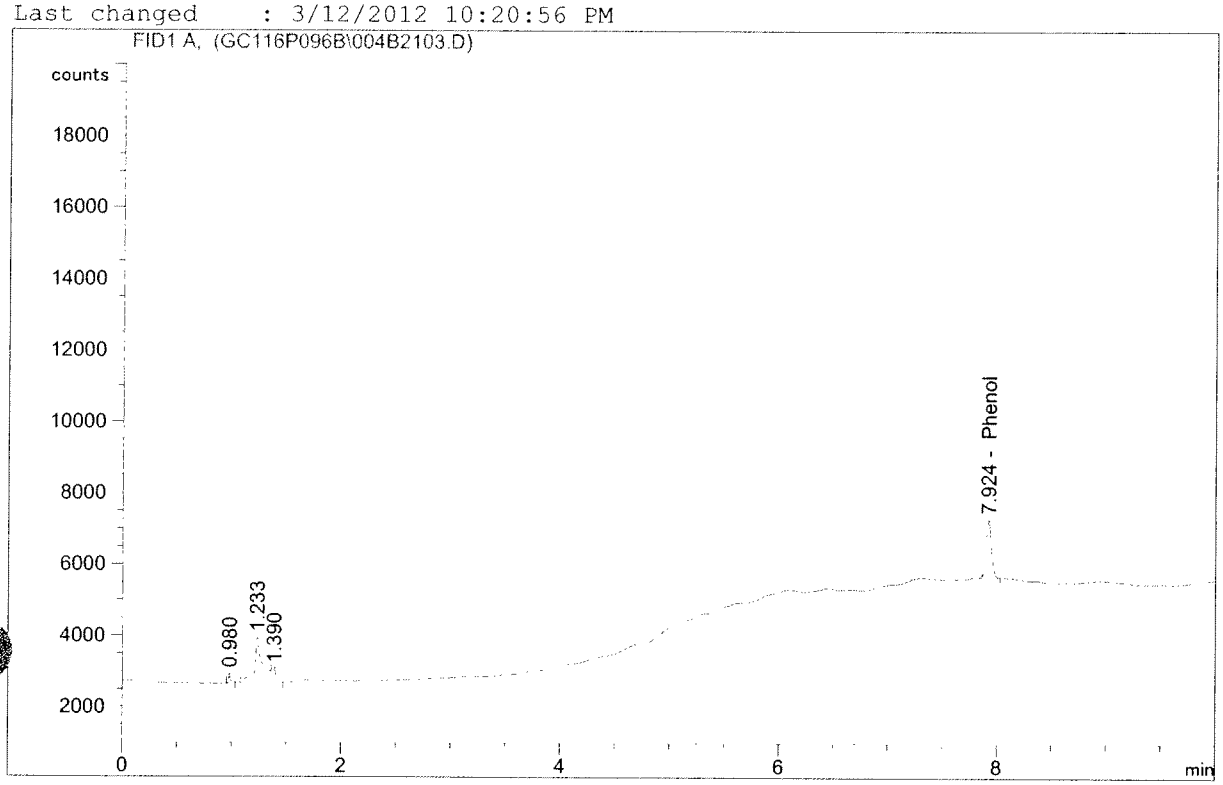
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.925 BB     5679.80225 1.03977e-3    5.90571     Phenol

Totals :                                5.90571
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  21
Acq. Instrument  : Oscar                                 Location : Vial 4
Injection Date   : 3/11/2012 8:23:05 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

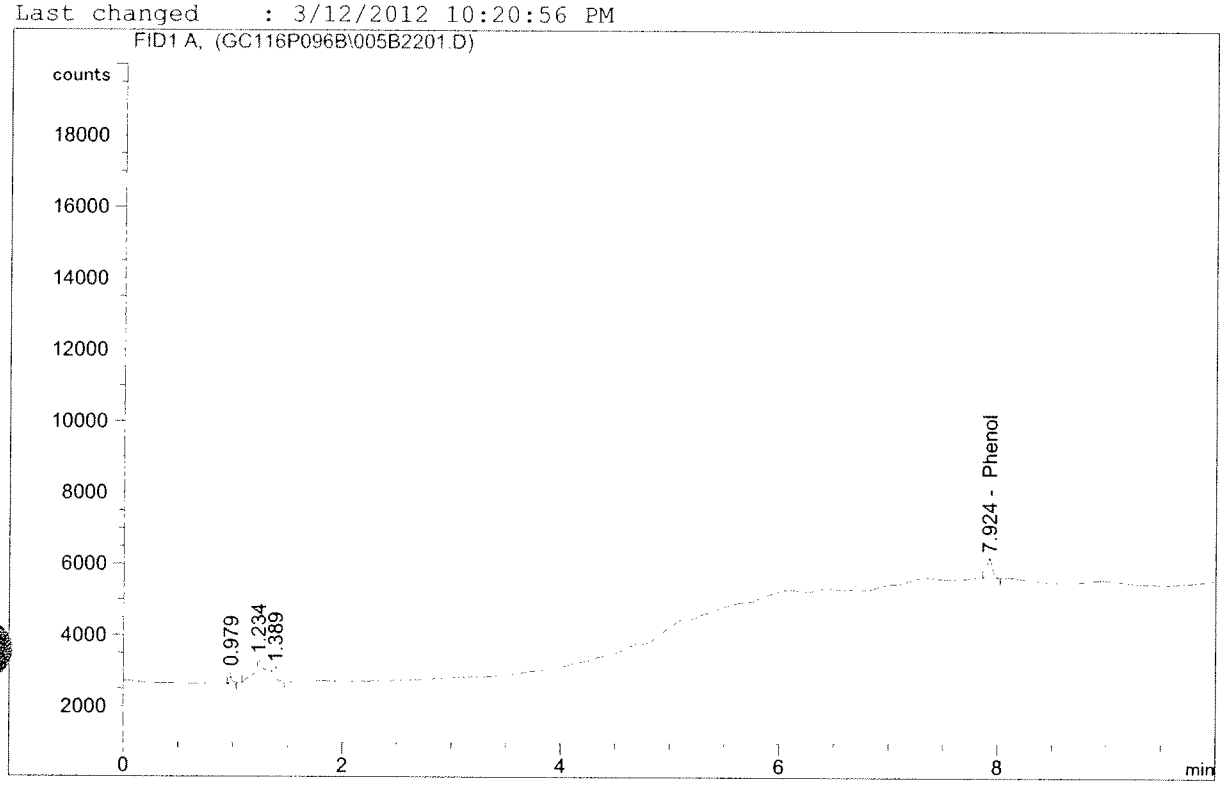
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     5674.24023 1.03978e-3    5.89995     Phenol

Totals :                                5.89995
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Oscar                                 Location : Vial 5
Injection Date   : 3/11/2012 8:36:32 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

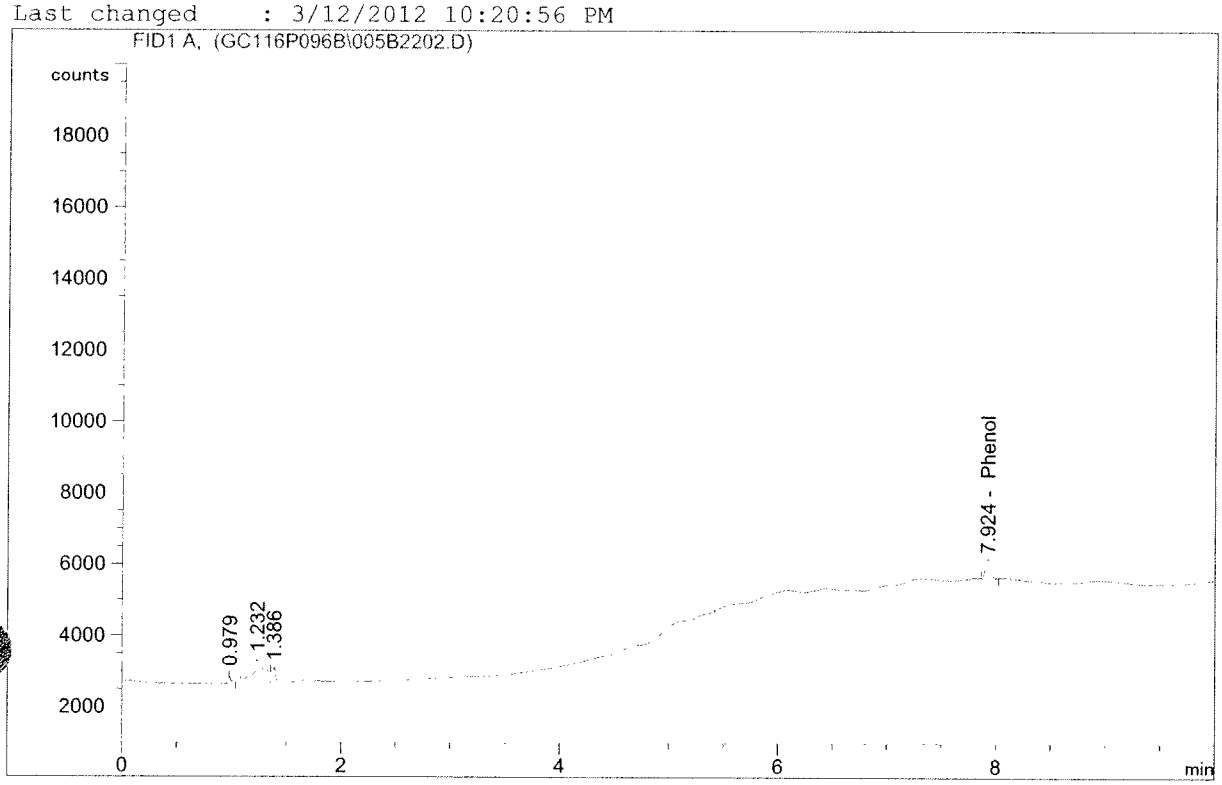
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     2002.87476 1.05019e-3    2.10340     Phenol

Totals :                                2.10340
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Oscar                                 Location : Vial 5
Injection Date   : 3/11/2012 8:50:04 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

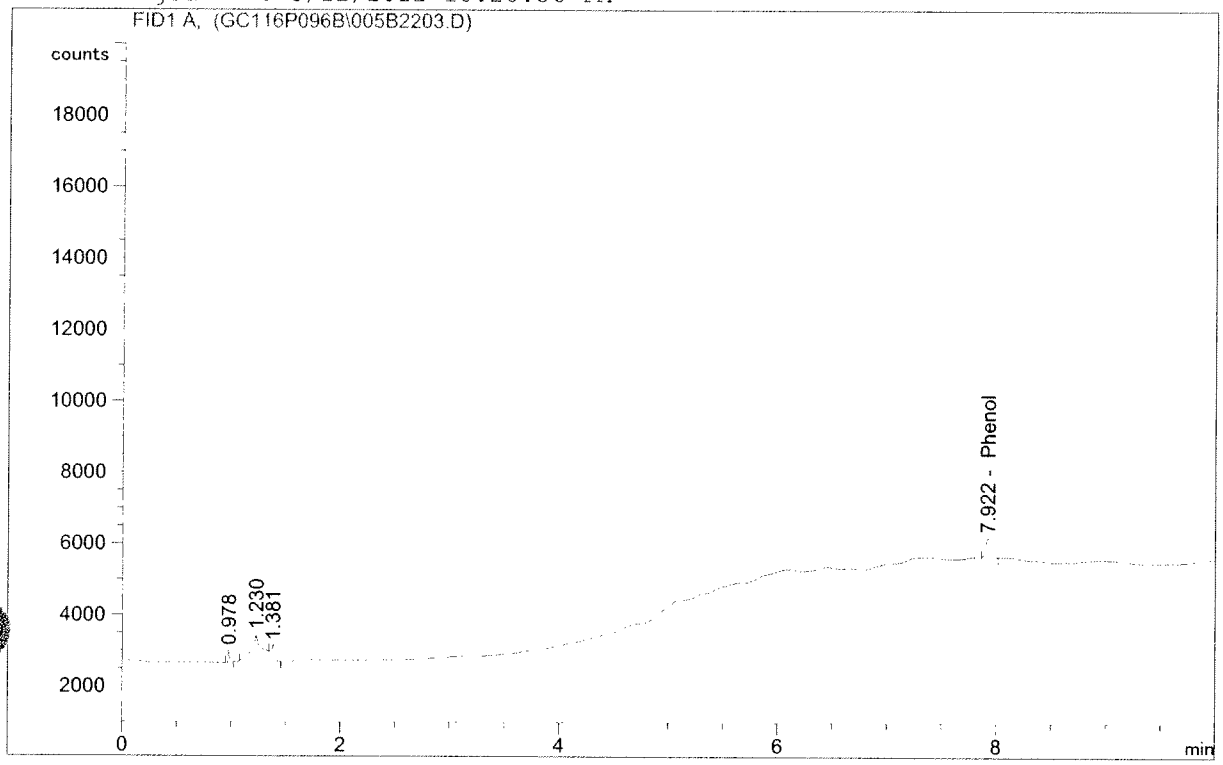
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 BB     1931.35706 1.05079e-3    2.02944     Phenol

Totals :                                2.02944
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  22
Acq. Instrument  : Oscar                                 Location : Vial 5
Injection Date   : 3/11/2012 9:03:33 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

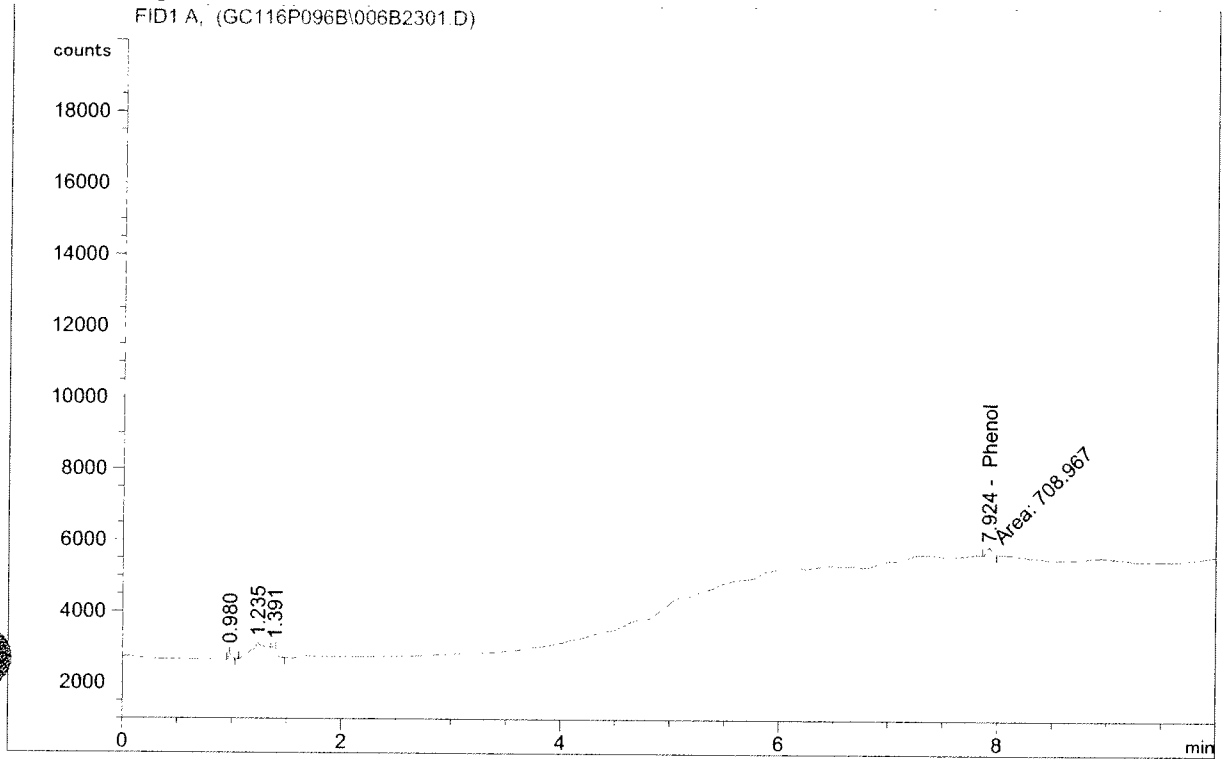
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.922 BB     1899.38440 1.05107e-3    1.99638     Phenol

Totals :                                1.99638
```

*** End of Report ***

```
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Oscar                                 Location : Vial 6
Injection Date   : 3/11/2012 9:17:01 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```



External Standard Report

```
Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

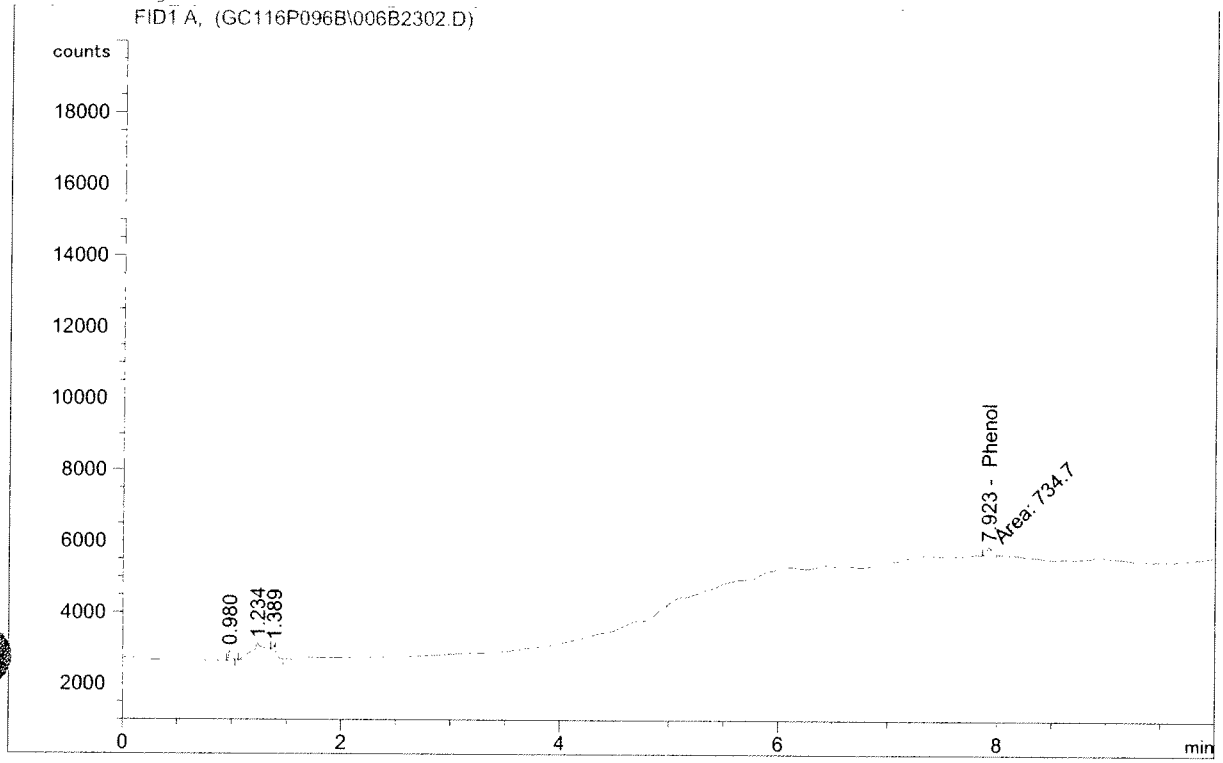
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.924 MM      708.96674 1.07956e-3 7.65370e-1     Phenol

Totals :                              7.65370e-1
```

*** End of Report ***

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Oscar                                 Location : Vial 6
Injection Date   : 3/11/2012 9:30:29 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

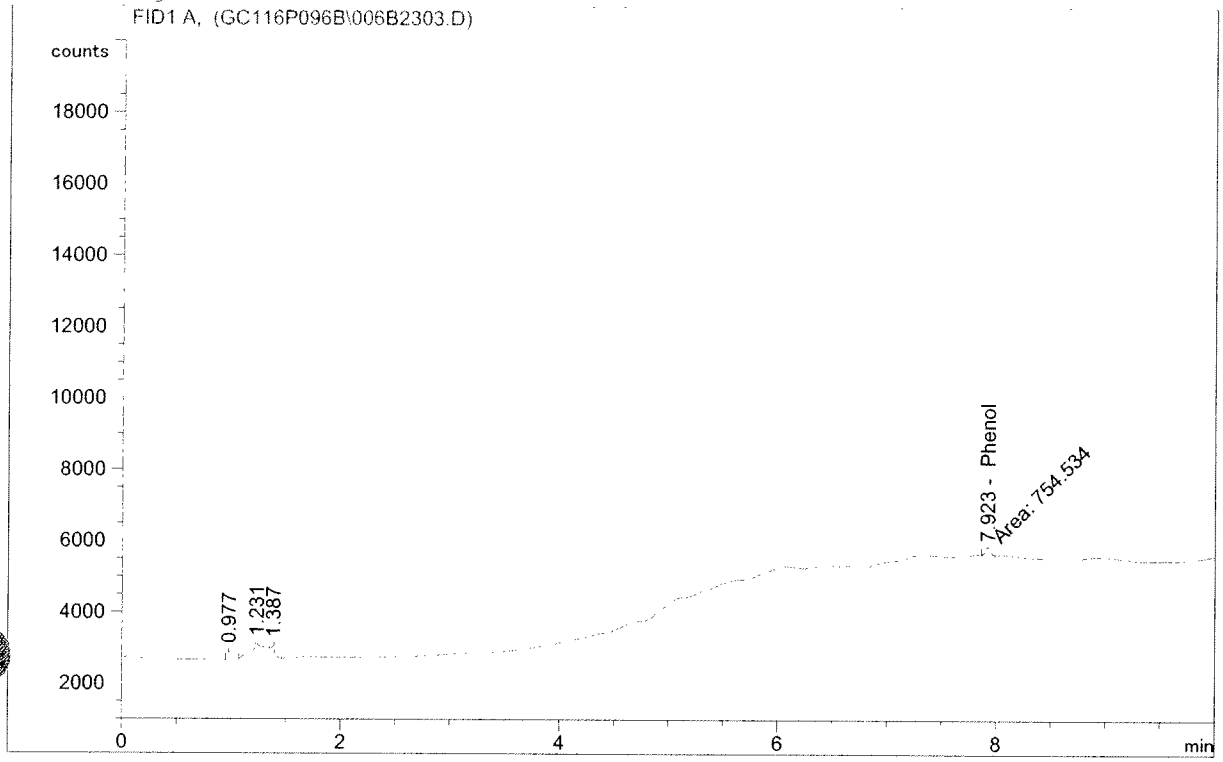
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 MM      734.69977 1.07796e-3 7.91981e-1     Phenol

Totals :                              7.91981e-1

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  23
Acq. Instrument  : Oscar                                 Location : Vial 6
Injection Date   : 3/11/2012 9:43:56 AM                      Inj :   3
                                                       Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

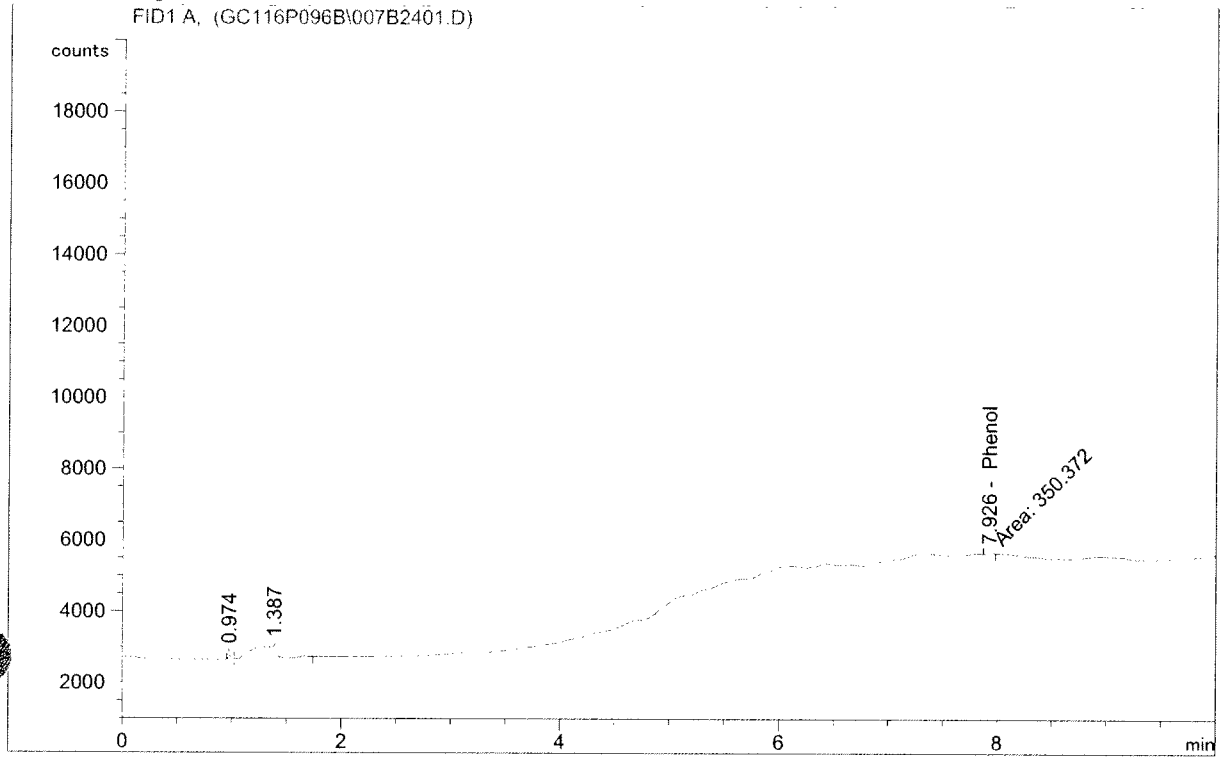
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]         counts*s                 [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 MM      754.53424 1.07681e-3 8.12491e-1     Phenol

Totals :                              8.12491e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  24
Acq. Instrument  : Oscar                                 Location : Vial 7
Injection Date   : 3/11/2012 9:57:24 AM                      Inj :   1
                                                       Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

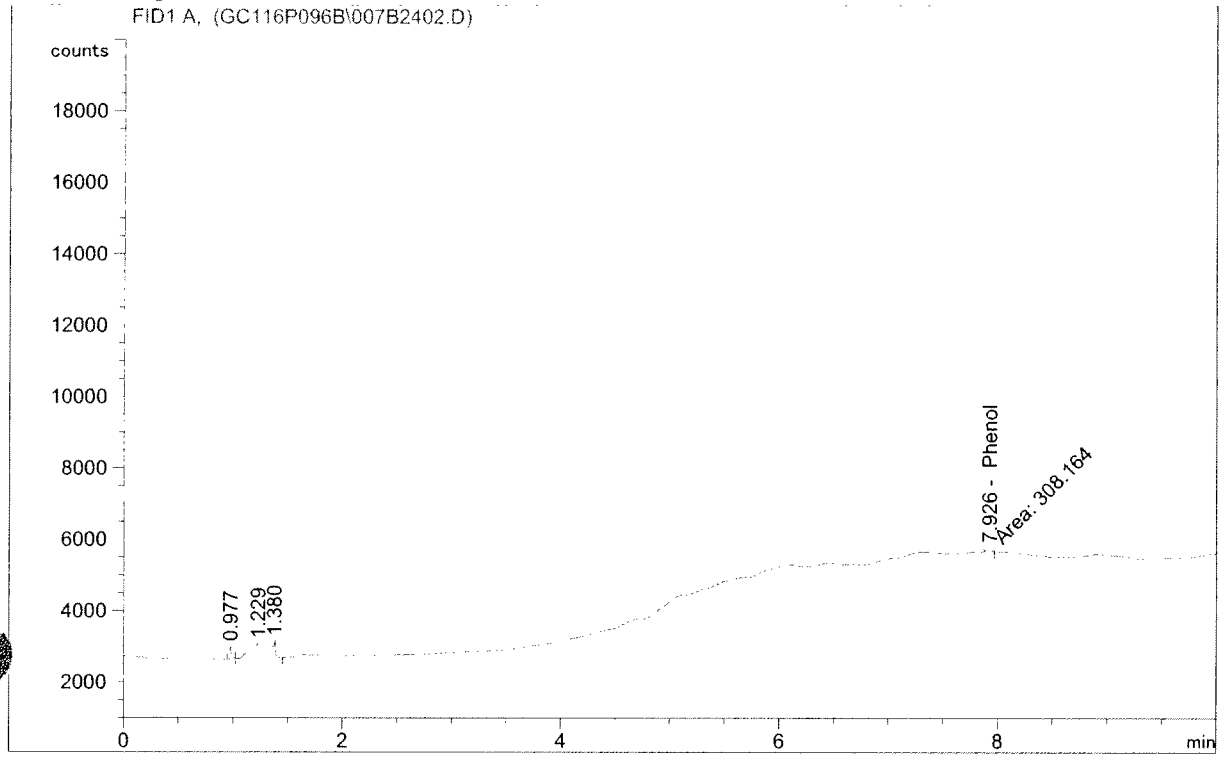
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 MM      350.37180 1.12608e-3 3.94547e-1     Phenol

Totals :                              3.94547e-1


==========================================================================
                          *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  24
Acq. Instrument  : Oscar                                 Location : Vial 7
Injection Date   : 3/11/2012 10:10:57 AM                      Inj :   2
                                                       Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

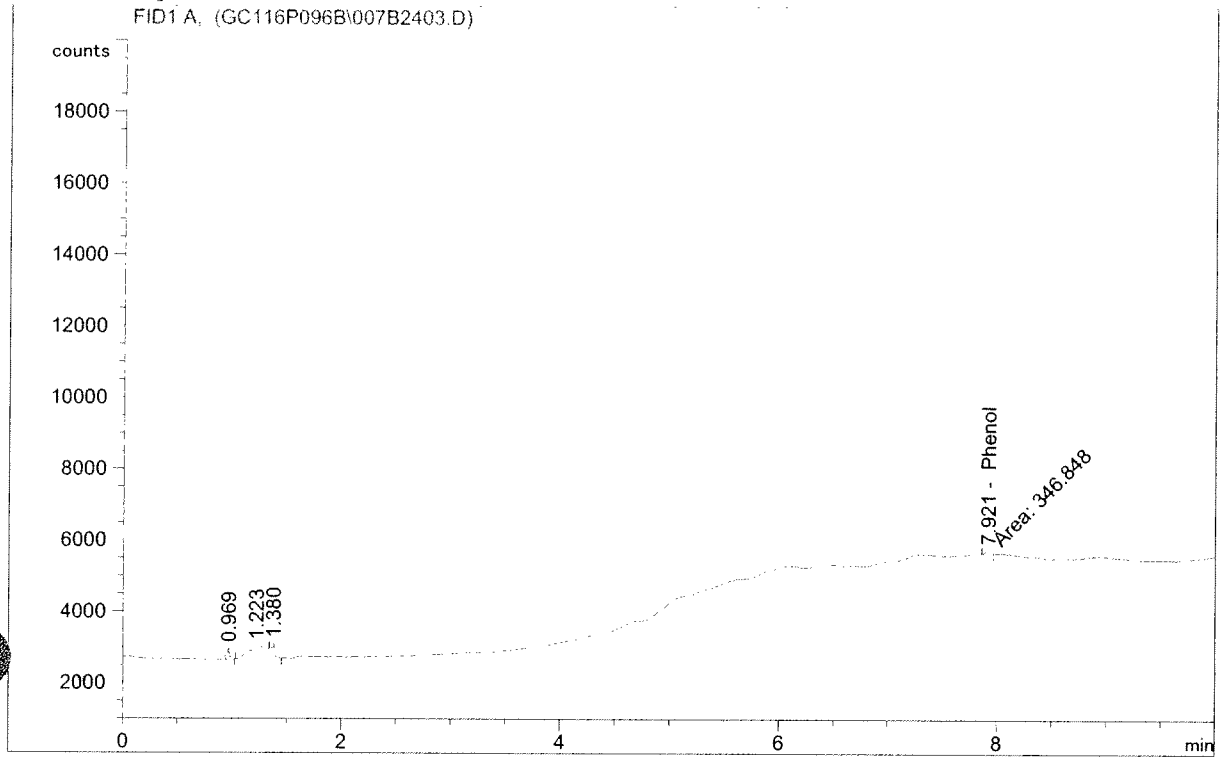
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.926 MM      308.16443 1.12778e-3 3.47540e-1     Phenol

Totals :                              3.47540e-1

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                Seq. Line :  24
Acq. Instrument  : Oscar                               Location : Vial 7
Injection Date   : 3/11/2012 10:24:20 AM                    Inj :   3
                                                      Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

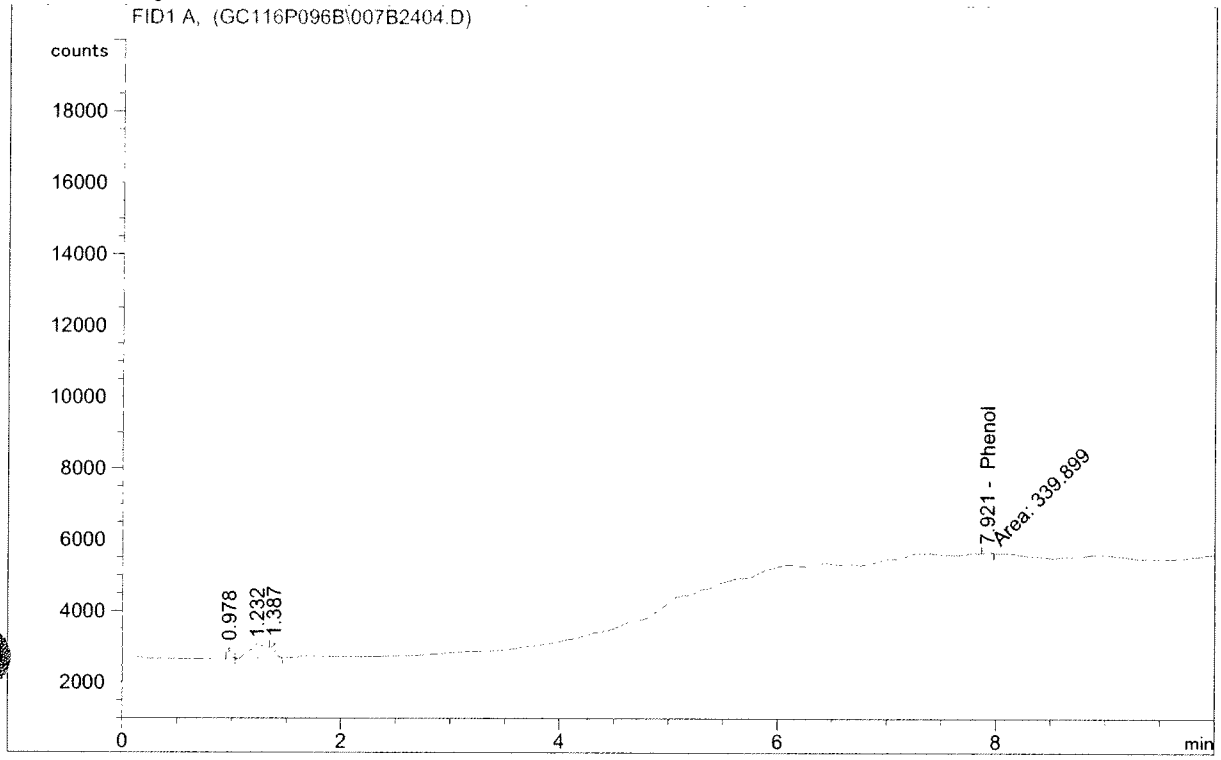
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.921 MM      346.84753 1.12702e-3 3.90903e-1     Phenol

Totals :                              3.90903e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  24
Acq. Instrument  : Oscar                             Location : Vial 7
Injection Date   : 3/11/2012 10:37:47 AM                 Inj :   4
                                                   Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

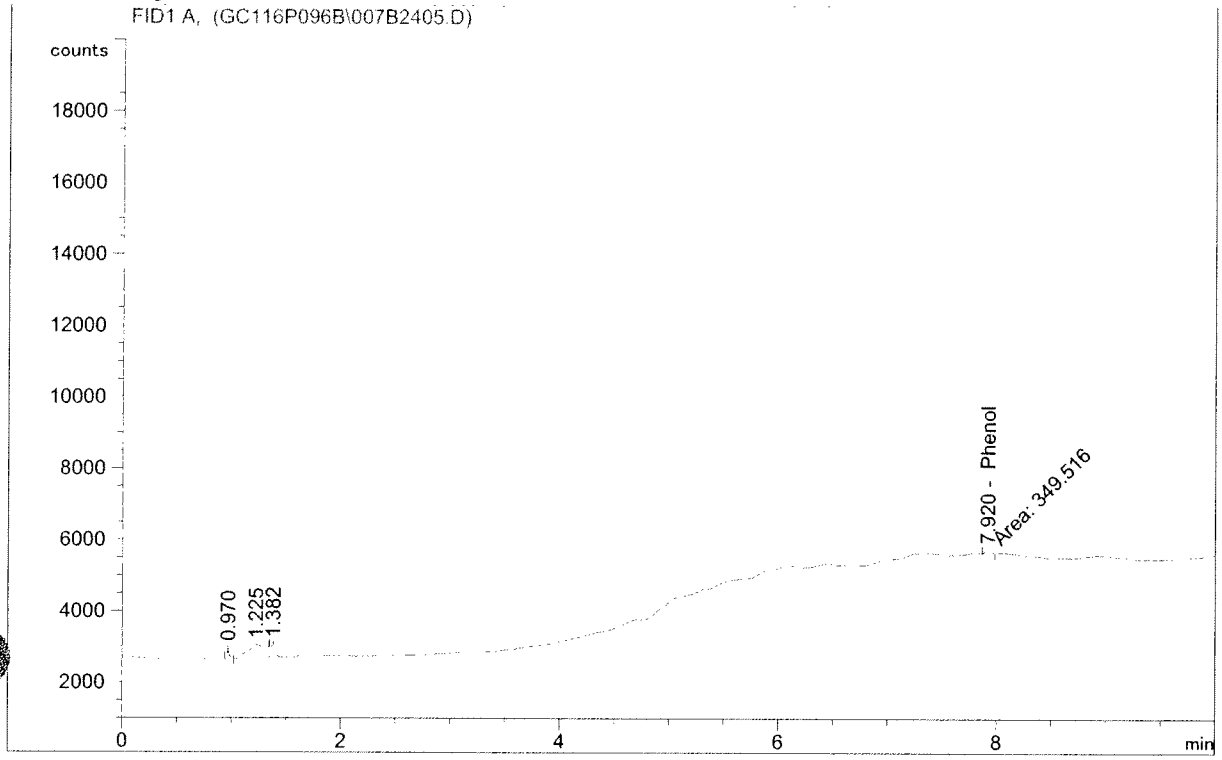
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.921 MM      339.89935 1.12778e-3 3.83330e-1     Phenol

Totals :                              3.83330e-1

==========================================================================
                        *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  24
Acq. Instrument  : Oscar                                 Location : Vial 7
Injection Date   : 3/11/2012 10:51:16 AM                      Inj :   5
                                                       Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

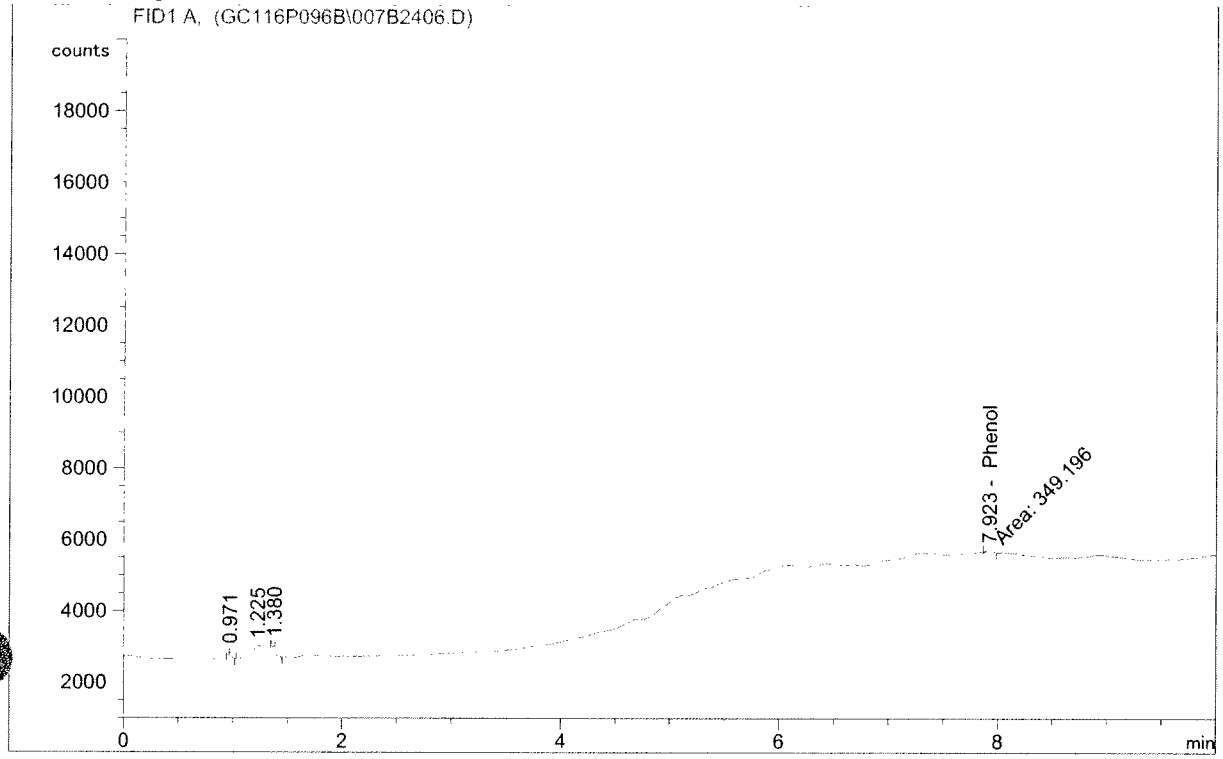
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.920 MM      349.51590 1.12631e-3 3.93662e-1     Phenol

Totals :                              3.93662e-1

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                                  Seq. Line :  24
Acq. Instrument  : Oscar                                 Location : Vial 7
Injection Date   : 3/11/2012 11:04:42 AM                      Inj :   6
                                                      Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

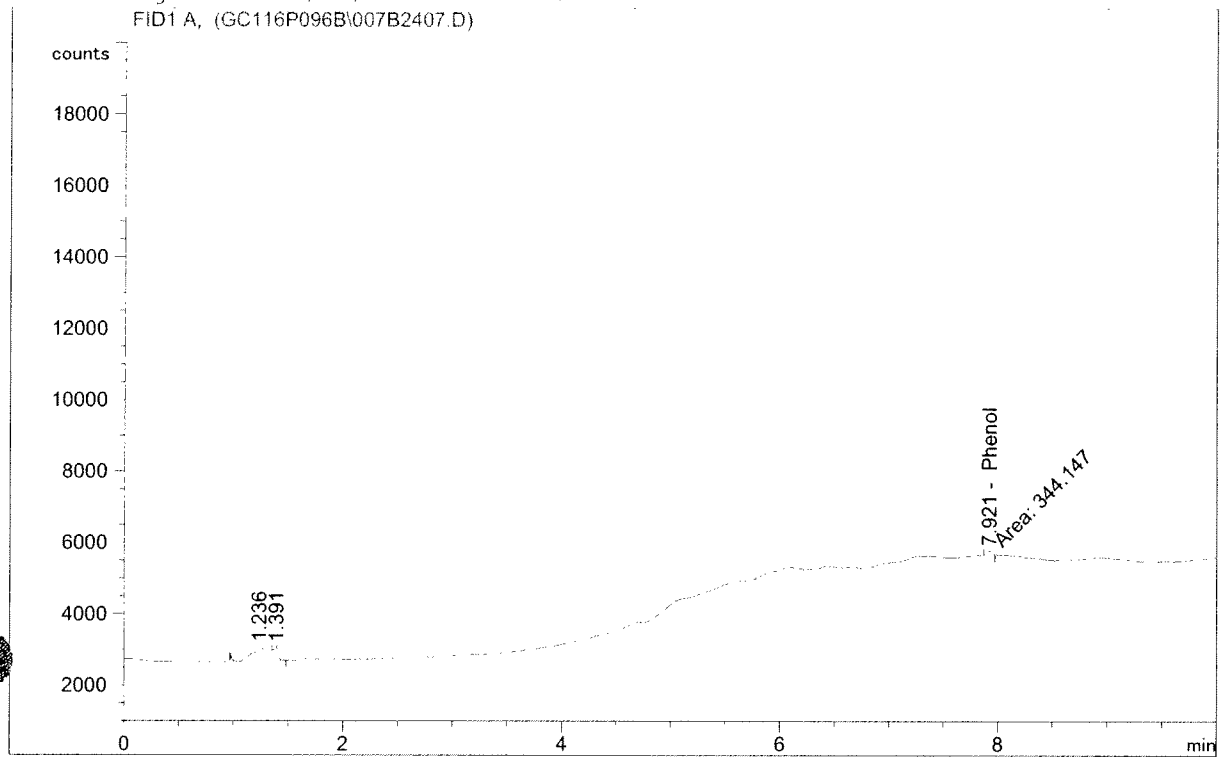
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.923 MM      349.19574 1.12639e-3 3.93331e-1    Phenol

Totals :                              3.93331e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  24
Acq. Instrument  : Oscar                             Location : Vial 7
Injection Date   : 3/11/2012 11:18:16 AM                 Inj :   7
                                                   Inj Volume : 1 µl
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

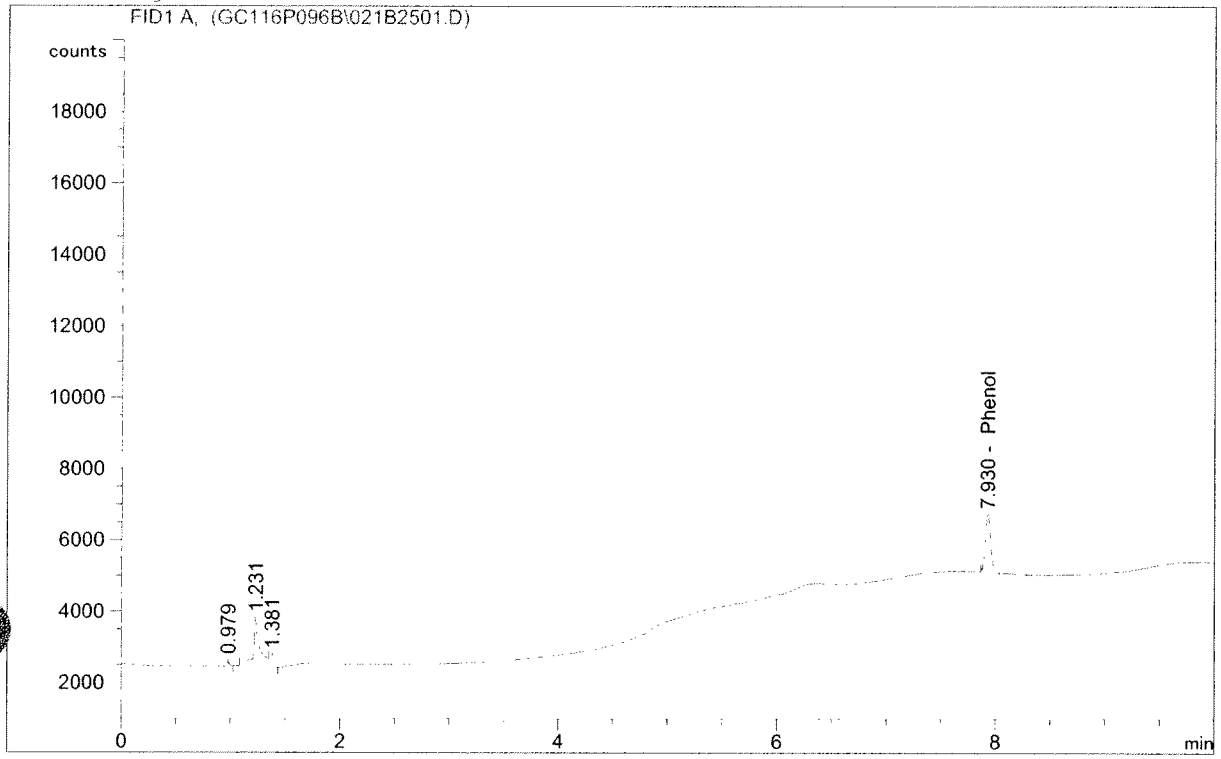
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.921 MM      344.14688 1.12775e-3 3.88110e-1     Phenol

Totals :                              3.88110e-1

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  25
Acq. Instrument  : Oscar                             Location : Vial 21
Injection Date   : 3/12/2012 5:47:56 PM                  Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

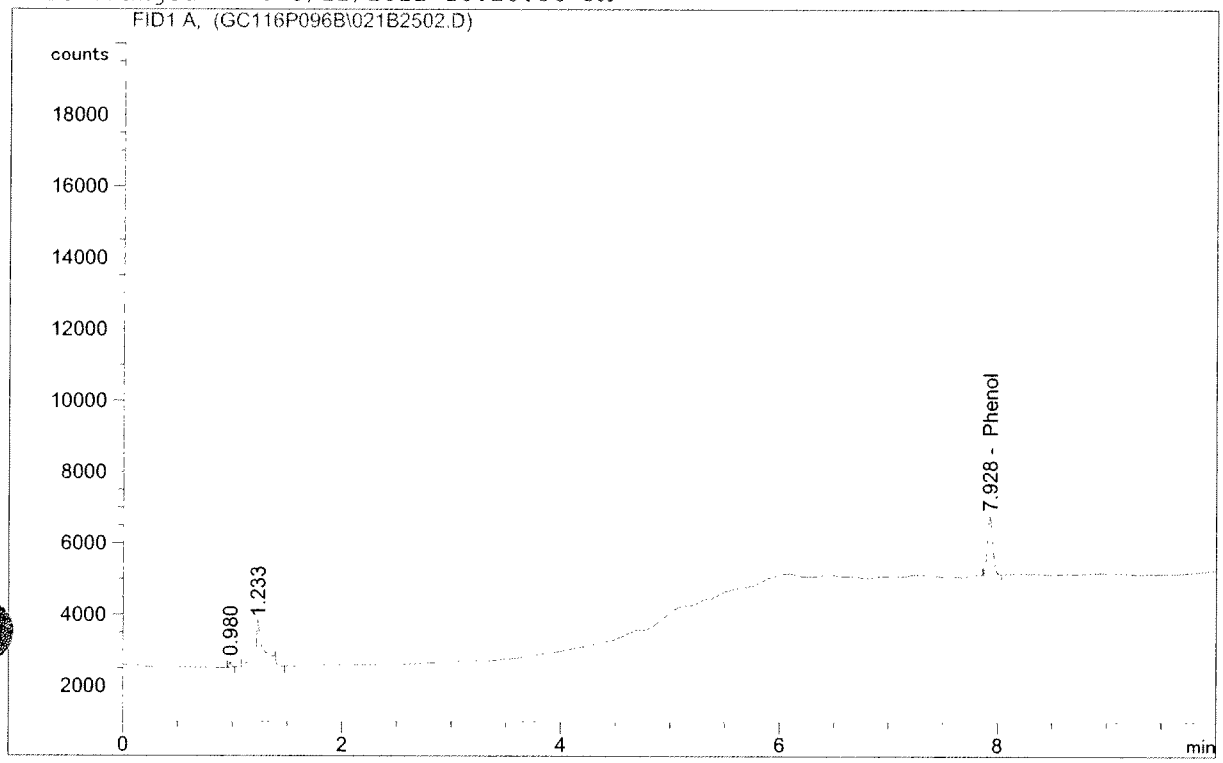
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.930 BB     5549.82568 1.03991e-3    5.77130     Phenol

Totals :                                5.77130

==========================================================================
                        *** End of Report ***
```

```
Acq. Operator    : JBB                                  Seq. Line :  25
Acq. Instrument  : Oscar                                 Location : Vial 21
Injection Date   : 3/12/2012 6:01:21 PM                      Inj :   2
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
                        External Standard Report

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

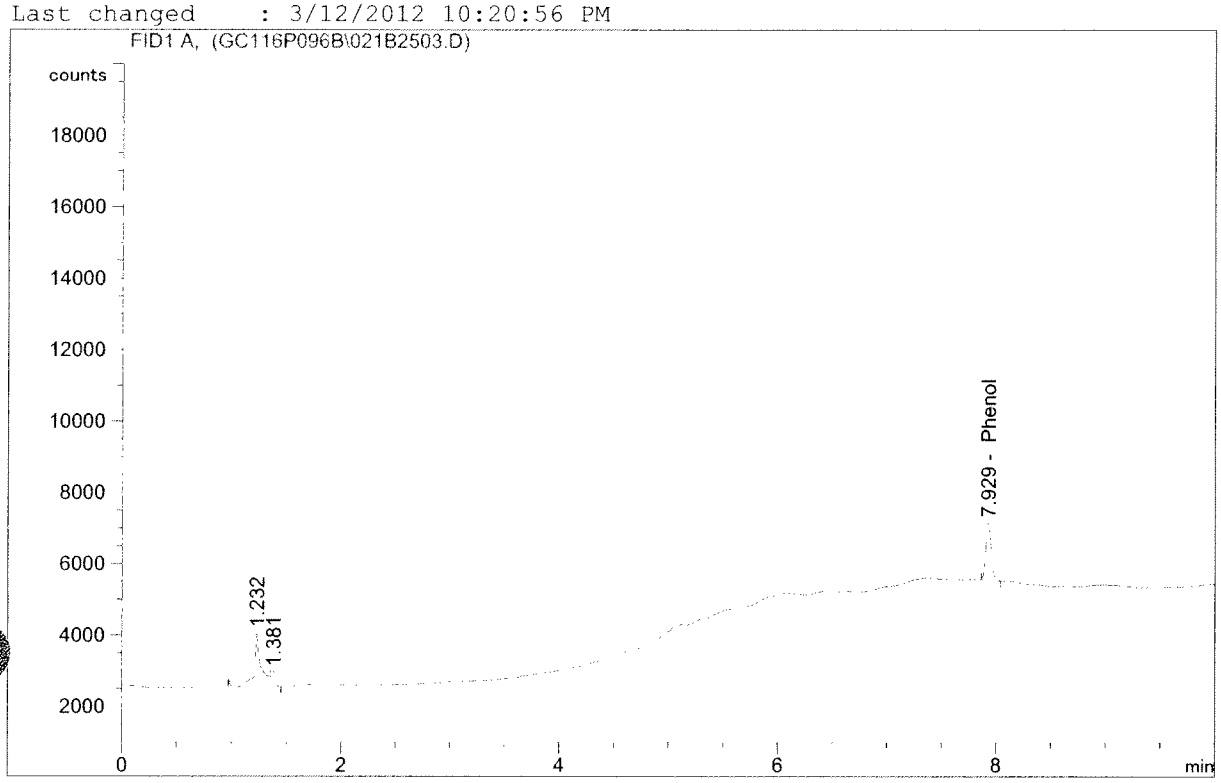
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.928 BB     5521.57373 1.03994e-3    5.74208     Phenol

Totals :                                5.74208

                        *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                                  Seq. Line :  25
Acq. Instrument  : Oscar                                 Location : Vial 21
Injection Date   : 3/12/2012 6:14:44 PM                      Inj :   3
                                                       Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

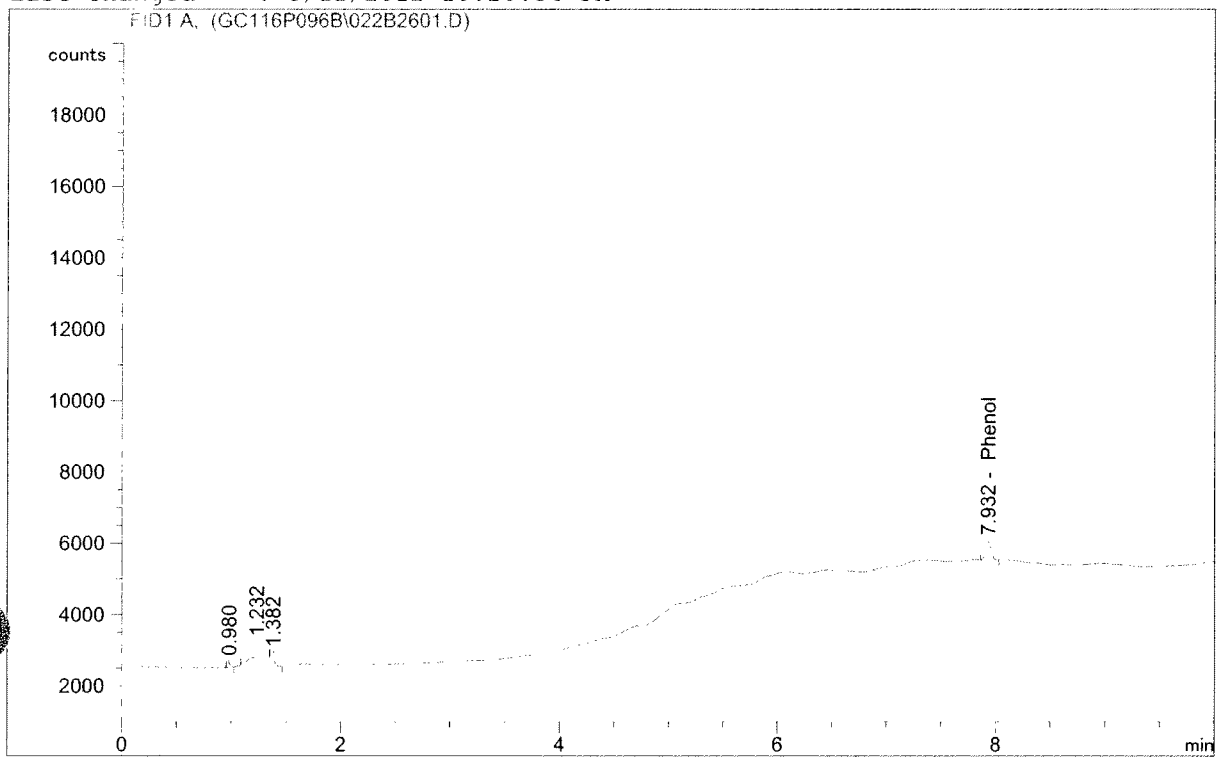
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.929 BB     5499.74268 1.03996e-3    5.71951     Phenol

Totals :                                5.71951

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  26
Acq. Instrument  : Oscar                             Location : Vial 22
Injection Date   : 3/12/2012 6:28:08 PM                  Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




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==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

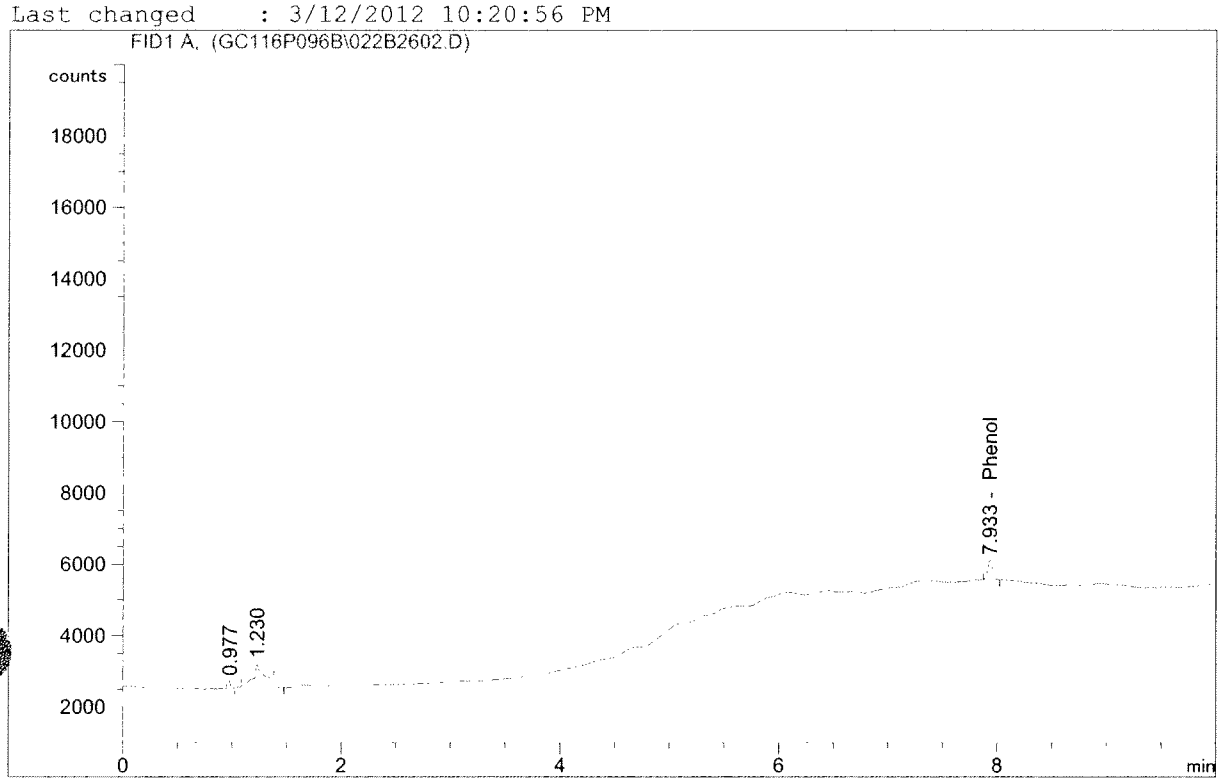
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.932 BB     1842.93018 1.05159e-3    1.93800     Phenol

Totals :                                 1.93800

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  26
Acq. Instrument : Oscar                             Location : Vial 22
Injection Date  : 3/12/2012 6:41:36 PM                  Inj :   2
                                                   Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

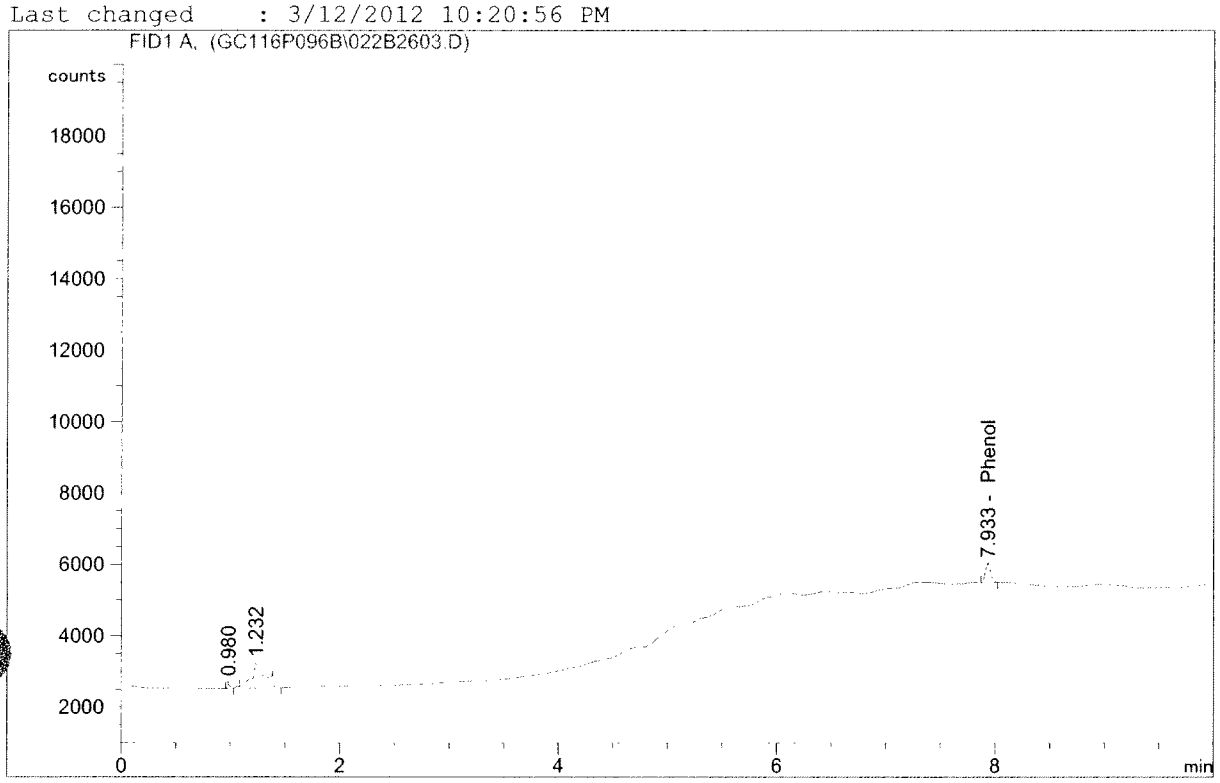
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.933 BB     1901.53699 1.05105e-3    1.99861     Phenol

Totals :                                1.99861

==========================================================================
                        *** End of Report ***
```

```
================================================================================
Acq. Operator    : JBB                              Seq. Line :  26
Acq. Instrument  : Oscar                             Location : Vial 22
Injection Date   : 3/12/2012 6:55:03 PM                   Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
================================================================================
                        External Standard Report
================================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

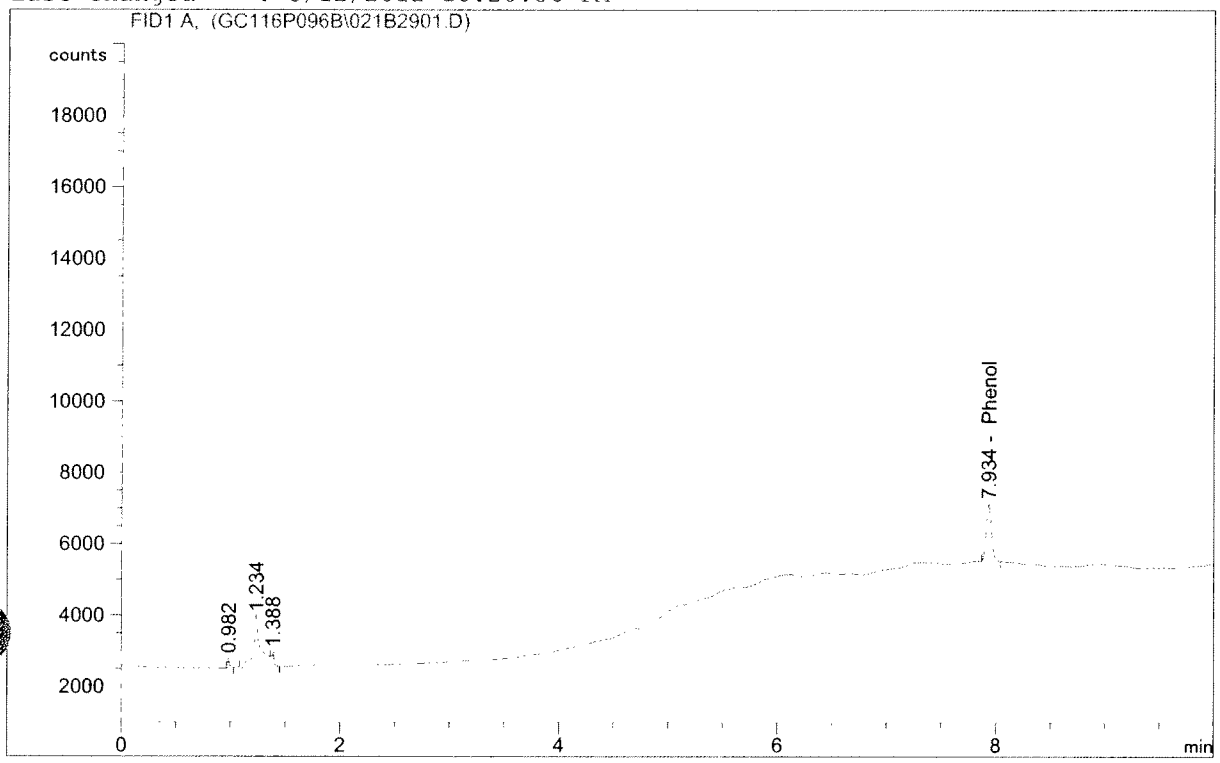
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.933 BB     1824.89319 1.05176e-3    1.91935    Phenol

Totals :                                 1.91935

================================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  29
Acq. Instrument  : Oscar                             Location : Vial 21
Injection Date   : 3/12/2012 8:29:26 PM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

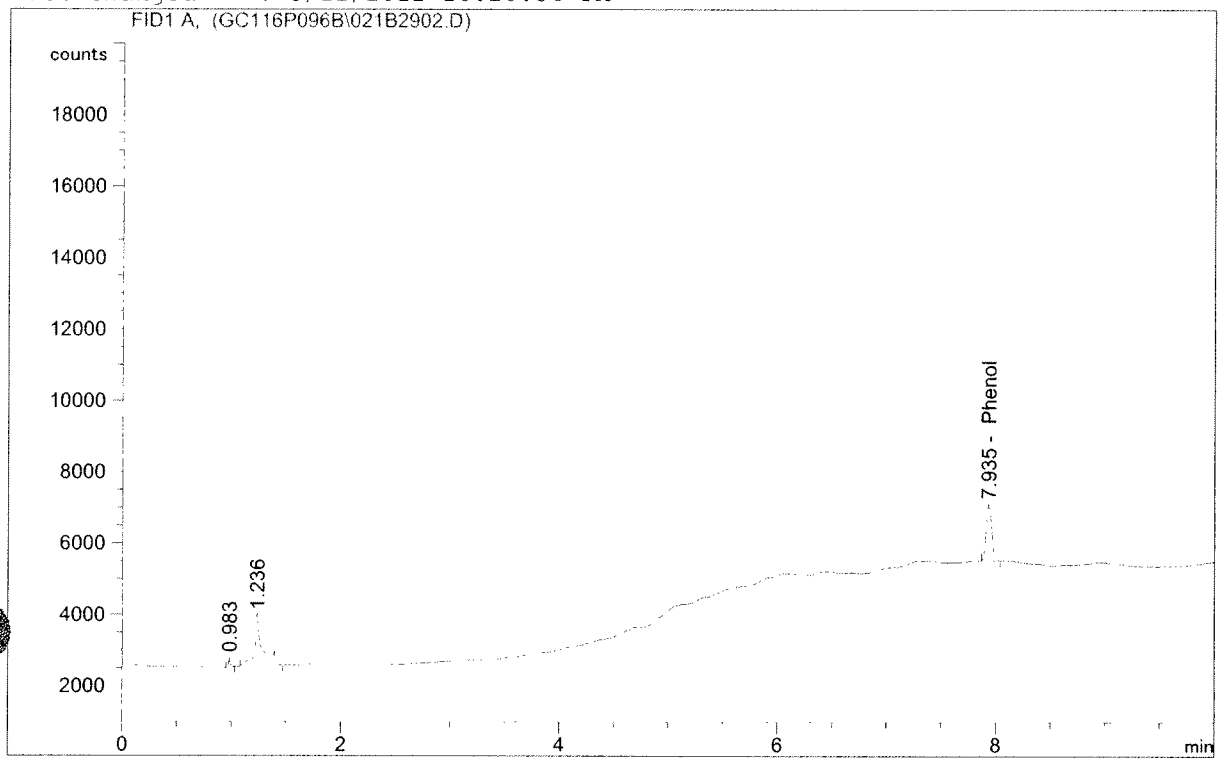
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.934 BB     5557.51709 1.03990e-3    5.77925     Phenol

Totals :                                5.77925

==========================================================================
                          *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  29
Acq. Instrument  : Oscar                             Location : Vial 21
Injection Date   : 3/12/2012 8:42:54 PM                   Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

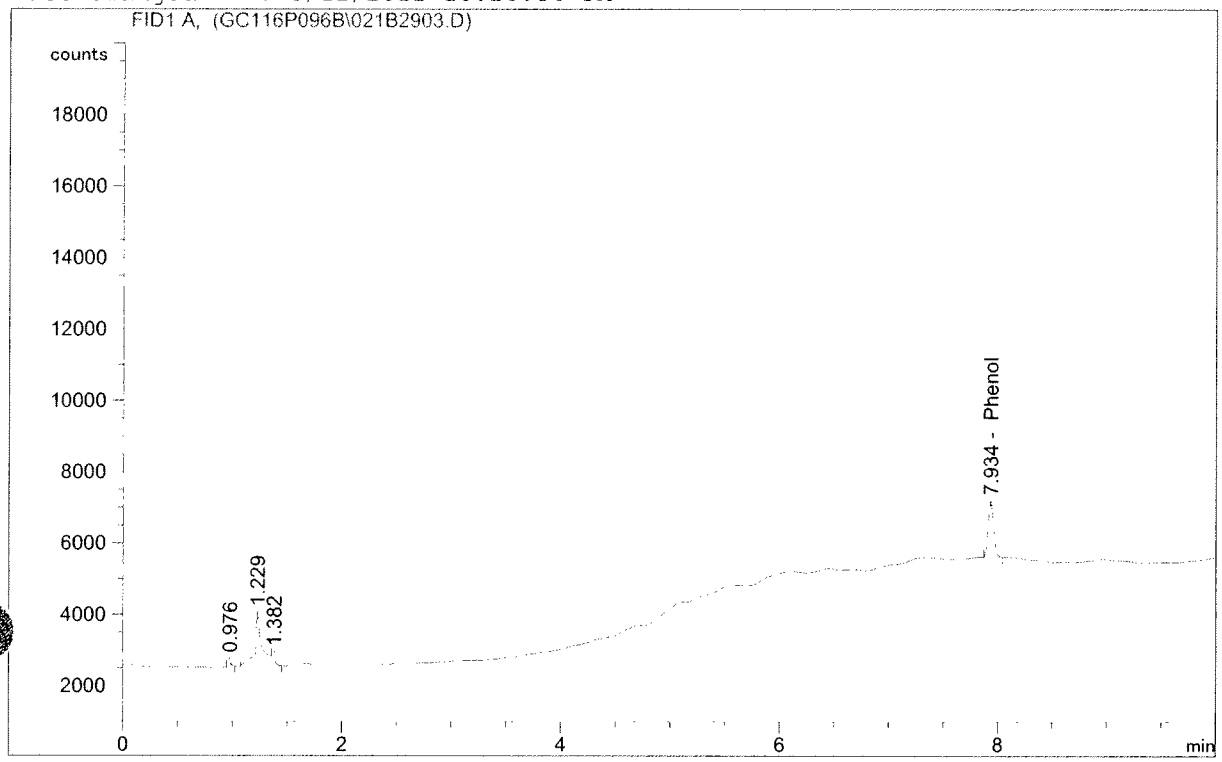
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.935 BB     5487.64258 1.03997e-3    5.70699     Phenol

Totals :                                5.70699

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  29
Acq. Instrument  : Oscar                             Location : Vial 21
Injection Date   : 3/12/2012 8:56:22 PM                  Inj :   3
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

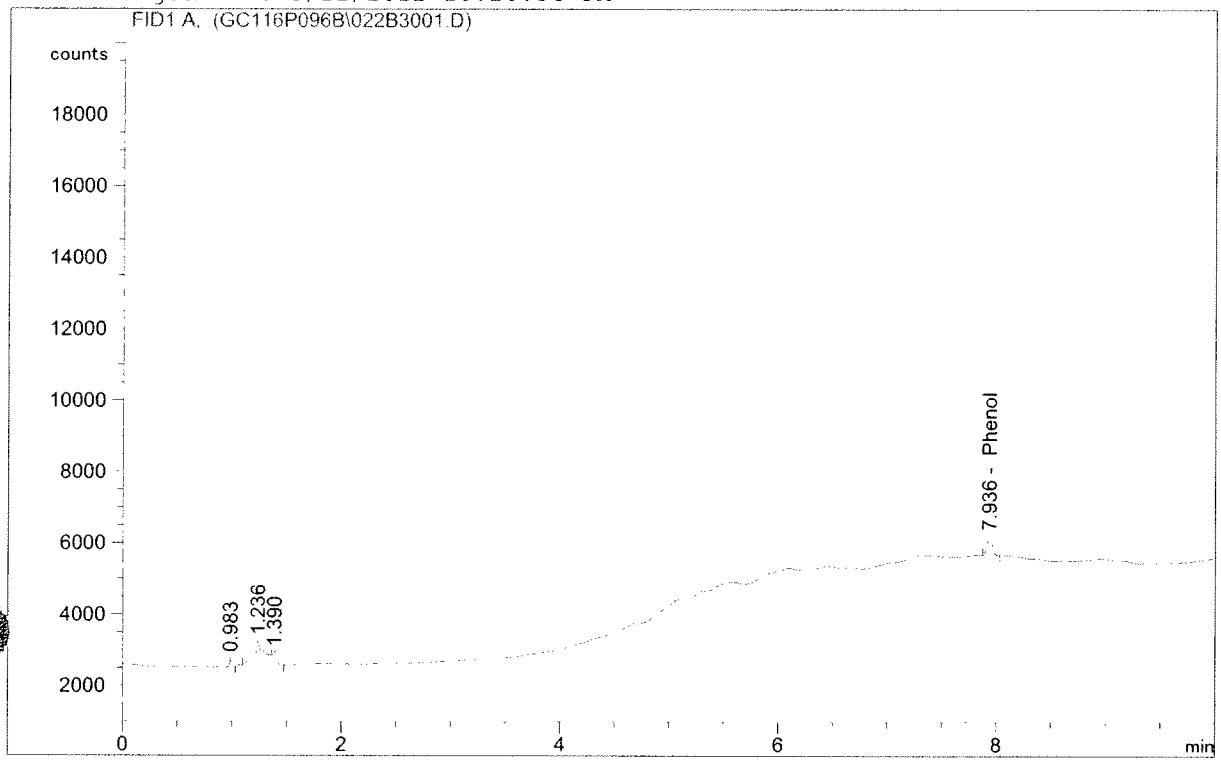
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount    Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.934 BB     5508.31006 1.03995e-3    5.72837     Phenol

Totals :                                5.72837

==========================================================================
                        *** End of Report ***
```

```
==========================================================================
Acq. Operator   : JBB                              Seq. Line :  30
Acq. Instrument : Oscar                             Location : Vial 22
Injection Date  : 3/12/2012 9:09:50 PM                   Inj :   1
                                                   Inj Volume : 1 µl
Sequence File   : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method     : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/9/2012 11:47:13 PM by KAM
Analysis Method : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed    : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                      External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

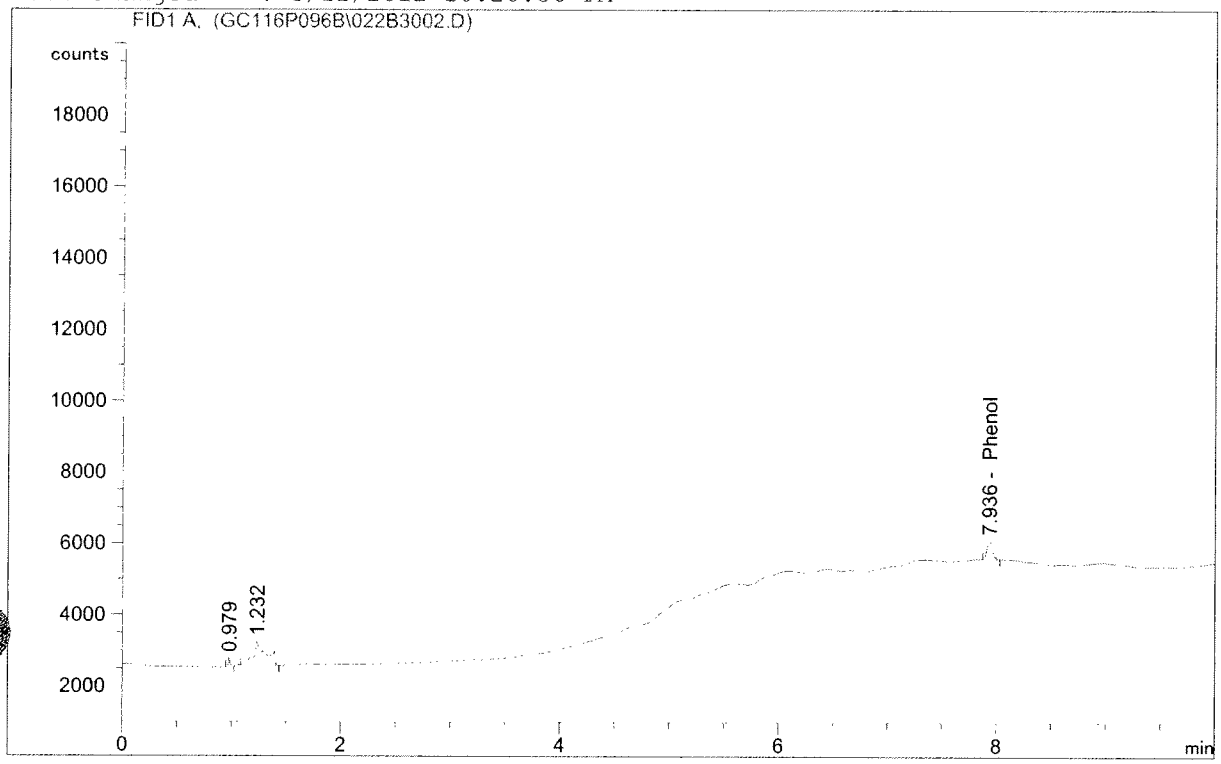
Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.936 BB     1900.74353 1.05105e-3    1.99779     Phenol

Totals :                                1.99779

==========================================================================
                      *** End of Report ***
```

```
==========================================================================
Acq. Operator    : JBB                              Seq. Line :  30
Acq. Instrument  : Oscar                             Location : Vial 22
Injection Date   : 3/12/2012 9:23:18 PM                  Inj :   2
                                                   Inj Volume : 1 µl
Sequence File    : W:\GC2012Q1\OSCAR\SEQUENCE\GC116P096B.S
Acq. Method      : G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/9/2012 11:47:13 PM by KAM
Analysis Method  : W:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Last changed     : 3/12/2012 10:20:56 PM
```




```
==========================================================================
                        External Standard Report
==========================================================================

Sorted By             :      Signal
Calib. Data Modified  :      3/12/2012 10:20:49 PM
Multiplier:                   :      1.0000
Dilution:                     :      1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: FID1 A,

RetTime  Type     Area      Amt/Area    Amount   Grp   Name
 [min]          counts*s                [ug/mL]
-------|------|----------|----------|----------|--|------------------
  7.936 BB     1888.72192 1.05116e-3    1.98535     Phenol

Totals :                                1.98535

==========================================================================
                        *** End of Report ***
```

OVEN\DET

Runtime (min): 10.0

Zone Temperatures:

	State	Setpoint
Inl. A	ON	175 C.
Inl. B	ON	225 C.
Det. A	ON	250 C.
Det. B	ON	175 C.
Aux.	OFF	50 C.

Oven Zone:

Oven max	280 C.
Equib Time	1.00 Min.
Oven State	ON
Cryo State	OFF
Ambient	25 C.
Cryo Blast	OFF

Oven Program:

	Setpoint
Initial Temp.:	120 C.
Initial Time:	1.00 Min.

Level	Rate (C/min.)	Final Temp.(C)	Final Time (min)
1	20.0	200	5.00

Purge Valve Settings

Purge A/B

	Init Value	On Time (Min.)	Off Time (Min.)
A (Valve 3)	On	0.00	100.00
B (Valve 4)	On	0.00	100.00

A - Splitless Injection: No
B - Splitless Injection: No

Valves/Relays Information

Initial Setpoints:
5890 Valves:

Valve 1:	Off
Valve 2:	Off
Valve 3 (Purge A):	On
Valve 4 (Purge B):	On

Detector Information

Detector A:

Type	FID
State	ON

Detector B:

Type	FPD
State	OFF

method: G:\GC2012Q1\OSCAR\METHODS\GC116P096.M
Modified on: 3/12/2012 at 10:20:56 PM

Signal Information

Save Data:	Signal 1

Signal 1:

Signal	Det. A
Data rate	20.000 Hz.
Peakwidth	0.010 min.
Start Time	0.00 min.
Stop Time	650.00 min.

Signal 2:

Signal	Testplot
Data rate	20.000 Hz.
Peakwidth	0.013 min.
Start Time	0.00 min.
Stop Time	650.00 min.

This Is The Last Page Of This Report.

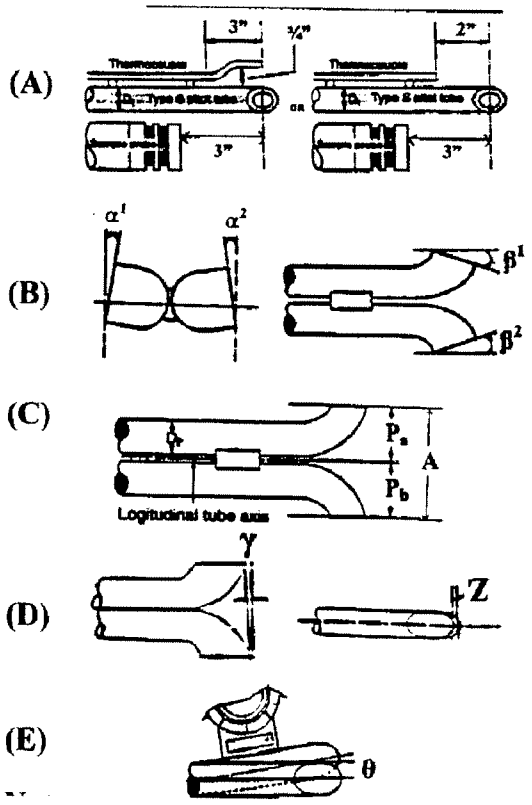


9.0 CALIBRATIONS

STT Pitot Tube Inspection Sheet
The Dow Chemical Company

Pitot Tube Number: 22

☐ Pre ☐ Post



	Level?	Yes
	Obstructions?	No
	Damaged?	No
(A)	2-inch setback of the thermocouple **or** minimum ¾ inch separation from pitot	Yes
(B)	$-10° < a1 < +10°$	0
(B)	$-10° < a2 < +10°$	2
(B)	$-5° < b1 < +5°$	2
(B)	$-5° < b2 < +5°$	0
(C)	$3/16" \le D_t \le 3/8"$	3/16
(C)	$1.05\ D_t < P_a < 1.5\ D_t$	0.231
(C)	$1.05\ D_t < P_b < 1.5\ D_t$	0.227
	$\lvert(P_a - P_b)\rvert = \pm 0.063"$	0.004
(C)	$A = (P_a + P_b)$	0.458
(D)	Y	3
	$Z = A \tan Y < 0.125"$ *	0.024
(E)	θ	1
	$W = A \tan \theta < 0.03125"$ **	0.0080

Notes: * The trigonometric equivalent for Z is used with Y.
** The trigonometric equivalent for W is used with θ.

Comments:

This certifies that the pitot tube/probe meets or exceeds all specification criteria and/or applicable design features and is assigned a pitot tube calibration factor of 0.84.
Reference: 40 CFR 60, Method 2.

Tagan Paul 4.4.12
Signature/Date

4/4/12
Reviewer/Date

Temperature Sensor Calibration For In-Stack Temperature Sensor

☐ Pre ☐ Post

Temperature Sensor ID or S/N: T3

Calibrator: M. Laird Date: 4/4/2012

Ambient Temperature: 73 Deg C 22.4 Barometric Pressure ("Hg) : 29.8

NIST Certified Temp. Sensor S/N	Calibration Source*	Reference Temp. Sensor Reading		Test Temp. Sensor Reading		Temp Difference	
		Deg C	Deg F	Deg C	Deg F	Deg F	Pass or Fail
427	Ambient Air	22.4	72.3	22.4	72.3	0.0	Pass

* Type of calibration system used (ambient, water or mineral bath)

Calibration Criteria Limits

	Pre-test	Post-test
Condensor	±1 Deg F	±2 Deg F

This thermocouple does agree with the reference temperature sensor to within 2°F and is acceptable for field use based upon EPA Emission Measurement Center's Approved Alternate Method ALT-011 (Alternative Method 2).

4.4.12
Signature/Date

4/4/12
Reviewer/Date

Digital Manometer Verification

PGE T384 Scrubber 2012-37

669

Manometer SN Magnahelic Verified by C Glenn
Verification Date 4/16/2012 Reference Liquid Manometer

Positive Pressure Verification Test

Reference (in wc)	Magnahelic (in wc)	Measured Error (in wc)	Accuracy (%)	Pass/Fail
0.10	0.10	0.000	0.0%	Pass
0.20	0.20	0.000	0.0%	Pass
0.50	0.50	0.000	0.0%	Pass
1.00	1.00	0.000	0.0%	Pass

4/16/12
Verified by/Date

4/16/12
Reviewed/Date

10.0 RESUMES

RESUME OF PERSONNEL

NAME	*Charles E. Glenn*	**DATE**	*April 4, 2012*
JOB TITLE	*Environmental Technician*		
GROUP	*Texas Environmental Analytical Laboratory*	**BUILDING**	*B-2009*

ACADEMIC BACKGROUND

School: Brazosport College
Major: Chemical Technology
Years Attended: 1988 -1991

School: University of Houston
Major: Pre-pharmacy
Years Attended: 1986 - 1991

PROFESSIONAL EXPERIENCE

Date: *April 1997 - Present*
Employer: *The Dow Chemical Company*
Department: *Environmental Services*
Description: *Stack and vent sampling and analysis; reporting.*

Date: *April 1993 - April 1997*
Employer: *The Dow Chemical Company*
Department: *Environmental Services*
Description: *Influent and effluent water sampling and analysis.*

Date: *April 1991 - April 1993*
Employer: *The Dow Chemical Company*
Department: *Market Development*
Description: *Pilot plant operations, maintenance, and analysis.*

TRAINING

Visible Emissions Evaluators Course (Opacity) - 9/93, 3/94, 9/94, 3/95, 9/95, 3/98, 9/98, 3/99 certified for EPA Methods 9 & 22 - given by TNRCC.

Graseby Stack Sampling & Particle Sizing Seminar - University of Florida - 12/98.

RESUME OF PERSONNEL

NAME *N. Spencer Hurley Jr* **DATE** *April 4, 2012*
JOB TITLE *EH&S Leveraged Delivery Specialist*
GROUP *EH&S Leveraged Delivery* **BUILDING** *B-2009*

ACADEMIC BACKGROUND

School: *ACME School of Aeronautics(Fort Worth, Texas)*
Degree: *Technical Degree in Aircraft Technology*
Major: FAA -*Licensed Airframe &Powerplant Technician*
Year Completed: *1984*

School: *Brazosport College(Lake Jackson, Texas)*
Degree: *Engineering Graphics and Design 44+ hours*
Major:
Year Completed: *1994- Last class attended*

PROFESSIONAL EXPERIENCE

Date: *January 1999 - Present*
Employer: *The Dow Chemical Company*
Department: *EH&S Leveraged Delivery*
Description: *Stack Testing Team Coordinator*

Date: *January 1997 - December 1998*
Employer: *The Dow Chemical Company*
Department: *Magnesium Environmental*
Description: Magnesium Metals, *Environmental, Demolition and Abatement Coordinator*

Date: *June 1995 - January 1998*
Employer: *The Dow Chemical Company*
Department: *Magnesium Environmental*
Description: *Magnesium Maintenance, Demolition and Abatement Coordinator*

Date: *January 1988- June 1995*
Employer: *The Dow Chemical Company*
Department: *Mag Chloride Operations*
Description: *Plant operations, Shutdown operator and lab analysis*

TRAINING

Engineering Foundation Conference - April 1999
Engineering Foundation Conference - April 2000
RCRA and Advanced RCRA Training
Environmental Awareness Training
TSCA and Advanced TSCA training
Safe Working Styles
Waste Characterization Training
SARA and AEI Emissions Calculations and Reporting Training
Advanced Chemical Operator Training- 1989
Advanced Lab Operator Training- 1991
Visible Emissions Evaluators Course (Opacity) - 9/98, certified for EPA Methods 9 & 22 - given by TNRCC.

PROFESSIONAL ASSOCIATIONS

FAA -(Federal Aviation Administration) licensed A&P Technician 1984-present
SES (Source Evaluation Society) 99-present

RESUME OF PERSONNEL

NAME *Michael Jason Hicks* **DATE** *April 4, 2012*
COMPANY *The Dow Chemical Company*
JOB TITLE *Environmental Technician*
GROUP *Environmental Analytical Chemistry* **BUILDING** *B-2009*

ACADEMIC BACKGROUND

School: *San Jacinto College*
Degree: *Assoc. of Applied Sciences*
Major: *Environmental Science*
Year Completed: *2005*

PROFESSIONAL EXPERIENCE

Date: *November 2010-Present*
Employer: *The DOW Chemical Company*
Department: *Stack Testing Team*
Description: *Boiler and furnace stack sampling, ensuring compliance with state and federal regulations.*

Date: *September 2007- November 2010*
Employer: *Golden Specialty – Deer Park, TX*
Department: *Stack-Houston*
Description: *Boiler and furnace stack sampling, ensuring compliance with state and federal regulations.*

TRAINING

Visible Emissions Evaluators Course (Opacity) - Current certification for EPA Methods 9 & 22

RESUME OF PERSONNEL

NAME	*Jeremy R Carlock*	**DATE**	*April 4, 2012*
JOB TITLE	*Environmental Technician*		
GROUP	*Texas Environmental Analytical Laboratory*	**BUILDING**	*B-2009*

ACADEMIC BACKGROUND

School: *Columbia Southern University*
Major: *Occupational Safety and Health*
Years Attended: *2010 – Present*

School: *Lousiana State University*
Major: *Fire Science*
Years Attended: *2004 - 2009*

PROFESSIONAL EXPERIENCE

Date: *August 2011 – Present*
Employer: *The Dow Chemical Company*
Department: *Environmental Services*
Description: *Stack and vent sampling and analysis; reporting.*

Date: *August 2008 – August 2011*
Employer: *Turner Industries*
Department: *Logistics / Operations*
Description: *Plant Operations, Distribution, and Maintenance*

Date: *August 2003 – December 2007*
Employer: *Oak Hill Fire / Rescue*
Department: *Station #1*
Description: *Fire Protection and Emergency Services*

RESUME OF PERSONNEL

NAME	*Morgan L. Laird*	**DATE**	*April 4, 2012*
JOB TITLE	*Environmental Technician*		
GROUP	*Analytical Sciences / EH & S Support*	**BUILDING**	*B-2009*

ACADEMIC BACKGROUND

School: *Brazosport College*
Degree: *45 hours*
Major: *Chemical Technology*
Year Completed:

School: *Brazosport College*
Degree: *Associate of Applied Science*
Major: *Criminal Justice*
Year Completed: *1988*

PROFESSIONAL EXPERIENCE

Date: *April 2002 - Present*
Employer: *The Dow Chemical Company, Freeport, Texas*
Department: *Environmental Services*
Description: *Boiler and furnace stack sampling, cooling tower emissions, ensuring compliance with state and federal regulations.*

Date: *July 2000 – May 2002*
Employer: *The Dow Chemical Company, Freeport, Texas*
Department: *Texas Terminal, Marine Dept.*
Description: *Blending high temp. cooling fluids, Operator on Automated Drum Filler*

TRAINING

Walter Smith & Associates, Inc Source Sampling Workshop – August, 2002
Visible Emissions Evaluation – Certified in EPA Methods 9 & 22, Feb. 2003 through present

From: Carolyn Maus
Sent: Tuesday, February 10, 2026 9:49 AM
To: Schmidt, Crystal (C)
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Thanks for these, Crystal. I will look out for the PM information later in the week.

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



How are we doing? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

---

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Monday, February 9, 2026 7:57 PM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

Please see our attached response and let me know if you have any questions. I'm still working with the specialists to get you the justification for the new PM limits. I will have it to you by the end of the week. Thanks!

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Monday, February 9, 2026 7:57 PM
To: Carolyn Maus
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: 2026-02-09_NOD_Response_O2221.pdf

Carolyn,

Please see our attached response and let me know if you have any questions. I'm still working with the specialists to get you the justification for the new PM limits. I will have it to you by the end of the week. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Wednesday, February 4, 2026 3:02 PM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi again,

I meant to add in my response to your PM question – your response pdf from yesterday just has the confirmation that Dow has no further comments on the WDP. The information for items 2 ,6, and 8 (updated OP-PBRSUP, OP-REQ1 pages, PM justification) was not part of

February 9, 2026

E-MAIL RESPONSE
Texas Commission on Environmental Quality
ATTN: Ms. Carolyn Maus
Air Permits Division, MC-163
P.O. Box 13087
Austin, TX 78711-3087

The Dow Chemical Company, CN600356976
Hydrocarbons, RN100225945
Title V Operating Permit NOD & WDP Response for Specialty Chemicals 2, O2221
TCEQ Project Number: 38056

Dear Ms. Maus,

The Dow Chemical Company (Dow) is providing a response to the Notice of Deficiency (NOD) items and providing comments on the Working Draft Permit (WDP) provided on January 22, 2026.

Please do not hesitate to contact me at (979) 238-1742 or cschmidt6@dow.com if you require additional information regarding this submittal.

Sincerely,

Crystal Schmidt

Crystal Schmidt
Air Permit Manager

enclosure

cc:

US EPA Region 6	R6AirPermitsTX@epa.gov
TCEQ Air Section Manager, Region 12	R12apdmail@tceq.texas.gov
Brazoria County Health Department	jodiev@brazoria-county.com

Additional Information Request

Item 1	Added PBR 106.478 to B13PGST506 based on OP-SUMR correction. Table B of the OP-PBRSUP still needs to be corrected to include this since it only lists 106.472 right now. Please submit another updated OP-PBRSUP (re-dated with all four tables).
Item 1 Response	**Please see the attached OP-PBRSUP for more information.**
Item 2	Removed MACT DD term. (Was ST&C 10 before.) The comment mentioned that pages 50 and 51 of OP-REQ1 had been updated for this change, but I didn't see them in your response packet. Please send those pages so I can update our records.
Item 2 Response	**Please see the attached OP-REQ1 (Pages 50 and 51 only) for more information.**
Item 3	Updated Chapter 115 periodic monitoring deviation limits for B13SCPOLY and B17SV384. Please let me know how the new values were determined (e.g. if through testing, provide relevant excerpt from test data; if through calculations, provide those; etc.).
Item 3 Response	**Dow will provide this information no later than February 13, 2026.**

Working Draft Permit Comments

Dow has no further comments on this Working Draft Permit.

Date	Permit No.	Regulated Entity No.
February 9, 2026	O2221	RN100225945

For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
N. Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (continued)		
Applicability (continued)		
9.	The application area includes Group 1 or Group 2 wastewater streams that are complying with 40 CFR § 63.640(o)(2)(ii). *If the response to Question VIII.N.9 is "No," go to Question VIII.N.13.*	☐ Yes ☐ No
10.	The application area includes Group 2 wastewater streams or organic streams whose benzene emissions are subject to control through the use of one or more treatment processes or waste management units under the provisions of 40 CFR Part 61, Subpart FF on or after December 31, 1992.	☐ Yes ☐ No
Containers, Drains, and other Appurtenances		
11.	The application area includes containers that are subject to the requirements of 40 CFR § 63.135 as a result of complying with 40 CFR § 63.640(o)(2)(ii).	☐ Yes ☐ No
12.	The application area includes individual drain systems that are subject to the requirements of 40 CFR § 63.136 as a result of complying with 40 CFR § 63.640(o)(2)(ii).	☐ Yes ☐ No
13.	The application area includes Group 1 gasoline loading racks as specified in § 63.650(a).	☐ Yes ☐ No
O. Subpart DD - National Emission Standards for Off-site Waste and Recovery Operations		
1.	The application area receives material that meets the criteria for off-site material as specified in 40 CFR § 63.680(b)(1). *If the response to Question VIII.O.1 is "No" or "N/A," go to Section VIII.P*	☐ Yes ☒ ***No*** ☐ N/A ☒ ~~Yes~~ ☐ ~~No~~ ☐ ~~N/A~~
2.	Materials specified in 40 CFR § 63.680(b)(2) are received at the application area.	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
3.	The application area has a waste management operation receiving off-site material and is regulated under 40 CFR Part 264 or Part 265.	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 51)
Federal Operating Permit Program
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
February 9, 2026	O2221	RN100225945

For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
O. Subpart DD - National Emission Standards for Off-site Waste and Recovery Operations (continued)		
4.	The application area has a waste management operation treating wastewater which is an off-site material and is exempted under 40 CFR §§ 264.1(g)(6) or 265.1(c)(10).	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
5.	The application area has an operation subject to Clean Water Act, § 402 or § 307(b) but is not owned by a "state" or "municipality."	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
6.	The predominant activity in the application area is the treatment of wastewater received from off-site.	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
7.	The application area has a recovery operation that recycles or reprocesses hazardous waste which is an off-site material and is exempted under 40 CFR §§ 264.1(g)(2) or 265.1(c)(6).	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
8.	The application area has a recovery operation that recycles or reprocesses used solvent which is an off-site material and is not part of a chemical, petroleum, or other manufacturing process that is required to use air emission controls by another subpart of 40 CFR Part 63 or Part 61.	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
9.	The application area has a recovery operation that re-refines or reprocesses used oil which is an off-site material and is regulated under 40 CFR Part 279, Subpart F (Standards for Used Oil Processors and Refiners).	☐ Yes ☐ No ☐ ~~Yes~~ ☒ ~~No~~
10.	The application area is located at a site where the total annual quantity of HAPs in the off-site material is less than 1 megagram per year. *If the response to Question VIII.O.10 is "Yes," go to Section VIII.P.*	☐ Yes ☐ No ☒ ~~Yes~~ ☐ ~~No~~

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B17PEFU01	157525	106.262	7/12/2019
B13PGFU1	123137	106.262	9/15/2014
B13OL601 B13BH601	124588	106.262	11/24/2014
B13PGFU1	134008	106.262	8/21/2015
B13WJMA01	144226	106.262	12/15/2016 5/22/2018
B13SCPOLY B13PGST662 B13PGST670 B13PGST243 B13PGRX1	152066	106.262	7/11/2018
B13PGFU1	152733	106.261 106.262	8/16/2018
B13PGFU1	153856	106.261 106.262	11/5/2018
B13PGFU1 B43IPFU1	156462	106.262	5/17/2019
B13PGFU1 B13PTD2T	157242	106.262	8/6/2019 9/28/2020
B13PGFU1	158135	106.261 106.262	9/10/2019

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.		Registration No.	PBR No.	Registration Date
B43IPST130		159782	106.261 106.262	02/20/2020
B43IPFU1		160340	106.262	03/27/2020
B13PGML43 B13PGFAP67 B13PGFAP26		160643	106.262	05/14/2020
B13PGST202 B13PGST205		162153	106.261 106.262	08/25/2020
B13PGSP22		164720	106.261	05/11/2021
B13PGST226 B13PGST256		165980	106.262	08/24/2021
B39GMFU1		106612	106.261 106.262	01/17/2013
B39GMFU1		115993	106.261 106.262	03/05/2014
B39GMFU1		121638	106.262	08/04/2014
B39GMFU1 B39GMLR2 B39GMST264 B39GMST70A B39GMST70B	B39GMST75A B39GMST75B B39GMST801 B39GMVH290 B39GMWT257	123961	106.261 106.262	10/31/2014
B39GMFU1		151705	106.262	05/21/2018

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B39GMFU1 B39GMFU3	153454	106.261 106.262	10/26/2018
B39GMFU1 B39GMVH290	156122	106.262	4/16/2019
B39GMFU1	156047	106.261 106.262	4/25/2019
B39GMFU1	160836	106.262	4/21/2020
B39GMFU1	161122	106.261 106.262	5/13/2020
B39GMFU1	163567	106.262	1/2/2021
B39GMFU3	149152	106.262	12/13/2017
B39GMST801	152933	106.262	8/16/2018
B13PGST222	168074	106.262	4/18/2022
B39GMFU1	164874	106.262	5/27/2021
B39GMFU1	175271	106.261 106.262	2/2/2024
B17PEFU01	169380	106.262	6/17/2022

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	168130	106.262	03/25/2022
B17PEFU01 B17PELR1	177535	106.261 106.262	10/8/2024
B43IPFU1 B43IPLR1 B43IPST114	179150	106.262	03/12/2025

Permit By Rule Supplemental Table
Table B: Claimed (not registered) Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date
PROGMA PROIPG PROPGA PROPGE	106.263	11/1/2001
B13PGST226	106.472	09/04/2000
B43IPST117	106.478	09/04/2000
B13PGST670	106.478	09/04/2000
B13PGST506	106.472 ***106.478***	09/04/2000 ***09/04/2000***
B13PGST508	106.472 106.478	09/04/2000 09/04/2000
B13PGFU1	106.373	09/04/2000
B43IPST170	106.478	09/04/2000
B43IPST171	106.478	09/04/2000
B13PGST205	106.264	09/04/2000

Permit By Rule Supplemental Table
Table C: Claimed (not registered) Permits by Rule (30 TAC Chapter 106) for Insignificant Sources for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

PBR No.	Version No./Date
N/A	N/A

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B17PEFU01	106.262	157525	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017)
B13PGFU1	106.262	123137	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13OL601 B13BH601	106.262	124588	Maintain records of loading rack annual throughput.
B13PGFU1	106.262	134008	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13WJMA01	106.262	144226	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13SCPOLY B13PGST662 B13PGST670 B13PGST243 B13PGRX1	106.262	152066	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	152733	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	153856	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGFU1 B43IPFU1	106.262	156462	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1 B13PTD2T	106.262	157242	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	158135	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B43IPST130	106.261 106.262	159782	Maintain records of tank service and annual throughput.
B43IPFU1	106.262	160340	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B13PGML43 B13PGFAP67 B13PGFAP26	106.262	160643	Maintain records of loading rack annual throughput.
B13PGST202 B13PGST205	106.261 106.262	162153	Maintain records of tank service and annual throughput.
B13PGSP22	106.261	164720	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B13PGST226 B13PGST256	106.262	165980	Maintain records of tank service and annual throughput.
B39GMFU1	106.261 106.262	106612	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.		PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B39GMFU1		106.261 106.262	115993	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1		106.262	121638	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMLR2 B39GMST264 B39GMST70A B39GMST70B	B39GMST75A B39GMST75B B39GMST801 B39GMVH290 B39GMWT257	106.261 106.262	123961	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023). Maintain records of tank service and annual throughput. Maintain records of loading rack annual throughput.
B39GMFU1		106.262	151705	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMFU3		106.261 106.262	153454	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMVH290		106.262	156122	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1		106.261 106.262	156047	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B39GMFU1	106.262	160836	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.261 106.262	161122	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.262	163567	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU3	106.262	149152	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMST801	106.262	152933	Maintain records of tank service and annual throughput.
PROGMA PROIPG PROPGA PROPGE	106.263	11/01/2001	Track emissions on a rolling 12-month basis.
B13PGST1226	106.472	09/04/2000	Maintain records of tank service and annual throughput.
B43IPST117	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST670	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST506 B13PGST508	106.472 106.478	09/04/2000	Maintain records of tank service and annual throughput.

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGFU1	106.373	09/04/2000	Maintain records of additions to refrigeration system.
B43IPST170	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B43IPST171	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST222	106.262	168074	***Tank will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput.*** ~~Maintain PBR Documentation~~
B39GMFU1	106.262	164874	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.261 106.262	175271	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B17PEFU01	106.262	169380	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017).

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
February 9, 2026	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	106.262	168130	Tanks will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput. Scrubber will continue to meet the requirements of NSR 18561 SC 22 (permit issue date 9/10/2019). Maintain records of magsil addition. Maintain records of filter-aid addition
B17PEFU01 B17PELR1	106.261 106.262	177535	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017). Maintain records of annual throughput
B13PGST205	106.264	9/4/2000	Tank will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput.
B43IPFU1 B43IPLR1 B43IPST114	106.262	179150	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019). Loading Rack: Maintain records of annual throughput. Tank: Maintain records of tank service and annual throughput.

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Wednesday, February 4, 2026 9:08 PM
To: Carolyn Maus
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Wow, I'm so sorry. I just missed it. I will get those answers to you as soon as possible.

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Wednesday, February 4, 2026 3:02 PM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi again,

I meant to add in my response to your PM question – your response pdf from yesterday just has the confirmation that Dow has no further comments on the WDP. The information for items 2 ,6, and 8 (updated OP-PBRSUP, OP-REQ1 pages, PM justification) was not part of that packet. I wasn't sure if those were accidentally omitted or if you were still working on those items. If they are not ready yet, please submit by **Monday, February 9, 2026**.

Thanks!

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



How are we doing? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

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From: Carolyn Maus
Sent: Tuesday, February 3, 2026 3:25 PM
To: 'Schmidt, Crystal (C)' <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Hi Crystal,

Since the periodic monitoring for B13SCPOLY and B17SV384 is for the limits In Chapter 115, the deviation limits do not have to match the values established in your NSR permits. This is as long as you can provide supporting justification for the new values. For example, if the new minimum flow rate of 480 gallons per hour for B17SV384's absorber was based on performance testing, then the supporting justification would be that performance test. Where we would run into an issue with NSR not being updated yet is if the justification was only based on that being the NSR permit value, or if the monitoring was being added for compliance with the NSR permit limits (which we typically wouldn't do anyway).

Therefore, as long as you can let me know how those new values were determined and that operating the control devices in that way would not exceed the Chapter 115 limits, the NSR update is separate from the periodic monitoring update. Of course, if you prefer to wait until NSR is updated, then we can also revert the Chapter 115 deviation limits back to their original values. In that case, you could come in later with a separate Title V revision application once NSR permits were updated.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204

Fax: (512) 239-1400

How are we doing? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

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From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Tuesday, February 3, 2026 3:05 PM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

I apologize I didn't send this yesterday. Please see our attached response.

I do have one question about the periodic monitoring that we updated in the last response. The NSR permits have not been issued with the updated values. Can we still change them in the Title V, or do we have to wait?

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Tuesday, February 3, 2026 3:05 PM
To: Carolyn Maus
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: 2026-02-03_WDP_Response_O2221.pdf

Carolyn,

I apologize I didn't send this yesterday. Please see our attached response.

I do have one question about the periodic monitoring that we updated in the last response. The NSR permits have not been issued with the updated values. Can we still change them in the Title V, or do we have to wait?

Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Thursday, January 22, 2026 8:00 AM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Crystal,

February 3, 2026

E-MAIL RESPONSE
Texas Commission on Environmental Quality
ATTN: Ms. Carolyn Maus
Air Permits Division, MC-163
P.O. Box 13087
Austin, TX 78711-3087

The Dow Chemical Company, CN600356976
Hydrocarbons, RN100225945
Title V Operating Permit NOD & WDP Response for Specialty Chemicals 2, O2221
TCEQ Project Number: 38056

Dear Ms. Maus,

The Dow Chemical Company (Dow) is providing comments on the Working Draft Permit (WDP) provided on January 22, 2026.

Please do not hesitate to contact me at (979) 238-1742 or cschmidt6@dow.com if you require additional information regarding this submittal.

Sincerely,

Crystal Schmidt

Crystal Schmidt
Air Permit Manager

enclosure

cc:

US EPA Region 6	R6AirPermitsTX@epa.gov
TCEQ Air Section Manager, Region 12	R12apdmail@tceq.texas.gov
Brazoria County Health Department	jodiev@brazoria-county.com

Working Draft Permit Comments

Dow has no further comments on this Working Draft Permit.

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Thursday, January 22, 2026 8:00 AM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Hi Crystal,

Happy 2026! I have attached a revised WDP. I believe I have made all changes based on your answers to my questions and from your additional requests. Below is a list of changes to the permit. The list begins with items related to your responses (in order from response document) and then ends with your additional comments. Items 2, 6, and 8 include a follow-up question.

1) Removed PBR 106.452 from permit.
2) Added PBR 106.478 to B13PGST506 based on OP-SUMR correction. Table B of the OP-PBRSUP still needs to be corrected to include this since it only lists 106.472 right now. Please submit another updated OP-PBRSUP (re-dated with all four tables).
3) Updated ST&C 18 (previously ST&C 19) with date from latest OP-PBRSUP.
4) Updated MACT EEEE permit shield for B39GMLR1.
5) Removed NSPS K and Ka permit shields for tanks that have NSPS Kb shields.
6) Removed MACT DD term. (Was ST&C 10 before.) The comment mentioned that pages 50 and 51 of OP-REQ1 had been updated for this change, but I didn't see them in your response packet. Please send those pages so I can update our records.
7) Removed B13PGS955 from permit.
8) Updated Chapter 115 periodic monitoring deviation limits for B13SCPOLY and B17SV384. Please let me know how the new values were determined (e.g. if through testing, provide relevant excerpt from test data; if through calculations, provide those; etc.).

Please check over the updates to the WDP and provide a response to my questions, as well as any final comments, by **Monday, February 2, 2025**.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



How are we doing? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

From: Carolyn Maus
Sent: Thursday, November 20, 2025 12:47 PM
To: 'Schmidt, Crystal (C)'
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Thanks, Crystal! I will go through these items and prepare a revised WDP.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400


How are we doing? Fill out our online customer satisfaction survey at www.tceq.texas.gov/customersurvey

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From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Thursday, November 20, 2025 12:42 PM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

Please see our attached response and let me know if you have any questions. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Thursday, November 20, 2025 12:42 PM
To: Carolyn Maus
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: 2025-11-20_NOD_WDP_Response_O2221.pdf

Carolyn,

Please see our attached response and let me know if you have any questions. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Wednesday, November 12, 2025 10:17 AM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

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Hi Crystal,

Since these are just corrections for items already submitted, you can make the updates on the Word format. Thanks for checking.

Sincerely,

November 20, 2025

E-MAIL RESPONSE
Texas Commission on Environmental Quality
ATTN: Ms. Carolyn Maus
Air Permits Division, MC-163
P.O. Box 13087
Austin, TX 78711-3087

The Dow Chemical Company, CN600356976
Hydrocarbons, RN100225945
Title V Operating Permit NOD & WDP Response for Specialty Chemicals 2, O2221
TCEQ Project Number: 38056

Dear Ms. Maus,

The Dow Chemical Company (Dow) is providing a response to the Notice of Deficiency (NOD) items and providing comments on the Working Draft Permit (WDP) provided on November 1, 2025. Dow is also requesting several revisions with this submittal. Please see the attached Form OP-2 for more information.

Please do not hesitate to contact me at (979) 238-1742 or cschmidt6@dow.com if you require additional information regarding this submittal.

Sincerely,

Crystal Schmidt

Crystal Schmidt
Air Permit Manager

enclosure

cc:

US EPA Region 6	R6AirPermitsTX@epa.gov
TCEQ Air Section Manager, Region 12	R12apdmail@tceq.texas.gov
Brazoria County Health Department	jodiev@brazoria-county.com

Additional Information Request

Item 1	OP-REQ1: Please submit corrected pages to address the items below or answer my questions. • Can you remind me what alternative requirements are being referred to by Questions XI.D.1-2 (which are answered Yes)? I just want to be sure I have everything listed correctly in the permit that needs to be there. **The alternative requirement that needs to be included is AMOC 226 (regarding the 40 CFR Part 63, Subpart PPP and 40 CFR Part 63, Subpart H reporting periods).** • Both standard permits (145335 and 180973) are the non-rule version of the Pollution Control Project standard permit. Please correct XII.B.2 (regarding 116.617 version) to "No". **Please see the attached Form OP-REQ1 (Page 86 only) for more information.**
Item 2	OP-SUMR/OP-PBRSUP: • Table D of the OP-PBRSUP has a typo in the row for 106.263 for PROGMA, PROIPG, PROPGA, and PROPGE. It has the version dated 11/01/2003 instead of 11/01/2001. Please correct. (Table B is already correct.) **Please see the attached Form OP-PBRSUP for more information.** • On Table D, for the row for 106.452 for PROGMA, PROIPG, PROPGA, and PROPGE, I have some questions about the Monitoring Requirement column. It states, "Confirm annually that grit blasters utilize appropriate fabric filters." I think more detail is needed here. What will be looked at to make this determination – are there emission calculations that show using the appropriate filter will result in compliance with 106.452 and 106.4, and do operating hours play a role? Are there other records from throughout the year that are being checked as part of this determination? Please clarify this information. **Please remove PBR 106.452 from this Title V Permit. This plant does not perform any dry abrasive cleaning. Please see the attached Forms OP-SUMR, OP-REQ1 (Page 89 only), and OP-PBRSUP for more information.** • On Table D, the row for B13PGST222 for 106.262 says "Maintain PBR documentation" in the Monitoring Requirement column. This is not quite specific enough to indicate what is being monitored and/or recorded in order to satisfy periodic monitoring for compliance with the PBR and 106.4 general limits. Please add more detail to this statement. **Please see the attached Form OP-PBRSUP for more information.** • On Table D, the row for B13PGST205 for 106.264 says "Confirm annually that emissions do not exceed 25 tons per year of any air contaminant" in the Monitoring Requirement column. This statement is fine since I know this relates to the limits in 106.4 and 106.264 has no limits of its own. However, please add a little more detail. What data is being used to make this annual confirmation? Are emissions calculated based on some recorded/monitored parameter, or based on operating hours, etc.? **Please see the attached Form OP-PBRSUP for more information.** • For units B13PGST201, B13PGST203, and B13PGST244, the effective permit included multiple PBRs (in addition to permit 18561) as authorizations. I removed them since OP-PBRSUP and OP-SUMR did not include but wanted to check since it wasn't mentioned as a change. **This is correct. B13PGST201, B13PGST203, and B13PGST244 are authorized by NSR 18561 only.** • Unit B13PGST241 was in the effective permit, and it was not requested to be removed, so it is still present. However, since it was not listed on the OP-SUMR, I just wanted to check if you meant to request removal. **We do not want to remove this unit. It was just inadvertently omitted from the OP-SUMR in the renewal application.** • The OP-SUMR and Table B of the OP-PBRSUP shows B13PGST506 using 106.472. Table D of the OP-PBRSUP list both 106.472 and 106.478 for this unit. Please correct whichever form is wrong. **Please see the attached Form OP-SUMR for more information.**

Additional Information Request (cont.)

Item 2 (cont.)	• Table B of the OP-PBRSUP shows B13PGST508 using 106.478. The OP-SUMR, the effective permit, and Table D of the OP-PBRSUP list both 106.472 and 106.478 for this unit. Please correct whichever form is wrong. **Please see the attached Form OP-PBRSUP for more information.** • When you correct the OP-PBRSUP, please re-submit all four tables as a set and re-date them, even if a particular table is not changing. There is a permit term that will reference that submittal date so it needs to be the same for all pages. **All four tables on the Form OP-PBRSUP have been submitted in the NOD/WDP response.**
Item 3	UA-12: For B13PGFU1, SOP Index No. was listed on Table 4a (for NSPS VV) as R5352-ALL. I kept your existing 60VV-ALL. Please confirm by correcting form. **Please see the attached Form OP-UA12/Table 4a for more information.**
Item 4	UA-15: For B17SV384, Table 6b for MACT G listed "ABS" for "Control Device". There are two sets of answer choices for this question in the form instructions. ABS is part of the list for units complying with 63.113(a)(1) or 63.113(a)(2). Based on the other attributes for this vent, it is Group 2 vent that is not electing to comply with Group 1 requirements, and it ends up complying with 63.113(d). Therefore, it has to choose a code from the second set of answer choices. I believe it should be "ABSRCV". Please review and submit a corrected page. **Please see the attached Form OP-UA15/Table 6b for more information.**
Item 5	MACT GGGGG: We now have completed our rule analysis and have developed unit attribute forms for this rule. We have unit attribute forms for process vents, tanks, surface impoundments, oil/organic-water separators, transfer systems (other than individual drain systems), equipment leaks (fugitive emissions), closed vent systems and control devices used to control emissions from containers and closed vent systems and control devices used to control emissions from individual drain systems. Please confirm that you do not need any unit-specific information and that the only requirements you need are in the Special Terms and Conditions. **We do not need to add any unit-specific information regarding 40 CFR Part 63, Subpart GGGGG (Site Remediation MACT).**
Item 6	OP-REQ2: Please address the following issues by updating the OP-REQ2. • For the existing NSPS VV shields for B17PEFU01 and B17PGFU2 (based on overlap with MACT H), the citation listed is 60.489. This is not the citation that addresses the rule overlap – those citations are located in MACT H. I believe the correct citation is 63.160(b)(1), but please confirm and update the form. **Please see the attached Form OP-REQ2 for more information.** • For the MACT FFFF shields for surge control vessels, I have adjusted the wording for the shield reasons as "Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank." This is because 63.2450(r) would require them to comply with Group 1 tank requirements if they *did* meet those thresholds. Some shields are already similar to this, but others just state the units are surge control vessels. If my revised wording would be an accurate statement for all of them, then please update the OP-REQ2 to confirm. Or, if some would have a different reason, please provide that. **Please see the attached Form OP-REQ2 for more information.** • For the MACT EEEE shield for B39GMLR1, the citation 63.2396(e)(2) and reason "MACT EEEE is superseded by MACT FFFF" was listed. I do not believe that is a complete negative applicability reason – that citation is limited to recordkeeping and reporting and how the other rule's requirements may satisfy MACT EEEE for those categories. It still has to be reported in the MACT EEEE notification of compliance status, and this provision isn't for the transfer rack itself but for the equipment leak components. However, 63.2338(c)(1) might be a better choice – that states that if the unit is part of the affected source under another Part 63 subpart, it is excluded from the affected source under MACT EEEE. Please revise this permit shield request as needed. **Please see the attached Form OP-REQ2 for more information.**

Additional Information Request (cont.)

Item 6 (cont.)	• Over the past several years we have worked to streamline our permit shield sections to focus on rules that are truly potentially applicable. This reduces review time for permit reviewers and applicants and also makes the permit more readable. For tanks, since NSPS K, Ka, and Kb applicability is distinguished by construction/reconstruction/modification date, it is only necessary to address the rule that corresponds to the age of the tank. If it is acceptable to do this, please update the OP-REQ2 for all tanks that currently have all three shields (or two of three) to just include the one rule that is needed. I will then update the permit. **Please see the attached Form OP-REQ2 for more information.**

Working Draft Permit Comments

Special Terms & Conditions (ST&C)

1. Please remove ST&C 10, regarding 40 CFR Part 63, Subpart DD applicability. Please see Form OP-REQ1 (Pages 50 and 51) for more information.

Federal Operating Permit Program
Form OP-2 – Application for Permit Revision/Renewal
Table 2

Date: **November 20, 2025**
Permit No.: **O2221**
Regulated Entity No.: **RN100225945**
Company Name: **The Dow Chemical Company**

Using the table below, provide a description of the revision.

Revision No.	Revision Code	New Unit	Unit/Group ID No. / Process Applicable Form		NSR Authorization	Description of Change and Provisional Terms and Conditions
			Unit/Group ID No.	**Process Applicable Form**		
1	MS-C	NO	B13PGS995	OP-SUMR	N/A	Please remove this unit from the entire Title V Permit. This unit no longer exists.
2	MS-C	NO	B13SCPOLY B17SV384	OP-MON	N/A	Please update the Periodic Monitoring Summary "Deviation Limit" for the listed units.

Federal Operating Permit Program
Individual Unit Summary for Revisions
Form OP-SUMR – Table 1

Date	Permit No.	Regulated Entity No.
November 20, 2025	O2221	RN100225945

Unit/ Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/ Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
D	1	~~B13PGS955~~	~~OP-UA15~~	~~PGA REACTOR SYS 4 STRIPPER PROCESS VENT~~		~~18561~~	
		B13PGST506	OP-UA3	D-506 STORAGE TANK		106.472/09/04/2000 ***106.478/09/04/2000***	
	2	B13SCPOLY	OP-UA15	VENT PIPE HEADER BEFORE B13SV3 SCRUBBER		18561 106.262/11/01/2003 [152066]	
	2	B17SV384	OP-UA15	PROCESS SCRUBBER T-384		75751	
		PROGMA	OP-UA57 OP-UA60	PROCESS UNIT FOR GMA		104144 106.263/11/01/2001 ~~106.452/09/04/2000~~	
		PROIPG	OP-UA57	IPG PROCESS UNIT		104144 106.263/11/01/2001 ~~106.452/09/04/2000~~	
		PROPGA	OP-UA57 OP-UA60	PGA PROCESS UNIT		104144 106.263/11/01/2001 ~~106.452/09/04/2000~~	
		PROPGE	OP-UA57 OP-UA60	PGE PROCESS UNIT		104144 106.263/11/01/2001 ~~106.452/09/04/2000~~	

Fugitive Emission Unit Attributes
Form OP-UA12 (Page 32)
Federal Operating Permit Program

Table 4a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)
Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
November 20, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	Produces Chemicals	Affected Facility	Construction/ Modification Date	Compliance Option	Design Capacity	Produces Heavy Liquid Chemicals	Beverage Alcohol Production
B13PGFU1	***60VV-ALL*** ~~R5352-ALL~~							

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
Form OP-UA15 (Page 14)
Federal Operating Permit Program

Table 6b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart G: National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
November 20, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Control Device	Control Device ID No.	Halogenated	TRE for Halogenated Vent Stream	Halogen Reduction Device	Installation Date	Performance Test
B17SV384	63G-01	***ABSRCV*** ~~ABS~~	B17SV384	NO				NO

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 86)
Federal Operating Permit Program
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
November 20, 2025	O2221	RN100225945

For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

XII. New Source Review (NSR) Authorizations (continued)			
B. Air Quality Standard Permits			
♦	1.	The application area includes at least one Air Quality Standard Permit NSR authorization. *If the response to XII.B.1 is "No," go to Section XII.C. If the response to XII.B.1 is "Yes," be sure to include the standard permit's registration numbers in Section XII.H and answer XII.B.2 - B.16 as appropriate.*	☒ Yes ☐ No
♦	2.	The application area includes at least one "State Pollution Control Project" Air Quality Standard Permit NSR authorization under 30 TAC § 116.617.	☐ Yes ☒ ***No*** ☒ ~~Yes~~ ☐ ~~No~~
♦	3.	The application area includes at least one non-rule Air Quality Standard Permit for Pollution Control Projects NSR authorization.	☒ Yes ☐ No
♦	4.	The application area includes at least one "Installation and/or Modification of Oil and Gas Facilities" Air Quality Standard Permit NSR authorization under 30 TAC § 116.620.	☐ Yes ☒ No
♦	5.	The application area includes at least one non-rule Air Quality Standard Permit for Oil and Gas Handling and Production Facilities NSR authorization.	☐ Yes ☒ No
♦	6.	The application area includes at least one "Municipal Solid Waste Landfill" Air Quality Standard Permit NSR authorization under 30 TAC § 116.621.	☐ Yes ☒ No
♦	7.	The application area includes at least one "Municipal Solid Waste Landfill Facilities and Transfer Stations" Standard Permit authorization under 30 TAC Chapter 330, Subchapter U.	☐ Yes ☒ No
	8.	The application area includes at least one "Concrete Batch Plant" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
	9.	The application area includes at least one "Concrete Batch Plant with Enhanced Controls" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
	10.	The application area includes at least one "Hot Mix Asphalt Plant" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 89)
Federal Operating Permit Program
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
November 20, 2025	O2221	RN100225945

For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

XII. NSR Authorizations (continued) - (Attach additional sheets if necessary for sections XII.E-J.)

♦ **H. Title 30 TAC Chapter 116 Permits, Special Permits, Standard Permits, Other Authorizations (Other Than Permits By Rule, PSD Permits, NA Permits) for the Application Area**

Authorization No.	Issuance Date	Authorization No.	Issuance Date	Authorization No.	Issuance Date
18561	09/10/2019				
75751	01/17/2017				
104144	02/08/2023				
145335	03/28/2017				

♦ **I. Permits by Rule (30 TAC Chapter 106) for the Application Area**

A list of selected Permits by Rule (previously referred to as standard exemptions) that are required to be listed in the FOP application is available in the instructions.

PBR No.	Version No./Date	PBR No.	Version No./Date	PBR No.	Version No./Date
106.261	11/01/2003				
106.262	11/01/2003				
106.263	11/01/2001				
106.264	09/04/2000				
106.373	09/04/2000				
~~106.452~~	~~09/04/2000~~				
106.472	09/04/2000				
106.478	09/04/2000				

♦ **J. Municipal Solid Waste and Industrial Hazardous Waste Permits with an Air Addendum**

Permit No.	Issuance Date	Permit No.	Issuance Date	Permit No.	Issuance Date

Form OP-REQ2
Negative Applicable/Superseded Requirement Determinations
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B13PGST001~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST001~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST003~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST003~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST004~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST004~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST01~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST01~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST16C~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST16C~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST16D~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST16D~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST19~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST19~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

Form OP-REQ2
Negative Applicable/Superseded Requirement Determinations
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B13PGST203~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST203~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST204~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST204~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST21~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST21~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST216~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST216~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST217~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST217~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST22~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST22~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
		B13PGST222	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~

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April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B13PGST223~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST223~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
		B13PGST223	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
		B13PGST224	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
		B13PGST225	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
		B13PGST226	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
D		~~B13PGST228~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST228~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST229~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST229~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B13PGST23~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST23~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST240~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST240~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST241~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST241~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
		B13PGST242	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
		B13PGST243	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
		B13PGST244	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
D		~~B13PGST245~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST245~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST246~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST246~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST253~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST253~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST254~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST254~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST256~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST256~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST26~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST26~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST260~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST260~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST261~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST261~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST262~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST262~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST265~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST265~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST266~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST266~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST268~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST268~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST269~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST269~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST27~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST27~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST28~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST28~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST3~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST3~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST306~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST306~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST308~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST308~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST309~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST309~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGST40~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST40~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST41~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST41~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST44~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST44~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST45~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST45~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST501~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST501~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST506~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST506~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST508~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST508~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST55~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST55~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST56~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST56~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST57~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST57~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST58~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST58~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST661~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST661~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
		B13PGST662	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Surge control vessel~~
D		~~B13PGST663~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST663~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST664~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST664~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST668~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST668~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST669~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST669~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST671~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST671~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST701~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST701~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST702~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST702~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST703~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST703~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST803~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST803~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST870~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST870~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGST871~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST871~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~

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D		~~B13PGST901~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity is<40,000 gallons~~
D		~~B13PGST901~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity is <40,000 gallons~~
D		~~B13PGSTT7A~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B13PGSTT7A~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
		B17PEFU01	OP-REQ2	40 CFR Part 60, Subpart VV	***63.160(b)(1)*** ~~60.489~~	Complies with MACT H in lieu of NSPS VV.
D		~~B17PEPT351~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEPT351~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEPT352~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEPT352~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST012~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids.~~
D		~~B17PEST012~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids.~~
D		~~B17PEST015~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids.~~
D		~~B17PEST015~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids.~~
D		~~B17PEST01A~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids.~~

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D		~~B17PEST01A~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids.~~
D		~~B17PEST364~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST364~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST365~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST365~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST371~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST371~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST372~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B17PEST372~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
		B17PGFU2	OP-REQ2	40 CFR Part 60, Subpart VV	***63.160(b)(1)*** ~~60.489~~	Complies with MACT H in lieu of NSPS VV.
		B39GMLR1	OP-UA04	40 CFR Part 63, Subpart EEEE	***63.2338(c)(1)*** ~~63.2396(e)(2)~~	***Transfer rack is a part of an affected source under another 40 CFR Part 63 Subpart*** ~~MACT EEEE is superseded by MACT FFFF~~
D		~~B39GMST264~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST264~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~

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April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B39GMST70A~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST70A~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST70B~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST70B~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST75A~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST75A~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST75B~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST75B~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST801~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST801~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST828~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMST828~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B39GMWT257~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids.~~
D		~~B39GMWT257~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids.~~

Form OP-REQ2
Negative Applicable/Superseded Requirement Determinations
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B39PT215	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Storage tank is a surge control vessel~~
		B39PT220	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Storage tank is a surge control vessel~~
		B39PT226	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Storage tank is a surge control vessel~~
		B39PT228	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Storage tank is a surge control vessel~~
		B39PT290	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Storage tank is a surge control vessel~~
		B39ST870	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	***Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank*** ~~Storage tank is a surge control vessel~~
D		~~B39ST285~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids.~~

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Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
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Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B39ST285~~	~~OP-UA03~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids.~~
D		~~B43IPST104~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST104~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST105~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST105~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST106~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST106~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST107~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST107~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST108~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST108~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST111~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST111~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST113~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~

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Date	Permit No.	Regulated Entity No.
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Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B43IPST113~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST114~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST114~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST117~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST117~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST121~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST121~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST122~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST122~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST123~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST123~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST127~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST127~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Storage capacity <40,000 gallons~~
D		~~B43IPST170~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~

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Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
D		~~B43IPST170~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST171~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart K~~	~~60.110(a)~~	~~Does not store petroleum liquids~~
D		~~B43IPST171~~	~~OP-REQ2~~	~~40 CFR Part 60, Subpart Ka~~	~~60.110a(a)~~	~~Does not store petroleum liquids~~

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B17PEFU01	157525	106.262	7/12/2019
B13PGFU1	123137	106.262	9/15/2014
B13OL601 B13BH601	124588	106.262	11/24/2014
B13PGFU1	134008	106.262	8/21/2015
B13WJMA01	144226	106.262	12/15/2016 5/22/2018
B13SCPOLY B13PGST662 B13PGST670 B13PGST243 B13PGRX1	152066	106.262	7/11/2018
B13PGFU1	152733	106.261 106.262	8/16/2018
B13PGFU1	153856	106.261 106.262	11/5/2018
B13PGFU1 B43IPFU1	156462	106.262	5/17/2019
B13PGFU1 B13PTD2T	157242	106.262	8/6/2019 9/28/2020
B13PGFU1	158135	106.261 106.262	9/10/2019

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.		Registration No.	PBR No.	Registration Date
B43IPST130		159782	106.261 106.262	02/20/2020
B43IPFU1		160340	106.262	03/27/2020
B13PGML43 B13PGFAP67 B13PGFAP26		160643	106.262	05/14/2020
B13PGST202 B13PGST205		162153	106.261 106.262	08/25/2020
B13PGSP22		164720	106.261	05/11/2021
B13PGST226 B13PGST256		165980	106.262	08/24/2021
B39GMFU1		106612	106.261 106.262	01/17/2013
B39GMFU1		115993	106.261 106.262	03/05/2014
B39GMFU1		121638	106.262	08/04/2014
B39GMFU1 B39GMLR2 B39GMST264 B39GMST70A B39GMST70B	B39GMST75A B39GMST75B B39GMST801 B39GMVH290 B39GMWT257	123961	106.261 106.262	10/31/2014
B39GMFU1		151705	106.262	05/21/2018

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B39GMFU1 B39GMFU3	153454	106.261 106.262	10/26/2018
B39GMFU1 B39GMVH290	156122	106.262	4/16/2019
B39GMFU1	156047	106.261 106.262	4/25/2019
B39GMFU1	160836	106.262	4/21/2020
B39GMFU1	161122	106.261 106.262	5/13/2020
B39GMFU1	163567	106.262	1/2/2021
B39GMFU3	149152	106.262	12/13/2017
B39GMST801	152933	106.262	8/16/2018
B13PGST222	168074	106.262	4/18/2022
B39GMFU1	164874	106.262	5/27/2021
B39GMFU1	175271	106.261 106.262	2/2/2024
B17PEFU01	169380	106.262	6/17/2022

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	168130	106.262	03/25/2022
B17PEFU01 B17PELR1	177535	106.261 106.262	10/8/2024
B43IPFU1 B43IPLR1 B43IPST114	179150	106.262	03/12/2025

Permit By Rule Supplemental Table
Table B: Claimed (not registered) Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date
PROGMA PROIPG PROPGA PROPGE	106.263	11/1/2001
~~PROGMA~~ ~~PROIPG~~ ~~PROPGA~~ ~~PROPGE~~	~~106.452~~	~~09/04/2000~~
B13PGST226	106.472	09/04/2000
B43IPST117	106.478	09/04/2000
B13PGST670	106.478	09/04/2000
B13PGST506	106.472	09/04/2000
B13PGST508	106.472 106.478	09/04/2000 09/04/2000
B13PGFU1	106.373	09/04/2000
B43IPST170	106.478	09/04/2000
B43IPST171	106.478	09/04/2000
B13PGST205	106.264	09/04/2000

Permit By Rule Supplemental Table
Table C: Claimed (not registered) Permits by Rule (30 TAC Chapter 106) for Insignificant Sources for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

PBR No.	Version No./Date
N/A	N/A

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B17PEFU01	106.262	157525	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017)
B13PGFU1	106.262	123137	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13OL601 B13BH601	106.262	124588	Maintain records of loading rack annual throughput.
B13PGFU1	106.262	134008	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13WJMA01	106.262	144226	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13SCPOLY B13PGST662 B13PGST670 B13PGST243 B13PGRX1	106.262	152066	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	152733	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	153856	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).

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Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
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Date	Permit Number	Regulated Entity Number
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Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGFU1 B43IPFU1	106.262	156462	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1 B13PTD2T	106.262	157242	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	158135	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B43IPST130	106.261 106.262	159782	Maintain records of tank service and annual throughput.
B43IPFU1	106.262	160340	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B13PGML43 B13PGFAP67 B13PGFAP26	106.262	160643	Maintain records of loading rack annual throughput.
B13PGST202 B13PGST205	106.261 106.262	162153	Maintain records of tank service and annual throughput.
B13PGSP22	106.261	164720	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B13PGST226 B13PGST256	106.262	165980	Maintain records of tank service and annual throughput.
B39GMFU1	106.261 106.262	106612	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).

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Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
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Date	Permit Number	Regulated Entity Number
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Unit ID No.		PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B39GMFU1		106.261 106.262	115993	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1		106.262	121638	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMLR2 B39GMST264 B39GMST70A B39GMST70B	B39GMST75A B39GMST75B B39GMST801 B39GMVH290 B39GMWT257	106.261 106.262	123961	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023). Maintain records of tank service and annual throughput. Maintain records of loading rack annual throughput.
B39GMFU1		106.262	151705	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMFU3		106.261 106.262	153454	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMVH290		106.262	156122	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1		106.261 106.262	156047	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).

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Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
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Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B39GMFU1	106.262	160836	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.261 106.262	161122	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.262	163567	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU3	106.262	149152	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMST801	106.262	152933	Maintain records of tank service and annual throughput.
PROGMA PROIPG PROPGA PROPGE	106.263	***11/01/2001*** ~~11/01/2003~~	Track emissions on a rolling 12-month basis.
~~PROGMA~~ ~~PROIPG~~ ~~PROPGA~~ ~~PROPGE~~	~~106.452~~	~~09/04/2000~~	~~Confirm annually that grit blasters utilize appropriate fabric filters.~~
B13PGST1226	106.472	09/04/2000	Maintain records of tank service and annual throughput.
B43IPST117	106.478	09/04/2000	Maintain records of tank service and annual throughput.

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Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
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Date	Permit Number	Regulated Entity Number
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Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGST670	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST506 B13PGST508	106.472 106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGFU1	106.373	09/04/2000	Maintain records of additions to refrigeration system.
B43IPST170	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B43IPST171	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST222	106.262	168074	***Tank will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput.*** ~~Maintain PBR Documentation~~
B39GMFU1	106.262	164874	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.261 106.262	175271	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B17PEFU01	106.262	169380	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017).

Permit By Rule Supplemental Table
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
November 20, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	106.262	168130	Tanks will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput. Scrubber will continue to meet the requirements of NSR 18561 SC 22 (permit issue date 9/10/2019). Maintain records of magsil addition. Maintain records of filter-aid addition
B17PEFU01 B17PELR1	106.261 106.262	177535	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017). Maintain records of annual throughput
B13PGST205	106.264	9/4/2000	***Tank will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput.*** ~~Confirm annually that emissions do not exceed 25 tons per year of any air contaminant.~~
B43IPFU1 B43IPLR1 B43IPST114	106.262	179150	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019). Loading Rack: Maintain records of annual throughput. Tank: Maintain records of tank service and annual throughput.

Texas Commission on Environmental Quality
Monitoring Requirements
Form OP-MON (Page 1)
Federal Operating Permit Program
Table 1a: CAM/PM Additions

I. Identifying Information		
Account No.: BL0082-R	RN No.: RN100225945	CN: CN600356976
Permit No.: O2221	Project No.: 38056	
Area Name: Specialty Chemicals 2		
Company Name: The Dow Chemical Company		
II. Unit/Emission Point/Group/Process Information		
Revision No.: 2		
Unit/EPN/Group/Process ID No.: B13SCPOLY		
Applicable Form: OP-UA15		
III. Applicable Regulatory Requirement		
Name: 30 TAC Chapter 115, Vent Gas Controls		
SOP/GOP Index No.: R5121-01		
Pollutant: VOC		
Main Standard: 115.122(a)(1)		
IV. Title V Monitoring Information		
Monitoring Type: PM		
Unit Size:		
CAM/PM Option No.: PM-V-030		
Deviation Limit: ***13.1 gallons per minute*** ~~10 gallons per minute~~		
CAM/PM Option No.:		
Deviation Limit:		
V. Control Device Information		
Control Device ID No.: B13PGSV3		
Control Device Type: ABSOR2		

Texas Commission on Environmental Quality
Monitoring Requirements
Form OP-MON (Page 1)
Federal Operating Permit Program
Table 1a: CAM/PM Additions

I. Identifying Information		
Account No.: BL0082-R	RN No.: RN100225945	CN: CN600356976
Permit No.: O2221	Project No.: 38056	
Area Name: Specialty Chemicals 2		
Company Name: The Dow Chemical Company		
II. Unit/Emission Point/Group/Process Information		
Revision No.: 2		
Unit/EPN/Group/Process ID No.: B17SV384		
Applicable Form: OP-UA15		
III. Applicable Regulatory Requirement		
Name: 30 TAC Chapter 115, Vent Gas Controls		
SOP/GOP Index No.: R5121-01		
Pollutant: VOC		
Main Standard: 115.122(a)(2)		
IV. Title V Monitoring Information		
Monitoring Type: PM		
Unit Size:		
CAM/PM Option No.: PM-V-030		
Deviation Limit: ***480 gallons per hour*** ~~450 gallons per hour~~		
CAM/PM Option No.:		
Deviation Limit:		
V. Control Device Information		
Control Device ID No.: B17SV384		
Control Device Type: ABSOR2		

From: Carolyn Maus
Sent: Wednesday, November 12, 2025 10:17 AM
To: Schmidt, Crystal (C)
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Hi Crystal,

Since these are just corrections for items already submitted, you can make the updates on the Word format. Thanks for checking.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400


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From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Tuesday, November 11, 2025 11:43 AM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

Do you want me to send the updated UA forms in Word format or the new excel format? You asked for a couple of minor corrections, so I wasn't sure what would be easier for you. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Monday, November 3, 2025 10:44 AM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

I received your email and attachments. I will get you a response by 11/21/2025. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Saturday, November 1, 2025 3:21 AM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Crystal,

From: Carolyn Maus
Sent: Saturday, November 1, 2025 3:21 AM
To: Schmidt, Crystal (C)
Subject: Working Draft Permit Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: Unresolved Items - O2221.docx; WDP O2221_Proj 38056.docx

Hi Crystal,

I have conducted a technical review of the renewal application for The Dow Chemical Company, Dow Texas Operations Freeport, Specialty Chemicals 2. An electronic copy of the Working Draft Permit (WDP) is attached for your review. This WDP contains the TCEQ determination of applicable requirements based on the information submitted in your application, and any updates provided.

Please send a quick response to confirm you have received this email and the attachments.

Please review the WDP and submit to me any comments you have on the working draft permit by **Friday, November 21, 2025**. Please submit a written response by this deadline, even if you are not making any comments on the content of the WDP. **In addition, please address the items on the attached Unresolved Items list with that response.**

Please review the second portion of the "SOP Technical Review Fact Sheet" located at http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/sop_wdp_factsheet.pdf. This guidance contains important information regarding WDP review and comment procedures.

Note that a Certification by Responsible Official (Form OP-CRO1) for any uncertified application information, including application updates supporting the WDP comments, is required. After final review of the WDP, additional changes supported by application updates may require certification. I will advise you of these changes at a later date. Prior to transmittal of the Public Notice/Announcement Authorization Package, a duly signed OP-CRO1 form may be required which includes the specific dates or time-period of all submitted application documentation that was not previously certified. I will advise you of this requirement prior to sending the Public Notice/Announcement Authorization.

Application updates may now be submitted through Title V STEERS. Any application updates that are submitted by the RO/DAR through STEERS are certified and do not require the submittal of an original signature OP-CRO1. Application updates that are provided through email or physical mail require certification using an original signature OP-CRO1.

Please notify me when these updates have been submitted.

As required on Form OP-1, question IV.D, please remember the FOP application and all application updates must be submitted to EPA Region 6 at R6AirPermitsTX@epa.gov and to the TCEQ regional office having jurisdiction. This submittal information can be found on our website at Where to Submit FOP Applications and Permit-Related Documents.

Contact me if you have any questions regarding the guidelines, the project schedule, or any other details regarding your application or permit.

Thank you for your cooperation.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



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Unresolved Items

1. OP-REQ1: Please submit corrected pages to address the items below or answer my questions.
    a. Can you remind me what alternative requirements are being referred to by Questions XI.D.1-2 (which are answered Yes)? I just want to be sure I have everything listed correctly in the permit that needs to be there.
    b. Both standard permits (145335 and 180973) are the non-rule version of the Pollution Control Project standard permit. Please correct XII.B.2 (regarding 116.617 version) to "No".
2. OP-SUMR/OP-PBRSUP:
    a. Table D of the OP-PBRSUP has a typo in the row for 106.263 for PROGMA, PROIPG, PROPGA, and PROPGE. It has the version date as 11/01/2003 instead of 11/01/2001. Please correct. (Table B is already correct.)
    b. On Table D, for the row for 106.452 for PROGMA, PROIPG, PROPGA, and PROPGE, I have some questions about the Monitoring Requirement column. It states "Confirm annually that grit blasters utilize appropriate fabric filters." I think more detail is needed here. What will be looked at to make this determination – are there emission calculations that show using the appropriate filter will result in compliance with 106.452 and 106.4, and do operating hours play a role? Are there other records from throughout the year that are being checked as part of this determination? Please clarify this information.
    c. On Table D, the row for B13PGST222 for 106.262 says "Maintain PBR documentation" in the Monitoring Requirement column. This is not quite specific enough to indicate what is being monitored and/or recorded in order to satisfy periodic monitoring for compliance with the PBR and 106.4 general limits. Please add more detail to this statement.
    d. On Table D, the row for B13PGST205 for 106.264 says "Confirm annually that emissions do not exceed 25 tons per year of any air contaminant" in the Monitoring Requirement column. This statement is fine since I know this relates to the limits in 106.4 and 106.264 has no limits of its own. However, please add a little more detail. What data is being used to make this annual confirmation? Are emissions calculated based on some recorded/monitored parameter, or based on operating hours, etc.?
    e. For units B13PGST201, B13PGST203, and B13PGST244, the effective permit included multiple PBRs (in addition to permit 18561) as authorizations. I removed them since OP-PBRSUP and OP-SUMR did not include, but wanted to check since it wasn't mentioned as a change.
    f. Unit B13PGST241 was in the effective permit and it was not requested to be removed, so it is still present. However, since it was not listed on the OP-SUMR, I just wanted to check if you meant to request removal.
    g. The OP-SUMR and Table B of the OP-PBRSUP shows B13PGST506 using 106.472. Table D of the OP-PBRSUP list both 106.472 and 106.478 for this unit. Please correct whichever form is wrong.
    h. Table B of the OP-PBRSUP shows B13PGST508 using 106.478. The OP-SUMR, the effective permit, and Table D of the OP-PBRSUP list both 106.472 and 106.478 for this unit. Please correct whichever form is wrong.
    i. When you correct the OP-PBRSUP, please re-submit all four tables as a set and re-date them, even if a particular table is not changing. There is a permit term that will reference that submittal date so it needs to be the same for all pages.

3. UA-12: For B13PGFU1, SOP Index No. was listed on Table 4a (for NSPS VV) as R5352-ALL. I kept your existing 60VV-ALL. Please confirm by correcting form.
4. UA-15: For B17SV384, Table 6b for MACT G listed "ABS" for "Control Device". There are two sets of answer choices for this question in the form instructions. ABS is part of the list for units complying with 63.113(a)(1) or 63.113(a)(2). Based on the other attributes for this vent, it is Group 2 vent that is not electing to comply with Group 1 requirements, and it ends up complying with 63.113(d). Therefore, it has to choose a code from the second set of answer choices. I believe it should be "ABSRCV". Please review and submit a corrected page.
5. MACT GGGGG: We now have completed our rule analysis and have developed unit attribute forms for this rule. We have unit attribute forms for process vents, tanks, surface impoundments, oil/organic-water separators, transfer systems (other than individual drain systems), equipment leaks (fugitive emissions), closed vent systems and control devices used to control emissions from containers and closed vent systems and control devices used to control emissions from individual drain systems. Please confirm that you do not need any unit-specific information and that the only requirements you need are in the Special Terms and Conditions.
6. OP-REQ2: Please address the following issues by updating the OP-REQ2.
    a. For the existing NSPS VV shields for B17PEFU01 and B17PGFU2 (based on overlap with MACT H), the citation listed is 60.489. This is not the citation that addresses the rule overlap – those citations are located in MACT H. I believe the correct citation is 63.160(b)(1), but please confirm and update the form.
    b. For the MACT FFFF shields for surge control vessels, I have adjusted the wording for the shield reasons as "Surge control vessel does not meet the capacity and vapor pressure thresholds for a Group 1 storage tank." This is because 63.2450(r) would require them to comply with Group 1 tank requirements if they *did* meet those thresholds. Some shields are already similar to this, but others just state the units are surge control vessels. If my revised wording would be an accurate statement for all of them, then please update the OP-REQ2 to confirm. Or, if some would have a different reason, please provide that.
    c. For the MACT EEEE shield for B39GMLR1, the citation 63.2396(e)(2) and reason "MACT EEEE is superseded by MACT FFFF" was listed. I do not believe that is a complete negative applicability reason – that citation is limited to recordkeeping and reporting and how the other rule's requirements may satisfy MACT EEEE for those categories. It still has to be reported in the MACT EEEE notification of compliance status, and this provision isn't for the transfer rack itself but for the equipment leak components. However, 63.2338(c)(1) might be a better choice – that states that if the unit is part of the affected source under another Part 63 subpart, it is excluded from the affected source under MACT EEEE. Please revise this permit shield request as needed.
    d. Over the past several years we have worked to streamline our permit shield sections to focus on rules that are truly potentially applicable. This reduces review time for permit reviewers and applicants and also makes the permit more readable. For tanks, since NSPS K, Ka, and Kb applicability is distinguished by construction/reconstruction/modification date, it is only necessary to address the rule that corresponds to the age of the tank. If it is acceptable to do this, please update the OP-REQ2 for all tanks that currently have all three shields (or two of three) to just include the one rule that is needed. I will then update the permit.

From: Carolyn Maus
Sent: Wednesday, August 13, 2025 3:38 PM
To: Schmidt, Crystal (C)
Subject: RE: Technical Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Hi Crystal,

Thanks for this update – I will add it in to the working draft permit that I am preparing.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400


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From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Wednesday, August 13, 2025 12:39 PM
To: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Subject: RE: Technical Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Carolyn,

Please see the attached application update for the O2221 Title V Renewal Application. A new Standard Permit was just issued for the PGA area of the plant, and we are requesting to add it to the Title V Permit. Please let me know if you have any questions. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com

From: Schmidt, Crystal (C) <cschmidt6@dow.com>
Sent: Wednesday, August 13, 2025 12:39 PM
To: Carolyn Maus
Subject: RE: Technical Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport
Attachments: 2025-08-13_Application_Update_O2221.pdf

Carolyn,

Please see the attached application update for the O2221 Title V Renewal Application. A new Standard Permit was just issued for the PGA area of the plant, and we are requesting to add it to the Title V Permit. Please let me know if you have any questions. Thanks!

Crystal Schmidt

Crystal Schmidt
Air Permit Manager
The Dow Chemical Company
332 SH 332 E
cell phone: 409.392.5054
phone: 979.238.1742 | email: cschmidt6@dow.com



General Business

From: Carolyn Maus <carolyn.maus@tceq.texas.gov>
Sent: Friday, May 23, 2025 10:08 PM
To: Schmidt, Crystal (C) <cschmidt6@dow.com>
Subject: Technical Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good evening,

I have been assigned to the Federal Operating Permit (FOP) renewal application of Permit No. O2221 for The Dow Chemical Company, Dow Texas Operations Freeport, Specialty Chemicals 2. This application has been assigned Project No. 38056. Please address all correspondence pertaining to this permit application, including any updates, to me at the address in my email signature, and use both the Permit

August 13, 2025

E-MAIL RESPONSE
Texas Commission on Environmental Quality
ATTN: Ms. Carolyn Maus
Air Permits Division, MC-163
P.O. Box 13087
Austin, TX 78711-3087

The Dow Chemical Company, CN600356976
Specialty Chemicals 2, RN100225945
Title V Operating Permit Application Update for Specialty Chemicals 2, O2221
TCEQ Project Number: 38056

Dear Ms. Maus,

The Dow Chemical Company is submitting an application update for the Specialty Chemicals 2 Title V Permit Renewal application that was received by TCEQ on April 17, 2025 (Project #38056).

Please do not hesitate to contact me at (979) 238-1742 or cschmidt6@dow.com if you require additional information regarding this submittal.

Sincerely,

Crystal Schmidt

Crystal Schmidt
Air Permit Manager

enclosure

cc:

US EPA Region 6	R6AirPermitsTX@epa.gov
TCEQ Air Section Manager, Region 12	R12apdmail@tceq.texas.gov
Brazoria County Environmental Health Director	jodiev@brazoria-county.com

Federal Operating Permit Program
Form OP-2 – Application for Permit Revision/Renewal
Table 2

Date: **August 13, 2025**
Permit No.: **O2221**
Regulated Entity No.: **RN100225945**
Company Name: **The Dow Chemical Company**

Using the table below, provide a description of the revision.

Revision No.	Revision Code	New Unit	Unit/Group ID No.	Process Applicable Form	NSR Authorization	Description of Change and Provisional Terms and Conditions
1	MS-C	NO	B13DC1243 B13DC467 B13DC26	OP-REQ1	N/A	Please add Standard Permit 180973 to the list of authorizations for this Title V Permit. This Standard Permit authorized the replacement of three dust collectors. This Standard Permit does not change the existing applicability and is included for completeness purposes only.

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 6)
Federal Operating Permit Program
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
August 13, 2025	O2221	RN100225945

For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

XII. NSR Authorizations (continued) - (Attach additional sheets if necessary for sections XII.E-J.)

♦ **H. Title 30 TAC Chapter 116 Permits, Special Permits, Standard Permits, Other Authorizations (Other Than Permits By Rule, PSD Permits, NA Permits) for the Application Area**

Authorization No.	Issuance Date	Authorization No.	Issuance Date	Authorization No.	Issuance Date
18561	09/10/2019	***180973***	***08/05/2025***		
75771	01/17/2017				
104144	02/08/2023				
145335	03/28/2017				

♦ **I. Permits by Rule (30 TAC Chapter 106) for the Application Area**

A list of selected Permits by Rule (previously referred to as standard exemptions) that are required to be listed in the FOP application is available in the instructions.

PBR No.	Version No./Date	PBR No.	Version No./Date	PBR No.	Version No./Date
106.261	11/01/2003				
106.262	11/01/2003				
106.263	11/01/2001				
106.264	09/04/2000				
106.373	09/04/2000				
106.452	09/04/2000				
106.472	09/04/2000				
106.478	09/04/2000				

♦ **J. Municipal Solid Waste and Industrial Hazardous Waste Permits with an Air Addendum**

Permit No.	Issuance Date	Permit No.	Issuance Date	Permit No.	Issuance Date

From: Carolyn Maus
Sent: Friday, May 23, 2025 10:08 PM
To: Schmidt, Crystal (C)
Subject: Technical Review -- FOP O2221/Project 38056, The Dow Chemical Company/Dow Texas Operations Freeport

Good evening,

I have been assigned to the Federal Operating Permit (FOP) renewal application of Permit No. O2221 for The Dow Chemical Company, Dow Texas Operations Freeport, Specialty Chemicals 2. This application has been assigned Project No. 38056. Please address all correspondence pertaining to this permit application, including any updates, to me at the address in my email signature, and use both the Permit and Project reference numbers above to facilitate tracking. I have begun technical review and will inform you if I have further questions or need any updated forms.

I can only do part of my work right now since the open minor revision [Project 37167] is still pending. When that gets issued in June I will be able to complete the rest of the technical review on the renewal. So, the earliest I would be requesting any updates would be after the minor revision is complete.

In addition, I wanted to let you know that EPA has, on occasion, objected to Title V permits based on the following:

a. NSR permit and PBR monitoring sufficiency –please refer to our periodic monitoring guidance for reference of monitoring that EPA has, so far, considered sufficient.
b. Reference to confidential business information (CBI) in NSR permits and PBR submittals.
c. High level terms in the SOP Applicable Requirement Summary Table. The high level terms are sometimes used in SOPs when unit attribute forms have not yet been updated due to regulatory amendments.
d. Accuracy of PBR information provided on the supplemental table and in the permit – please refer to Forms OP-PBRSUP and OP-REQ1 Instructions.

If you have any questions or concerns on any of these items or think you need to do any additional updates, let me know and we can discuss further.

Application updates may now be submitted through Title V STEERS. Any application updates that are submitted by the RO/DAR through STEERS are certified and do not require the submittal of an original signature OP-CRO1. Application updates that are provided through email or physical mail require certification using an original signature OP-CRO1. This form will be requested at a later date.

If you choose to submit your application updates through STEERS, please notify me when these updates have been submitted.

Please review the “SOP Technical Review Fact Sheet” located at http://www.tceq.texas.gov/assets/public/permitting/air/Guidance/Title_V/sop_wdp_factsheet.pdf. This guidance contains important information regarding the review process and application update procedures. Contact me if you have any questions regarding the guidelines, the project schedule, or any other details regarding your application or permit.

Thank you for your cooperation.

Sincerely,

Carolyn Maus, P.E.
Air Permits Division
Texas Commission on Environmental Quality
P.O. Box 13087, MC 163
Austin, TX 78711
Phone: (512) 239-6204
Fax: (512) 239-1400



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Steven Piper

From: eNotice TCEQ
Sent: Friday, April 18, 2025 3:30 PM
To: joan.huffman@senate.texas.gov; jeff.barry@house.texas.gov
Subject: TCEQ Notice - Permit Number O2221
Attachments: TCEQ Notice - O2221_38056.pdf

This email is being sent to electronically transmit an official document issued by the Office of Air of the Texas Commission on Environmental Quality.

This email is being sent to you because either (a) you filed a document with the Office of the Chief Clerk that made you part of the official mailing list for the above referenced matter, or (b) notice to you is legally required. As authorized by Texas Water Code 5.128, this electronic transmittal is replacing the previous practice of hard copy distribution. Amendments to Texas Government Code 552.137 prompted a change to the agency's privacy policy regarding confidentiality of certain email addresses. The revised privacy policy can be viewed at http://www.tceq.state.tx.us/help/policies/electronic_info_policy.html.

Questions regarding this email may be submitted either by replying directly to this email or by calling Mr. Jesse Chacon, P.E. with the Air Permits Division at (512) 239-5759.

The attached document is provided in an Adobe Acrobat .pdf format. If you cannot display the attachment, you may need to visit the Adobe web site (http://get.adobe.com/reader) to download the free Adobe Acrobat Reader software.

Brooke T. Paup, *Chairwoman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 18, 2025

THE HONORABLE JOAN HUFFMAN
TEXAS SENATE
PO BOX 12068
AUSTIN TX 78711-2068

Re: Accepted Federal Operating Permit Renewal Application
Project Number: 38056
Permit Number: O2221
The Dow Chemical Company
Specialty Chemicals 2
Freeport, Brazoria County
Regulated Entity Number: RN100225945
Customer Reference Number: CN600356976

Dear Senator Huffman:

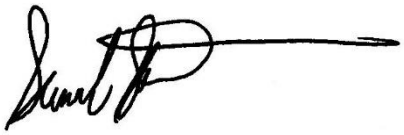
This letter notifies you that the Texas Commission on Environmental Quality has received a federal operating permit (FOP) renewal application for a site located in your district. As part of this permitting process, the applicant is required to publish a formal newspaper public notice. The notice will inform the public of their right to make comments or request a public hearing. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For exact location, refer to application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.352777,28.9825&level=13.

The FOP program regulates both new and existing major sources of emissions. The goal of the program is to improve air quality in Texas through increased compliance by codifying existing applicable regulatory requirements into the FOP. The FOP provides the applicant authorization to operate the equipment at the site. The FOP identifies and codifies air emission requirements (known as applicable requirements) that apply to the emission units at the site. The FOP does not authorize construction of emission units or emissions from those units. The New Source Review (NSR) permit is the mechanism for these authorizations.

Re: Accepted Federal Operating Permit Renewal Application

This letter is being sent to you for information only and no action is required. If you need further information, please contact me at (512) 239-1250.

Sincerely,



Samuel Short, Deputy Director
Air Permits Division
Office of Air
Texas Commission on Environmental Quality

Brooke T. Paup, *Chairwoman*
Bobby Janecka, *Commissioner*
Catarina R. Gonzales, *Commissioner*
Kelly Keel, *Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

April 18, 2025

THE HONORABLE JEFFREY BARRY
TEXAS HOUSE OF REPRESENTATIVES
PO BOX 2910
AUSTIN TX 78768-2910

Re: Accepted Federal Operating Permit Renewal Application
Project Number: 38056
Permit Number: O2221
The Dow Chemical Company
Specialty Chemicals 2
Freeport, Brazoria County
Regulated Entity Number: RN100225945
Customer Reference Number: CN600356976

Dear Representative Barry:

This letter notifies you that the Texas Commission on Environmental Quality has received a federal operating permit (FOP) renewal application for a site located in your district. As part of this permitting process, the applicant is required to publish a formal newspaper public notice. The notice will inform the public of their right to make comments or request a public hearing. This link to an electronic map of the site or facility's general location is provided as a public courtesy and not part of the application or notice. For exact location, refer to application. https://gisweb.tceq.texas.gov/LocationMapper/?marker=-95.352777,28.9825&level=13.

The FOP program regulates both new and existing major sources of emissions. The goal of the program is to improve air quality in Texas through increased compliance by codifying existing applicable regulatory requirements into the FOP. The FOP provides the applicant authorization to operate the equipment at the site.

This letter is being sent to you for information only and no action is required. If you need further information, please contact me at (512) 239-1250.

Sincerely,

Samuel Short, Deputy Director
Air Permits Division
Office of Air
Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

Title V Existing

2221

Site Information (Regulated Entity)

What is the name of the permit area to be authorized?	SPECIALTY CHEMICALS 2
Does the site have a physical address?	Yes
Physical Address	
Number and Street	2301 N BRAZOSPORT BLVD
City	FREEPORT
State	TX
ZIP	77541
County	BRAZORIA
Latitude (N) (##.######)	28.9825
Longitude (W) (-###.######)	95.352777
Primary SIC Code	2869
Secondary SIC Code	
Primary NAICS Code	325199
Secondary NAICS Code	
Regulated Entity Site Information	
What is the Regulated Entity's Number (RN)?	RN100225945
What is the name of the Regulated Entity (RE)?	DOW TEXAS OPERATIONS FREEPORT
Does the RE site have a physical address?	Yes
Physical Address	
Number and Street	2301 N BRAZOSPORT BLVD
City	FREEPORT
State	TX
ZIP	77541
County	BRAZORIA
Latitude (N) (##.######)	28.9825
Longitude (W) (-###.######)	-95.352777
Facility NAICS Code	
What is the primary business of this entity?	INDUSTRIAL CHEMICAL MANUFACTURING PLANT

Customer (Applicant) Information

How is this applicant associated with this site?	Owner Operator
What is the applicant's Customer Number (CN)?	CN600356976
Type of Customer	Corporation
Full legal name of the applicant:	
Legal Name	The Dow Chemical Company
Texas SOS Filing Number	1216206
Federal Tax ID	381285128
State Franchise Tax ID	13812851288

State Sales Tax ID	
Local Tax ID	
DUNS Number	84970516
Number of Employees	251-500
Independently Owned and Operated?	

Responsible Official Contact

Person TCEQ should contact for questions about this application:	
Organization Name	THE DOW CHEMICAL COMPANY
Prefix	MR
First	JOHN
Middle	
Last	SAMPSON
Suffix	
Credentials	
Title	VICE PRESIDENT
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	2301 N BRAZOSPORT BLVD
Routing (such as Mail Code, Dept., or Attn:)	
City	FREEPORT
State	TX
ZIP	77541
Phone (###-###-####)	9792389877
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	9792358116
E-mail	txles@dow.com

Duly Authorized Representative Contact

Person TCEQ should contact for questions about this application	
Select existing DAR contact or enter a new contact.	FRAN FALCON(THE DOW CHEMICA...)
Organization Name	THE DOW CHEMICAL COMPANY
Prefix	MS
First	FRAN
Middle	
Last	FALCON
Suffix	
Credentials	
Title	EH&S REGIONAL LEVERAGED DELIVERY DIRECTOR
Enter new address or copy one from list	
Mailing Address	
Address Type	Domestic

Mailing Address (include Suite or Bldg. here, if applicable)	2301 N BRAZOSPORT BLVD
Routing (such as Mail Code, Dept., or Attn:)	BLDG B-101
City	FREEPORT
State	TX
Zip	77541
Phone (###-###-####)	9792389764
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	9792380317
E-mail	FQFalcon@dow.com

Technical Contact

Person TCEQ should contact for questions about this application:	
Select existing TC contact or enter a new contact.	CRYSTAL SCHMIDT(THE DOW CHEMICA...)
Organization Name	THE DOW CHEMICAL COMPANY
Prefix	MRS
First	CRYSTAL
Middle	
Last	SCHMIDT
Suffix	
Credentials	
Title	AIR PERMIT MANAGER
Enter new address or copy one from list:	
Mailing Address	
Address Type	Domestic
Mailing Address (include Suite or Bldg. here, if applicable)	332 HIGHWAY 332 E
Routing (such as Mail Code, Dept., or Attn:)	
City	LAKE JACKSON
State	TX
ZIP	77566
Phone (###-###-####)	4093925054
Extension	
Alternate Phone (###-###-####)	
Fax (###-###-####)	
E-mail	cschmidt6@dow.com

Title V General Information - Existing

1) Permit Type:	SOP
2) Permit Latitude Coordinate:	28 Deg 58 Min 57 Sec
3) Permit Longitude Coordinate:	95 Deg 21 Min 10 Sec
4) Is this submittal a new application or an update to an existing application?	New Application
4.1. What type of permitting action are you applying for?	Renewal
4.1.1. Are there any permits that should be voided upon issuance of this permit application	No

through permit conversion?	
4.1.2. Are there any permits that should be voided upon issuance of this permit application through permit consolidation?	No
5) Who will electronically sign this Title V application?	Duly Authorized Representative
6) Does this application include Acid Rain Program or Cross-State Air Pollution Rule requirements?	No

Title V Attachments Existing

Attach OP-1 (Site Information Summary)

Attach OP-2 (Application for Permit Revision/Renewal)

Attach OP-ACPS (Application Compliance Plan and Schedule)

Attach OP-REQ1 (Application Area-Wide Applicability Determinations and General Information)

Attach OP-REQ2 (Negative Applicable Requirement Determinations)

Attach OP-REQ3 (Applicable Requirements Summary)

Attach OP-PBRSUP (Permits by Rule Supplemental Table)

Attach OP-SUMR (Individual Unit Summary for Revisions)

Attach OP-MON (Monitoring Requirements)

Attach OP-UA (Unit Attribute) Forms

If applicable, attach OP-AR1 (Acid Rain Permit Application)

Attach OP-CRO2 (Change of Responsible Official Information)

Attach OP-DEL (Delegation of Responsible Official)

Attach any other necessary information needed to complete the permit.

[File Properties]

File Name	04-16-2025_O2221_Renewal_Application.pdf
Hash	79CD4E08004E5A83A93CF46B85A7E42FA04A47DFA0ECB4BCAEE8A6C84937C623
MIME-Type	application/pdf

An additional space to attach any other necessary information needed to complete the permit.

Expedite Title V

1) Per Texas Health and Safety Code, Section 382.05155, does the applicant want to expedite the processing of this application?	No

Certification

I certify that I am the Duly Authorized Representative for this application and that, based on information and belief formed after reasonable inquiry, the statements and information on this form are true, accurate, and complete.

1. I am Fran Q Falcon, the owner of the STEERS account ER028176.
2. I have the authority to sign this data on behalf of the applicant named above.
3. I have personally examined the foregoing and am familiar with its content and the content of any attachments, and based upon my personal knowledge and/or inquiry of any individual responsible for information contained herein, that this information is true, accurate, and complete.
4. I further certify that I have not violated any term in my TCEQ STEERS participation agreement and that I have no reason to believe that the confidentiality or use of my password has been compromised at any time.
5. I understand that use of my password constitutes an electronic signature legally equivalent to my written signature.
6. I also understand that the attestations of fact contained herein pertain to the implementation, oversight and enforcemer of a state and/or federal environmental program and must be true and complete to the best of my knowledge.
7. I am aware that criminal penalties may be imposed for statements or omissions that I know or have reason to believe are untrue or misleading.
8. I am knowingly and intentionally signing Title V Existing 2221.
9. My signature indicates that I am in agreement with the information on this form, and authorize its submittal to the TCEC

OWNER OPERATOR Signature: Fran Q Falcon OWNER OPERATOR

Account Number:	ER028176
Signature IP Address:	170.85.99.3
Signature Date:	2025-04-17
Signature Hash:	47028DDAF3697FA5C70F77C16A06E50F53CC1EEEAEF487D89AB53CE34D67B713
Form Hash Code at time of Signature:	C94B99D97626D1B29989871C98A804211A1BF266B6DD4CA3DE00E7CE94C449F2

Submission

Reference Number:	The application reference number is 779503
Submitted by:	The application was submitted by ER028176/Fran Q Falcon
Submitted Timestamp:	The application was submitted on 2025-04-17 at 16:35:27 CDT
Submitted From:	The application was submitted from IP address 170.85.99.3
Confirmation Number:	The confirmation number is 647394
Steers Version:	The STEERS version is 6.90
Permit Number:	The permit number is 2221

Additional Information

Application Creator: This account was created by Crystal Schmidt

April 17, 2025

Electronic Submittal via ePermits

TCEQ Air Permits Initial Review Team (APIRT), MC-161
P.O. Box 13087
Austin, TX 78711-3087

The Dow Chemical Company, CN600356976
Specialty Chemicals 2, RN100225945
Title V Permit O2221 Renewal Application

Dear APIRT Team Leader,

The Dow Chemical Company is submitting the Title V Operating Permit O2221 renewal application for the Specialty Chemicals 2 area located in Brazoria County, Texas. The following forms are included in this submittal as part of the permit application.

- Form OP-1
- Form OP-2
- Form OP-CRO1
- Form OP-SUMR
- Form OP-UAs
- Form OP-REQ1
- Form OP-REQ2
- Form OP-REQ3
- Form OP-PBRSUP
- Form OP-ACPS

Please do not hesitate to contact me at (979) 238-1742 or cschmidt6@dow.com if you require additional information regarding this submittal.

Sincerely,

Crystal Schmidt

Crystal Schmidt
Air Permit Manager

Enclosure

cc:

US EPA Region 6	R6AirPermitsTX@epa.gov
TCEQ Air Section Manager, Region 12	R12apdmail@tceq.texas.gov
Brazoria County Health Department	jodiev@brazoria-county.com

The Dow Chemical Company

CN600356976; RN100225945

Specialty Chemicals 2

Site Operating Permit O2221 Renewal Application

April 17, 2025

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Section A - Permit Area Process Description

Permit Area Process Description

Industrial Polyglycol - is made up of one 10,000 gallon reactor and other associated equipment where all the reactions occur. In addition, the plant includes two 10,000 gallon filter feed tanks, the spray chiller, a storage tank farm, and distribution facilities for such functions as drumming, bagging and loading. The process starts with an initiator containing an oxide in the presence of a catalyst and heat to produce a higher molecular weight polymer with physical properties desirable to the customer's specifications.

Polyglycol 1 - consists of three kettle reactors: KR-2, KR-5, and KR-9, ranging in size from 2,000 to 10,000 gallons, finishing systems, and storage tank farms. The process starts by charging a kettle with an initiator and a catalyst. The kettle is heated and fed a specific amount of oxide determined by the recipe of the product. As the oxide reacts down, the crude polyglycol is neutralized without removing the catalyst. The product is further filtered to remove remaining water and unreacted oxide. An eighth kettle is used to blend a base stock ester with antioxidants and corrosion inhibitors to produce three different compressor lubricants.

Aminoethylethanolamine (AEEA) - Ethylene oxide (EO) and excess ethylenediamine (EDA) are reacted to form AEEA. The reactor outlet stream passes through a soaker to act as a digestion stage to complete the oxide reaction. Water and excess EDA are removed through a stripping tray column and recycled to the EDA feed tank. Water with trace amounts of EDA is treated and analyzed at the Wastewater Treatment Plant. The bottoms stream proceeds to a specified tower to separate the AEEA from heavier byproducts. The AEEA stream is condensed and stored for loading.

Methyldiethanolamine (MDEA) - EO is reacted with an excess of methyl amine (MA) to produce a mixture of monomethylethanolamine (MMEA) and MDEA. The first separation packed tower removes excess MA from the reactor products. The bottom stream separates MMEA to send it back to the feed tanks. The MDEA product is condensed and transferred to the finish storage tank.

Section B - Administrative Forms

Form OP-1

Form OP-2

Form OP-CRO1

Form OP-SUMR

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 1)
Texas Commission on Environmental Quality

Please print or type all information. Direct any questions regarding this application form to the Air Permits Division at (512) 239-1250 or to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division (MC 163), P.O. Box 13087, Austin, Texas 78711-3087.

I.	**Company Identifying Information**
A.	Company Name: **The Dow Chemical Company**
B.	Customer Reference Number (CN): **CN600356976**
C.	Submittal Date *(mm/dd/yyyy):* **April 17, 2025**
II.	**Site Information**
A.	Site Name: **Dow Texas Operations Freeport**
B.	Regulated Entity Reference Number (RN): **RN100225945**
C.	Indicate affected state(s) required to review permit application: *(Check the appropriate box[es].)*

☐ AR ☐ CO ☐ KS ☐ LA ☐ NM ☐ OK ☐ N/A

D. Indicate all pollutants for which the site is a major source based on the site's potential to emit: *(Check the appropriate box[es].)*

☒ VOC ☒ NO_X ☒ SO_2 ☒ PM_{10} ☒ CO ☐ Pb ☒ HAPS

Other:

E.	Is the site a non-major source subject to the Federal Operating Permit Program?	☐ YES ☒ NO
F.	Is the site within a local program area jurisdiction?	☒ YES ☐ NO
G.	Will emissions averaging be used to comply with any Subpart of 40 CFR Part 63?	☐ YES ☒ NO
H.	Indicate the 40 CFR Part 63 Subpart(s) that will use emissions averaging:	

III. Permit Type

A. Type of Permit Requested: *(Select only one response)*

☒ Site Operating Permit (SOP) ☐ Temporary Operating Permit (TOP) ☐ General Operating Permit (GOP)

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 2)
Texas Commission on Environmental Quality

IV.	**Initial Application Information** *(Complete for Initial Issuance Applications Only.)*	
A.	Is this submittal an abbreviated or a full application?	☐ Abbreviated ☐ Full
B.	If this is a full application, is the submittal a follow-up to an abbreviated application?	☐ YES ☐ NO
C.	If this is an abbreviated application, is this an early submittal for a combined SOP and Acid Rain permit?	☐ YES ☐ NO
D.	Has an electronic copy of this application been submitted (or is being submitted) to EPA? (Refer to the form instructions for additional information.)	☐ YES ☐ NO
E.	Has the required Public Involvement Plan been included with this application?	☐ YES ☐ NO
V.	**Confidential Information**	
A.	Is confidential information submitted in conjunction with this application?	☐ YES ☒ NO
VI.	**Responsible Official (RO) Identifying Information**	
RO Name Prefix: (☒ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.)		
RO Full Name: **John Sampson**		
RO Title: **Senior VP**		
Employer Name: **The Dow Chemical Company**		
Mailing Address: **2301 N Brazosport Blvd**		
City: **Freeport**		
State: **TX**		
ZIP Code: **77541-3203**		
Territory:		
Country:		
Foreign Postal Code:		
Internal Mail Code:		
Telephone No.:		
Fax No.:		
Email: txles@dow.com		

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 3)
Texas Commission on Environmental Quality

VII. Technical Contact Identifying Information *(Complete if different from RO.)*	
Technical Contact Name Prefix: (☐ Mr. ☒ Mrs. ☐ Ms. ☐ Dr.)	
Technical Contact Full Name: **Crystal Schmidt**	
Technical Contact Title: **Air Permit Manager**	
Employer Name: **The Dow Chemical Company**	
Mailing Address: **332 TX-332**	
City: **Lake Jackson**	
State: **TX**	
ZIP Code: **77566**	
Territory:	
Country:	
Foreign Postal Code:	
Internal Mail Code:	
Telephone No.: (**979) 238-1742**	
Fax No.:	
Email: **cschmidt6@dow.com**	
VIII. Reference Only Requirements *(For reference only.)*	
A. State Senator: **Joan Huffman, District 17**	
B. State Representative: **Cody Vasut, District 25**	
C. Has the applicant paid emissions fees for the most recent agency fiscal year (Sept. 1 - August 31)?	☒ YES ☐ NO ☐ N/A
D. Is the site subject to bilingual notice requirements pursuant to 30 TAC § 122.322?	☒ YES ☐ NO
E. Indicate the alternate language(s) in which public notice is required: **Spanish**	

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 4)
Texas Commission on Environmental Quality

IX.	**Off-Site Permit Request** *(Optional for applicants requesting to hold the FOP and records at an off-site location.)*
A.	Office/Facility Name:
B.	Physical Address:
City:	
State:	
ZIP Code:	
Territory:	
Country:	
Foreign Postal Code:	
C.	Physical Location:
D.	Contact Name Prefix: (☐ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.)
Contact Full Name:	
E.	Telephone No.:
X.	**Application Area Information**
A.	Area Name: **Specialty Chemicals 2**
B.	Physical Address: **2301 N. Brazosport Blvd.**
City: **Freeport**	
State: **Texas**	
ZIP Code: **77541-3257**	
C.	Physical Location:
D.	Nearest City:
E.	State:
F.	ZIP Code:

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 5)
Texas Commission on Environmental Quality

X.	**Application Area Information *(continued)***
G.	Latitude (nearest second):
H.	Longitude (nearest second):
I.	Are there any emission units that were not in compliance with the applicable requirements identified in the application at the time of application submittal? ☐ YES ☒ NO
J.	Indicate the estimated number of emission units in the application area: **203**
K.	Are there any emission units in the application area subject to the Acid Rain Program? ☐ YES ☒ NO
XI.	**Public Notice** *(Complete this section for SOP Applications and Acid Rain Permit Applications only.)*
A.	Name of a public place to view application and draft permit: **Freeport City Library**
B.	Physical Address: **410 Brazosport Blvd.**
City: **Lake Jackson**	
ZIP Code: **77566**	
C.	Contact Person (Someone who will answer questions from the public during the public notice period):
Contact Name Prefix: (☐ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.):	
Contact Person Full Name:	
Contact Mailing Address:	
City:	
State:	
ZIP Code:	
Territory:	
Country:	
Foreign Postal Code:	
Internal Mail Code:	
Telephone No.:	

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 6)
Texas Commission on Environmental Quality

XII. Delinquent Fees and Penalties
Notice: This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of Attorney General on behalf of the TCEQ are paid in accordance with the "Delinquent Fee and Penalty Protocol."
Complete Sections XIII and XIV for Acid Rain Permit and CSAPR applications only. Please include a copy of the Certificate of Representation submitted to EPA.
XIII. Designated Representative (DR) Identifying Information
DR Name Prefix: (☐ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.)
DR Full Name:
DR Title:
Employer Name:
Mailing Address:
City:
State:
ZIP Code:
Territory:
Country:
Foreign Postal Code:
Internal Mail Code:
Telephone No.:
Fax No.:
Email:

Federal Operating Permit Program
Site Information Summary
Form OP-1 (Page 7)
Texas Commission on Environmental Quality

Complete Sections XIII and XIV for Acid Rain Permit and CSAPR applications only. Please include a copy of the Certificate of Representation submitted to EPA.
XIV. Alternate Designated Representative (ADR) Identifying Information
ADR Name Prefix: (☐ Mr. ☐ Mrs. ☐ Ms. ☐ Dr.)
ADR Full Name:
ADR Title:
Employer Name:
Mailing Address:
City:
State:
ZIP Code:
Territory:
Country:
Foreign Postal Code:
Internal Mail Code:
Telephone No.:
Fax No.:
Email:

Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 1
Texas Commission on Environmental Quality

Date: **April 17, 2025**	
Permit No.: **O2221**	
Regulated Entity No.: **RN100225945**	
Company Name: **The Dow Chemical Company**	
For Submissions to EPA	
Has an electronic copy of this application been submitted (or is being submitted) to EPA?	☐ YES ☐ NO
I. Application Type	
Indicate the type of application:	
☒ Renewal	
☐ Streamlined Revision (Must include provisional terms and conditions as explained in the instructions.)	
☐ Significant Revision	
☐ Revision Requesting Prior Approval	
☐ Administrative Revision	
☐ Response to Reopening	
II. Qualification Statement	
For SOP Revisions Only	☐ YES ☐ NO
For GOP Revisions Only	☐ YES ☐ NO

Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 1 (continued)
Texas Commission on Environmental Quality

III.	**Major Source Pollutants (Complete this section if the permit revision is due to a change at the site or change in regulations.)**					
Indicate all pollutants for which the site is a major source based on the site's potential to emit: *(Check the appropriate box[es].)*						
☒ VOC	☒ NO_X	☒ SO_2	☒ PM_{10}	☒ CO	☐ Pb	☒ HAP
Other:						
IV.	**Reference Only Requirements** *(For reference only)*					
Has the applicant paid emissions fees for the most recent agency fiscal year (September 1 - August 31)?					☒ YES ☐ NO ☐ N/A	
V.	**Delinquent Fees and Penalties**					
Notice: This form will not be processed until all delinquent fees and/or penalties owed to the TCEQ or the Office of the Attorney General on behalf of the TCEQ are paid in accordance with the Delinquent Fee and penalty protocol.						

Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 2
Texas Commission on Environmental Quality

Date: **April 17, 2025**
Permit No.: **O2221**
Regulated Entity No.: **RN100225945**
Company Name: **The Dow Chemical Company**

Using the table below, provide a description of the revision.

Revision No.	Revision Code		Unit/Group	Process	NSR Authorization	Description of Change and Provisional Terms and Conditions
		New Unit	ID No.	Applicable Form		
1	MS-C	NO	Multiple	OP-UAs OP-SUMR OP-REQ1 OP-REQ2 OP-REQ3 OP-PBRSUP	N/A	The Dow Chemical Company requests updates to the unit sources whose UA forms have been updated since the last renewal. In addition, Dow is requesting the update to Unit Name/Description, Preconstruction Authorizations and Permit Shield citations. The OP-PBRSUP has also been included in this permit renewal outlining active PBRs. Please see the attached Forms OP-SUMR, OP-REQ1, OP-REQ2, and OP-PBRSUP. Additions have been bolded and italicized, and deletions have been struck through.
2	MS-C	NO	B39GMFU1 B39GMCH290	OP-SUMR OP-PBRSUP	106.262/11/01/2003 [156122]	Dow submitted an OP-NOTIFY (Project No. 28803) to authorize emissions via PBR 106.262 for Unit IDs B39GMFU1 and B39GMCH290. This emissions increase does not trigger any new applicability or alter any existing applicability, but it is included in this renewal for completeness purposes.

Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 2
Texas Commission on Environmental Quality

Date: **April 17, 2025**
Permit No.: **O2221**
Regulated Entity No.: **RN100219351**
Company Name: **The Dow Chemical Company**

Using the table below, provide a description of the revision.

Revision No.	Revision Code		Unit/Group	Process	NSR Authorization	Description of Change and Provisional Terms and Conditions
		New Unit	ID No.	Applicable Form		
3	MS-C	NO	B13PGFU1 B13PTD2T	OP-SUMR OP-PBRSUP	106.262/11/01/2003 [157242]	Dow submitted an OP-NOTIFY (Project No. 29171) to authorize emissions via PBR 106.262 for Unit IDs B13PGFU1 and B13PTD2T. This emissions increase does not trigger any new applicability or alter any existing applicability, but it is included in this renewal for completeness purposes.
4	MS-C	NO	B13PGST222	OP-SUMR OP-PBRSUP	106.262/11/01/2003 [168074]	Dow submitted an OP-NOTIFY (Project No. 33543) to authorize emissions via PBR 106.262 for Unit ID B13PGST222. This emissions increase does not trigger any new applicability or alter any existing applicability, but it is included in this renewal for completeness purposes.
5	MS-C	NO	B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	OP-SUMR OP-PBRSUP	106.262/11/01/2003 [168130]	Dow submitted an OP-NOTIFY (Project No. 33600) to authorize emissions via PBR 106.261/262 for Unit IDs B13PGST243, B13PGR5, B13PGST622, B13PGML43, B13PGFAP67, and B13PGFA26. This emissions increase does not trigger any new applicability or alter any existing applicability, but it is included in this renewal for completeness purposes.

Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 2
Texas Commission on Environmental Quality

Date: **April 17, 2025**
Permit No.: **O2221**
Regulated Entity No.: **RN100219351**
Company Name: **The Dow Chemical Company**

Using the table below, provide a description of the revision.

Revision No.	Revision Code		Unit/Group	Process	NSR Authorization	Description of Change and Provisional Terms and Conditions
		New Unit	ID No.	Applicable Form		
6	MS-C	NO	B39GMFU1	OP-SUMR OP-PBRSUP	106.261/11/01/2003 [175271] 106.262/11/01/2003 [175271]	Dow submitted an OP-NOTIFY (Project No. 36304) to authorize emissions via PBR 106.262 for Unit ID B39GMFU1. This emissions increase does not trigger any new applicability or alter any existing applicability, but it is included in this renewal for completeness purposes.
7	MS-C	NO	B13PGST205	OP-PBRSUP	106.264/09/04/2000	Dow submitted an OP-NOTIFY (Project No. 36669) to authorize the replacement in kind of the process tank D-205 via PBR 106.264. There are no changes to regulatory applicability associated with this action, but it is included in this renewal for completeness purposes.
8	MS-C	NO	B13PGST007 B17PGST010 B17PGST011 B17PGST012 B17PGST013 B17PGST014 B17PGST015 B17PGT201A B17PGT201B B43IPST130	OP-UA3	N/A	Please see the strike throughs in OP-UA3 Table 3; 40 CFR Part 60 NSPS Kb . These sources are in the current permit with a shield for this regulation. Dow does not choose to support the permit shield with entries in the OP-UA3. Dow requests these attributes be removed from the IMS system.

Federal Operating Permit Program
Application for Permit Revision/Renewal
Form OP-2-Table 2
Texas Commission on Environmental Quality

Date: **April 17, 2025**
Permit No.: **O2221**
Regulated Entity No.: **RN100219351**
Company Name: **The Dow Chemical Company**

Using the table below, provide a description of the revision.

Revision No.	Revision Code		Unit/Group	Process	NSR Authorization	Description of Change and Provisional Terms and Conditions
		New Unit	ID No.	Applicable Form		
9	SIG-E	NO	B13PGST004 B13PGST007 B13PGST22 B13PGST23 B13PGST306 B13PGST308 B13PGST309 B17PEST012 B17PEST015 B17PEST01A B17PGST010 B17PGST011 B17PGST012 B17PGST013 B17PGST014 B17PGST015 B17PGT201A B17PGT201B	OP-REQ2	N/A	Please update the Negative Applicability Requirement Reason for NSPS Kb as indicated on the OP-REQ2. The updated reasons reflect the regulatory citation more accurately.

Form OP-CRO1
Certification by Responsible Official
Federal Operating Permit Program
Texas Commission on Environmental

All initial issuance, revision, renewal, and reopening permit application submittals requiring certification must be addressed using this form. Updates to site operating permit (SOP) and temporary operating permit (TOP) applications, other than public notice verification materials, must be certified prior to authorization of public notice or start of public announcement. Updates to general operating permit (GOP) applications must be certified prior to receiving an authorization to operate under a GOP.

I. Identifying Information	
RN: **RN100225945**	
CN: **CN600356976**	
Account No.: **BL-0082-R**	
Permit No.: **O2221**	
Project No.: **TBA**	
Area Name: **Specialty Chemicals 2**	
Company Name: **The Dow Chemical Company**	
II. Certification Type *(Please mark appropriate box)*	
☐ Responsible Official Representative	☒ Duly Authorized Representative
III. Submittal Type *(Please mark appropriate box) (Only one response can be accepted per form)*	
☐ SOP/TOP Initial Permit Application	☒ Permit Revision, Renewal, or Reopening
☐ GOP Initial Permit Application	☐ Update to Permit Application
☐ Other: _____	

Form OP-CRO1
Certification by Responsible Official
Federal Operating Permit Program
Texas Commission on Environmental

All initial issuance, revision, and renewal permit application submittals requiring certification must be accompanied by this form. Updates to acid rain or CSAPR (other than public notice verification materials) must be certified prior to authorization of public notice for the draft permit.

IV. Certification of Truth

This certification does not extend to information which is designated by TCEQ as information for reference only.

I, **Fran Falcon** certify that I am the **DAR**

(Certifier Name printed or typed) *(RO or DAR)*

and that, based on information and belief formed after reasonable inquiry, the statements and information dated during the time period or on the specific date(s) below, are true, accurate, and complete:
Note: Enter Either a Time Period or Specific Date(s) for each certification. This section must be completed. The certification is not valid without documentation date(s).

Time Period: From _____ to _____

(Start Date) *(End Date)*

Specific Dates: April 17, 2025 _____ _____ _____

(Date 1) *(Date 2)* *(Date 3)* *(Date 4)*

_____ _____

(Date 5) *(Date 6)*

Signature: _____ Signature Date: _____ Title: _____

Title: Texas Regional Environmental Director

Texas Commission on Environmental Quality
Federal Operating Permit Program
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Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B13PGD530	OP-UA15	D-530 KNOCK OUT POT		18561	
		B13PGD631	OP-UA15	D-631 T-21 TOWER REFLUX DRUM		18561	
		B13PGD660	OP-UA15	D-660 T-20 TOWER REFLUX DRUM		18561	
		B13PGE32	OP-REQ2	E-32 REACTOR		18561	
		B13PGFU1	OP-UA12	AREA FUGITIVES (POLY, MDEA, AEEA)		18561 106.261/11/01/2003 [152733, 153856, 158135] 106.262/11/01/2003 [123137, 134008, 152733, 153856, 156462, 157242, 158135] 106.373/09/04/2000	
		B13PGHE102	OP-UA1	E-102 HEAT EXCHANGER		18561	
		B13PGHE60	OP-UA1	E-60 HEAT EXCHANGER		18561	
		B13PGLMUD	N/A	MAGSIL MUD BUCKET WASTE LOADING		18561	
		B13WJMA	N/A	METHYLAMINE		106.262/11/01/2003 [144226]	
		B13PGLR1	OP-UA4	POLY #1/AEEA RAILCAR LOADING		18561 75751	

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		B13PGLR2	OP-UA4	POLY #1/AEEA TANK TRUCK LOADING		18561 75751	
		B13PGPT34	OP-UA15	D-34 PROCESS VESSEL		18561	
		B13PGPT601	OP-UA15	D-601 MIXING POT		18561	
		B13PGR1	OP-UA60	KR-1 REACTOR		18561	
		B13PGR2	OP-UA1 OP-UA60	KR-2 REACTOR		18561	
		B13PGR5	OP-UA1 OP-UA60	KR-5 REACTOR		18561 106.262/11/01/2003 [168130]	
		B13PGR9	OP-UA1 OP-UA60	KR-9 REACTOR		18561	
		B13PGRX1	OP-UA15	POLYGLYCOL AMINES TANK VENT		18561 106.262/11/01/2003 [152066]	
		B13PGS955	OP-UA15	PGA REACTOR SYS 4 STRIPPER PROCESS VENT		18561	
		B13PGST001	OP-UA3	D-1001 POLYGLYCOL STORAGE TANK		18561	
		B13PGST003	OP-UA3	D-2003 POLYGLYCOL STORAGE TANK		18561	
	9	B13PGST004	OP-UA3	D-2004 STORAGE TANK		18561	

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April 17, 2025	O2221	RN100225945

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	8, 9	B13PGST007	OP-UA3	D-2007 POLYGLYCOL STORAGE TANK		18561	
		B13PGST01	OP-UA15	D-201 OLOA PROCESS VESSEL		18561	
		B13PGST16C	OP-UA3	D-16C WASH WATER STORAGE TANK		18561	
		B13PGST16D	OP-UA3	D-16D WASH WATER STORAGE TANK		18561	
		B13PGST19	OP-UA3	D-19 HEAVIES STORAGE TANK		18561	
		B13PGST2	OP-UA15	D-2 ALOA PROCESS VESSEL		18561	
		B13PGST201	OP-UA15	D-201 POLYGLYCOL CHECK TANK		18561	
		B13PGST202	OP-UA15	D-1202 POLYGLYCOL CHECK TANK		18561 106.261/11/01/2003 [162153] 106.262/11/01/2003 [162153]	
		B13PGST203	OP-UA3	D-203 POLYGLYCOL STORAGE TANK		18561	
		B13PGST204	OP-UA3	D-204 POLYGLYCOL STORAGE TANK		18561	
	7	B13PGST205	OP-UA15	D-205 STORAGE TANK VENT		106.261/11/01/2003 [162153] 106.262/11/01/2003 [162153] ***106.264/09/04/2000***	

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		B13PGST21	OP-UA3	D-21 HEAVIES STORAGE TANK		18561	
		B13PGST216	OP-UA3	D-1216 POLYGLYCOL STORAGE TANK		18561	
		B13PGST217	OP-UA3	D-1217 POLYGLYCOL STORAGE TANK		18561	
	9	B13PGST22	OP-UA3	D-22 POLYGLYCOL STORAGE TANK		18561	
		B13PGST222	OP-UA15	D-1222 PROCESS TANK		18561 106.262/11/01/2003[168074]	
		B13PGST223	OP-UA3	D-1223 PRODUCT STORAGE		18561	
		B13PGST224	OP-UA15	D-1224 PROCESS TANK		18561	
		B13PGST225	OP-UA15	D-1225 PROCESS TANK		18561	
		B13PGST226	OP-UA15	D-1226 PROCESS TANK		18561 106.262/11/01/2003[165980] 106.472/09/04/2000	
		B13PGST227	OP-UA15	D-1227 PROCESS TANK		18561	
		B13PGST228	OP-UA3	D-1228 POLYGLYCOL STORAGE TANK		18561	
		B13PGST229	OP-UA3	D-1229 POLYGLYCOL STORAGE TANK		18561	

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	9	B13PGST23	OP-UA3	D-23 POLYGLYCOL STORAGE TANK		18561	
		B13PGST240	OP-UA3	D-1240 POLYGLYCOL STORAGE TANK		18561	
		B13PGST242	OP-UA15	D-1242 PROCESS TANK		18561	
		B13PGST243	OP-UA15	D-1243 PROCESS TANK		18561 106.262/11/01/2003 [152066, 168130]	
		B13PGST244	OP-UA15	D-1244 PROCESS TANK		18561	
		B13PGST245	OP-UA3	D-1245 POLYGLYCOL STORAGE TANK		18561	
		B13PGST246	OP-UA3	D-1246 POLYGLYCOL STORAGE TANK		18561	
		B13PGST253	OP-UA3	D-1253 POLYGLYCOL STORAGE TANK		18561	
		B13PGST254	OP-UA3	D-1254 STORAGE TANK		18561	
		B13PGST256	OP-UA3	D-1256 POLYGLYCOL STORAGE TANK		18561 106.262/11/01/2003 [165980]	
		B13PGST26	OP-UA3	D-26 STORAGE TANK		18561	
		B13PGST260	OP-UA3	D-1260 MDEA PROCESS TANK		18561	

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Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B13PGST261	OP-UA3	D-1261 MDEA HEAVIES STORAGE TANK		18561	
		B13PGST262	OP-UA3	D-1262 MDEA PROCESS TANK		18561	
		B13PGST265	OP-UA3	D-1265 MDEA PROCESS TANK		18561	
		B13PGST266	OP-UA3	D-1266 POLYGLYCOL STORAGE TANK		18561	
		B13PGST268	OP-UA3	D-1268 ESTER STORAGE TANK		18561	
		B13PGST269	OP-UA3	D-1269 AMINES STORAGE TANK		18561	
		B13PGST27	OP-UA3	D-27 STORAGE TANK		18561	
		B13PGST28	OP-UA3	D-28 STORAGE TANK		18561	
		B13PGST3	OP-UA3	D-3 WATER TANK		18561	
	9	B13PGST306	OP-UA3	D-3006 STORAGE TANK		18561	
	9	B13PGST308	OP-UA3	D-3008 POLYGLYCOL STORAGE TANK		18561	
	9	B13PGST309	OP-UA3	D-3009 POLYGLYCOL STORAGE TANK		18561	
		B13PGST40	OP-UA3	D-40 POLYGLYCOL STORAGE TANK		18561	

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April 17, 2025	O2221	RN100225945

Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B13PGST41	OP-UA3	D-41 POLYGLYCOL STORAGE TANK		18561	
		B13PGST44	OP-UA3	D-44 POLYGLYCOL STORAGE TANK		18561	
		B13PGST45	OP-UA3	D-45 POLYGLYCOL STORAGE TANK		18561	
		B13PGST501	OP-UA3	D-1501 POLYGLYCOL STORAGE TANK		18561	
		B13PGST506	OP-UA3	D-506 STORAGE TANK		106.472/09/04/2000 ~~106.478/09/04/2000~~	
		B13PGST508	OP-UA3	D-508 STORAGE TANK		106.472/09/04/2000 106.478/09/04/2000	
		B13PGST55	OP-UA3	D-55 POLYGLYCOL STORAGE TANK		18561	
		B13PGST56	OP-UA3	D-56 POLYGLYCOL STORAGE TANK		18561	
		B13PGST57	OP-UA3	D-57 POLYGYCOL STORAGE TANK		18561	
		B13PGST58	OP-UA3	D-58 POLYGLYCOL STORAGE TANK		18561	
		B13PGST607	OP-UA15	D-607 AMBITROL PROCESS VESSEL		18561	

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Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B13PGST661	OP-UA3	D-661 POLYGLYCOL STORAGE TANK		18561	
		B13PGST662	OP-UA15	D-662 PROCESS TANK		18561 106.262/11/01/2003 [152066]	
		B13PGST663	OP-UA3	D-663 POLYGLYCOL STORAGE TANK		18561	
		B13PGST664	OP-UA3	D-664 POLYGLYCOL STORAGE TANK		18561	
		B13PGST668	OP-UA3	D-668 STORAGE TANK		18561	
		B13PGST669	OP-UA3	D-669 STORAGE TANK		18561	
		B13PGST670	OP-UA3	D-670 TPNB/DPNB STORAGE TANK VENT		18561 106.262/11/01/2003 [152066] 106.478/09/04/2000	
		B13PGST671	OP-UA3	D-671 POLYGLYCOL STORAGE TANK		18561	
		B13PGST67	OP-REQ2	D-667 AMBITROL COOLANT STORAGE VESSEL		18561	
		B13PGST701	OP-UA3	D-701 HEAVY VOC STORAGE TANK		18561	
		B13PGST702	OP-UA3	D-702 POLYGLYCOL STORAGE TANK		18561	

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		B13PGST703	OP-UA3	D-703 POLYGLYCOL STORAGE TANK		18561	
		B13PGST803	OP-UA3	D-803 STORAGE TANK		18561	
		B13PGST850	OP-UA15	D-850 AMBITROL POT		18561	
		B13PGST870	OP-UA3	D-870 EDA STORAGE TANK		18561	
		B13PGST871	OP-UA3	D-871 EDA STORAGE TANK		18561	
		B13PGST901	OP-UA3	D-901 POLYGLYCOL STORAGE TANK		18561	
		B13PGSTT7A	OP-UA3	T-7A AMBITROL STORAGE FOR MRU		18561	
		B13PGSV2	N/A	SC-2 SCRUBBER (EDA SCRUBBER)		18561	
		B13PGSV22	N/A	T-22 SCRUBBER (MA SCRUBBER)		18561	
		B13PGSV3	N/A	SC-2 KETTLE SCRUBBER		18561	
		B13PGT11	OP-REQ2	T-11 AEEA DISTILLATION TOWER		18561	
		B13PGT12	OP-REQ2	T-12 AEEA DISTILLATION TOWER		18561	
		B13PGT13	OP-REQ2	T-13 AEEA DISTILLATION TOWER		18561	

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		B13PGT20	OP-REQ2	T-20 MDEA DISTILLATION TOWER		18561	
		B13PGT21	OP-REQ2	T-21 MDEA DISTILLATION TOWER		18561	
		B13PGVJ3	OP-UA15	PGA VACUUM JET SYSTEM #3		18561	
		B13SCPOLY	OP-UA15	VENT PIPE HEADER BEFORE B13SV3 SCRUBBER		18561 106.262/11/01/2003 [152066]	
		B17PEFU01	OP-UA12	PGE FUGITIVES		75751 106.261/11/01/2003 [177535] 106.262/11/01/2003 [157525, 169380, 177535]	
		B17PELR1	OP-UA4	RERUN LOADING		106.261/11/01/2003 [177535] 106.262/11/01/2003 [177535]	
		B17PEPT351	OP-UA3	CRUDE EPH RERUN DRUM D-351		75751	
		B17PEPT352	OP-UA3	CRUDE PPH RERUN DRUM D-352		75751	
	9	B17PEST012	OP-UA3	PPH STORAGE TANK D-2012		75751	
	9	B17PEST015	OP-UA3	PPH STORAGE TANK D-2015		75751	
	9	B17PEST01A	OP-UA3	EPH TANK D-3201A		75751	
		B17PEST364	OP-UA3	DAY DRUM D-364		75751	
		B17PEST365	OP-UA3	DAY DRUM D-365		75751	

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		B17PEST371	OP-UA3	TOWER BOTTOMS STORAGE D-371		75751	
		B17PEST372	OP-UA3	TOWER BOTTOMS DRUM D-372		75751	
		B17PGFU2	OP-UA12	FUGITIVES (B1700 BLOCK)		18561	
	8, 9	B17PGST010	OP-UA3	D-2010 POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGST011	OP-UA3	D-2011 POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGST012	OP-UA3	D-2012 POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGST013	OP-UA3	D-2013 POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGST014	OP-UA3	D-2014 POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGST015	OP-UA3	D-2015 POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGT201A	OP-UA3	D-3201A POLYGLYCOL STORAGE TANK		18561	
	8, 9	B17PGT201B	OP-UA3	D-3201B POLYGLYCOL STORAGE TANK		18561	
		B17SV384	OP-UA15	PROCESS SCRUBBER T-384		75751	

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		B39GMFU1	OP-UA1	REACTOR AREA FUGITIVE, GMA EQUIPMENT		104144 106.261/11/01/2003 [106612, 123961, 115993, 153454, 156047, 161122, 175271] 106.262/11/01/2003 [106612, 123961, 115993, 121638, 151705, 153454, 156122, 156047, 160836, 161122, 163567, 164874, 175271]	
		B39GMFU2	OP-UA1	PROCESS FUGITIVES, EAST TANK FARM, GMA EQUIPMENT		104144	
		B39GMFU3	OP-UA1	PROCESS FUGITIVES, WEST TANK FARM, GMA EQUIPMENT		104144 106.261/11/01/2003 [153454] 106.262/11/01/2003 [149152, 153454]	
		B39GMCV1	OP-REQ2	GM MON PROCESS CONDENSERS		104144	
		B39GMCV2	OP-REQ2	GM MON EXEMPT PROCESS CONDENSERS		104144	
		B39GMLR1	OP-UA4	TANK TRUCK LOADING/UNLOADING		104144	
		B39GMLR2	OP-UA4	TRANSFER RACK		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39GMSP215	OP-UA14	S-215 VOC SEPARATOR		104144	
		B39GMSP220	OP-UA14	S-220 VOC SEPARATOR		104144	

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		B39GMSP226	OP-UA14	S-226 VOC SEPARATOR		104144	
		B39GMSP228	OP-UA14	S-228 VOC SEPARATOR		104144	
		B39GMST264	OP-UA3	D-264 WASTE STORAGE		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39GMST70A	OP-UA3	D-270A STORAGE TANK		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39GMST70B	OP-UA3	D-270B STORAGE TANK		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39GMST75A	OP-UA3	D-275A GMA STORAGE		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39GMST75B	OP-UA3	D-275B GMA STORAGE		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39GMST801	OP-UA3	D-801 STORAGE TANK		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961, 152933]	
		B39GMST828	OP-UA3	D-828 STORAGE TANK		104144	

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		B39GMVH290	OP-UA15	T-290 VENT HEADER		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961, 156122]	
		B39GMWT257	OP-UA3	D-257 WASTE WATER TANK		104144 106.261/11/01/2003 [123961] 106.262/11/01/2003 [123961]	
		B39PT290	OP-UA15	D-290 EFFLUENT RECEIVER VESSEL FOR T-290		104144	
		B39RX210	OP-UA15	R-210 GMA REACTOR		104144	
		B39SP245	OP-UA14	D-245 VOC WATER SEPARATOR		104144	
		B39SP265	OP-UA14	D-265 GMA/WATER SEPARATOR		104144	
		B39ST285	OP-UA3	D-285 ETHYLENE GLYCOL STORAGE		104144	
		B39CT900	OP-REQ2	CT-900 COOLING TOWER		104144	
		B39DU213	OP-REQ2	T-213 DISTILLATION		104144	
		B39DU240	OP-REQ2	T-240 DISTILLATION		104144	
		B39DU250	OP-REQ2	T-250 DISTILLATION		104144	
		B39DU260	OP-REQ2	T-260 DISTILLATION (NEVER USED)		104144	

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Federal Operating Permit Program
Individual Unit Summary for Revisions
Form OP-SUMR
Table 1

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B39GMHE2	OP-REQ2	GM MON EXEMPT HEAT EXCHANGER		104144	
		B39PT215	OP-REQ2	D-215 STORAGE TANK		104144	
		B39PT220	OP-REQ2	D-220 STORAGE TANK		104144	
		B39PT226	OP-REQ2	D-226 STORAGE TANK		104144	
		B39PT228	OP-REQ2	D-228 STORAGE TANK		104144	
		B39ST291	OP-REQ2	D-291 STORAGE TANK		104144	
		B39ST801	OP-REQ2	D-801 STORAGE TANK		104144	
		B39ST851	OP-REQ2	D-851 STORAGE TANK		104144	
		B39ST870	OP-REQ2	D-870 STORAGE TANK		104144	
		B39ST891	OP-REQ2	D-891 STORAGE TANK		104144	
		B39ST892	OP-REQ2	D-892 STORAGE TANK		104144	
		B43IPD141	OP-UA15	D-141 KNOCK OUT POT		18561	
	1	B43IPFU1	OP-UA12	IPG FUGITIVES		18561 106.262/11/01/2003 [156462, 160340] ***106.262/11/01/2003 [179150]***	
	1	B43IPLR1	OP-UA4	LOADING RACK		18561 ***106.262/11/01/2003 [179150]***	

Texas Commission on Environmental Quality
Federal Operating Permit Program
Individual Unit Summary for Revisions
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Table 1

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B43IPR101A	OP-UA15	D-101A PROCESS TANK		18561	
		B43IPR101B	OP-UA15	D-101B PROCESS TANK		18561	
		B43IPRX1	OP-UA1 OP-UA15	IPG REACTOR (KR-1)		18561	
		B43IPST03A	OP-UA3	D-103A POLYGLYCOL STORAGE TANK		18561	
		B43IPST03B	OP-UA3	D-103B POLYGLYCOL STORAGE TANK		18561	
		B43IPST104	OP-UA3	D-104 POLYGLYCOL STORAGE TANK		18561	
		B43IPST105	OP-UA3	D-105 POLYGLYCOL STORAGE TANK		18561	
		B43IPST106	OP-UA3	D-106 POLYGLYCOL STORAGE TANK		18561	
		B43IPST107	OP-UA3	D-107 POLYGLYCOL STORAGE TANK		18561	
		B43IPST108	OP-UA3	D-108 POLYGLYCOL STORAGE TANK		18561	
		B43IPST109	OP-UA3	D-109 POLYGLYCOL STORAGE TANK		18561	
		B43IPST111	OP-UA3	D-111 POLYGLYCOL STORAGE TANK		18561	

Texas Commission on Environmental Quality
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Individual Unit Summary for Revisions
Form OP-SUMR
Table 1

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
		B43IPST113	OP-UA3	D-113 POLYGLYCOL STORAGE TANK		18561	
	1	B43IPST114	OP-UA3	D-114 POLYGLYCOL STORAGE TANK		18561 ***106.262/11/01/2003 [179150]***	
		B43IPST117	OP-UA3	D-117 STORAGE TANK VENT		18561 106.478/09/04/2000	
		B43IPST121	OP-UA3	D-121 STORAGE TANK (WATER)		18561	
		B43IPST122	OP-UA3	D-122 STORAGE TANK (WATER)		18561	
		B43IPST123	OP-UA3	D-123 STORAGE TANK		18561	
		B43IPST127	OP-UA3	D-127 ACETIC ACID TANK		18561	
	8	B43IPST130	OP-UA3	D-130 POLYGLYCOL STORAGE TANK		18561 106.261/11/01/2003 [159782] 106.262/11/01/2003 [159782]	
		B43IPST170	OP-UA3	D-170 POLYGLYCOL STORAGE TANK		106.478/09/04/2000	
		B43IPST171	OP-UA3	D-171 POLYGLYCOL STORAGE TANK		106.478/09/04/2000	
		B43IPSV1	N/A	S-101 SCRUBBER		18561	
		B43IPV132	OP-UA15	F-132 SOLIDS REMOVAL		18561	
		B43V132A	OP-UA15	D-132A MAGSIL ADDITION POT		18561	

Texas Commission on Environmental Quality
Federal Operating Permit Program
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Form OP-SUMR
Table 1

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit/Process AI	Unit/Process Revision No.	Unit/Process ID No.	Unit/Process Applicable Form	Unit/Process Name/ Description	Unit/Process CAM	Preconstruction Authorizations 30 TAC Chapter 116/ 30 TAC Chapter 106	Preconstruction Authorizations Title I
	1	PROGMA	OP-UA57 OP-UA60	PROCESS UNIT FOR GMA		104144 106.263/11/01/2001 ***106.452/09/04/2000***	
	1	PROIPG	OP-UA57	IPG PROCESS UNIT		18561 106.263/11/01/2001 ***106.452/09/04/2000***	
	1	PROPGA	OP-UA57 OP-UA60	PGA PROCESS UNIT		18561 106.263/11/01/2001 ***106.452/09/04/2000***	
	1	PROPGE	OP-UA57 OP-UA60	PGE PROCESS UNIT		75751 106.263/11/01/2001 ***106.452/09/04/2000***	

Section C – Unit Attribute Forms

Form OP-UA1

Form OP-UA3

Form OP-UA4

Form OP-UA12

Form OP-UA14

Form OP-UA15

Form OP-UA57

Form OP-UA60

Texas Commission on Environmental Quality
Miscellaneous Unit Attributes
Form OP-UA1 (Page1)
Federal Operating Permit Program

Date:	April 17, 2025
Permit No.:	O2221
Regulated Entity No.:	RN100225945

Unit ID No.	SOP/GOP Index No.	Unit Type	Date Constructed/Placed in Service	Functionally Identical Replacement	Maximum Rated Capacity	Technical Information and Unit Description
B13PGFU1	63FFFF-ALL	FU				Please add 40 CFR Part 63, Subpart FFFF Low-Level Applicability. Please see Form OP-REQ3 for specific citations.
B13PGHE102	63PPP-01	EU				Heat Exchanger subject to Subpart PPP (Polyether Polyol). Please see attached OP-REQ3.
B13PGR2	63PPP-01	PRO				Process Vent subject to Subpart PPP (Polyether Polyol). Please see attached OP-REQ3.
B13PGR5	63PPP-01	PRO				Process Vent subject to Subpart PPP (Polyether Polyol). Please see attached OP-REQ3.
B13PGFU1	63PPP-01	PRO				Fugitives (Pressure Relief Device) subject to Subpart PPP. Please see attached OP-REQ3.
B43IPFU1	63PPP-01	PRO				Fugitives (Pressure Relief Device) subject to Subpart PPP. Please see attached OP-REQ3.
B13PGR9	63PPP-01	PRO				Process Vent subject to Subpart PPP (Polyether Polyol). Please see attached OP-REQ3.
B43IPRX1	63PPP-01	PRO				Process Vent subject to Subpart PPP (Polyether Polyol). Please see attached OP-REQ3.
B39GMFU1	63FFFF-01	EP				Please add 40 CFR Part 63, Subpart FFFF Low-Level Applicability. Please see Form OP-REQ3 for specific citations.

Texas Commission on Environmental Quality
Miscellaneous Unit Attributes
Form OP-UA1 (Page1)
Federal Operating Permit Program

Date:	April 17, 2025
Permit No.:	O2221
Regulated Entity No.:	RN100225945

Unit ID No.	SOP/GOP Index No.	Unit Type	Date Constructed/Placed in Service	Functionally Identical Replacement	Maximum Rated Capacity	Technical Information and Unit Description
B39GMFU2	63FFFF-01	EP				Please add 40 CFR Part 63, Subpart FFFF Low-Level Applicability. Please see Form OP-REQ3 for specific citations.
B39GMFU3	63FFFF-01	EP				Please add 40 CFR Part 63, Subpart FFFF Low-Level Applicability. Please see Form OP-REQ3 for specific citations.

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 3)
Federal Operating Permit Program

Table 3: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)
Subpart Kb: Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Product Stored	Storage Capacity	WW Tank Control	Maximum TVP	Storage Vessel Description	AMEL ID No.	Guidepole	Reid Vapor Pressure	Control Device ID No.
~~B13PGST007~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGST010~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGST011~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGST012~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGST013~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGST014~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGST015~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGT201A~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B17PGT201B~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					
~~B43IPST130~~	~~60Kb-01~~	~~VOL~~	~~40K+~~		~~0.5~~					

Storage Tank/Vessel Attributes
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Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B13PGST001	R5111-01	NO		VOC1	A1K-25K			
B13PGST003	R5111-01	NO		VOC1	A1K-25K			
B13PGST004	R5111-01	NO		VOC1	A40K+			
B13PGST007	R5111-01	NO		VOC1	A40K+			
B13PGST01	R5111-01	NO		VOC1	A1K-25K			
B13PGST16C	R5111-01	NO		VOC1	A1K-25K			
B13PGST16D	R5111-01	NO		VOC1	A1K-25K			
B13PGST19	R5111-01	NO		VOC1	A1K-25K			
B13PGST203	R5111-01	NO		VOC1	A1K-25K			
B13PGST204	R5111-01	NO		VOC1	A1K-25K			
B13PGST21	R5111-01	NO		VOC1	A1K-25K			
B13PGST22	R5111-01	NO		VOC1	A40K+			
B13PGST223	R5111-01	NO		VOC1	A1K-25K			

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 4)
Federal Operating Permit Program

Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B13PGST228	R5111-01	NO		VOC1	A1K-25K			
B13PGST229	R5111-01	NO		VOC1	A1K-25K			
B13PGST23	R5111-01	NO		VOC1	A40K+			
B13PGST240	R5111-01	NO		VOC1	A1K-25K			
B13PGST241	R5111-01	NO		VOC1	A1K-25K			
B13PGST245	R5111-01	NO		VOC1	A1K-25K			
B13PGST246	R5111-01	NO		VOC1	A1K-25K			
B13PGST253	R5111-01	NO		VOC1	A1K-25K			
B13PGST254	R5111-01	NO		VOC1	A25K-40K			
B13PGST256	R5111-01	NO		VOC1	A25K-40K			
B13PGST26	R5111-01	NO		VOC1	A1K-25K			
B13PGST260	R5111-01	NO		VOC1	A1K-25K			
B13PGST261	R5111-01	NO		VOC1	A1K-25K			

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 4)
Federal Operating Permit Program

Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B13PGST262	R5111-01	NO		VOC1	A1K-25K			
B13PGST265	R5111-01	NO		VOC1	A1K-25K			
B13PGST266	R5111-01	NO		VOC1	A1K-25K			
B13PGST268	R5111-01	NO		VOC1	A1K-25K			
B13PGST269	R5111-01	NO		VOC1	A1K-25K			
B13PGST27	R5111-01	NO		VOC1	A1K-25K			
B13PGST28	R5111-01	NO		VOC1	A1K-25K			
B13PGST3	R5111-01	NO		VOC1	A1K-25K			
B13PGST306	R5111-01	NO		VOC1	A40K+			
B13PGST308	R5111-01	NO		VOC1	A40K+			
B13PGST309	R5111-01	NO		VOC1	A40K+			
B13PGST40	R5111-01	NO		VOC1	A1K-25K			
B13PGST41	R5111-01	NO		VOC1	A1K-25K			

Storage Tank/Vessel Attributes
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Federal Operating Permit Program

Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B13PGST44	R5111-01	NO		VOC1	A1K-25K			
B13PGST45	R5111-01	NO		VOC1	A1K-25K			
B13PGST501	R5111-01	NO		VOC1	A1K-25K			
B13PGST506	R5111-01	NO		VOC1	A1K-25K			
B13PGST508	R5111-01	NO		VOC1	A1K-25K			
B13PGST55	R5111-01	NO		VOC1	A1K-25K			
B13PGST56	R5111-01	NO		VOC1	A1K-25K			
B13PGST57	R5111-01	NO		VOC1	A1K-25K			
B13PGST58	R5111-01	NO		VOC1	A1K-25K			
B13PGST661	R5111-01	NO		VOC1	A1K-25K			
B13PGST663	R5111-01	NO		VOC1	A1K-25K			
B13PGST664	R5111-01	NO		VOC1	A1K-25K			
B13PGST668	R5111-01	NO		VOC1	A1K-25K			

Storage Tank/Vessel Attributes
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Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B13PGST669	R5111-01	NO		VOC1	A1K-25K			
B13PGST670	R5111-01	NO		VOC1	A1K-25K			
B13PGST671	R5111-01	NO		VOC1	A1K-25K			
B13PGST701	R5111-01	NO		VOC1	A1K-25K			
B13PGST702	R5111-01	NO		VOC1	A1K-25K			
B13PGST703	R5111-01	NO		VOC1	A1K-25K			
B13PGST803	R5111-01	NO		VOC1	A1K-25K			
B13PGST870	R5111-01	NO		VOC1	A1K-25K			
B13PGST871	R5111-01	NO		VOC1	A1K-25K			
B13PGST901	R5111-01	NO		VOC1	A1K-25K			
B13PGSTT7A	R5111-01	NO		VOC1	A1K-25K			
B17PEPT351	R5111-01	NO		VOC1	A1K-25K			
B17PEPT352	R5111-01	NO		VOC1	A1K-25K			

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 4)
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Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B17PEST012	R5111-01	NO		VOC1	A40K+			
B17PEST015	R5111-01	NO		VOC1	A40K+			
B17PEST01A	R5111-01	NO		VOC1	A40K+			
B17PEST364	R5111-01	NO		VOC1	A1K-25K			
B17PEST365	R5111-01	NO		VOC1	A1K-25K			
B17PEST371	R5111-01	NO		VOC1	A1K-25K			
B17PEST372	R5111-01	NO		VOC1	A1K-25K			
B17PGST010	R5111-01	NO		VOC1	A40K+			
B17PGST011	R5111-01	NO		VOC1	A40K+			
B17PGST012	R5111-01	NO		VOC1	A40K+			
B17PGST013	R5111-01	NO		VOC1	A40K+			
B17PGST014	R5111-01	NO		VOC1	A40K+			
B17PGST015	R5111-01	NO		VOC1	A40K+			

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 4)
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Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B17PGT201A	R5111-01	NO		VOC1	A40K+			
B17PGT201B	R5111-01	NO		VOC1	A40K+			
B39GMST264	R5112-01	NO		VOC1	A1K-25K			
B39GMST70A	R5112-01	NO		VOC1	A1K-25K			
B39GMST70B	R5112-01	NO		VOC1	A1K-25K			
B39GMST75A	R5112-01	NO		VOC1	A40K+			
B39GMST75B	R5112-01	NO		VOC1	A40K+			
B39GMST801	R5112-01	NO		VOC1	A40K+			
B39GMST828	R5112-01	NO		VOC1	A1K-25K			
B39GMWT257	R5112-01	NO		VOC1	A40K+			
B39ST285	R5112-01	NO		VOC1	A25K-40K			
B43IPST104	R5111-01	NO		VOC1	A25K-40K			
B43IPST105	R5111-01	NO		VOC1	A25K-40K			

Storage Tank/Vessel Attributes
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Table 4a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement	ACR ID No.	Product Stored	Storage Capacity	Throughput	Potential to Emit	Uncontrolled Emissions
B43IPST106	R5111-01	NO		VOC1	A25K-40K			
B43IPST107	R5111-01	NO		VOC1	A25K-40K			
B43IPST108	R5111-01	NO		VOC1	A25K-40K			
B43IPST111	R5111-01	NO		VOC1	A1K-25K			
B43IPST113	R5111-01	NO		VOC1	A1K-25K			
B43IPST114	R5111-01	NO		VOC1	A1K-25K			
B43IPST117	R5111-01	NO		VOC1	A1K-25K			
B43IPST121	R5111-01	NO		VOC1	A25K-40K			
B43IPST122	R5111-01	NO		VOC1	A25K-40K			
B43IPST123	R5111-01	NO		VOC1	A25K-40K			
B43IPST170	R5111-01	NO		VOC1	A1K-25K			
B43IPST171	R5111-01	NO		VOC1	A1K-25K			

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 5)
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Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B13PGST001	R5111-01		NONE1	1-				
B13PGST003	R5111-01		NONE1	1-				
B13PGST004	R5111-01		NONE1	1-				
B13PGST007	R5111-01		NONE1	1-				
B13PGST01	R5111-01		NONE1	1-				
B13PGST16C	R5111-01		NONE1	1-				
B13PGST16D	R5111-01		NONE1	1-				
B13PGST19	R5111-01		NONE1	1-				
B13PGST203	R5111-01		NONE1	1-				
B13PGST204	R5111-01		NONE1	1-				
B13PGST21	R5111-01		NONE1	1-				
B13PGST22	R5111-01		NONE1	1-				
B13PGST223	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
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Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B13PGST228	R5111-01		NONE1	1-				
B13PGST229	R5111-01		NONE1	1-				
B13PGST23	R5111-01		NONE1	1-				
B13PGST240	R5111-01		NONE1	1-				
B13PGST241	R5111-01		NONE1	1-				
B13PGST245	R5111-01		NONE1	1-				
B13PGST246	R5111-01		NONE1	1-				
B13PGST253	R5111-01		NONE1	1-				
B13PGST254	R5111-01		NONE1	1-				
B13PGST256	R5111-01		NONE1	1-				
B13PGST26	R5111-01		NONE1	1-				
B13PGST260	R5111-01		NONE1	1-				
B13PGST261	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
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Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B13PGST262	R5111-01		NONE1	1-				
B13PGST265	R5111-01		NONE1	1-				
B13PGST266	R5111-01		NONE1	1-				
B13PGST268	R5111-01		NONE1	1-				
B13PGST269	R5111-01		NONE1	1-				
B13PGST27	R5111-01		NONE1	1-				
B13PGST28	R5111-01		NONE1	1-				
B13PGST3	R5111-01		NONE1	1-				
B13PGST306	R5111-01		NONE1	1-				
B13PGST308	R5111-01		NONE1	1-				
B13PGST309	R5111-01		NONE1	1-				
B13PGST40	R5111-01		NONE1	1-				
B13PGST41	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
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Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B13PGST44	R5111-01		NONE1	1-				
B13PGST45	R5111-01		NONE1	1-				
B13PGST501	R5111-01		NONE1	1-				
B13PGST506	R5111-01		NONE1	1-				
B13PGST508	R5111-01		NONE1	1-				
B13PGST55	R5111-01		NONE1	1-				
B13PGST56	R5111-01		NONE1	1-				
B13PGST57	R5111-01		NONE1	1-				
B13PGST58	R5111-01		NONE1	1-				
B13PGST661	R5111-01		NONE1	1-				
B13PGST663	R5111-01		NONE1	1-				
B13PGST664	R5111-01		NONE1	1-				
B13PGST668	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
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Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B13PGST669	R5111-01		NONE1	1-				
B13PGST670	R5111-01		NONE1	1-				
B13PGST671	R5111-01		NONE1	1-				
B13PGST701	R5111-01		NONE1	1-				
B13PGST702	R5111-01		NONE1	1-				
B13PGST703	R5111-01		NONE1	1-				
B13PGST803	R5111-01		NONE1	1-				
B13PGST870	R5111-01		NONE1	1-				
B13PGST871	R5111-01		NONE1	1-				
B13PGST901	R5111-01		NONE1	1-				
B13PGSTT7A	R5111-01		NONE1	1-				
B17PEPT351	R5111-01		NONE1	1-				
B17PEPT352	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 5)
Federal Operating Permit Program

Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B17PEST012	R5111-01		NONE1	1-				
B17PEST015	R5111-01		NONE1	1-				
B17PEST01A	R5111-01		NONE1	1-				
B17PEST364	R5111-01		NONE1	1-				
B17PEST365	R5111-01		NONE1	1-				
B17PEST371	R5111-01		NONE1	1-				
B17PEST372	R5111-01		NONE1	1-				
B17PGST010	R5111-01		NONE1	1-				
B17PGST011	R5111-01		NONE1	1-				
B17PGST012	R5111-01		NONE1	1-				
B17PGST013	R5111-01		NONE1	1-				
B17PGST014	R5111-01		NONE1	1-				
B17PGST015	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 5)
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Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B17PGT201A	R5111-01		NONE1	1-				
B17PGT201B	R5111-01		NONE1	1-				
B39GMST264	R5112-01		NONE1	1-				
B39GMST70A	R5112-01		NONE1	1-				
B39GMST70B	R5112-01		NONE1	1-				
B39GMST75A	R5112-01		NONE1	1-				
B39GMST75B	R5112-01		NONE1	1-				
B39GMST801	R5112-01		NONE1	1-				
B39GMST828	R5112-01		NONE1	1-				
B39GMWT257	R5112-01		NONE1	1-				
B39ST285	R5112-01		NONE1	1-				
B43IPST104	R5111-01		NONE1	1-				
B43IPST105	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 5)
Federal Operating Permit Program

Table 4b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Storage of Volatile Organic Compounds (VOCs)
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Construction Date	Tank Description	True Vapor Pressure	Primary Seal	Secondary Seal	Control Device Type	Control Device ID No.
B43IPST106	R5111-01		NONE1	1-				
B43IPST107	R5111-01		NONE1	1-				
B43IPST108	R5111-01		NONE1	1-				
B43IPST111	R5111-01		NONE1	1-				
B43IPST113	R5111-01		NONE1	1-				
B43IPST114	R5111-01		NONE1	1-				
B43IPST117	R5111-01		NONE1	1-				
B43IPST121	R5111-01		NONE1	1-				
B43IPST122	R5111-01		NONE1	1-				
B43IPST123	R5111-01		NONE1	1-				
B43IPST170	R5111-01		NONE1	1-				
B43IPST171	R5111-01		NONE1	1-				

Storage Tank/Vessel Attributes
Form OP-UA3 (Page 13)
Federal Operating Permit Program

Table 9a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart G: National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Storage Vessels
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	MACT Subpart F/G Applicability	NESHAP Subpart Y Applicability	NSPS Subpart Kb Applicability	Maximum TVP	Emission Control Type	AMOC ID No.
B17PEPT351	63G-01	NO	NO	NO			
B17PEPT352	63G-01	NO	NO	NO			
B17PEST012	63G-01	NO	NO	NO			
B17PEST015	63G-01	NO	NO	NO			
B17PEST01A	63G-01	NO	NO	NO			
B17PEST364	63G-01	NO	NO	NO			
B17PEST365	63G-01	NO	NO	NO			
B17PEST371	63G-01	NO	NO	NO			
B17PEST372	63G-01	NO	NO	NO			

Loading/Unloading Operations Attributes
Form OP-UA4 (Page 1)
Federal Operating Permit Program

Table 1a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter C: Loading and Unloading of Volatile Organic Compounds
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Chapter 115 Facility Type	Alternate Control Requirement (ACR)	ACR ID No.	Product Transferred	Transfer Type	True Vapor Pressure	Daily Through-put	Control Options
B13PGLR1	R5211-01	OTHER	NONE		VOC1	LOAD	0.5-		
B13PGLR1	R5211-02	OTHER	NONE		VOC1	UNLOAD	0.5+	NCE2	BAL
B13PGLR2	R5211-01	OTHER	NONE		VOC1	BOTH	0.5-		
B17PELR1	R5211-01	OTHER	213B		VOC1	BOTH	0.5-		
B39GMLR1	R5211-01	OTHER	213B		VOC1	BOTH	0.5-11S	NCE2	CON
B39GMLR2	R5211-01	OTHER	NONE		VOC1	BOTH	0.5-		
B43IPLR1	R5211-01	OTHER	NONE		VOC1	BOTH	0.5-		

Loading/Unloading Operations Attributes
Form OP-UA4 (Page 2)
Federal Operating Permit Program

Table 1b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter C: Loading and Unloading of Volatile Organic Compounds
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	Chapter 115 Control Device Type	Chapter 115 Control Device ID No.	Vapor-Tight	Vapor Space Holding Tank	Marine Terminal Exemptions	VOC Flash Point	Uncontrolled VOC Emissions
B13PGLR1	R5211-02	NONE		YES				
B39GMLR1	R5211-01	NONE		YES				

Loading/Unloading Operations Attributes
Form OP-UA4 (Page 9)
Federal Operating Permit Program

Table 7a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart G: National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic OrganicChemical Manufacturing Industry for Transfer Operations
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	Transfer Rack Type	Subject to Subpart BB	Compliance Options	Closed Vent System	Hard Piping
B13PGLR1	63G-01	GRP2	NO			
B13PGLR2	63G-01	GRP2	NO			
B17PELR1	63G-01	GRP2	NO			

Fugitive Emission Unit Attributes
Form OP-UA12 (Page 11)
Federal Operating Permit Program

Table 2a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter D: Fugitive Emission Control in Petroleum Refining, Natural Gas/Gasoline Processing, and Petrochemical Processes in Ozone Nonattainment Areas
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Title 30 TAC § 115.352 Applicable	< 250 Components at Site	Weight Percent VOC	Reciprocating Compressors or Positive Displacement Pumps
B13PGFU1	R5352-ALL				
B17PGFU2	R5352-ALL				
B17PEFU01	R5352-ALL				
B43IPFU1	R5352-ALL				

Fugitive Emission Unit Attributes
Form OP-UA12 (Page 32)
Federal Operating Permit Program

Table 4a: Title 40 Code of Federal Regulations Part 60 (40 CFR Part 60)
Subpart VV: Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry for which Construction, Reconstruction, or Modification Commenced After January 5, 1981, and on or Before November 7, 2006
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	Produces Chemicals	Affected Facility	Construction/ Modification Date	Compliance Option	Design Capacity	Produces Heavy Liquid Chemicals	Beverage Alcohol Production
B13PGFU1	R5352-ALL							

Fugitive Emission Unit Attributes
Form OP-UA12 (Page 70)
Federal Operating Permit Program

Table 9a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart H: National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	Equipment Type	Non Research and Development/Batch Processes	Vacuum Service	Less Than 300 Operating Hours	Heavy Liquid Service	AMEL
B13PGFU1	63H-ALL						
B17PEFU01	63H-ALL						
B17PGFU2	63H-ALL						
B39GMFU1	63H-ALL						
B39GMFU2	63H-ALL						
B39GMFU3	63H-ALL						
B43IPFU1	63H-ALL						

Texas Commission on Environmental Quality
Cooling Tower Attributes
Form OP-UA13 (Page 7)
Federal Operating Permit Program

Table 6: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP Index No.	Monitoring
B13PGHE60	63FFFF-01	YES

Water Separator Attributes
Form OP-UA14 (Page 1)
Federal Operating Permit Program

Table 1: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Water Separation
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit ID No.	SOP/GOP Index No.	Alternate Control Requirement (ACR)	ACR ID No.	Exemption	Emission Control Option	Control Device	Control Device ID No.
B39GMSP215	R5131-01	NO		ATVP			
B39GMSP220	R5131-01	NO		ATVP			
B39GMSP226	R5131-01	NO		ATVP			
B39GMSP228	R5131-01	NO		ATVP			
B39SP245	R5131-01	NO		ATVP			
B39SP265	R5131-01	NO		ATVP			

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
Form OP-UA15 (Page 3)
Federal Operating Permit Program

Table 2a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Vent Gas Control
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP/GOP Index No.	Chapter 115 Division	Combustion Exhaust	Vent Type	Total Uncontrolled VOC Weight	Combined 24-Hour VOC Weight	VOC Concentration	VOC Concentration or Emission Rate at Maximum Operating Conditions
B13PGD530	R5121-01	NO	NO	REGVAPPL				NO
B13PGD530	R5121-02	NO	NO	REGVAPPL				NO
B13PGD530	R5121-03	NO	NO	REGVAPPL				NO
B13PGD631	R5121-01	NO	NO	REGVAPPL				NO
B13PGD660	R5121-01	NO	NO	REGVAPPL				NO
B13PGPT34	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGPT601	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGRX1	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGS955	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST01	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST2	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST201	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST202	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST205	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST222	R5121-01	NO	NO	REGVAPPL		100-		YES

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
Form OP-UA15 (Page 3)
Federal Operating Permit Program

Table 2a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Vent Gas Control
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP/GOP Index No.	Chapter 115 Division	Combustion Exhaust	Vent Type	Total Uncontrolled VOC Weight	Combined 24-Hour VOC Weight	VOC Concentration	VOC Concentration or Emission Rate at Maximum Operating Conditions
B13PGST224	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST225	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST226	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST227	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST242	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST243	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST244	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST607	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST662	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST67	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGST850	R5121-01	NO	NO	REGVAPPL		100-		YES
B13PGVJ3	R5121-01	NO	NO	REGVAPPL				NO
B13PGVJ3	R5121-02	NO	NO	REGVAPPL				NO
B13PGVJ3	R5121-03	NO	NO	REGVAPPL				NO
B13SCPOLY	R5121-01	NO	NO	REGVAPPL				NO
B17SV384	R5121-01	NO	NO	DISTOPER				NO

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
Form OP-UA15 (Page 3)
Federal Operating Permit Program

Table 2a: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Vent Gas Control
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP/GOP Index No.	Chapter 115 Division	Combustion Exhaust	Vent Type	Total Uncontrolled VOC Weight	Combined 24-Hour VOC Weight	VOC Concentration	VOC Concentration or Emission Rate at Maximum Operating Conditions
B39GMVH290	R5121-01	NO	NO	REGVAPPL				
B39PT290	R5121-01	NO	NO	REGVAPPL				
B39RX210	R5121-01	NO	NO	REGVAPPL				
B43IPD141	R5121-01	NO	NO	REGVAPPL				NO
B43IPR101A	R5121-01	NO	NO	REGVAPPL				NO
B43IPR101B	R5121-01	NO	NO	REGVAPPL				NO
B43IPRX1	R5121-01	NO	NO	REGVAPPL				NO
B43IPV132	R5121-01	NO	NO	REGVAPPL				NO
B43V132A	R5121-01	NO	NO	REGVAPPL		100-		YES

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
Form OP-UA15 (Page 4)
Federal Operating Permit Program

Table 2b: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Vent Gas Control
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Alternate Control Requirement	ACR ID No.	Control Device Type	Control Device ID No.
B13PGD530	R5121-01	NONE		DIRFLM	B19G1T210 (O2208)
B13PGD530	R5121-02	NONE		DIRFLM	B34VMTO210 (O2211)
B13PGD530	R5121-03	NONE		DIRFLM	B33INS1 (O2211)
B13PGD631	R5121-01	NONE		OTHER	B13PGSV22
B13PGD660	R5121-01	NONE		OTHER	B13PGSV22
B13PGVJ3	R5121-01	NONE		DIRFLM	B19G1T210 (O2208)
B13PGVJ3	R5121-02	NONE		DIRFLM	B34VMTO210 (O2211)
B13PGVJ3	R5121-03	NONE		DIRFLM	B33INS1 (O2211)
B13SCPOLY	R5121-01	NONE		OTHER	B13PGSV3
B17SV384	R5121-01	NONE		OTHER	B17SV384
B39GMVH290	R5121-01	NONE		OTHER	B39GMRX290
B39PT290	R5121-01	NONE		OTHER	B39GMRX290
B39RX210	R5121-01	NONE		OTHER	B39GMRX290
B43IPD141	R5121-01	NONE		OTHER	B43IPSV1
B43IPR101A	R5121-01	NONE		OTHER	B43IPSV1
B43IPR101B	R5121-01	NONE		OTHER	B43IPSV1
B43IPRX1	R5121-01	NONE		OTHER	B43IPSV1
B43IPV132	R5121-01	NONE		OTHER	B43IPSV1

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
Form OP-UA15 (Page 5)
Federal Operating Permit Program

Table 2c: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)
Subchapter B: Vent Gas Control
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Total Design Capacity	Flow Rate/Concentration	40 CFR Part 60, Subpart NNN Requirements	40 CFR Part 60, Subpart RRR Requirements
B17SV384	R5121-01	1100+	500+	NO	NO

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Federal Operating Permit Program

Table 6a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart G: National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Overlap	Group 1	Regulation	HAP Concentration	Flow Rate	Electing Control	NSPS TRE Index Value	MACT TRE Index Value	Plant Type
B17SV384	63G-01	NONE	NO		50+	5+	NOELECT		1-4	

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Federal Operating Permit Program

Table 6b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart G: National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Control Device	Control Device ID No.	Halogenated	TRE for Halogenated Vent Stream	Halogen Reduction Device	Installation Date	Performance Test
B17SV384	63G-01	ABS	B17SV384	NO				NO

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Federal Operating Permit Program

Table 6c: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart G: National Emission Standards for Organic Hazardous Air Pollutants From the Synthetic Organic Chemical Manufacturing Industry for Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Alternate Monitoring Parameters (AMP)	AMP ID No.	Continuous Monitoring	Continuous Monitoring Alt ID No.	Bypass Lines	Flow Indicator
B17SV384	63G-01	NO		NOALT		NO	

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Table 13a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants:
Miscellaneous Organic Chemical Manufacturing - Continuous Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Emission Standard	Comb Device	95% Scrubber	PERF Test	Negative Pressure	Bypass Line
B13PGD530	63FFFF-01	CD98					
B13PGSV2	63FFFF-01	GRP2					
B39GMVH290	63FFFF-01	GRP2					

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Table 13b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants:
Miscellaneous Organic Chemical Manufacturing - Continuous Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Recovery Device	Existing Source	TRE Index Threshold	Alt 63SS Mon Parameters	Alt 63SS Mon ID	SS Device Type	SS Device ID	Water
B13PGSV2	63FFFF-01	YES	YES	YES					
B39GMVH290	63FFFF-01	YES	YES	YES					

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Table 13e: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants:
Miscellaneous Organic Chemical Manufacturing - Continuous Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Designated GRP1	Small Device	1257A1	1257A1 Device Type	1257A1 Device ID	Alt 63SS Mon Parameters	Alt 63SS Mon ID	CEMS	SS Device Type	SS Device ID
B13PGD530	63FFFF-01	YES	NO				NO		NO	BPH44-	B19G1T210

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Table 13f: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants:
Miscellaneous Organic Chemical Manufacturing - Continuous Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	Meets 63.988(b)(2)	Water	Designated HAL	Determined HAL
B13PGD530	63FFFF-01	YES		NO	NO

Emission Point/Stationary Vent/Distillation Operation Vent/Process Vent Attributes
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Table 13g: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants:
Miscellaneous Organic Chemical Manufacturing - Continuous Process Vents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Emission Point ID No.	SOP Index No.	HAL Device Type	HAL Device ID	Prior Eval	Assessment Waiver	Assessment Waiver ID	Formaldehyde	Negative Pressure	Bypass Line
B13PGD530	63FFFF-01	NONE		NO	NO		NO	NO	NONE

Cleaning/Depainting Operation Attributes
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Table 2: Title 30 Texas Administrative Code Chapter 115 (30TAC Chapter 115)
Subchapter E: Industrial Cleaning Solvents
Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Process ID No.	SOP/GOP Index No.	Exemption	Alternate Control Requirement	ACR ID No.	Compliance Demonstration	Minor Modification	Minor Modification ID No.	Vapor Recovery	Emission Control
PROIPG	R5460-01	NONE	NONE		VOC	NO			
PROIPG	R5460-02	NONE	NONE		VAP	NO			
PROPGA	R5460-01	NONE	NONE		VOC	NO			
PROPGA	R5460-02	NONE	NONE		VAP	NO			
PROPGE	R5460-01	NONE	NONE		VOC	NO			
PROPGE	R5460-02	NONE	NONE		VAP	NO			
PROGMA	R5460-01	461DPRO							

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Table 1a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart F: National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry

Date: April 17, 2025	**Permit No.:** O2221	**Regulated Entity No.:** RN100225945
Area Name: Specialty Chemicals 2		**Customer Reference No.:** CN600356976

Process ID No.	SOP Index No.	Applicable Chemicals	Table 2 HAP	Alternate Means of Emission Limitation (AMEL)	AMEL ID No.	Heat Exchange System	Cooling Water Pressure
PROPGE	63F-01	YES	YES	NO		YES	NO

Chemical Manufacturing/Elastomer/Thermoplastic Process Unit Attributes
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Table 1b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart F: National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry

Date: April 17, 2025	**Permit No.:** O2221	**Regulated Entity No.:** RN100225945
Area Name: Specialty Chemicals 2		**Customer Reference No.:** CN600356976

Process ID No.	SOP Index No.	Intervening Cooling Fluid	Table 4 HAP Content	NPDES Permit	Meets 40 CFR § 63.104(a)(4)(i) - (iv)	Table 9 HAP Content	Cooling Water Monitored
PROPGE	63F-01	NO	NO	NO	NO	NO	YES

Chemical Manufacturing/Elastomer/Thermoplastic Process Unit Attributes
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Table 3: Title 30 Texas Administrative Code Chapter 115 (30 TAC Chapter 115)

Date: April 17, 2025	**Permit No.:** O2221	**Regulated Entity No.:** RN100225945
Area Name: Specialty Chemicals 2		**Customer Reference No.:** CN600356976

Process ID No.	SOP Index No.	Batch Process Annual Mass Emission	Single Unit Annual Mass Emissions	Alternate Control Requirement	ACRID No.	Aggregate Flow Rate	Control Device	Control Device ID No.
B13PGR1	R5160-01	YES						
B13PGR2	R5160-01	YES						
B13PGR5	R5160-01	YES						
B13PGR9	R5160-01	YES						

Chemical Manufacturing/Elastomer/Thermoplastic Process Unit Attributes
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Table 5a: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing - MCPU Processes

Date: April 17, 2025	**Permit No.:** O2221	**Regulated Entity No.:** RN100225945
Area Name: Specialty Chemicals 2		**Customer Reference No.:** CN600356976

Process ID No.	SOP Index No.	Ammonium Sulfate	Other Operations	63.100 CMPU	G2/<1000 Lb/Yr	2525E1
PROPGA	63FFFF-01	NO	YES	NO	NO	
PROGMA	63FFFF-01	NO	YES	NO	NO	

Chemical Manufacturing/Elastomer/Thermoplastic Process Unit Attributes
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Table 5b: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing - MCPU Processes

Date: April 17, 2025	**Permit No.:** O2221	**Regulated Entity No.:** RN100225945
Area Name: Specialty Chemicals 2		**Customer Reference No.:** CN600356976

Process ID No.	SOP Index No.	Startup 2003	Shared Batch Vent	PUG	Startup 2002	PP Alt	Cont Proc
PROPGA	63FFFF-01	YES	NO	NO	YES	NO	
PROGMA	63FFFF-01	YES	NO	NO	YES	NO	

Chemical Manufacturing/Elastomer/Thermoplastic Process Unit Attributes
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Table 5c: Title 40 Code of Federal Regulations Part 63 (40 CFR Part 63)
Subpart FFFF: National Emission Standards for Hazardous Air Pollutants: Miscellaneous Organic Chemical Manufacturing - MCPU Processes

Date: April 17, 2025	**Permit No.:** O2221	**Regulated Entity No.:** RN100225945
Area Name: Specialty Chemicals 2		**Customer Reference No.:** CN600356976

Process ID No.	SOP Index No.	>1000 Lb/Yr	Reduction	New Source	HAP Metals	Fabric Filter	Small CD	Design Eval	Batch Proc Vents
PROPGA	63FFFF-01	NO		NO					NO
PROGMA	63FFFF-01	NO		NO					NO

Section D - Applicability Identification Forms

Form OP-REQ1

Form OP-REQ2

Form OP-REQ3

Application Area-Wide Applicability Determinations and General Information
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Texas Commission on Environmental Quality

Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

I.	**Title 30 TAC Chapter 111 - Control of Air Pollution from Visible Emissions and Particulate Matter**		
	A.	**Visible Emissions**	
♦	1.	The application area includes stationary vents constructed on or before January 31, 1972.	☐ Yes ☒ No
♦	2.	The application area includes stationary vents constructed after January 31, 1972. *If the responses to Questions I.A.1 and I.A.2 are both "No," go to Question I.A.6. If the response to Question I.A.1 is "No" and the response to Question I.A.2 is "Yes," go to Question I.A.4.*	☒ Yes ☐ No
♦	3.	The application area is opting to comply with the requirements for stationary vents constructed after January 31, 1972 for vents in the application area constructed on or before January 31, 1972.	☐ Yes ☐ No
♦	4.	All stationary vents are addressed on a unit specific basis.	☐ Yes ☒ No
♦	5.	Test Method 9 (40 CFR Part 60, Appendix A, Method 9 - Visual Determination of the Opacity of Emissions from Stationary Sources) is used to determine opacity of emissions in the application area.	☒ Yes ☐ No
♦	6.	The application area includes structures subject to 30 TAC § 111.111(a)(7)(A).	☒ Yes ☐ No
♦	7.	The application area includes sources, other than those specified in 30 TAC § 111.111(a)(1), (4), or (7), subject to 30 TAC § 111.111(a)(8)(A).	☒ Yes ☐ No
♦	8.	Emissions from units in the application area include contributions from uncombined water.	☒ Yes ☐ No
♦	9.	The application area is located in the City of El Paso, including Fort Bliss Military Reservation, and includes solid fuel heating devices subject to 30 TAC § 111.111(c).	☐ Yes ☒ No ☐ N/A

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

I.	**Title 30 TAC Chapter 111 - Control of Air Pollution from Visible Emissions and Particulate Matter (continued)**			
	B.	**Materials Handling, Construction, Roads, Streets, Alleys, and Parking Lots**		
		1.	Items a - d determine applicability of any of these requirements based on geographical location.	
♦		a.	The application area is located within the city of El Paso.	☐ Yes ☒ No
♦		b.	The application area is located within the Fort Bliss Military Reservation, except areas specified in 30 TAC § 111.141.	☐ Yes ☒ No
♦		c.	The application area is located in the portion of Harris County inside the loop formed by Beltway 8.	☐ Yes ☒ No
♦		d.	The application area is located in the area of Nueces County outlined in Group II state implementation plan (SIP) for inhalable particulate matter adopted by the TCEQ on May 13, 1988.	☐ Yes ☒ No
			If there is any "Yes" response to Questions I.B.1.a - d, answer Questions I.B.2.a - d. If all responses to Questions I.B.1.a-d are "No," go to Section I.C.	
		2.	Items a - d determine the specific applicability of these requirements.	
♦		a.	The application area is subject to 30 TAC § 111.143.	☐ Yes ☐ No
♦		b.	The application area is subject to 30 TAC § 111.145.	☐ Yes ☐ No
♦		c.	The application area is subject to 30 TAC § 111.147.	☐ Yes ☐ No
♦		d.	The application area is subject to 30 TAC § 111.149.	☐ Yes ☐ No
	C.	**Emissions Limits on Nonagricultural Processes**		
♦	1.		The application area includes a nonagricultural process subject to 30 TAC § 111.151.	☒ Yes ☐ No
		2.	The application area includes a vent from a nonagricultural process that is subject to additional monitoring requirements. *If the response to Question I.C.2 is "No," go to Question I.C.4.*	☐ Yes ☒ No
		3.	All vents from nonagricultural process in the application area are subject to additional monitoring requirements.	☐ Yes ☐ No

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

I.	**Title 30 TAC Chapter 111 - Control of Air Pollution from Visible Emissions and Particulate Matter (continued)**		
	C.	**Emissions Limits on Nonagricultural Processes (continued)**	
	4.	The application area includes oil or gas fuel-fired steam generators subject to 30 TAC §§ 111.153(a) and 111.153(c).	☐ Yes ☒ No
	5.	The application area includes oil or gas fuel-fired steam generators that are subject to additional monitoring requirements. *If the response to Question I.C.5 is "No," go to Question I.C.7.*	☐ Yes ☒ No
	6.	All oil or gas fuel-fired steam generators in the application area are subject to additional monitoring requirements.	☐ Yes ☐ No
	7.	The application area includes solid fossil fuel-fired steam generators subject to 30 TAC §§ 111.153(a) and 111.153(b).	☐ Yes ☒ No
	8.	The application area includes solid fossil fuel-fired steam generators that are subject to additional monitoring requirements. *If the response to Question I.C.8 is "No," go to Section I.D.*	☐ Yes ☒ No
	9.	All solid fossil fuel-fired steam generators in the application area are subject to additional monitoring requirements.	☐ Yes ☐ No
	D.	**Emissions Limits on Agricultural Processes**	
	1.	The application area includes agricultural processes subject to 30 TAC § 111.171.	☐ Yes ☒ No
	E.	**Outdoor Burning**	
♦	1.	Outdoor burning is conducted in the application area. *If the response to Question I.E.1 is "No," go to Section II.*	☒ Yes ☐ No
♦	2.	Fire training is conducted in the application area and subject to the exception provided in 30 TAC § 111.205.	☐ Yes ☒ No
♦	3.	Fires for recreation, ceremony, cooking, and warmth are used in the application area and subject to the exception provided in 30 TAC § 111.207.	☒ Yes ☐ No
♦	4.	Disposal fires are used in the application area and subject to the exception provided in 30 TAC § 111.209.	☐ Yes ☒ No

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

I.	**Title 30 TAC Chapter 111 - Control of Air Pollution from Visible Emissions and Particulate Matter (continued)**		
	E.	**Outdoor Burning (continued)**	
♦	5.	Prescribed burning is used in the application area and subject to the exception provided in 30 TAC § 111.211.	☐ Yes ☒ No
♦	6.	Hydrocarbon burning is used in the application area and subject to the exception provided in 30 TAC § 111.213.	☐ Yes ☒ No
♦	7.	The application area has received the TCEQ Executive Director approval of otherwise prohibited outdoor burning according to 30 TAC § 111.215.	☐ Yes ☒ No
II.	**Title 30 TAC Chapter 112 - Control of Air Pollution from Sulfur Compounds**		
	A.	**Temporary Fuel Shortage Plan Requirements**	
		1. The application area includes units that are potentially subject to the temporary fuel shortage plan requirements of 30 TAC §§ 112.15 - 112.18.	☐ Yes ☒ No
III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds**		
	A.	**Applicability**	
♦	1.	The application area is located in the Houston/Galveston/Brazoria area, Beaumont/Port Arthur area, Dallas/Fort Worth area, El Paso area, or a covered attainment county as defined by 30 TAC § 115.10. *See instructions for inclusive counties. If the response to Question III.A.1 is "No," go to Section IV.*	☒ Yes ☐ No
	B.	**Storage of Volatile Organic Compounds**	
♦	1.	The application area includes storage tanks, reservoirs, or other containers capable of maintaining working pressure sufficient at all times to prevent any VOC vapor or gas loss to the atmosphere.	☒ Yes ☐ No

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	C.	**Industrial Wastewater**	
	1.	The application area includes affected VOC wastewater streams of an affected source category, as defined in 30 TAC § 115.140. *If the response to Question III.C.1 is "No" or "N/A," go to Section III.D.*	☐ Yes ☒ No ☐ N/A
	2.	The application area is located at a petroleum refinery in the Beaumont/Port Arthur or Houston/Galveston/Brazoria area. *If the response to Question III.C.2 is "Yes" and the refinery is in the Beaumont/Port Arthur area, go to Section III.D.*	☐ Yes ☐ No
	3.	The application area is complying with the provisions of 40 CFR Part 63, Subpart G, as an alternative to complying with this division (relating to Industrial Wastewater). *If the response to Question III.C.3 is "Yes," go to Section III.D.*	☐ Yes ☐ No
	4.	The application area is located at a plant with an annual VOC loading in wastewater, as determined in accordance with 30 TAC § 115.148, less than or equal to 10 Mg (11.03 tons). *If the response to Question III.C.4 is "Yes," go to Section III.D.*	☐ Yes ☐ No
	5.	The application area includes wastewater drains, junction boxes, lift stations, or weirs that are subject to the control requirements of 30 TAC § 115.142(1).	☐ Yes ☐ No
	6.	The application area includes wastewater drains, junction boxes, lift stations, or weirs that handle streams chosen for exemption under 30 TAC § 115.147(2).	☐ Yes ☐ No
	7.	The application area includes wastewater drains, junction boxes, lift stations, or weirs that have an executive director approved exemption under 30 TAC § 115.147(4).	☐ Yes ☐ No
	D.	**Loading and Unloading of VOCs**	
♦	1.	The application area includes VOC loading operations.	☒ Yes ☐ No
♦	2.	The application area includes VOC transport vessel unloading operations. *For GOP applications, if the responses to Questions III.D.1 - D.2 are "No," go to Section III.E.*	☒ Yes ☐ No

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	D.	**Loading and Unloading of VOCs (continued)**	
♦	3.	Transfer operations at motor vehicle fuel dispensing facilities are the only VOC transfer operations conducted in the application area.	☐ Yes ☒ No
	E.	**Filling of Gasoline Storage Vessels (Stage I) for Motor Vehicle Fuel Dispensing Facilities**	
♦	1.	The application area includes one or more motor vehicle fuel dispensing facilities and gasoline is transferred from a tank-truck tank into a stationary storage container. *If the response to Question III.E.1 is "No," go to Section III.F.*	☐ YES ☒ No
♦	2.	Transfers to stationary storage containers used exclusively for the fueling of agricultural implements are the only transfer operations conducted at facilities in the application area.	☐ YES ☐ No
♦	3.	All transfers at facilities in the application area are made into stationary storage containers with internal floating roofs, external floating roofs, or their equivalent. *If the response to Question III.E.2 and/or E.3 is "Yes," go to Section III.F.*	☐ Yes ☐ No
♦	4.	The application area is located in a covered attainment county as defined in 30 TAC § 115.10. *If the response to Question III.E.4 is "No," go to Question III.E.9.*	☐ Yes ☐ No
♦	5.	Stationary gasoline storage containers with a nominal capacity less than or equal to 1,000 gallons are located at the facility.	☐ Yes ☐ No
♦	6.	Stationary gasoline storage containers with a nominal capacity greater than 1,000 gallons are located at the facility.	☐ Yes ☐ No
♦	7.	At facilities located in a covered attainment county other than Bastrop, Bexar, Caldwell, Comal, Guadalupe, Hays, Travis, Williamson, or Wilson County, transfers are made to stationary storage tanks greater than 1000 gallons located at a facility which has dispensed less than 100,000 gallons of gasoline in a calendar month after October 31, 2014. *If the response to Question III.E.7 is "Yes," go to Section III.F.*	☐ Yes ☐ No

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	E.	**Filling of Gasoline Storage Vessels (Stage I) for Motor Vehicle Fuel Dispensing Facilities (continued)**	
♦	8.	At facilities located in Bastrop, Bexar, Caldwell, Comal, Guadalupe, Hays, Travis, Williamson, or Wilson County, transfers are made to stationary storage tanks greater than 1000 gallons located at a facility which has dispensed no more than 25,000 gallons of gasoline in a calendar month after December 31, 2004. *If the response to Question III.E.8 is "Yes," go to Section III.F.*	☐ Yes ☐ No
♦	9.	Transfers are made to stationary storage tanks located at a motor vehicle fuel dispensing facility which has dispensed no more than 10,000 gallons of gasoline in any calendar month after January 1, 1991 and for which construction began prior to November 15, 1992.	☐ Yes ☐ No
♦	10.	Transfers are made to stationary storage tanks located at a motor vehicle fuel dispensing facility which has dispensed more than 10,000 gallons of gasoline in any calendar month after January 1, 1991 and for which construction began prior to November 15, 1992.	☐ Yes ☐ No
♦	11.	Transfers are made to stationary storage tanks located at a motor vehicle fuel dispensing facility which commenced construction on or after November 15, 1992.	☐ Yes ☐ No
♦	12.	At facilities located in Ellis, Johnson, Kaufman, Parker, or Rockwall County, transfers are made to stationary storage tanks located at a facility which has dispensed at least 10,000 gallons of gasoline but less than 125,000 gallons of gasoline in a calendar month after April 30, 2005.	☐ Yes ☐ No
	F.	**Control of VOC Leaks from Transport Vessels (Complete this section for GOP applications for GOPs 511, 512, 513 and 514 only)**	
♦	1.	Tank-truck tanks are filled with, or emptied of, gasoline at a facility that is subject to 30 TAC § 115.214(a)(1)(C) or 115.224(2) within the application area.	☐ Yes ☐ No ☒ N/A

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	F.	**Control of VOC Leaks from Transport Vessels (Complete this section for GOP applications for GOPs 511, 512, 513 and 514 only) (continued)**	
♦	2.	Tank-truck tanks are filled with non-gasoline VOCs having a TVP greater than or equal to 0.5 psia under actual storage conditions at a facility subject to 30 TAC § 115.214(a)(1)(C) within the application area.	☐ Yes ☐ No ☒ N/A
♦	3.	Tank-truck tanks are filled with, or emptied of, gasoline at a facility that is subject to 30 TAC § 115.214(b)(1)(C) or 115.224(2) within the application area.	☐ Yes ☐ No ☒ N/A
	G.	**Control of Vehicle Refueling Emissions (Stage II) at Motor Vehicle Fuel Dispensing Facilities**	
♦	1.	The application area includes one or more motor vehicle fuel dispensing facilities and gasoline is transferred from a stationary storage container into motor vehicle fuel tanks. *If the response to Question III.G.1 is "No" or "N/A," go to Section III.H.*	☐ Yes ☒ No ☐ N/A
♦	2.	The application area includes facilities that began construction on or after November 15, 1992 and prior to May 16, 2012.	☐ Yes ☐ No
♦	3.	The application area includes facilities that began construction prior to November 15, 1992. *If the responses to Questions III.G.2 and III.G.3 are both "No," go to Section III.H.*	☐ Yes ☐ No
♦	4.	The application area includes only facilities that have a monthly throughput of less than 10,000 gallons of gasoline.	☐ Yes ☐ No
♦	5.	The decommissioning of all Stage II vapor recovery control equipment located in the application area has been completed and the decommissioning notice submitted.	☐ Yes ☐ No ☐ N/A

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	H.	**Control of Reid Vapor Pressure (RVP) of Gasoline**	
♦	1.	The application area includes stationary tanks, reservoirs, or other containers holding gasoline that may ultimately be used in a motor vehicle in El Paso County. *If the response to Question III.H.1 is "No" or "N/A," go to Section III.I.*	☐ Yes ☐ No ☒ N/A
♦	2.	The application area includes stationary tanks, reservoirs, or other containers holding gasoline that will be used exclusively for the fueling of agricultural implements.	☐ Yes ☐ No
♦	3.	The application area includes a motor vehicle fuel dispensing facility.	☐ Yes ☐ No
♦	4.	The application area includes stationary tanks, reservoirs, or other containers holding gasoline and having a nominal capacity of 500 gallons or less.	☐ Yes ☐ No
	I.	**Process Unit Turnaround and Vacuum-Producing Systems in Petroleum Refineries**	
		1. The application area is located at a petroleum refinery.	☐ Yes ☒ No
	J.	**Surface Coating Processes (Complete this section for GOP applications only.)**	
♦	1.	Surface coating operations (other than those performed on equipment located on-site and in-place) that meet the exemption specified in 30 TAC § 115.427(3)(A) or 115.427(7) are performed in the application area.	☐ Yes ☐ No ☒ N/A

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For SOP applications, answer ALL questions unless otherwise directed.
♦ For GOP applications, answer ONLY these questions unless otherwise directed.

III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	K.	**Cutback Asphalt**	
	1.	Conventional cutback asphalt containing VOC solvents for the paving of roadways, driveways, or parking lots, is used or specified for use in the application area by a state, municipal, or county agency. *If the response to Question III.K.1 is "N/A," go to Section III.L.*	☐ Yes ☒ No ☐ N/A
	2.	The use, application, sale, or offering for sale of conventional cutback asphalt containing VOC solvents for the paving of roadways, driveways, or parking lots occurs in the application area.	☐ Yes ☐ No ☐ N/A
	3.	Asphalt emulsion is used or produced within the application area.	☐ Yes ☐ No
	4.	The application area is using an alternate control requirement as specified in 30 TAC § 115.513. *If the response to Question III.K.4 is "No," go to Section III.L.*	☐ Yes ☐ No
	5.	The application area uses, applies, sells, or offers for sale asphalt concrete, made with cutback asphalt, that meets the exemption specified in 30 TAC § 115.517(1).	☐ Yes ☐ No
	6.	The application area uses, applies, sells, or offers for sale cutback asphalt that is used solely as a penetrating prime coat.	☐ Yes ☐ No
	7.	The applicant using cutback asphalt is a state, municipal, or county agency.	☐ Yes ☐ No
	L.	**Degassing of Storage Tanks, Transport Vessels and Marine Vessels**	
♦	1.	The application area includes degassing operations for stationary, marine, and/or transport vessels. *If the response to Question III.L.1 is "No" or "N/A," go to Section III.M.*	☒ Yes ☐ No ☐ N/A
♦	2.	Degassing of only ocean-going, self-propelled VOC marine vessels is performed in the application area. *If the response to Question III.L.2 is "Yes," go to Section III.M.*	☐ Yes ☒ No ☐ N/A

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III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	L.	**Degassing of Storage Tanks, Transport Vessels and Marine Vessels (continued)**	
♦	3.	Degassing of stationary VOC storage vessels with a nominal storage capacity of 1,000,000 gallons or more and a vapor space partial pressure greater than or equal to 0.5 psia of VOC is performed in the application area.	☐ Yes ☒ No ☐ N/A
♦	4.	Degassing of stationary VOC storage vessels with a nominal storage capacity of 250,000 gallons or more, or a nominal storage capacity of 75,000 gallons and storing materials with a true vapor pressure greater than 2.6 psia, and a vapor space partial pressure greater than or equal to 0.5 psia of VOC is performed in the application area.	☐ Yes ☒ No ☐ N/A
♦	5.	Degassing of VOC transport vessels with a nominal storage capacity of 8,000 gallons or more and a vapor space partial pressure greater than or equal to 0.5 psia of VOC is performed in the application area.	☐ Yes ☒ No
♦	6.	Degassing of VOC marine vessels with a nominal storage capacity of 10,000 barrels (420,000 gallons) or more and a vapor space partial pressure greater than or equal to 0.5 psia of VOC is performed in the application area.	☐ Yes ☒ No ☐ N/A
♦	7.	Degassing of VOC marine vessels with a nominal storage capacity of 10,000 barrels (420,000 gallons) and a vapor space partial pressure ≥ 0.5 psia that have sustained damage as specified in 30 TAC § 115.547(5) is performed in the application area.	☐ Yes ☒ No ☐ N/A
	M.	**Petroleum Dry Cleaning Systems**	
		1. The application area contains one or more petroleum dry cleaning facilities that use petroleum-based solvents.	☐ Yes ☒ No ☐ N/A

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III.	**Title 30 TAC Chapter 115 - Control of Air Pollution from Volatile Organic Compounds (continued)**		
	N.	**Vent Gas Control (Highly Reactive Volatile Organic Compounds (HRVOC)**	
	1.	The application area includes one or more vent gas streams containing HRVOC.	☐ Yes ☒ No ☐ N/A
	2.	The application area includes one or more flares that emit or have the potential to emit HRVOC. *If the responses to Questions III.N.1 and III.N.2 are both "No" or "N/A," go to Section III.O. If the response to Question III.N.1 is "Yes," continue with Question III.N.3.*	☐ Yes ☒ No ☐ N/A
	3.	All vent streams in the application area that are routed to a flare contain less than 5.0% HRVOC by weight at all times.	☐ Yes ☐ No
	4.	All vent streams in the application area that are not routed to a flare contain less than 100 ppmv HRVOC at all times. *If the responses to Questions III.N.3 and III.N.4 are both "Yes," go to Section III.O.*	☐ Yes ☐ No
	5.	The application area contains pressure relief valves that are not controlled by a flare.	☐ Yes ☐ No
	6.	The application area has at least one vent stream which has no potential to emit HRVOC.	☐ Yes ☐ No
	7.	The application area has vent streams from a source described in 30 TAC § 115.727(c)(3)(A) - (H).	☐ Yes ☐ No
	O.	**Cooling Tower Heat Exchange Systems (HRVOC)**	
	1.	The application area includes one or more cooling tower heat exchange systems that emit or have the potential to emit HRVOC.	☐ Yes ☒ No ☐ N/A

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IV.	**Title 30 TAC Chapter 117 - Control of Air Pollution from Nitrogen Compounds**		
	A.	**Applicability**	
♦	1.	The application area is located in the Houston/Galveston/Brazoria, Beaumont/Port Arthur, or Dallas/Fort Worth Eight-Hour area. *For SOP applications, if the response to Question IV.A.1 is "Yes," complete Sections IV.B - IV.F and IV.H.* *For GOP applications for GOPs 511, 512, 513, or 514, if the response to Question IV.A.1 is "Yes," go to Section IV.F.* *For GOP applications for GOP 517, if the response to Question IV.A.1 is "Yes," complete Sections IV.C and IV.F.* *For GOP applications, if the response to Question IV.A.1 is "No," go to Section VI.*	☒ Yes ☐ No
	2.	The application area is located in Bexar, Comal, Ellis, Hays, or McLennan County and includes a cement kiln. *If the response to Question IV.A.2 is "Yes," go to Question IV.H.1.*	☐ Yes ☒ No
	3.	The application area includes a utility electric generator in an east or central Texas county. *See instructions for a list of counties included.* *If the response to Question IV.A.3 is "Yes," go to Question IV.G.1.* *If the responses to Questions IV.A.1 - 3 are all "No," go to Question IV.H.1.*	☐ Yes ☒ No
	B.	**Utility Electric Generation in Ozone Nonattainment Areas**	
	1.	The application area includes units specified in 30 TAC §§ 117.1000, 117.1200, or 117.1300. *If the response to Question IV.B.1 is "No," go to Question IV.C.1.*	☐ Yes ☒ No
	2.	The application area is complying with a System Cap in 30 TAC §§ 117.1020 or 117.1220.	☐ Yes ☐ No

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♦ For GOP applications, answer ONLY these questions unless otherwise directed.

IV.	**Title 30 TAC Chapter 117 - Control of Air Pollution from Nitrogen Compounds (continued)**		
	C.	**Commercial, Institutional, and Industrial Sources in Ozone Nonattainment Areas**	
♦	1.	The application area is located at a site subject to 30 TAC Chapter 117, Subchapter B and includes units specified in 30 TAC §§ 117.100, 117.300, or 117.400. *For SOP applications, if the response to Question IV.C.1 is "No," go to Question IV.D.1. For GOP applications for GOP 517, if the response to Question IV.C.1 is "No," go to Section IV.F.*	☐ Yes ☒ NO
♦	2.	The application area is located at a site that was a major source of NO_X before November 15, 1992.	☐ Yes ☐ No ☐ N/A
♦	3.	The application area includes an electric generating facility required to comply with the System Cap in 30 TAC § 117.320.	☐ Yes ☐ No
	D.	**Adipic Acid Manufacturing**	
	1.	The application area is located at, or part of, an adipic acid production unit.	☐ Yes ☒ No ☐ N/A
	E.	**Nitric Acid Manufacturing - Ozone Nonattainment Areas**	
	1.	The application area is located at, or part of, a nitric acid production unit.	☐ Yes ☒ No ☐ N/A
	F.	**Combustion Control at Minor Sources in Ozone Nonattainment Areas - Boilers, Process Heaters, Stationary Engines and Gas Turbines**	
♦	1.	The application area is located at a site that is a minor source of NO_X in the Houston/Galveston/Brazoria or Dallas/Fort Worth Eight-Hour areas (except for Wise County). *For SOP applications, if the response to Question IV.F.1 is "No," go to Question IV.G.1. For GOP applications, if the response to Question IV.F.1 is "No," go to Section VI.*	☐ Yes ☒ No
♦	2.	The application area is located in the Houston/Galveston/Brazoria area and has units that qualify for an exemption under 30 TAC § 117.2003(a).	☐ Yes ☐ No
♦	3.	The application area is located in the Houston/Galveston/Brazoria area and has units that qualify for an exemption under 30 TAC § 117.2003(b).	☐ Yes ☐ No

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IV.	**Title 30 TAC Chapter 117 - Control of Air Pollution from Nitrogen Compounds (continued)**		
	F.	**Combustion Control at Minor Sources in Ozone Nonattainment Areas - Boilers, Process Heaters, Stationary Engines and Gas Turbines (continued)**	
♦	4.	The application area is located in the Dallas/Fort Worth Eight-Hour area (except for Wise County) and has units that qualify for an exemption under 30 TAC § 117.2103.	☐ Yes ☐ No
♦	5.	The application area has units subject to the emission specifications under 30 TAC §§ 117.2010 or 30 TAC § 117.2110.	☐ Yes ☐ No
	6.	The application area has a unit that has been approved for alternative case specific specifications (ACSS) in 30 TAC § 117.2025 or 30 TAC § 117.2125. *If the response to Question IV.F.6 is "No," go to Section IV.G.*	☐ Yes ☐ No
	7.	An ACSS for carbon monoxide (CO) has been approved?	☐ Yes ☐ No
	8.	An ACSS for ammonia (NH_3) has been approved?	☐ Yes ☐ No
	9.	Provide the Permit Number(s) and authorization/issuance date(s) of the NSR project(s) that incorporates an ACSS below.	
	G.	**Utility Electric Generation in East and Central Texas**	
	1.	The application area includes utility electric power boilers and/or stationary gas turbines (including duct burners used in turbine exhaust ducts) that were placed into service before December 31, 1995. *If the response to Question IV.G.1 is "No," go to Question IV.H.1.*	☐ Yes ☒ No
	2.	The application area is complying with the System Cap in 30 TAC § 117.3020.	☐ Yes ☐ No
	H.	**Multi-Region Combustion Control - Water Heaters, Small Boilers, and Process Heaters**	
	1.	The application area includes a manufacturer, distributor, retailer or installer of natural gas fired water heaters, boilers or process heaters with a maximum rated capacity of 2.0 MMBtu/hr or less. *If the response to question IV.H.1 is "No," go to Section V.*	☐ Yes ☒ No
	2.	All water heaters, boilers or process heaters manufactured, distributed, retailed or installed qualify for an exemption under 30 TAC § 117.3203.	☐ Yes ☐ No

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V.	**Title 40 Code of Federal Regulations Part 59 (40 CFR Part 59) - National Volatile Organic Compound Emission Standards for Consumer and Commercial Products**		
	A.	**Subpart B - National Volatile Organic Compound Emission Standards for Automobile Refinish Coatings**	
	1.	The application area manufactures automobile refinish coatings or coating components and sells or distributes these coatings or coating components in the United States.	☐ Yes ☒ No
	2.	The application area imports automobile refinish coatings or coating components, manufactured on or after January 11, 1999, and sells or distributes these coatings or coating components in the United States. *If the responses to Questions V.A.1 and V.A.2 are both "No," go to Section V.B.*	☐ Yes ☒ No
	3.	All automobile refinish coatings or coating components manufactured or imported by the application area meet one or more of the exemptions specified in 40 CFR § 59.100(c)(1) - (6).	☐ Yes ☐ No
	B.	**Subpart C - National Volatile Organic Compound Emission Standards for Consumer Products**	
	1.	The application area manufactures consumer products for sale or distribution in the United States.	☐ Yes ☒ No
	2.	The application area imports consumer products manufactured on or after December 10, 1998 and sells or distributes these consumer products in the United States.	☐ Yes ☒ No
	3.	The application area is a distributor of consumer products whose name appears on the label of one or more of the products. *If the responses to Questions V.B.1 - V.B.3 are all "No," go to Section V.C.*	☐ Yes ☒ No
	4.	All consumer products manufactured, imported, or distributed by the application area meet one or more of the exemptions specified in 40 CFR § 59.201(c)(1) - (7).	☐ Yes ☐ No

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V.	**Title 40 Code of Federal Regulations Part 59 (40 CFR Part 59) - National Volatile Organic Compound Emission Standards for Consumer and Commercial Products (continued)**		
	C.	**Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings**	
	1.	The application area manufactures or imports architectural coatings for sale or distribution in the United States.	☐ Yes ☒ No
	2.	The application area manufactures or imports architectural coatings that are registered under the Federal Insecticide, Fungicide, and Rodenticide Act. *If the responses to Questions V.C.1-2 are both "No," go to Section V.D.*	☐ Yes ☒ No
	3.	All architectural coatings manufactured or imported by the application area meet one or more of the exemptions specified in 40 CFR §59.400(c)(1)-(5).	☐ Yes ☐ No
	D.	**Subpart E - National Volatile Organic Compound Emission Standards for Aerosol Coatings**	
	1.	The application area manufactures or imports aerosol coating products for sale or distribution in the United States.	☐ Yes ☒ No
	2.	The application area is a distributor of aerosol coatings for resale or distribution in the United States.	☐ Yes ☒ No
	E.	**Subpart F - Control of Evaporative Emissions from New and In-Use Portable Fuel Containers**	
	1.	The application area manufactures or imports portable fuel containers for sale or distribution in the United States. *If the response to Question V.E.1 is "No," go to Section VI.*	☐ Yes ☒ No
	2.	All portable fuel containers manufactured or imported by the application area meet one or more of the exemptions specified in 40 CFR § 59.605(a) - (c).	☐ Yes ☐ No
VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards**		
	A.	**Applicability**	
♦	1.	The application area includes a unit(s) that is subject to one or more 40 CFR Part 60 subparts. *If the response to Question VI.A.1 is "No," go to Section VII.*	☒ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	B.	**Subpart Y - Standards of Performance for Coal Preparation and Processing Plants**	
	1.	The application area is located at a coal preparation and processing plant. *If the response to Question VI.B.1 is "No," go to Section VI.C.*	☐ Yes ☒ No
	2.	The coal preparation and processing plant has a design capacity greater than 200 tons per day (tpd). *If the response to Question VI.B.2 is "No," go to Section VI.C.*	☐ Yes ☐ No
	3.	The plant has an option to enforceably limit its operating level to less than 200 tpd and is choosing this option. *If the response to Question VI.B.3 is "Yes," go to Section VI.C.*	☐ Yes ☐ No
	4.	The plant contains an open storage pile, as defined in § 60.251, as an affected facility. *If the response to Question VI.B.4 is "No," go to Section VI.C.*	☐ Yes ☐ No
	5.	The open storage pile was constructed, reconstructed or modified after May 27, 2009.	☐ Yes ☐ No
	C.	**Subpart GG - Standards of Performance for Stationary Gas Turbines (GOP applicants only)**	
♦	1.	The application area includes one or more stationary gas turbines that have a heat input at peak load greater than or equal to 10 MMBtu/hr (10.7GJ/hr), based on the lower heating value of the fuel fired. *If the response to Question VI.C.1 is "No" or "N/A," go to Section VI.E.*	☐ Yes ☐ No ☒ N/A
♦	2.	One or more of the affected facilities were constructed, modified, or reconstructed after October 3, 1977 and prior to February 19, 2005. *If the response to Question VI.C.2 is "No," go to Section VI.E.*	☐ Yes ☐ No
♦	3.	One or more stationary gas turbines in the application area are using a previously approved alternative fuel monitoring schedule as specified in 40 CFR § 60.334(h)(4).	☐ Yes ☐ No
♦	4.	The exemption specified in 40 CFR § 60.332(e) is being utilized for one or more stationary gas turbines in the application area.	☐ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	C.	**Subpart GG - Standards of Performance for Stationary Gas Turbines (GOP applicants only) (continued)**	
♦	5.	One or more stationary gas turbines subject to 40 CFR Part 60, Subpart GG in the application area is injected with water or steam for the control of nitrogen oxides.	☐ Yes ☐ No
	D.	**Subpart XX - Standards of Performance for Bulk Gasoline Terminals**	
		1. The application area includes bulk gasoline terminal loading racks. *If the response to Question VI.D.1 is "No," go to Section VI.E.*	☐ Yes ☒ No ☐ N/A
		2. One or more of the loading racks were constructed or modified after December 17, 1980, and are not subject to 40 CFR Part 63, Subpart CC.	☐ Yes ☐ No
	E.	**Subpart LLL - Standards of Performance for Onshore Natural Gas Processing: Sulfur Dioxide (SO_2) Emissions**	
♦	1.	The application area includes affected facilities identified in 40 CFR § 60.640(a) that process natural gas (onshore). *For SOP applications, if the response to Question VI.E.1 is "No," go to Section VI.F. For GOP applications, if the response to Question VI.E.1 is or "N/A," go to Section VI.H.*	☐ Yes ☒ No
♦	2.	The affected facilities commenced construction or modification after January 20, 1984 and on or before August 23, 2011. *For SOP applications, if the response to Question VI.E.2 is "NO," go to Section VI.F. For GOP applications, if the response to Question VI.E.2 is "No," go to Section VI.H.*	☐ Yes ☐ No
♦	3.	The application area includes a gas sweetening unit with a design capacity greater than or equal to 2 long tons per day (LTPD) of hydrogen sulfide but operates at less than 2 LTPD. *For SOP applications, if the response to Question VI.E.3 is "No," go to Section VI.F. For GOP applications, if the response to Question VI.E.3 is "No," go to Section VI.H.*	☐ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	E.	**Subpart LLL - Standards of Performance for Onshore Natural Gas Processing: Sulfur Dioxide (SO_2) Emissions (continued)**	
♦	4.	Federally enforceable operating limits have been established in the preconstruction authorization limiting the gas sweetening unit to less than 2 LTPD. *For SOP applications, if the response to Question VI.E.4. is "No," go to Section VI.F. For GOP applications, if the response to Question VI.E.4. is "No," go to Section VI.H.*	☐ Yes ☐ No
♦	5.	Please provide the Unit ID(s) for the gas sweetening unit(s) that have established federally enforceable operating limits in the space provided below	
	F.	**Subpart OOO - Standards of Performance for Nonmetallic Mineral Processing Plants**	
	1.	The application area includes affected facilities identified in 40 CFR § 60.670(a)(1) that are located at a fixed or portable nonmetallic mineral processing plant. *If the response to Question VI.F.1 is "No," go to Section VI.G.*	☐ Yes ☒ No
	2.	Affected facilities identified in 40 CFR § 60.670(a)(1) and located in the application area are subject to 40 CFR Part 60, Subpart OOO.	☐ Yes ☐ No
	G.	**Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems**	
	1.	The application area is located at a petroleum refinery and includes one or more of the affected facilities identified in 40 CFR § 60.690(a)(2) - (4) for which construction, modification, or reconstruction was commenced after May 4, 1987. *If the response to Question VI.G.1 is "No," go to Section VI.H.*	☐ Yes ☒ No
	2.	The application area includes storm water sewer systems.	☐ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	G.	**Subpart QQQ - Standards of Performance for VOC Emissions from Petroleum Refinery Wastewater Systems (continued)**	
	3.	The application area includes ancillary equipment which is physically separate from the wastewater system and does not come in contact with or store oily wastewater.	☐ Yes ☐ No
	4.	The application area includes non-contact cooling water systems.	☐ Yes ☐ No
	5.	The application area includes individual drain systems. *If the response to Question VI.G.5 is "No," go to Section VI.H.*	☐ Yes ☐ No
	6.	The application area includes one or more individual drain systems that meet the exemption specified in 40 CFR § 60.692-2(d).	☐ Yes ☐ No
	7.	The application area includes completely closed drain systems.	☐ Yes ☐ No
	H.	**Subpart AAAA - Standards of Performance for Small Municipal Waste Incineration Units for Which Construction Commenced After August 30, 1999 or for Which Modification or Reconstruction Commenced on or After June 6, 2004**	
♦	1.	The application area includes at least one small municipal waste incineration unit, other than an air curtain incinerator. *If the response to Question VI.H.1. is "N/A," go to Section VI.I. If the response to Question VI.H.1 is "No," go to Question VI.H.4.*	☐ Yes ☒ No ☐ N/A
♦	2.	The application area includes at least one small municipal waste incineration unit, other than an air curtain incinerator, constructed after August 30, 1999 or modified or reconstructed on or after June 6, 2006.	☐ Yes ☐ No
♦	3.	The application area includes at least one small municipal waste incineration unit, other than an air curtain incinerator, constructed before August 30, 1999 and not modified or reconstructed on or after June 6, 2006.	☐ Yes ☐ No
♦	4.	The application area includes at least one air curtain incinerator. *If the response to Question VI.H.4 is "No," go to Section VI.I.*	☐ Yes ☒ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	H.	**Subpart AAAA - Standards of Performance for Small Municipal Waste Incineration Units for Which Construction Commenced After August 30, 1999 or for Which Modification or Reconstruction Commenced on or After June 6, 2004 (continued)**	
♦	5.	The application area includes at least one air curtain incinerator constructed after August 30, 1999 or modified or reconstructed on or after June 6, 2006. *If the response to Question VI.H.5 is "No," go to Question VI.H.7.*	☐ Yes ☐ No
♦	6.	All air curtain incinerators constructed after August 30, 1999 or modified or reconstructed on or after June 6, 2006 combust only yard waste.	☐ Yes ☐ No
♦	7.	The application area includes at least one air curtain incinerator constructed before August 30, 1999 and not modified or reconstructed on or after June 6, 2006.	☐ Yes ☐ No
♦	8.	All air curtain incinerators constructed before August 30, 1999 and not modified or reconstructed on or after June 6, 2006 combust only yard waste.	☐ Yes ☐ No
	I.	**Subpart CCCC - Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Commenced After November 30, 1999 or for Which Modification or Reconstruction Commenced on or After June 1, 2001**	
♦	1.	The application area includes at least one commercial or industrial solid waste incineration unit, other than an air curtain incinerator. *If the response to Question VI.I.1 is "N/A," go to Section VI.J. If the response to Question VI.I.1 is "No," go to Question VI.I.4.*	☐ Yes ☒ No ☐ N/A
♦	2.	The application area includes at least one commercial or industrial solid waste incineration unit, other than an air curtain incinerator, constructed after November 30, 1999 or modified or reconstructed on or after June 1, 2001.	☐ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	I.	**Subpart CCCC - Standards of Performance for Commercial and Industrial Solid Waste Incineration Units for Which Construction Commenced After November 30, 1999 or for Which Modification or Reconstruction Commenced on or After June 1, 2001 (continued)**	
♦	3.	The application area includes at least one commercial or industrial solid waste incineration unit, other than an air curtain incinerator, constructed before November 30, 1999 and not modified or reconstructed on or after June 1, 2001.	☐ Yes ☐ No
♦	4.	The application area includes at least one air curtain incinerator. *If the response to Question VI.I.4 is "No," go to Section VI.J.*	☐ Yes ☒ No
♦	5.	The application area includes at least one air curtain incinerator, constructed after November 30, 1999 or modified or reconstructed on or after June 1, 2001. *If the response to Question VI.I.5 is "No," go to VI.I.7.*	☐ Yes ☐ No
♦	6.	All air curtain incinerators constructed after November 30, 1999 or modified or reconstructed on or after June 1, 2001 combust only wood waste, clean lumber, or yard waste or a mixture of these materials.	☐ Yes ☐ No
♦	7.	The application area includes at least one air curtain incinerator, constructed before November 30, 1999 and not modified or reconstructed on or after June 1, 2001.	☐ Yes ☐ No
♦	8.	All air curtain incinerators constructed before November 30, 1999 and not modified or reconstructed on or after June 1, 2001 combust only wood waste, clean lumber, or yard waste or a mixture of these materials.	☐ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (continued)**		
	J.	**Subpart EEEE - Standards of Performance for Other Solid Waste Incineration Units for Which Construction Commenced After December 9, 2004 or for Which Modification or Reconstruction Commenced on or After June 16, 2006**	
♦	1.	The application area includes at least one very small municipal waste incineration unit or institutional incineration unit, other than an air curtain incinerator. *If the response to Question VI.J.1 is "N/A," go to Section VI.K. If the response to Question VI.J.1 is "No," go to Question VI.J.4.*	☐ Yes ☒ No ☐ N/A
♦	2.	The application area includes at least one very small municipal waste incineration unit, other than an air curtain incinerator, constructed after December 9, 2004 or modified or reconstructed on or after June 16, 2006.	☐ Yes ☐ No
♦	3.	The application area includes at least one very small municipal waste incineration unit, other than an air curtain incinerator, constructed before December 9, 2004 and not modified or reconstructed on or after June 16, 2006.	☐ Yes ☐ No
♦	4.	The application area includes at least one air curtain incinerator. *If the response to Question VI.J.4 is "No," go to Section VI.K.*	☐ Yes ☒ No
♦	5.	The application area includes at least one air curtain incinerator constructed after December 9, 2004 or modified or reconstructed on or after June 16, 2006. *If the response to Question VI.J.5 is "No," go to Question VI.J.7.*	☐ Yes ☐ No
♦	6.	All air curtain incinerators constructed after December 9, 2004 or modified or reconstructed on or after June 16, 2006 combust only wood waste, clean lumber, or yard waste or a mixture of these materials.	☐ Yes ☐ No
♦	7.	The application area includes at least one air curtain incinerator constructed before December 9, 2004 and not modified or reconstructed on or after June 16, 2006.	☐ Yes ☐ No

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VI.	**Title 40 Code of Federal Regulations Part 60 - New Source Performance Standards (NSPS) (continued)**		
	J.	**Subpart EEEE - Standards of Performance for Other Solid Waste Incineration Units for Which Construction Commenced After December 9, 2004 or for Which Modification or Reconstruction Commenced on or After June 16, 2006 (continued)**	
♦	8.	All air curtain incinerators constructed before December 9, 2004 and not modified or reconstructed on or after June 16, 2006 combust only wood waste, clean lumber, or yard waste or a mixture of these materials.	☐ Yes ☐ No
♦	9.	The air curtain incinerator is located at an institutional facility and is a distinct operating unit of the institutional facility that generated the waste.	☐ Yes ☐ No
♦	10.	The air curtain incinerator burns less than 35 tons per day of wood waste, clean lumber, or yard waste or a mixture of these materials.	☐ Yes ☐ No
	K.	**Subpart OOOO - Standards of Performance for Crude Oil and Natural Gas Production, Transmission and Distribution**	
♦	1.	The application area includes one or more of the onshore affected facilities listed in 40 CFR § 60.5365(a)-(g) that are subject to 40 CFR Part 60, Subpart OOOO.	☐ Yes ☒ No
VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants**		
	A.	**Applicability**	
♦	1.	The application area includes a unit(s) that is subject to one or more 40 CFR Part 61 subparts. *If the response to Question VII.A.1 is "No" or "N/A," go to Section VIII.*	☐ Yes ☒ No ☐ N/A
	B.	**Subpart F - National Emission Standard for Vinyl Chloride**	
	1.	The application area is located at a plant which produces ethylene dichloride by reaction of oxygen and hydrogen chloride with ethylene, vinyl chloride by any process, and/or one or more polymers containing any fraction of polymerized vinyl chloride.	☐ Yes ☐ No
	C.	**Subpart J - National Emission Standard for Benzene Emissions for Equipment Leaks (Fugitive Emission Sources) of Benzene (Complete this section for GOP applications only)**	
♦	1.	The application area includes equipment in benzene service.	☐ Yes ☐ No ☐ N/A

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**	
D.	**Subpart L - National Emission Standard for Benzene Emissions from Coke By-Product Recovery Plants**	
1.	The application area is located at a coke by-product recovery plant and includes one or more of the affected sources identified in 40 CFR § 61.130(a) - (b). *If the response to Question VII.D.1 is "No," go to Section VII.E.*	☐ Yes ☐ No
2.	The application area includes equipment in benzene service as determined by 40 CFR § 61.137(b).	☐ Yes ☐ No
3.	The application area has elected to comply with the provisions of 40 CFR § 61.243-1 and 40 CFR § 61.243-2.	☐ Yes ☐ No
E.	**Subpart M - National Emission Standard for Asbestos**	
	Applicability	
1.	The application area includes sources, operations, or activities specified in 40 CFR §§ 61.143, 61.144, 61.146, 61.147, 61.148, or 61.155. *If the response to Question VII.E.1 is "No," go to Section VII.F.*	☐ Yes ☐ No
	Roadway Construction	
2.	The application area includes roadways constructed or maintained with asbestos tailings or asbestos-containing waste material.	☐ Yes ☐ No
	Manufacturing Commercial Asbestos	
3.	The application area includes a manufacturing operation using commercial asbestos. *If the response to Question VII.E.3 is "No," go to Question VII.E.4.*	☐ Yes ☐ No
a.	Visible emissions are discharged to outside air from the manufacturing operation	☐ Yes ☐ No
b.	An alternative emission control and waste treatment method is being used that has received prior U.S. Environmental Protection Agency (EPA) approval.	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	E.	**Subpart M - National Emission Standard for Asbestos (continued)**	
		***Manufacturing Commercial Asbestos* (continued)**	
	c.	Asbestos-containing waste material is processed into non-friable forms.	☐ Yes ☐ No
	d.	Asbestos-containing waste material is adequately wetted.	☐ Yes ☐ No
	e.	Alternative filtering equipment is being used that has received EPA approval.	☐ Yes ☐ No
	f.	A high efficiency particulate air (HEPA) filter is being used that is certified to be at least 99.97% efficient for 0.3-micron particles	☐ Yes ☐ No
	g.	The EPA has authorized the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals.	☐ Yes ☐ No
		Asbestos Spray Application	
	4.	The application area includes operations in which asbestos-containing materials are spray applied. *If the response to Question VII.E.4 is "No," go to Question VII.E.5.*	☐ Yes ☐ No
	a.	Asbestos fibers are encapsulated with a bituminous or resinous binder during spraying and are not friable after drying. *If the response to Question VII.E.4.a is "Yes," go to Question VII.E.5.*	☐ Yes ☐ No
	b.	Spray-on applications on buildings, structures, pipes, and conduits do not use material containing more than 1% asbestos.	☐ Yes ☐ No
	c.	An alternative emission control and waste treatment method is being used that has received prior EPA approval.	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	E.	**Subpart M - National Emission Standard for Asbestos (continued)**	
		Asbestos Spray Application **(continued)**	
	d.	Asbestos-containing waste material is processed into non-friable forms.	☐ Yes ☐ No
	e.	Asbestos-containing waste material is adequately wetted.	☐ Yes ☐ No
	f.	Alternative filtering equipment is being used that has received EPA approval.	☐ Yes ☐ No
	g.	A HEPA filter is being used that is certified to be at least 99.97% efficient for 0.3-micron particles.	☐ Yes ☐ No
	h.	The EPA has authorized the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals.	☐ Yes ☐ No
		Fabricating Commercial Asbestos	
5.		The application area includes a fabricating operation using commercial asbestos. *If the response to Question VII.E.5 is "No," go to Question VII.E.6.*	☐ Yes ☐ No
	a.	Visible emissions are discharged to outside air from the manufacturing operation.	☐ Yes ☐ No
	b.	An alternative emission control and waste treatment method is being used that has received prior EPA approval.	☐ Yes ☐ No
	c.	Asbestos-containing waste material is processed into non-friable forms.	☐ Yes ☐ No
	d.	Asbestos-containing waste material is adequately wetted.	☐ Yes ☐ No
	e.	Alternative filtering equipment is being used that has received EPA approval.	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	E.	**Subpart M - National Emission Standard for Asbestos (continued)**	
		***Fabricating Commercial Asbestos* (continued)**	
		f. A HEPA filter is being used that is certified to be at least 99.97% efficient for 0.3-micron particles.	☐ Yes ☐ No
		g. The EPA has authorized the use of wet collectors designed to operate with a unit contacting energy of at least 9.95 kilopascals.	☐ Yes ☐ No
		Non-sprayed Asbestos Insulation	
		6. The application area includes insulating materials (other than spray applied insulating materials) that are either molded and friable or wet-applied and friable after drying.	☐ Yes ☐ No
		Asbestos Conversion	
		7. The application area includes operations that convert regulated asbestos-containing material and asbestos-containing waste material into nonasbestos (asbestos-free) material.	☐ Yes ☐ No
	F.	**Subpart P - National Emission Standard for Inorganic Arsenic Emissions from Arsenic Trioxide and Metallic Arsenic Production Facilities**	
		1. The application area is located at a metallic arsenic production plant or at an arsenic trioxide plant that processes low-grade arsenic bearing materials by a roasting condensation process.	☐ Yes ☐ No
	G.	**Subpart BB - National Emission Standard for Benzene Emissions from Benzene Transfer Operations**	
		1. The application area is located at a benzene production facility and/or bulk terminal. *If the response to Question VII.G.1 is "No," go to Section VII.H.*	☐ Yes ☐ No
		2. The application area includes benzene transfer operations at marine vessel loading racks.	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	G.	**Subpart BB - National Emission Standard for Benzene Emissions from Benzene Transfer Operations (continued)**	
	3.	The application area includes benzene transfer operations at railcar loading racks.	☐ Yes ☐ No
	4.	The application area includes benzene transfer operations at tank-truck loading racks.	☐ Yes ☐ No
	H.	**Subpart FF - National Emission Standard for Benzene Waste Operations**	
		Applicability	
	1.	The application area includes a chemical manufacturing plant, coke by-product recovery plant, or petroleum refinery facility as defined in § 61.341.	☐ Yes ☐ No
	2.	The application area is located at a hazardous waste treatment, storage, and disposal (TSD) facility site as described in 40 CFR § 61.340(b). *If the responses to Questions VII.H.1 and VII.H.2 are both "No," go to Section VIII.*	☐ Yes ☐ No
	3.	The application area is located at a site that has no benzene onsite in wastes, products, byproducts, or intermediates. *If the response to Question VII.H.3 is "Yes," go to Section VIII.*	☐ Yes ☐ No
	4.	The application area is located at a site having a total annual benzene quantity from facility waste less than 1 megagram per year (Mg/yr). *If the response to Question VII.H.4 is "Yes," go to Section VIII*	☐ Yes ☐ No
	5.	The application area is located at a site having a total annual benzene quantity from facility waste greater than or equal to 1 Mg/yr but less than 10 Mg/yr. *If the response to Question VII.H.5 is "Yes," go to Section VIII.*	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	H.	**Subpart FF - National Emission Standard for Benzene Waste Operations (continued)**	
		***Applicability* (continued)**	
	6.	The flow-weighted annual average benzene concentration of each waste stream at the site is based on documentation.	☐ Yes ☐ No
	7.	The application area has waste streams with flow-weighted annual average water content of 10% or greater.	☐ Yes ☐ No
		Waste Stream Exemptions	
	8.	The application area has waste streams that meet the exemption specified in 40 CFR § 61.342(c)(2) (the flow-weighted annual average benzene concentration is less than 10 ppmw).	☐ Yes ☐ No
	9.	The application area has waste streams that meet the exemption specified in 40 CFR § 61.342(c)(3) because process wastewater has a flow rate less than 0.02 liters per minute or an annual wastewater quantity less than 10 Mg/yr.	☐ Yes ☐ No
	10.	The application area has waste streams that meet the exemption specified in 40 CFR § 61.342(c)(3) because the total annual benzene quantity is less than or equal to 2 Mg/yr.	☐ Yes ☐ No
	11.	The application area transfers waste off-site for treatment by another facility.	☐ Yes ☐ No
	12.	The application area is complying with 40 CFR § 61.342(d).	☐ Yes ☐ No
	13.	The application area is complying with 40 CFR § 61.342(e). *If the response to Question VII.H.13 is "No," go to Question VII.H.15.*	☐ Yes ☐ No
	14.	The application area has facility waste with a flow weighted annual average water content of less than 10%.	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	H.	**Subpart FF - National Emission Standard for Benzene Waste Operations (continued)**	
		Container Requirements	
	15.	The application area has containers, as defined in 40 CFR § 61.341, that receive non-exempt benzene waste. *If the response to Question VII.H.15 is "No," go to Question VII.H.18.*	☐ Yes ☐ No
	16.	The application area is an alternate means of compliance to meet the 40 CFR § 61.345 requirements for containers. *If the response to Question VII.H.16 is "Yes," go to Question VII.H.18.*	☐ Yes ☐ No
	17.	Covers and closed-vent systems used for containers operate such that the container is maintained at a pressure less than atmospheric pressure.	☐ Yes ☐ No
		Individual Drain Systems	
	18.	The application area has individual drain systems, as defined in 40 CFR § 61.341, that receive or manage non-exempt benzene waste. *If the response to Question VII.H.18 is "No," go to Question VII.H.25.*	☐ Yes ☐ No
	19.	The application area is using an alternate means of compliance to meet the 40 CFR § 61.346 requirements for individual drain systems. *If the response to Question VII.H.19 is "Yes," go to Question VII.H.25.*	☐ Yes ☐ No
	20.	The application area has individual drain systems complying with 40 CFR § 61.346(a). *If the response to Question VII.H.20 is "No," go to Question VII.H.22.*	☐ Yes ☐ No
	21.	Covers and closed-vent systems used for individual drain systems operate such that the individual drain system is maintained at a pressure less than atmospheric pressure.	☐ Yes ☐ No

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VII.	**Title 40 Code of Federal Regulations Part 61 - National Emission Standards for Hazardous Air Pollutants (continued)**		
	H.	**Subpart FF - National Emission Standard for Benzene Waste Operations (continued)**	
		***Individual Drain Systems* (continued)**	
	22.	The application area has individual drain systems complying with 40 CFR § 61.346(b). *If the response to Question VII.H.22 is "No," go to Question VII.H.25.*	☐ Yes ☐ No
	23.	Junction boxes in the individual drain systems are equipped with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation.	☐ Yes ☐ No
	24.	Junction box vent pipes in the individual drain systems are connected to a closed-vent system and control device.	☐ Yes ☐ No
		Remediation Activities	
	25.	Remediation activities take place at the application area subject to 40 CFR Part 61, Subpart FF.	☐ Yes ☐ No
VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories**		
	A.	**Applicability**	
♦	1.	The application area includes a unit(s) that is subject to one or more 40 CFR Part 63 subparts other than subparts made applicable by reference under subparts in 40 CFR Part 60, 61 or 63. *See instructions for 40 CFR Part 63 subparts made applicable only by reference.*	☒ Yes ☐ No
	B.	**Subpart F - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry**	
	1.	The application area is located at a plant site that is a major source as defined in the Federal Clean Air Act § 112(a). *If the response to Question VIII.B.1 is "No," go to Section VIII.D.*	☒ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	B.	**Subpart F - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry (continued)**	
	2.	The application area is located at a site that includes at least one chemical manufacturing process unit, as defined in 40 CFR § 63.101, that manufactures as a primary product one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or (b)(1)(ii). *If the response to Question VIII.B.2 is "No," go to Section VIII.D.*	☒ Yes ☐ No
	3.	The application area is located at a site that includes at least one chemical manufacturing process unit, as defined in 40 CFR § 63.101, that manufactures as a primary product one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or (b)(1)(ii) and uses as a reactant or manufactures as a product, or co-product, one or more of the organic hazardous air pollutants listed in table 2 of 40 CFR Part 63, Subpart F.	☒ Yes ☐ No
	4.	The application area includes a chemical manufacturing process unit, as defined in 40 CFR § 63.101, that manufactures as a primary product one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or (b)(1)(ii) and uses as a reactant or manufactures as a product, or co-product, one or more of the organic hazardous air pollutants listed in table 2 of 40 CFR Part 63, Subpart F.	☒ Yes ☐ No
	5.	The application area includes a chemical manufacturing process unit, as defined in 40 CFR § 63.101, that manufactures as a primary product one or more of the chemicals listed in 40 CFR § 63.100(b)(1)(i) or (b)(1)(ii) and does not use as a reactant or manufacture as a product, or co-product, one or more of the organic hazardous air pollutants listed in table 2 of 40 CFR Part 63, Subpart F. *If the response to Questions VIII.B.3, B.4 and B.5 are all "No," go to Section VIII.D.*	☒ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
C. Subpart G - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater		
Applicability		
1.	The application area is located at a site that is subject to 40 CFR 63, Subpart F and the application area includes process vents, storage vessels, transfer racks, or waste streams associated with a chemical manufacturing process subject to 40 CFR 63, Subpart F. *If the response to Question VIII.C.1 is "No," go to Section VIII.D.*	☒ Yes ☐ No
2.	The application area includes fixed roofs, covers, and/or enclosures that are required to comply with 40 CFR § 63.148.	☒ Yes ☐ No
3.	The application area includes vapor collection systems or closed-vent systems that are required to comply with 40 CFR § 63.148. *If the response to Question VIII.C.3 is "No," go to Question VIII.C.8.*	☒ Yes ☐ No
4.	The application area includes vapor collection systems or closed-vent systems that are constructed of hard piping.	☒ Yes ☐ No
5.	The application area includes vapor collection systems or closed-vent systems that contain bypass lines that could divert a vent stream away from a control device and to the atmosphere. *If the response to Question VIII.C.5 is "No," go to Question VIII.C.8.*	☐ Yes ☒ No
Vapor Collection and Closed Vent Systems		
6.	Flow indicators are installed, calibrated, maintained, and operated at the entrances to bypass lines in the application area.	☐ Yes ☐ No
7.	Bypass lines in the application area are secured in the closed position with a car-seal or a lock-and-key type configuration.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
C. Subpart G - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (continued)		
Reloading or Cleaning of Railcars, Tank Trucks, or Barges		
8.	The application area includes reloading and/or cleaning of railcars, tank trucks, or barges that deliver HAPs to a storage tank. *If the response to Question VIII.C.8 is "No," go to Question VIII.C.11.*	☐ Yes ☒ No
9.	The application area includes operations that are complying with § 63.119(g)(6) through the use of a closed-vent system with a control device used to reduce inlet emissions of HAPs by at least 95 percent by weight or greater.	☐ Yes ☐ No
10.	The application area includes operations that are complying with § 63.119(g)(6) through the use of a vapor balancing system.	☐ Yes ☐ No
Transfer Racks		
11.	The application area includes Group 1 transfer racks that load organic HAPs.	☐ Yes ☒ No
Process Wastewater Streams		
12.	The application area includes process wastewater streams. *If the response to Question VIII.C.12 is "No," go to Question VIII.C.34.*	☒ Yes ☐ No
13.	The application area includes process wastewater streams that are also subject to the provisions of 40 CFR Part 61, Subpart FF. *If the response to Question VIII.C.13 is "No," go to Question VIII.C.15.*	☐ Yes ☒ No
14.	The application area includes process wastewater streams that are complying with 40 CFR §§ 63.110(e)(1)(i) and (e)(1)(ii).	☐ Yes ☐ No
15.	The application area includes process wastewater streams that are also subject to the provisions of 40 CFR Part 61, Subpart F. *If the response to Question VIII.C.15 is "No," go to Question VIII.C.17.*	☐ Yes ☒ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
C. Subpart G - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (continued)		
***Process Wastewater Streams* (continued)**		
16.	The application area includes process wastewater streams utilizing the compliance option specified in 40 CFR § 63.110(f)(4)(ii).	☐ Yes ☐ No
17.	The application area includes process wastewater streams that are also subject to the provisions of 40 CFR Parts 260 through 272. *If the response to Question VIII.C.17 is "No," go to Question VIII.C.20.*	☐ Yes ☒ No
18.	The application area includes process wastewater streams complying with 40 CFR § 63.110(e)(2)(i).	☐ Yes ☐ No
19.	The application are includes process wastewater streams complying with 40 CFR § 63.110(e)(2)(ii).	☐ Yes ☐ No
20.	The application area includes process wastewater streams, located at existing sources, that are designated as Group 1; are required to be treated as Group 1 under 40 CFR § 63.110; or are determined to be Group 1 for Table 9 compounds.	☐ Yes ☒ No
21.	The application area includes process wastewater streams, located at existing sources that are Group 2.	☒ Yes ☐ No
22.	The application area includes process wastewater streams, located at new sources, that are designated as Group 1; required to be treated as Group 1 under 40 CFR § 63.110; or are determined to be Group 1 for Table 8 or Table 9 compounds.	☐ Yes ☒ No
23.	The application area includes process wastewater streams, located at new sources that are Group 2 for both Table 8 and Table 9 compounds.	☐ Yes ☒ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	C.	**Subpart G - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (continued)**	
		Process Wastewater Streams **(continued)**	
	24.	All Group 1 wastewater streams at the site are demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.C.24 is "Yes," go to Question VIII.C.34.*	☐ Yes ☒ No
	25.	The site has untreated and/or partially treated Group 1 wastewater streams demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.C.25 is "No," go to Question VIII.C.27.*	☐ Yes ☒ No
	26.	The application area includes waste management units that receive or manage a partially treated Group 1 wastewater stream prior to or during treatment.	☐ Yes ☐ No
	27.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an on-site treatment operation that is not owned or operated by the owner or operator of the source generating the waste stream or residual.	☐ Yes ☒ No
	28.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an off-site treatment operation. *If the responses to Questions VIII.C.27 - VIII.C.28 are both "No," go to Question VIII.C.30.*	☐ Yes ☒ No
	29.	The application area includes waste management units that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream prior to shipment or transport.	☐ Yes ☐ No
	30.	The application area includes containers that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream.	☐ Yes ☒ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
C. Subpart G - National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (continued)		
Drains		
31.	The application area includes individual drain systems that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream. *If the response to Question VIII.C.31 is "No," go to Question VIII.C.34.*	☐ Yes ☒ No
32.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of cover and, if vented, closed vent systems and control devices.	☐ Yes ☐ No
33.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of water seals or tightly fitting caps or plugs.	☐ Yes ☐ No
34.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that are part of a chemical manufacturing process unit that meets the criteria of 40 CFR § 63.100(b). *If the response to Question VIII.C.34 is "No," go to Question VIII.C.39.*	☐ Yes ☒ No
35.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes (that are part of a chemical manufacturing process unit) that meet the criteria listed in 40 CFR § 63.149(d). *If the response to Question VIII.C.35 is "No," go to Question VIII.C.39.*	☐ Yes ☐ No
36.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that convey water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of compounds listed in 40 CFR Part 63 Subpart G, Table 9, at any flow rate.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
C. Subpart G-National Emission Standards for Organic Hazardous Air Pollutants from the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operation, and Wastewater (continued)		
***Drains* (continued)**		
37.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that convey water with a total annual average concentration greater than or equal to 1,000 parts per million by weight of compounds listed in 40 CFR Part 63 Subpart G, Table 9, at an annual average flow rate greater than or equal to 10 liters per minute.	☐ Yes ☐ No
38.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that are part of a chemical manufacturing process unit that is subject to the new source requirements of 40 CFR § 63.100(l)(1) or (l)(2); and the equipment conveys water with a total annual average concentration greater than or equal to 10 parts per million by weight of compounds listed in 40 CFR Part 63 Subpart G, Table 8, at an average annual flow rate greater than or equal to 0.02 liter per minute.	☐ Yes ☐ No
Gas Streams		
39.	The application area includes gas streams meeting the characteristics of 40 CFR § 63.107(b) - (h) or the criteria of 40 CFR § 63.113(i) and are transferred to a control device not owned or operated by the applicant.	☐ Yes ☒ No
40.	The applicant is unable to comply with 40 CFR §§ 63.113 - 63.118 for one or more reasons described in 40 CFR § 63.100(q)(1), (3), or (5).	☐ Yes ☒ No
D. Subpart N - National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks		
1.	The application area includes chromium electroplating or chromium anodizing tanks located at hard chromium electroplating, decorative chromium electroplating, and/or chromium anodizing operations.	☐ Yes ☒ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
E.	**Subpart O - Ethylene Oxide Emissions Standards for Sterilization Facilities**		
	1.	The application area includes sterilization facilities where ethylene oxide is used in the sterilization or fumigation of materials. *If the response to Question VIII.E.1 is "No," go to Section VIII.F.*	☐ Yes ☒ No
	2.	Sterilization facilities located in the application area are subject to 40 CFR Part 63, Subpart O. *If the response to Question VIII.E.2 is "No," go to Section VIII.F.*	☐ Yes ☐ No
	3.	The sterilization source has used less than 1 ton (907 kg) of ethylene oxide within all consecutive 12-month periods after December 6, 1996.	☐ Yes ☐ No
	4.	The sterilization source has used less than 10 tons (9070 kg) of ethylene oxide within all consecutive 12-month periods after December 6, 1996.	☐ Yes ☐ No
F.	**Subpart Q - National Emission Standards for Industrial Process Cooling Towers**		
	1.	The application area includes industrial process cooling towers. *If the response to Question VIII.F.1 is "No," go to Section VIII.G.*	☒ Yes ☐ No
	2.	Chromium-based water treatment chemicals have been used on or after September 8, 1994.	☐ Yes ☒ No
G.	**Subpart R - National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations)**		
	1.	The application area includes a bulk gasoline terminal.	☐ Yes ☒ No
	2.	The application area includes a pipeline breakout station. *If the responses to Questions VIII.G.1 and VIII.G.2 are both "No," go to Section VIII.H.*	☐ Yes ☒ No
	3.	The bulk gasoline terminal or pipeline breakout station is located within a contiguous area and under common control with another bulk gasoline terminal or a pipeline breakout station. *If the response to Question VIII.G.3 is "Yes," go to Question VIII.G.10.*	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
G. Subpart R - National Emission Standards for Gasoline Distribution Facilities (Bulk Gasoline Terminals and Pipeline Breakout Stations) (continued)		
4.	The bulk gasoline terminal or pipeline breakout station is located within a contiguous area and under common control with sources, other than bulk gasoline terminals or pipeline breakout stations that emit or have the potential to emit HAPs. *If the response to Question VIII.G.4 is "Yes," go to Question VIII.G.10.*	☐ Yes ☐ No
5.	An emissions screening factor was calculated for the bulk gasoline terminal or pipeline breakout station. *If the response to Question VIII.G.5 is "No," go to Question VIII.G.10.*	☐ Yes ☐ No
6.	The value 0.04(OE) is less than 5% of the value of the bulk gasoline terminal emissions screening factor (ET) or the pipeline breakout station emissions screening factor (Ep). *If the response to Question VIII.G.6 is "No," go to Question VIII.G.10.*	☐ Yes ☐ No
7.	Emissions screening factor less than 0.5 (ET or EP < 0.5). *If the response to Question VIII.G.7 is "Yes," go to Section VIII.H.*	☐ Yes ☐ No
8.	Emissions screening factor greater than or equal to 0.5, but less than 1.0 ($0.5 \leq$ ET or EP < 1.0). *If the response to Question VIII.G.8 is "Yes," go to Section VIII.H.*	☐ Yes ☐ No
9.	Emissions screening factor greater than or equal to 1.0 (ET or EP $\geq$ 1.0). *If the response to Question VIII.G.9 is "Yes," go to Question VIII.G.11.*	☐ Yes ☐ No
10.	The site at which the application area is located is a major source of HAP. *If the response to Question VIII.G.10 is "No," go to Section VIII.H.*	☐ Yes ☐ No
11.	The application area is using an alternative leak monitoring program as described in 40 CFR § 63.424(f).	☐ Yes ☐ No

Application Area-Wide Applicability Determinations and General Information
Form OP-REQ1 (Page 43)
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Texas Commission on Environmental Quality

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
H. Subpart S - National Emission Standards for Hazardous Air Pollutants from the Pulp and Paper Industry		
1.	The application area includes processes that produce pulp, paper, or paperboard and are located at a plant site that is a major source of HAPs as defined in 40 CFR § 63.2. *If the response to Question VIII.H.1 is "No," go to Section VIII.I.*	☐ Yes ☒ No
2.	The application area uses processes and materials specified in 40 CFR § 63.440(a)(1) - (3). *If the response to Question VIII.H.2 is "No," go to Section VIII.I.*	☐ Yes ☐ No
3.	The application area includes one or more sources subject to 40 CFR Part 63, Subpart S that are existing sources. *If the response to Question VIII.H.3 is "No," go to Section VIII.I.*	☐ Yes ☐ No
4.	The application area includes one or more kraft pulping systems that are existing sources.	☐ Yes ☐ No
5.	The application area includes one or more dissolving-grade bleaching systems that are existing sources at a kraft or sulfite pulping mill.	☐ Yes ☐ No
6.	The application area includes bleaching systems that are existing sources and are complying with the Voluntary Advanced Technology Incentives Program for Effluent Limitation Guidelines in 40 CFR § 430.24. *If the response to Question VIII.H.6 is "No," go to Section VIII.I.*	☐ Yes☐ No
7.	The application area includes bleaching systems that are complying with 40 CFR § 63.440(d)(3)(i).	☐ Yes ☐ No
8.	The application area includes bleaching systems that are complying with 40 CFR § 63.440(d)(3)(ii).	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
I.	**Subpart T - National Emission Standards for Halogenated Solvent Cleaning**		
	1.	The application area includes an individual batch vapor, in-line vapor, in-line cold, and/or batch cold solvent cleaning machine that uses a hazardous air pollutant (HAP) solvent, or any combination of halogenated HAP solvents, in a total concentration greater than 5% by weight, as a cleaning and/or drying agent.	☐ Yes ☒ No
	2.	The application area is located at a major source and includes solvent cleaning machines, qualifying as affected facilities, that use perchloroethylene, trichloroethylene or methylene chloride.	☐ Yes ☒ No
	3.	The application area is located at an area source and includes solvent cleaning machines, other than cold batch cleaning machines, that use perchloroethylene, trichloroethylene or methylene chloride.	☐ Yes ☒ No
J.	**Subpart U - National Emission Standards for Hazardous Air Pollutant Emissions: Group 1 Polymers and Resins**		
	1.	The application area includes elastomer product process units and/or wastewater streams and wastewater operations that are associated with elastomer product process units. *If the response to Question VIII.J.1 is "No," go to Section VIII.K.*	☐ Yes ☒ No
	2.	Elastomer product process units and/or wastewater streams and wastewater operations located in the application area are subject to 40 CFR Part 63, Subpart U. *If the response to Question VIII.J.2 is "No," go to Section VIII.K.*	☐ Yes ☐ No
	3.	The application area includes process wastewater streams that are designated as Group 1 or are determined to be Group 1 for organic HAPs as defined in 40 CFR § 63.482.	☐ Yes ☐ No
	4.	The application area includes process wastewater streams that are Group 2 for organic HAPs as defined in 40 CFR § 63.482.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	J.	**Subpart U - National Emission Standards for Hazardous Air Pollutant Emissions: Group 1 Polymers and Resins (continued)**	
	5.	All Group 1 wastewater streams at the site are demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.J.5 is "Yes," go to Question VIII.J.15.*	☐ Yes ☐ No
	6.	The site has untreated and/or partially treated Group 1 wastewater streams demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.J.6 is "No," go to Question VIII.J.8.*	☐ Yes ☐ No
	7.	The application area includes waste management units that receive or manage a partially treated Group 1 wastewater stream prior to or during treatment.	☐ Yes ☐ No
	8.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an on-site treatment operation that is not owned or operated by the owner or operator of the source generating the waste stream or residual.	☐ Yes ☐ No
	9.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an off-site treatment operation. *If the responses to Questions VIII.J.8 - VIII.J.9 are both "No," go to Question VIII.J.11.*	☐ Yes ☐ No
	10.	The application area includes waste management units that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream prior to shipment or transport.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
J. Subpart U - National Emission Standards for Hazardous Air Pollutant Emissions: Group 1 Polymers and Resins (continued)		
Containers		
11.	The application area includes containers that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream.	☐ Yes ☐ No
Drains		
12.	The application area includes individual drain systems that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream. *If the response to Question VIII.J.12 is "No," go to Question VIII.J.15.*	☐ Yes ☐ No
13.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of cover and, if vented, closed vent systems and control devices.	☐ Yes ☐ No
14.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of water seals or tightly fitting caps or plugs.	☐ Yes ☐ No
15.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that are part of an elastomer product process unit. *If the response to Question VIII.J.15 is "No," go to Section VIII.K.*	☐ Yes ☐ No
16.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that meet the criteria listed in 40 CFR § 63.149(d) and § 63.501(a)(12). *If the response to Question VIII.J.16 is "No," go to Section VIII.K.*	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	J.	**Subpart U - National Emission Standards for Hazardous Air Pollutant Emissions: Group 1 Polymers and Resins (continued)**	
		***Drains* (continued)**	
	17.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that convey water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of compounds meeting the definition of organic HAP in 40 CFR § 63.482, at any flow rate.	☐ Yes ☐ No
	18.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that convey water with a total annual average concentration greater than or equal to 1,000 parts per million by weight of compounds meeting the definition of organic HAP in 40 CFR § 63.482, at an annual average flow rate greater than or equal to 10 liters per minute.	☐ Yes ☐ No
	19.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that are part of an elastomer product process unit that is a new affected source or part of a new affected source and the equipment conveys water with a total annual average concentration greater than or equal to 10 parts per million by weight of compounds meeting the definition of organic HAP in 40 CFR § 63.482, at an average annual flow rate greater than or equal to 0.02 liter per minute.	☐ Yes ☐ No
	K.	**Subpart W - National Emission Standards for Hazardous Air Pollutants for Epoxy Resins Production and Non-nylon Polyamides Production**	
	1.	The manufacture of basic liquid epoxy resins (BLR) and/or manufacture of wet strength resins (WSR) is conducted in the application area. *If the response to Question VIII.K.1 is "No" or "N/A," go to Section VIII.L.*	☐ Yes ☒ No ☐ N/A
	2.	The application area includes a BLR and/or WSR research and development facility.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
L.	**Subpart X - National Emission Standards for Hazardous Air Pollutants from Secondary Lead Smelting**	
1.	The application area includes one or more of the affected sources in 40 CFR § 63.541(a) that are located at a secondary lead smelter. *If the response to Question VIII.L.1 is "No" or "N/A," go to Section VIII.M.*	☐ Yes ☒ No ☐ N/A
2.	The application area is using and approved alternate to the requirements of § 63.545(c)(1)-(5) for control of fugitive dust emission sources.	☐ Yes ☐ No
M.	**Subpart Y - National Emission Standards for Marine Tank Vessel Loading Operations**	
1.	The application area includes marine tank vessel loading operations that are specified in 40 CFR § 63.560 and located at an affected source as defined in 40 CFR § 63.561.	☐ Yes ☒ No
N.	**Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries**	
	Applicability	
1.	The application area includes petroleum refining process units and/or related emission points that are specified in 40 CFR § 63.640(c)(1) - (c)(7). *If the response to Question VIII.N.1 is "No," go to Section VIII.O.*	☐ Yes ☒ No
2.	All petroleum refining process units/and or related emission points within the application area are specified in 40 CFR § 63.640(g)(1) - (g)(7). *If the response to Question VIII.N.2 is "Yes," go to Section VIII.O.*	☐ Yes ☐ No

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N. Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (continued)		
***Applicability* (continued)**		
3.	The application area is located at a plant site that is a major source as defined in the Federal Clean Air Act § 112(a). *If the response to Question VIII.N.3 is "No," go to Section VIII.O.*	☐ Yes ☐ No
4.	The application area is located at a plant site which emits or has equipment containing/contacting one or more of the HAPs listed in table 1 of 40 CFR Part 63, Subpart CC. *If the response to Question VIII.N.4 is "No," go to Section VIII.O.*	☐ Yes ☐ No
5.	The application area includes Group 1 wastewater streams that are not conveyed, stored, or treated in a wastewater stream management unit that also receives streams subject to the provisions of 40 CFR §§ 63.133 - 63.147 of Subpart G wastewater provisions section.	☐ Yes ☐ No
6.	The application area includes Group 2 wastewater streams that are not conveyed, stored, or treated in a wastewater stream management unit that also receives streams subject to the provisions of 40 CFR §§ 63.133 - 63.147 of Subpart G wastewater provisions section.	☐ Yes ☐ No
7.	The application area includes Group 1 or Group 2 wastewater streams that are conveyed, stored, or treated in a wastewater stream management unit that also receives streams subject to the provisions of 40 CFR §§ 63.133 - 63.147 of Subpart G wastewater provisions section. *If the response to Question VIII.N.7 is "No," go to Question VIII.N.13.*	☐ Yes ☐ No
8.	The application area includes Group 1 or Group 2 wastewater streams that are complying with 40 CFR § 63.640(o)(2)(i).	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	N.	**Subpart CC - National Emission Standards for Hazardous Air Pollutants from Petroleum Refineries (continued)**	
		***Applicability* (continued)**	
	9.	The application area includes Group 1 or Group 2 wastewater streams that are complying with 40 CFR § 63.640(o)(2)(ii). *If the response to Question VIII.N.9 is "No," go to Question VIII.N.13.*	☐ Yes ☐ No
	10.	The application area includes Group 2 wastewater streams or organic streams whose benzene emissions are subject to control through the use of one or more treatment processes or waste management units under the provisions of 40 CFR Part 61, Subpart FF on or after December 31, 1992.	☐ Yes ☐ No
		Containers, Drains, and other Appurtenances	
	11.	The application area includes containers that are subject to the requirements of 40 CFR § 63.135 as a result of complying with 40 CFR § 63.640(o)(2)(ii).	☐ Yes ☐ No
	12.	The application area includes individual drain systems that are subject to the requirements of 40 CFR § 63.136 as a result of complying with 40 CFR § 63.640(o)(2)(ii).	☐ Yes ☐ No
	13.	The application area includes Group 1 gasoline loading racks as specified in § 63.650(a).	☐ Yes ☐ No
	O.	**Subpart DD - National Emission Standards for Off-site Waste and Recovery Operations**	
	1.	The application area receives material that meets the criteria for off-site material as specified in 40 CFR § 63.680(b)(1). *If the response to Question VIII.O.1 is "No" or "N/A," go to Section VIII.P*	☒ Yes ☐ No ☐ N/A
	2.	Materials specified in 40 CFR § 63.680(b)(2) are received at the application area.	☐ Yes ☒ No
	3.	The application area has a waste management operation receiving off-site material and is regulated under 40 CFR Part 264 or Part 265.	☐ Yes ☒ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	O.	**Subpart DD - National Emission Standards for Off-site Waste and Recovery Operations (continued)**	
	4.	The application area has a waste management operation treating wastewater which is an off-site material and is exempted under 40 CFR §§ 264.1(g)(6) or 265.1(c)(10).	☐ Yes ☒ No
	5.	The application area has an operation subject to Clean Water Act, § 402 or § 307(b) but is not owned by a "state" or "municipality."	☐ Yes ☒ No
	6.	The predominant activity in the application area is the treatment of wastewater received from off-site.	☐ Yes ☒ No
	7.	The application area has a recovery operation that recycles or reprocesses hazardous waste which is an off-site material and is exempted under 40 CFR §§ 264.1(g)(2) or 265.1(c)(6).	☐ Yes ☒ No
	8.	The application area has a recovery operation that recycles or reprocesses used solvent which is an off-site material and is not part of a chemical, petroleum, or other manufacturing process that is required to use air emission controls by another subpart of 40 CFR Part 63 or Part 61.	☐ YES ☒ No
	9.	The application area has a recovery operation that re-refines or reprocesses used oil which is an off-site material and is regulated under 40 CFR Part 279, Subpart F (Standards for Used Oil Processors and Refiners).	☐ Yes ☒ No
	10.	The application area is located at a site where the total annual quantity of HAPs in the off-site material is less than 1 megagram per year. *If the response to Question VIII.O.10 is "Yes," go to Section VIII.P.*	☒ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	O.	**Subpart DD - National Emission Standards for Off-site Waste and Recovery Operations (continued)**	
	11.	The application area receives offsite materials with average VOHAP concentration less than 500 ppmw at the point of delivery that are not combined with materials having a VOHAP concentration of 500 ppmw or greater. *If the response to Question VIII.O.11 is "No," go to Question VIII.O.14.*	☐ Yes ☐ No
	12.	VOHAP concentration is determined by direct measurement.	☐ Yes ☐ No
	13.	VOHAP concentration is based on knowledge of the off-site material.	☐ Yes ☐ No
	14.	The application area includes an equipment component that is a pump, compressor, and agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector or instrumentation system. *If the response to Question VIII.O.14 is "No," go to Question VIII.O.17.*	☐ Yes ☐ No
	15.	An equipment component in the application area contains or contacts off-site material with a HAP concentration greater than or equal to 10% by weight.	☐ Yes ☐ No
	16.	An equipment component in the application area is intended to operate 300 hours or more during a 12-month period.	☐ Yes ☐ No
	17.	The application area includes containers that manage non-exempt off-site material.	☐ Yes ☐ No
	18.	The application area includes individual drain systems that manage non-exempt off-site materials.	☐ Yes ☐ No

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♦ For GOP applications, answer ONLY these questions unless otherwise directed.

VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	P.	**Subpart GG - National Emission Standards for Aerospace Manufacturing and Rework Facilities**	
	1.	The application area includes facilities that manufacture or rework commercial, civil, or military aerospace vehicles or components. *If the response to Question VIII.P.1 is "No" or "N/A," go to Section VIII.Q.*	☐ Yes ☒ No ☐ N/A
	2.	The application area includes one or more of the affected sources specified in 40 CFR § 63.741(c)(1) - (7).	☐ Yes ☐ No
	Q.	**Subpart HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities.**	
♦	1.	The application area contains facilities that process, upgrade or store hydrocarbon liquids that are located at oil and natural gas production facilities prior to the point of custody transfer.	☐ Yes ☒ No
♦	2.	The application area contains facilities that process, upgrade or store natural gas prior to the point at which natural gas enters the natural gas transmission and storage source category or is delivered to a final end user. *For SOP applications, if the responses to Questions VIII.Q.1 and VIII.Q.2 are both "No," go to Section VIII.R.* *For GOP applications, if the responses to Questions VIII.Q.1 and VIII.Q.2 are both "No," go to Section VIII.Z.*	☐ Yes ☒ No
♦	3.	The application area contains only facilities that exclusively process, store or transfer black oil as defined in § 63.761. *For SOP applications, if the response to Question VIII.Q.3 is "Yes," go to Section VIII.R.* *For GOP applications, if the response to Question VIII.Q.3 is "Yes," go to Section VIII.Z.*	☐ Yes ☐ No
♦	4.	The application area is located at a site that is a major source of HAP. *If the response to Question VIII.Q.4 is "No," go to Question VIII.Q.6.*	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	Q.	**Subpart - HH - National Emission Standards for Hazardous Air Pollutants From Oil and Natural Gas Production Facilities (continued)**	
♦	5.	The application area contains only a facility, prior to the point of custody transfer, with facility-wide actual annual average natural gas throughput less than 18.4 thousand standard cubic meters (649,789.9 ft^3) per day and a facility-wide actual annual average hydrocarbon liquid throughput less than 39,700 liters (10,487.6 gallons) per day. *For SOP applications, if the response to Question VIII.Q.5 is "Yes," go to Section VIII.R.* *For GOP applications, if the response to Question VIII.Q.5 is "Yes," go to Section VIII.Z.* *For all applications, if the response to Question VIII.Q.5 is "No," go to Question VIII.Q.9.*	☐ Yes ☐ No
♦	6.	The application area includes a triethylene glycol (TEG) dehydration unit. *For SOP applications, f the answer to Question VIII.Q.6 is "No," go to Section VIII.R. For GOP applications, if the response to Question VIII.Q.6 is "No," go to Section VIII.Z.*	☐ Yes ☐ No
♦	7.	The application area is located at a site that is within the boundaries of UA plus offset or a UC, as defined in 40 CFR § 63.761.	☐ Yes ☐ No
♦	8.	The site has actual emissions of 5 tons per year or more of a single HAP, or 12.5 tons per year or more of a combination of HAP.	☐ Yes ☐ No
♦	9.	Emissions for major source determination are being estimated based on the maximum natural gas or hydrocarbon liquid throughput as calculated in § 63.760(a)(1)(i)-(iii).	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	R.	**Subpart II - National Emission Standards for Shipbuilding and Ship Repair (Surface Coating)**	
	1.	The application area includes shipbuilding or ship repair operations. *If the response to Question VIII.R.1 is "NO," go to Section VIII.S.*	☐ Yes ☒ No
	2.	Shipbuilding or ship repair operations located in the application area are subject to 40 CFR Part 63, Subpart II.	☐ Yes ☐ No
	S.	**Subpart JJ - National Emission Standards for Wood Furniture Manufacturing Operations**	
	1.	The application area includes wood furniture manufacturing operations and/or wood furniture component manufacturing operations. *If the response to Question VIII.S.1 is "No" or "N/A," go to Section VIII.T.*	☐ Yes ☒ No ☐ N/A
	2.	The application area meets the definition of an "incidental wood manufacturer" as defined in 40 CFR § 63.801.	☐ Yes ☐ No
	T.	**Subpart KK - National Emission Standards for the Printing and Publishing Industry**	
	1.	The application area includes publication rotogravure, product and packaging rotogravure, or wide-web flexographic printing presses.	☐ Yes ☒ No ☐ N/A
	U.	**Subpart PP - National Emission Standards for Containers**	
	1.	The application area includes containers for which another 40 CFR Part 60, 61, or 63 subpart references the use of 40 CFR Part 63, Subpart PP for the control of air emissions. *If the response to Question VIII.U.1 is "NO," go to Section VIII.V.*	☐ Yes ☒ No
	2.	The application area includes containers using Container Level 1 controls.	☐ Yes ☐ No
	3.	The application area includes containers using Container Level 2 controls.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	U.	**Subpart PP - National Emission Standards for Containers (continued)**	
	4.	The application area includes containers using Container Level 3 controls.	☐ Yes ☐ No
	V.	**Subpart RR - National Emission Standards for Individual Drain Systems**	
	1.	The application area includes individual drain systems for which another 40 CFR Part 60, 61, or 63 subpart references the use of 40 CFR Part 63, Subpart RR for the control of air emissions.	☐ Yes ☒ No
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards**	
	1.	The application area includes an acetal resins production process unit; an acrylic and modacrylic fiber production process unit complying with 40 CFR § 63.1103(b)(3)(i); or an existing polycarbonate production process.	☐ Yes ☒ No
	2.	The application area includes process wastewater streams generated from an acetal resins production process unit; an acrylic and modacrylic fiber production process unit complying with 40 CFR § 63.1103(b)(3)(i); or an existing polycarbonate production process. *If the responses to Questions VIII.W.1 and VIII.W.2 are both "No," go to Question VIII.W.20.*	☐ Yes ☒ No
	3.	The application area includes process wastewater streams that are designated as Group 1 or are determined to be Group 1 under the requirements of 40 CFR § 63.132(c).	☐ Yes ☐ No
	4.	The application area includes process wastewater streams that are determined to be Group 2 under the requirements of 40 CFR § 63.132(c).	☐ Yes ☐ No
	5.	All Group 1 wastewater streams at the site are determined to have a total source mass flow rate of less than 1 MG/yr.	☐ Yes ☐ No
	6.	The site has untreated and/or partially treated Group 1 wastewater streams demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.W.6 is "No," go to Question VIII.W.8.*	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	7.	The application area includes waste management units that receive or manage a partially treated Group 1 wastewater stream prior to or during treatment.	☐ Yes ☐ No
	8.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an on-site treatment operation that is not owned or operated by the owner or operator of the source generating the waste stream or residual.	☐ Yes ☐ No
	9.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an off-site treatment operation. *If the responses to Questions VIII.W.8 and W.9 are both "No," go to Question VIII.W.11.*	☐ Yes ☐ No
	10.	The application area includes waste management units that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream prior to shipment or transport.	☐ Yes ☐ No
	11.	The application area includes containers that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream.	☐ Yes ☐ No
	12.	The application area includes individual drain systems that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. *If the response to Question VIII.W.12 is "No," go to Question VIII.W.15.*	☐ Yes ☐ No
	13.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of covers and, if vented, closed vent systems and control devices.	☐ Yes ☐ No
	14.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of water seals or tightly fitting caps or plugs.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
W. Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)		
15.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that are part of an acetal resins production process unit; an acrylic and modacrylic fiber production process unit complying with 40 CFR § 63.1103(b)(3)(i); or an existing polycarbonate production process unit. *If the response to Question VIII.W.15 is "No," go to Question VIII.W.20.*	☐ Yes ☐ No
16.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that meet the criteria listed in 40 CFR § 63.1106(c)(1) - (3). *If the response to Question VIII.W.16 is "No," go to Question VIII.W.20.*	☐ Yes ☐ No
17.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that convey water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of compounds meeting the definition of organic HAP in Table 9 to 40 CFR Part 60, Subpart G, at any flow rate.	☐ Yes ☐ No
18.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that convey water with a total annual average concentration greater than or equal to 1,000 parts per million by weight of compounds meeting the definition of organic HAP in Table 9 to 40 CFR Part 60, Subpart G, at an annual average flow rate greater than or equal to 10 liters per minute.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	19.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that are part of an acrylic resins or acrylic and modacrylic fiber production process unit that is part of a new affected source or is a new affected source and the equipment conveys water with a total annual average concentration greater than or equal to 10 ppmw of compounds meeting the definition of organic HAP in Table 9 to 40 CFR Part 60, Subpart G, at an average annual flow rate greater than or equal to 0.02 liter per minute.	☐ Yes ☐ No
	20.	The application area includes an ethylene production process unit.	☐ Yes ☒ No ☐ N/A
	21.	The application area includes waste streams generated from an ethylene production process unit. *If the responses to Questions VIII.W.20 and VIII.W.21 are both "No" or "N/A," go to Question VIII.W.54.*	☐ Yes ☒ No ☐ N/A
	22.	The waste stream(s) contains at least one of the chemicals listed in 40 CFR § 63.1103(e), Table 7(g)(1). *If the response to Question VIII.W.22 is "No," go to Question VIII.W.54.*	☐ Yes ☐ No
	23.	Waste stream(s) are transferred off-site for treatment. *If the response to Question VIII.W.23 is "No," go to Question VIII.W.25.*	☐ Yes ☐ No
	24.	The application area has waste management units that treat or manage waste stream(s) prior to transfer off-site for treatment. *If the response to Question VIII.W.24 is "No," go to Question VIII.W.54.*	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	25.	The total annual benzene quantity from waste at the site is less than 10 Mg/yr as determined according to 40 CFR § 61.342(a).	☐ Yes ☐ No
	26.	The application area contains at least one waste stream that is a continuous butadiene waste stream as defined in 40 CFR § 63.1082(b). *If the response to Question VIII.W.26 is "No," go to Question VIII.W.43.*	☐ Yes ☐ No
	27.	The waste stream(s) contains at least 10 ppmw 1, 3-butadiene at a flow rate of 0.02 liters per minute or is designated for control. *If the response to Question VIII.W.27 is "No," go to Question VIII.W.43.*	☐ Yes ☐ No
	28.	The control requirements of 40 CFR Part 63, Subpart G for process wastewater as specified in 40 CFR § 63.1095(a)(2) are selected for control of the waste stream(s). *If the response to Question VIII.W.28 is "No," go to Question VIII.W.33.*	☐ Yes ☐ No
	29.	The application area includes containers that receive, manage, or treat a continuous butadiene waste stream.	☐ Yes ☐ No
	30.	The application area includes individual drain systems that receive, manage, or treat a continuous butadiene waste stream. *If the response to Question VIII.W.30 is "No," go to Question VIII.W.43.*	☐ Yes ☐ No
	31.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of cover and, if vented, closed vent systems and control devices.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	32.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of water seals or tightly fitting caps or plugs. *If the response to Question VIII.W.32 is required, go to Question VIII.W.43.*	☐ Yes ☐ No
	33.	The application area has containers, as defined in 40 CFR § 61.341, that receive a continuous butadiene waste stream. *If the response to Question VIII.W.33 is "No," go to Question VIII.W.36.*	☐ Yes ☐ No
	34.	The application area is an alternate means of compliance to meet the 40 CFR § 61.345 requirements for containers. *If the response to Question VIII.W.34 is "Yes," go to Question VIII.W.36.*	☐ Yes ☐ No
	35.	Covers and closed-vent systems used for containers operate such that the container is maintained at a pressure less than atmospheric pressure.	☐ Yes ☐ No
	36.	The application area has individual drain systems, as defined in 40 CFR § 61.341, that receive or manage a continuous butadiene waste stream. *If the response to Question VIII.W.36 is "No," go to Question VIII.W.43.*	☐ Yes ☐ No
	37.	The application area is using an alternate means of compliance to meet the 40 CFR § 61.346 requirements for individual drain systems. *If the response to Question VIII.W.37 is "Yes," go to Question VIII.W.43.*	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	38.	The application area has individual drain systems complying with 40 CFR § 61.346(a). *If the response to Question VIII.W.38 is "No," go to Question VIII.W.40.*	☐ Yes ☐ No
	39.	Covers and closed-vent systems used for individual drain systems operate such that the individual drain system is maintained at a pressure less than atmospheric pressure.	☐ Yes ☐ No
	40.	The application area has individual drain systems complying with 40 CFR § 61.346(b). *If the response to Question VIII.W.40 is "No," go to Question VIII.W.43.*	☐ Yes ☐ No
	41.	Junction boxes in the individual drain systems are equipped with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation.	☐ Yes ☐ No
	42.	Junction box vent pipes in the individual drain systems are connected to a closed-vent system and control device.	☐ Yes ☐ No
	43.	The application area has at least one waste stream that contains benzene. *If the response to Question VIII.W.43 is "No," go to Question VIII.W.54.*	☐ Yes ☐ No
	44.	The application area has containers, as defined in 40 CFR § 61.341, that receive a waste stream containing benzene. *If the response to Question VIII.W.44 is "No," go to Question VIII.W.47.*	☐ Yes ☐ No
	45.	The application area is an alternate means of compliance to meet the 40 CFR § 61.345 requirements for containers. *If the response to Question VIII.W.45 is "Yes," go to Question VIII.W.47.*	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	46.	Covers and closed-vent systems used for containers operate such that the container is maintained at a pressure less than atmospheric pressure.	☐ Yes ☐ No
	47.	The application area has individual drain systems, as defined in 40 CFR § 61.341, that receive or manage a waste stream containing benzene. *If the response to Question VIII.W.47 is "No," go to Question VIII.W.54.*	☐ Yes ☐ No
	48.	The application area is using an alternate means of compliance to meet the 40 CFR § 61.346 requirements for individual drain systems. *If the response to Question VIII.W.48 is "Yes," go to Question VIII.W.54.*	☐ Yes ☐ No
	49.	The application area has individual drain systems complying with 40 CFR § 61.346(a). *If the response to Question VIII.W.49 is "No," go to Question VIII.W.51.*	☐ Yes ☐ No
	50.	Covers and closed-vent systems used for individual drain systems operate such that the individual drain system is maintained at a pressure less than atmospheric pressure.	☐ Yes ☐ No
	51.	The application area has individual drain systems complying with 40 CFR § 61.346(b). *If the response to Question VIII.W.51 is "No," go to Question VIII.W.54.*	☐ Yes ☐ No
	52.	Junction boxes in the individual drain systems are equipped with a system to prevent the flow of organic vapors from the junction box vent pipe to the atmosphere during normal operation.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	W.	**Subpart YY - National Emission Standards for Hazardous Air Pollutants for Source Categories - Generic Maximum Achievable Control Technology Standards (continued)**	
	53.	Junction box vent pipes in the individual drain systems are connected to a closed-vent system and control device.	☐ Yes ☐ No
	54.	The application area contains a cyanide chemicals manufacturing process. *If the response to Question VIII.W.54 is "No," go to Section VIII.X.*	☐ Yes ☒ No
	55.	The cyanide chemicals manufacturing process generates maintenance wastewater containing hydrogen cyanide or acetonitrile.	☐ Yes ☐ No
	X.	**Subpart JJJ - National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins**	
	1.	The application area includes thermoplastic product process units, and/or their associated affected sources specified in 40 CFR § 63.1310(a)(1) - (5), that are subje ct to 40 CFR Part 63, Subpart JJJ. *If the response to Question VIII.X.1 is "No," go to Section VIII.Y.*	☐ Yes ☒ No
	2.	The application area includes thermoplastic product process units and/or wastewater streams and wastewater operations that are associated with thermoplastic product process units. *If the response to Question VIII.X.2 is "No," go to Section VIII.Y.*	☐ Yes ☐ No
	3.	All process wastewater streams generated or managed in the application area are from sources producing polystyrene. *If the response to Question VIII.X.3 is "Yes," go to Section VIII.Y.*	☐ Yes ☐ No
	4.	All process wastewater streams generated or managed in the application area are from sources producing ASA/AMSAN. *If the response to Question VIII.X.4 is "Yes," go to Section VIII.Y.*	☐ Yes ☐ No

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	X.	**Subpart JJJ - National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins (continued)**	
	5.	The application area includes process wastewater streams that are designated as Group 1 or are determined to be Group 1 for organic HAPs as defined in 40 CFR § 63.1312.	☐ Yes ☐ No
	6.	The application area includes process wastewater streams, located at existing sources, that are Group 2 for organic HAPs as defined in 40 CFR § 63.1312.	☐ Yes ☐ No
	7.	The application area includes process wastewater streams, located at new sources, that are Group 2 for organic HAPs as defined in 40 CFR § 63.1312.	☐ Yes ☐ No
	8.	All Group 1 wastewater streams at the site are demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.X.8 is "Yes," go to Question VIII.X.18.*	☐ Yes ☐ No
	9.	The site has untreated and/or partially treated Group 1 wastewater streams demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.X.9 is "No," go to Question VIII.X.11.*	☐ Yes ☐ No
	10.	The application area includes waste management units that receive or manage a partially treated Group 1 wastewater stream prior to or during treatment.	☐ Yes ☐ No
	11.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an on-site treatment operation that is not owned or operated by the owner or operator of the source generating the waste stream or residual.	☐ Yes ☐ No
	12.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an off-site treatment operation. *If the responses to Questions VIII.X.11 - VIII.X.12 are both "No," go to Question VIII.X.14.*	☐ Yes ☐ No

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X. Subpart JJJ - National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins (continued)		
13.	The application area includes waste management units that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream prior to shipment or transport.	☐ Yes ☐ No
Containers		
14.	The application area includes containers that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream.	☐ Yes ☐ No
Drains		
15.	The application area includes individual drain systems that receive or manage a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream. *If the response to Question VIII.X.15 is "No," go to Question VIII.X.18.*	☐ Yes ☐ No
16.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of cover and, if vented, closed vent systems and control devices.	☐ Yes ☐ No
17.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of water seals or tightly fitting caps or plugs.	☐ Yes ☐ No
18.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that are part of a thermoplastic product process unit. *If the response to Question VIII.X.18 is "No," go to Section VIII.Y.*	☐ Yes ☐ No

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	X.	**Subpart JJJ - National Emission Standards for Hazardous Air Pollutant Emissions: Group IV Polymers and Resins (continued)**	
		***Drains* (continued)**	
	19.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that meet the criteria listed in 40 CFR § 63.149(d) and § 63.1330(b)(12). *If the response to Question VIII.X.19 is "NO," go to Section VIII.Y.*	☐ Yes ☐ No
	20.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that convey water with a total annual average concentration greater than or equal to 10,000 parts per million by weight of compounds meeting the definition of organic HAP in 40 CFR § 63.1312, at any flow rate.	☐ Yes ☐ No
	21.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that convey water with a total annual average concentration greater than or equal to 1,000 parts per million by weight of compounds meeting the definition of organic HAP in 40 CFR § 63.1312, at an annual average flow rate greater than or equal to 10 liters per minute.	☐ Yes ☐ No
	22.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that are part of an thermoplastic product process unit that is a new affected source or part of a new affected source and the equipment conveys water with a total annual average concentration greater than or equal to 10 parts per million by weight of compounds meeting the definition of organic HAP in 40 CFR § 63.1312, at an average annual flow rate greater than or equal to 0.02 liter per minute	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	Y.	**Subpart UUU - National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units.**	
	1.	The application area is subject to 40 CFR Part 63, Subpart UUU - National Emission Standards for Hazardous Air Pollutants for Petroleum Refineries: Catalytic Cracking Units, Catalytic Reforming Units, and Sulfur Recovery Units.	☐ Yes ☒ No
	Z.	**Subpart AAAA - National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste (MSW) Landfills.**	
♦	1.	The application area is subject to 40 CFR Part 63, Subpart AAAA - National Emission Standards for Hazardous Air Pollutants for Municipal Solid Waste Landfills.	☐ Yes ☒ No
	AA.	**Subpart FFFF - National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Production and Processes (MON)**	
	1.	The application area is located at a site that includes process units that manufacture as a primary product one or more of the chemicals listed in 40 CFR § 63.2435(b)(1).	☒ Yes ☐ No
	2.	The application area is located at a plant site that is a major source as defined in FCAA § 112(a).	☒ Yes ☐ No
	3.	The application area is located at a site that includes miscellaneous chemical manufacturing process units (MCPU) that process, use or generate one or more of the organic hazardous air pollutants listed in § 112(b) of the Clean Air Act or hydrogen halide and halogen HAP. *If the response to Question VIII.AA.1, AA.2 or AA.3 is "No," go to Section VIII.BB.*	☒ Yes ☐ No
	4.	The application area includes process vents, storage vessels, transfer racks, or waste streams associated with a miscellaneous chemical manufacturing process subject to 40 CFR 63, Subpart FFFF. *If the response to Question VIII.AA.4 is "No," go to Section VIII.BB.*	☒ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	AA.	**Subpart FFFF - National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Production and Processes (MON) (continued)**	
	5.	The application area includes process wastewater streams. *If the response to Question VIII.AA.5 is "No," go to Question VIII.AA.24.*	☒ Yes ☐ No
	6.	The application area includes process wastewater streams, located at existing sources, that are designated as Group 1 or are determined to be Group 1 for compounds listed in Table 8 of 40 CFR Part 63, Subpart G or Table 8 and Table 9 of 40 CFR Part 63, Subpart FFFF, as appropriate.	☐ Yes ☒ ***No***
	7.	The application area includes process wastewater streams, located at existing sources, that are Group 2 for compounds listed in Table 8 or Table 8 and Table 9 of 40 CFR Part 63, Subpart FFFF, as appropriate.	☒ ***Yes*** ☐ No
	8.	The application area includes process wastewater streams, located at new sources, that are designated as Group 1 or are determined to be Group 1 for compounds listed in Table 8 of 40 CFR Part 63, Subpart G or Table 8 and Table 9 of 40 CFR Part 63, Subpart FFFF, as appropriate.	☐ Yes ☒ ***No***
	9.	The application area includes process wastewater streams, located at new sources, that are Group 2 for compounds listed in Table 8 or Table 8 and Table 9 of 40 CFR Part 63, Subpart FFFF, as appropriate.	☐ Yes ☒ ***No***
	10.	All Group 1 wastewater streams at the site are demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.AA.10 is "Yes," go to Question VIII.AA.24.*	☐ Yes ☒ No
	11.	The site has untreated and/or partially treated Group 1 wastewater streams demonstrated to have a total source mass flow rate of less than 1 MG/yr. *If the response to Question VIII.AA.11 is "No," go to Question VIII.AA.13.*	☐ Yes ☒ No
	12.	The application area includes waste management units that receive or manage a partially treated Group 1 wastewater stream prior to or during treatment.	☐ Yes ☐ No
	13.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an on-site treatment operation that is not owned or operated by the owner or operator of the source generating the waste stream or residual.	☐ Yes ☒ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
AA. Subpart FFFF - National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Production and Processes (MON) (continued)		
14.	Group 1 wastewater streams or residual removed from Group 1 wastewater streams are transferred to an off-site treatment operation. *If the responses to Questions VIII.AA.13 and VIII.AA.14 are both "No," go to Question VIII.AA.20.*	☐ Yes ☒ No
15.	Group 1 wastewater streams are transferred to an offsite treatment facility meeting the requirements of 40 CFR § 63.138(h). *If the response to Question VIII.AA.15 is "No," go to Question VIII.AA.17.*	☐ Yes ☐ No
16.	The option to document in the notification of compliance status report that the wastewater will be treated in a facility meeting the requirements of 40 CFR § 63.138(h) is elected.	☐ Yes ☐ No
17.	Group 1 wastewater streams or residuals with a total annual average concentration of compounds in Table 8 of 40 CFR Part 63, Subpart FFFF less than 50 ppmw are transferred offsite. *If the response to Question VIII.AA.17 is "No," go to Question VIII.AA.19.*	☐ Yes ☐ No
18.	The transferor is demonstrating that less than 5 percent of the HAP in Table 9 of 40 CFR Part 63, Subpart FFFF is emitted from waste management units up to the activated sludge unit.	☐ Yes ☐ No
19.	The application area includes waste management units that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream prior to shipment or transport.	☐ Yes ☐ No
20.	The application area includes containers that receive, manage, or treat a Group 1 wastewater stream or a residual removed from a Group 1 wastewater stream.	☐ Yes ☒ No
21.	The application area includes individual drain systems that receive or manage a Group 1 wastewater stream, or a residual removed from a Group 1 wastewater stream. *If the response to Question VIII.AA.21 is "No," go to Question VIII.AA.24.*	☐ Yes ☒ No
22.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of cover and, if vented, closed vent systems and control devices.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
AA. Subpart FFFF - National Emission Standards for Hazardous Air Pollutants for Miscellaneous Organic Chemical Production and Processes (MON) (continued)		
23.	The application area includes individual drain systems that are complying with 40 CFR § 63.136 through the use of water seals or tightly fitting caps or plugs.	☐ Yes ☐ No
24.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that are part of a chemical manufacturing process unit that meets the criteria of 40 CFR § 63.100(b). *If the response to Question VIII.AA.24 is "No," go to Section VIII.BB.*	☐ Yes ☒ No
25.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes (that are part of a miscellaneous chemical manufacturing process unit) that meet the criteria listed in 40 CFR § 63.149(d). *If the response to Question VIII.AA.25 is "No," go to Section VIII.BB.*	☐ Yes ☐ No
26.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that convey water with a total annual average concentration of compounds in table 8 of 40 CFR Part 63, Subpart FFFF is greater than or equal to 10,000 ppmw at any flow rate, and the total annual load of compounds in table 8 of 40 CFR Part 63, Subpart FFFF is greater than or equal to 200 lb/yr.	☐ Yes ☐ No
27.	The application area includes drains, drain hubs, manholes, lift stations, trenches, or pipes that convey water with a total annual average concentration of compounds in table 8 of 40 CFR Part 63, Subpart FFFF is greater than or equal to 1,000 ppmw, and the annual average flow rate is greater than or equal to 1 liter per minute.	☐ Yes ☐ No
28.	The application area includes drains, drain hubs, manholes, lift stations, trenches or pipes that are part of a chemical manufacturing process unit that is subject to the new source requirements of 40 CFR § 63.2445(a); and the equipment conveys water with a combined total annual average concentration of compounds in tables 8 and 9 of 40 CFR Part 63, Subpart FFFF is greater than or equal to 30,000 ppmw, and the combined total annual load of compounds in tables 8 and 9 to this subpart is greater than or equal to 1 tpy.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	BB.	**Subpart GGGG - National Emission Standards for Hazardous Air Pollutants for: Solvent Extractions for Vegetable Oil Production.**	
	1.	The application area includes a vegetable oil production process that: is by itself a major source of HAP emissions or, is collocated within a plant site with other sources that are individually or collectively a major source of HAP emissions.	☐ Yes ☒ No
	CC.	**Subpart GGGGG - National Emission Standards for Hazardous Air Pollutants: Site Remediation**	
	1.	The application area includes a facility at which a site remediation is conducted. *If the answer to Question VIII.CC.1 is "No," go to Section VIII.DD.*	☒ Yes ☐ No
	2.	The application area is located at a site that is a major source of HAP. *If the answer to Question VIII.CC.2 is "No," go to Section VIII.DD.*	☒ Yes ☐ No
	3.	All site remediations qualify for one of the exemptions contained in 40 CFR § 63.7881(b)(1) through (6). *If the answer to Question VIII.CC.3 is "Yes," go to Section VIII.DD.*	☐ Yes ☒ No
	4.	All site remediation activities are complete, and the Administrator has been notified in writing. *If the answer to Question VIII.CC.4 is "Yes," go to Section VIII.DD.*	☐ Yes ☒ No
	5.	Prior to beginning site remediation activities, it was determined that the total quantity of HAP listed in Table 1 of Subpart GGGGG that will be removed during all site remediations will be less than 1 Mg/yr. *If the answer to Question VIII.CC.5 is "Yes," go to Section VIII.DD.*	☐ Yes ☒ No
	6.	The site remediation will be completed within 30 consecutive calendar days.	☐ Yes ☒ No
	7.	No site remediation will exceed 30 consecutive calendar days. *If the answer to Question VIII.CC.7 is "Yes," go to Section VIII.DD.*	☐ Yes ☒ No
	8.	Site remediation materials subject to 40 CFR Part 63, Subpart GGGGG are transferred from the application area to an off-site facility.	☒ Yes ☐ No
	9.	All site remediation materials subject to 40 CFR Part 63, Subpart GGGGG are transferred from the application area to an off-site facility. *If the answer to Question VIII.CC.9 is "Yes," go to Section VIII.DD.*	☐ Yes ☒ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
CC. Subpart GGGGG - National Emission Standards for Hazardous Air Pollutants: Site Remediation (continued)		
10.	The application area includes a remediation material management unit used for cleanup of radioactive mixed waste per § 63.7886(c).	☐ ***Yes*** ☒ ***No***
11.	The application area includes a remediation material management unit or combination of units with a total annual quantity of HAP less than 1 Mg/yr that is being exempted from § 63.7886(b) per § 63.7886(d).	☐ ***Yes*** ☒ ***No***
12.	The application area includes a remediation material management unit that has an average total VOHAP concentration of remediation material less than 500 ppmw and is complying with § 63.7886(b)(2). *If the response to Question VIII.CC.12 is "No," go to Question VIII.CC.14.*	☒ ***Yes*** ☐ ***No***
13.	The application area includes a remediation material management unit that concentrates all or part of the material such that the material's VOHAP concentration could increase.	☐ ***Yes*** ☒ ***No***
14.	The application area includes containers that manage site remediation materials subject to 40 CFR Part 63, Subpart GGGGG. *If the response to Question VIII.CC.14 is "No," go to Question VIII.CC.21.*	☒ Yes ☐ No
15.	The application area includes containers that are also subject to and complying with another subpart under 40 CFR part 61 or part 63 per § 63.7886(b)(3).	☐ ***Yes*** ☒ ***No***
16.	The application area includes containers that are complying with alternative work practice standards that have been approved by the EPA per § 63.7900(e).	☐ ***Yes*** ☒ ***No***
17.	The application area includes containers using Container Level 1 controls as specified in 40 CFR § 63.922(b).	☒ Yes ☐ No
18.	The application area includes containers with a capacity greater than 0.46 m^3 that meet the requirements of 40 CFR § 63.7900(b)(3)(i) and (ii).	☒ Yes ☐ No
19.	The application area includes containers using Container Level 2 controls as specified in 40 CFR § 63.923(b).	☒ Yes ☐ No
20.	The application area includes containers using Container Level 3 controls as specified in 40 CFR § 63.924(b).	☐ Yes ☒ No
21.	The application area includes individual drain systems complying with the requirements of 40 CFR § 63.962.	☐ Yes ☒ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	DD.	**Subpart YYYYY - National Emission Standards for Hazardous Air Pollutants for Area/Sources: Electric Arc Furnace Steelmaking Facilities**	
	1.	The application area includes an electric arc furnace (EAF) steelmaking facility, and the site is an area source of hazardous air pollutant (HAP) emissions. *If the response to Question VIII.DD.1 is "No," go to Section VIII.EE.*	☐ Yes ☒ No
	2.	The EAF steelmaking facility is a research and development facility. *If the response to Question VIII.DD.2 is "Yes," go to Section VIII.EE.*	☐ Yes ☐ No
	3.	Metallic scrap is utilized in the EAF.	☐ Yes ☐ No
	4.	Scrap containing motor vehicle scrap is utilized in the EAF.	☐ Yes ☐ No
	5.	Scrap not containing motor vehicle scrap is utilized in the EAF.	☐ Yes ☐ No
	EE.	**Subpart BBBBBB - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities**	
	1.	The application area is located at a site that is an area source of HAPs. *If the answer to Question EE.1 is "No," go to Section VIII.FF.*	☐ Yes ☒ No
	2.	The application area includes a pipeline breakout station, as defined in 40 CFR Part 63, Subpart BBBBBB, not subject to the control requirements of 40 CFR Part 63, Subpart R.	☐ Yes ☐ No
	3.	The application area includes a pipeline pumping station as defined in 40 CFR Part 63, Subpart BBBBBB.	☐ Yes ☐ No

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VIII. Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)		
EE. Subpart BBBBBB - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities (continued)		
4.	The application area includes a bulk gasoline plant as defined in 40 CFR Part 63, Subpart BBBBBB. *If the answer to Question VIII.EE.4 is "No," go to Question VIII.EE.6.*	☐ Yes ☐ No
5.	The bulk gasoline plant was operating, prior to January 10, 2010, in compliance with an enforceable State, local or tribal rule or permit that requires submerged fill as specified in 40 CFR § 63.11086(a).	☐ Yes ☐ No
6.	The application area includes a bulk gasoline terminal, as defined in 40 CFR Part 63, Subpart BBBBBB, not subject to the control requirements of 40 CFR Part 63, Subpart R or Subpart CC. *If the answer to Question VIII.EE.6 is "No," go to Section VIII.FF.*	☐ Yes ☐ No
7.	The bulk gasoline terminal has throughput of less than 250,000 gallons per day. *If the answer to Question VIII.EE.7 is "Yes," go to Section VIII.FF.*	☐ Yes ☐ No
8.	The bulk gasoline terminal loads gasoline into gasoline cargo tanks other than railcar cargo tanks.	☐ Yes ☐ No
9.	The bulk gasoline terminal loads gasoline into railcar cargo tanks. *If the answer to Question VIII.EE.9 is "No," go to Section VIII.FF.*	☐ Yes ☐ No
10.	The bulk gasoline terminal loads gasoline into railcar cargo tanks which do not collect vapors from a vapor balance system.	☐ Yes ☐ No

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VIII.	**Title 40 Code of Federal Regulations Part 63 - National Emission Standards for Hazardous Air Pollutants for Source Categories (continued)**		
	EE.	**Subpart BBBBBB - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities (continued)**	
	11.	The bulk gasoline terminal loads gasoline into railcar cargo tanks which collect vapors from a vapor balance system and that system complies with a Federal, State, local, tribal rule or permit.	☐ Yes ☐ No
	FF.	**Subpart CCCCCC - National Emission Standards for Hazardous Air Pollutants for Source Category: Gasoline Dispensing Facilities**	
♦	1.	The application area is located at a site that is an area source of hazardous air pollutants. *If the answer to Question VIII.FF.1 is "No," go to Section VIII.GG.*	☐ Yes ☒ No
♦	2.	The application area includes at least one gasoline dispensing facility as defined in 40 CFR § 63.11132. *If the answer to Question VIII.FF.2 is "No," go to Section VIII.GG.*	☐ Yes ☐ No
♦	3.	The application area includes at least one gasoline dispensing facility with a monthly throughput of less than 10,000 gallons.	☐ Yes ☐ No
♦	4.	The application area includes at least one gasoline dispensing facility where gasoline is dispensed from a fixed gasoline storage tank into a portable gasoline tank for the on-site delivery and subsequent dispensing into other gasoline-fueled equipment.	☐ Yes ☐ No
	GG.	**Recently Promulgated 40 CFR Part 63 Subparts**	
♦	1.	The application area is subject to one or more promulgated 40 CFR Part 63 subparts not addressed on this form. *If the response to Question VIII.GG.1 is "No," go to Section IX. A list of promulgated 40 CFR Part 63 subparts not otherwise addressed on OP-REQ1 is included in the instructions.*	☒ Yes ☐ No
♦	2.	Provide the Subpart designation (i.e. Subpart EEE) in the space provided below.	
		Subpart PPP	

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IX.	**Title 40 Code of Federal Regulations Part 68 (40 CFR Part 68) - Chemical Accident Prevention Provisions**		
	A.	**Applicability**	
♦	1.	The application area contains processes subject to 40 CFR Part 68, Chemical Accident Prevention Provisions, and specified in 40 CFR § 68.10.	☒ Yes ☐ No
X.	**Title 40 Code of Federal Regulations Part 82 (40 CFR Part 82) - Protection of Stratospheric Ozone**		
	A.	**Subpart A - Production and Consumption Controls**	
♦	1.	The application area is located at a site that produces, transforms, destroys, imports, or exports a controlled substance or product.	☒ Yes ☐ No ☐ N/A
	B.	**Subpart B - Servicing of Motor Vehicle Air Conditioners**	
♦	1.	Servicing, maintenance, and/or repair of fleet vehicle air conditioning systems using ozone-depleting refrigerants is conducted in the application area.	☐ Yes ☒ NO
	C.	**Subpart C - Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances**	
♦	1.	The application area sells or distributes one or more nonessential products (which release a Class I or Class II substance) that are subject to 40 CFR Part 82, Subpart C.	☐ Yes ☒ No ☐ N/A
	D.	**Subpart D - Federal Procurement**	
♦	1.	The application area is owned/operated by a department, agency, or instrumentality of the United States.	☐ Yes ☒ No ☐ N/A
	E.	**Subpart E - The Labeling of Products Using Ozone Depleting Substances**	
♦	1.	The application area includes containers in which a Class I or Class II substance is stored or transported prior to the sale of the Class I or Class II substance to the ultimate consumer.	☐ Yes ☒ No ☐ N/A
♦	2.	The application area is a manufacturer, importer, wholesaler, distributor, or retailer of products containing a Class I or Class II substance.	☐ Yes ☒ No ☐ N/A
♦	3.	The application area is a manufacturer, importer, wholesaler, distributor, or retailer of products manufactured with a process that uses a Class I or Class II substance.	☐ Yes ☒ No ☐ N/A

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X.	**Title 40 Code of Federal Regulations Part 82 (40 CFR Part 82) - Protection of Stratospheric Ozone (continued)**		
	F.	**Subpart F - Recycling and Emissions Reduction**	
♦	1.	Servicing, maintenance, and/or repair on refrigeration and non-motor vehicle air condition appliances using ozone-depleting refrigerants or non-exempt substitutes is conducted in the application area.	☒ Yes ☐ No
♦	2.	Disposal of appliances (including motor vehicle air conditioners) or refrigerant or non-exempt substitute reclamation occurs in the application area.	☐ Yes ☒ No ☐ N/A
♦	3.	The application area manufactures appliances or refrigerant recycling and recovery equipment.	☐ Yes ☒ No ☐ N/A
	G.	**Subpart G - Significant New Alternatives Policy Program**	
♦	1.	The application area manufactures, formulates, or creates chemicals, product substitutes, or alternative manufacturing processes that are intended for use as a replacement for a Class I or Class II compound. *If the response to Question X.G.1 is "No" or "N/A," go to Section X.H.*	☐ Yes ☒ No ☐ N/A
♦	2.	All substitutes produced by the application area meet one or more of the exemptions in 40 CFR § 82.176(b)(1) - (7).	☐ Yes ☐ No ☐ N/A
	H.	**Subpart H -Halon Emissions Reduction**	
♦	1.	Testing, servicing, maintaining, repairing, or disposing of equipment containing halons is conducted in the application area.	☐ Yes ☒ No ☐ N/A
♦	2.	Disposal of halons or manufacturing of halon blends is conducted in the application area.	☐ Yes ☒ No ☐ N/A
XI.	**Miscellaneous**		
	A.	**Requirements Reference Tables (RRT) and Flowcharts**	
		1. The application area contains units that are potentially subject to a regulation for which the TCEQ has not developed an RRT and flowchart.	☒ Yes ☐ No

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XI.	**Miscellaneous (continued)**		
	B.	**Forms**	
♦	1.	The application area contains units that are potentially subject to a regulation for which the TCEQ has not developed a unit attribute form. *If the response to Question XI.B.1 is "No" or "N/A," go to Section XI.C.*	☒ Yes ☐ No ☐ N/A
♦	2.	Provide the Part and Subpart designation for the federal rule(s) or the Chapter, Subchapter, and Division designation for the State regulation(s) in the space provided below.	
	C.	**Emission Limitation Certifications**	
♦	1.	The application area includes units for which federally enforceable emission limitations have been established by certification.	☐ Yes ☒ No
	D.	**Alternative Means of Control, Alternative Emission Limitation or Standard, or Equivalent Requirements**	
	1.	The application area is located at a site that is subject to a site-specific requirement of the state implementation plan (SIP).	☒ Yes ☐ No
	2.	The application area includes units located at the site that are subject to a site-specific requirement of the SIP.	☒ Yes ☐ No
	3.	The application area includes units which demonstrate compliance by using an alternative means of control, alternative emission limitation or standard or equivalent requirements approved by the EPA Administrator. *If the response to Question XI.D.3 is "Yes," please include a copy of the approval document with the application.*	☐ Yes ☒ No
	4.	The application area includes units which demonstrate compliance by using an alternative means of control, alternative emission limitation or standard or equivalent requirements approved by the TCEQ Executive Director. *If the response to Question XI.D.4 is "Yes," please include a copy of the approval document with the application.*	☒ Yes ☐ No

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XI. Miscellaneous (continued)		
E.	**Title IV - Acid Rain Program**	
1.	The application area includes emission units subject to the Acid Rain Program (ARP), including the Opt-In Program.	☐ Yes ☒ No
2.	The application area includes emission units qualifying for the new unit exemption under 40 CFR § 72.7.	☐ Yes ☒ No
3.	The application area includes emission units qualifying for the retired unit exemption under 40 CFR § 72.8.	☐ Yes ☒ No
F.	**40 CFR Part 97, Subpart EEEEE - Cross-State Air Pollution Rule (CSAPR) NO_X Ozone Season Group 2 Trading Program**	
1.	The application area includes emission units subject to the requirements of the CSAPR NO_X Ozone Season Group 2 Trading Program. *If the response to Question XI.F.1 is "No," go to Question XI.F.7.*	☐ Yes ☒ No
2.	The application area includes units that are complying with the CEMS requirements of 40 CFR Part 75, Subpart H for NO_X and heat input.	☐ Yes ☐ No
3.	The application area includes gas or oil-fired units that are complying with the CEMS requirements of 40 CFR Part 75, Subpart H for NO_X, and the monitoring requirements of 40 CFR Part 75, Appendix D for heat input.	☐ Yes ☐ No
4.	The application area includes gas or oil-fired peaking units that are complying with the monitoring requirements of 40 CFR Part 75, Appendix E for NO_X, and the monitoring requirements of 40 CFR Part 75, Appendix D for heat input.	☐ Yes ☐ No
5.	The application area includes gas or oil-fired units that are complying with the Low Mass Emissions monitoring requirements of 40 CFR § 75.19 for NO_X and heat input.	☐ Yes ☐ No
6.	The application area includes units that are complying with EPA-approved alternative monitoring system requirements of 40 CFR Part 75, Subpart E for NO_X and heat input.	☐ Yes ☐ No
7.	The application area includes emission units that qualify for the CSAPR NO_X Ozone Season Group 2 retired unit exemption.	☐ Yes ☒ No

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♦ For GOP applications, answer ONLY these questions unless otherwise directed.

XI. Miscellaneous (continued)			
G.	**40 CFR Part 97, Subpart FFFFF - Texas SO_2 Trading Program**		
	1.	The application area includes emission units complying with the requirements of the Texas SO_2 Trading Program. *If the response to Question XI.G.1 is "No," go to Question XI.G.6.*	☐ Yes ☒ No
	2.	The application area includes units that are complying with the CEMS requirements of 40 CFR Part 75, Subpart B for SO_2 and 40 CFR Part 75, Subpart H for heat input.	☐ Yes ☐ No
	3.	The application area includes gas or oil-fired units that are complying with the monitoring requirements of 40 CFR Part 75, Appendix D for SO_2 and heat input.	☐ Yes ☐ No
	4.	The application area includes gas or oil-fired units that are complying with the Low Mass Emissions monitoring requirements of 40 CFR § 75.19 for SO_2 and heat input.	☐ Yes ☐ No
	5.	The application area includes units that are complying with EPA-approved alternative monitoring system requirements of 40 CFR Part 75, Subpart E for SO_2 and heat input.	☐ Yes ☐ No
	6.	The application area includes emission units that qualify for the Texas SO_2 Trading Program retired unit exemption.	☐ Yes ☒ No
H.	**Permit Shield (SOP Applicants Only)**		
	1.	A permit shield for negative applicability entries on Form OP-REQ2 (Negative Applicable Requirement Determinations) is being requested or already exists in the permit.	☒ Yes ☐ No

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XI.	**Miscellaneous (continued)**		
	I.	**GOP Type (Complete this section for GOP applications only)**	
♦	1.	The application area is applying for initial issuance, revision, or renewal of an oil and gas general operating permit under GOP No. 511 - Oil and Gas General Operating Permit for Brazoria, Chambers, Collin, Dallas, Denton, El Paso, Ellis, Fort Bend, Galveston, Hardin, Harris, Jefferson, Johnson, Kaufman, Liberty, Montgomery, Orange, Parker, Rockwall, Tarrant, Waller, and Wise Counties.	☐ Yes ☐ No
♦	2.	The application area is applying for initial issuance, revision, or renewal of an oil and gas general operating permit under GOP No. 512 - Oil and Gas General Operating Permit for Gregg, Nueces, and Victoria Counties.	☐ Yes ☐ No
♦	3.	The application area is applying for initial issuance, revision, or renewal of an oil and gas general operating permit under GOP No. 513 - Oil and Gas General Operating Permit for Aransas, Bexar, Calhoun, Matagorda, San Patricio, and Travis Counties.	☐ Yes ☐ No
♦	4.	The application area is applying for initial issuance, revision, or renewal of an oil and gas general operating permit under GOP No. 514 - Oil and Gas General Operating Permit for All Texas Counties Except Aransas, Bexar, Brazoria, Calhoun, Chambers, Collin, Dallas, Denton, El Paso, Ellis, Fort Bend, Galveston, Gregg, Hardin, Harris, Jefferson, Johnson, Kaufman, Liberty, Matagorda, Montgomery, Nueces, Orange, Parker, Rockwall, San Patricio, Tarrant, Travis, Victoria, Waller, and Wise County.	☐ Yes ☐ No
♦	5.	The application area is applying for initial issuance, revision, or renewal of a solid waste landfill general operating permit under GOP No. 517 - Municipal Solid Waste Landfill general operating permit.	☐ Yes ☐ No
	J.	**Title 30 TAC Chapter 101, Subchapter H**	
♦	1.	The application area is located in a nonattainment area. *If the response to Question XI.J.1 is "No," go to Question XI.J.3.*	☒ Yes ☐ No
♦	2.	The applicant has or will generate emission reductions to be credited in the TCEQ Emissions Banking and Trading Program.	☐ Yes ☒ No ☐ N/A
♦	3.	The applicant has or will generate discrete emission reductions to be credited in the TCEQ Emissions Banking and Trading Program.	☐ Yes ☒ No ☐ N/A

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XI.	**Miscellaneous (continued)**		
	J.	**Title 30 TAC Chapter 101, Subchapter H (continued)**	
♦	4.	The application area is located at a site in the Houston/Galveston/Brazoria nonattainment area where the facilities have a collective uncontrolled design capacity to emit 10 tpy or more of NO_X. *If the response to Question XI.J.4 is "Yes," go to Question XI.J.6.*	☒ Yes ☐ No
♦	5.	The application area is located at a site in the Houston/Galveston/Brazoria nonattainment area where the facilities previously had a collective uncontrolled design capacity to emit 10 tpy or more of NO_X and is subject to 101.351(c).	☐ Yes ☐ No
	6.	The application area includes an electric generating facility permitted under 30 TAC Chapter 116, Subchapter I.	☐ Yes ☒ No
♦	7.	The application area is located at a site in the Houston/Galveston/Brazoria nonattainment area and the site has a potential to emit more than 10 tpy of highly reactive volatile organic compounds (HRVOC) from facilities covered under 30 TAC Chapter 115, Subchapter H, Divisions 1 and 2.	☒ Yes ☐ No
♦	8.	The application area is located at a site in the Houston/Galveston/Brazoria nonattainment area, the site has a potential to emit 10 tpy or less of HRVOC from covered facilities and the applicant is opting to comply with the requirements of 30 TAC Chapter 101, Subchapter H, Division 6, Highly Reactive VOC Emissions Cap and Trade Program.	☐ Yes ☒ No
	K.	**Periodic Monitoring**	
♦	1.	The applicant or permit holder is submitting at least one periodic monitoring proposal described on Form OP-MON in this application. *If the response to Question XI.K.1 is "Yes," go to Section XI.L.*	☐ Yes ☒ No
♦	2.	The permit currently contains at least one periodic monitoring requirement. *If the responses to Questions XI.K.1 and XI.K.2 are both "No," go to Section XI.L.*	☒ Yes ☐ No
♦	3.	All periodic monitoring requirements are being removed from the permit with this application.	☐ Yes ☒ No

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XI.	**Miscellaneous (continued)**		
	L.	**Compliance Assurance Monitoring**	
♦	1.	The application area includes at least one unit that does not meet the CAM exemptions in 40 CFR § 64.2(b) for all applicable requirements that it is subject to, and the unit has a pre-control device potential to emit greater than or equal to the amount in tons per year required in a site classified as a major source. *If the response to Question XI.L.1 is "No," go to Section XI.M.*	☒ Yes ☐ No
♦	2.	The unit or units defined by XI.L.1 are using a control device to comply with an applicable requirement. *If the response to Question XI.L.2 is "No," go to Section XI.M.*	☒ Yes ☐ No
♦	3.	The permit holder has submitted a CAM proposal on Form OP-MON in a previous application.	☒ Yes ☐ No
♦	4.	The owner/operator or permit holder is submitting a CAM proposal on Form OP-MON according to the deadlines for submittals in 40 CFR § 64.5 in this application. *If the responses to Questions XI.L.3 and XI.L.4 are both "No," go to Section XI.M.*	☐ Yes ☒ No
	5.	The owner/operator or permit holder is submitting a CAM implementation plan and schedule to be incorporated as enforceable conditions in the permit.	☐ Yes ☒ No
	6.	Provide the unit identification numbers for the units for which the applicant is submitting a CAM implementation plan and schedule in the space below.	
♦	7.	At least one unit defined by XI.L.1 and XI.L.2 is using a CEMS, COMS or PEMS meeting the requirements of 40 CFR § 64.3(d)(2).	☒ Yes ☐ No
♦	8.	All units defined by XI.L.1 and XI.L.2 are using a CEMS, COMS or PEMS meeting the requirements of 40 CFR § 64.3(d)(2). *If the response to Question XI.L.8 is "Yes," go to Section XI.M.*	☐ Yes ☒ No

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XI.	**Miscellaneous (continued)**		
	L.	**Compliance Assurance Monitoring (continued)**	
♦	9.	At least one of the CAM proposals as described by question XI.L.3 or XI.L.4 addresses particulate matter, and the emission unit has a capture system as defined in 40 CFR §64.1.	☐ Yes ☒ No
♦	10.	At least one of the CAM proposals as described by question XI.L.3 or XI.L.4 addresses VOC, and the emission unit has a capture system as defined in 40 CFR §64.1.	☒ Yes ☐ No
♦	11.	At least one of the CAM proposals as described by question XI.L.3 or XI.L.4 addresses a regulated pollutant other than particulate matter or VOC, and the emission unit has a capture system as defined in 40 CFR §64.1.	☐ Yes ☒ No
♦	12.	The control device in the CAM proposal as described by question XI.L.3 or XI.L.4 has a bypass.	☐ Yes ☒ No
	M.	**Title 30 TAC Chapter 113, Subchapter D, Division 5 - Emission Guidelines and Compliance Times**	
♦	1.	The application area includes at least one air curtain incinerator that commenced construction on or before December 9, 2004. *If the response to Question XI.M.1 is "No," or "N/A," go to Section XII.*	☐ Yes ☒ No ☐ N/A
♦	2.	All air curtain incinerators constructed on or before December 9, 2004 combust only wood waste, clean lumber, or yard waste or a mixture of these materials.	☐ Yes ☐ No
XII.	**New Source Review (NSR) Authorizations**		
	A.	**Waste Permits with Air Addendum**	
♦	1.	The application area includes a Municipal Solid Waste Permit or an Industrial Hazardous Waste with an Air Addendum. *If the response to XII.A.1 is "Yes," include the waste permit numbers and issuance date in Section XII.J.*	☐ Yes ☒ No

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XII.	**New Source Review (NSR) Authorizations (continued)**		
	B.	**Air Quality Standard Permits**	
♦	1.	The application area includes at least one Air Quality Standard Permit NSR authorization. *If the response to XII.B.1 is "No," go to Section XII.C. If the response to XII.B.1 is "Yes," be sure to include the standard permit's registration numbers in Section XII.H and answer XII.B.2 - B.16 as appropriate.*	☒ Yes ☐ No
♦	2.	The application area includes at least one "State Pollution Control Project" Air Quality Standard Permit NSR authorization under 30 TAC § 116.617.	☒ Yes ☐ No
♦	3.	The application area includes at least one non-rule Air Quality Standard Permit for Pollution Control Projects NSR authorization.	☒ Yes ☐ No
♦	4.	The application area includes at least one "Installation and/or Modification of Oil and Gas Facilities" Air Quality Standard Permit NSR authorization under 30 TAC § 116.620.	☐ Yes ☒ No
♦	5.	The application area includes at least one non-rule Air Quality Standard Permit for Oil and Gas Handling and Production Facilities NSR authorization.	☐ Yes ☒ No
♦	6.	The application area includes at least one "Municipal Solid Waste Landfill" Air Quality Standard Permit NSR authorization under 30 TAC § 116.621.	☐ Yes ☒ No
♦	7.	The application area includes at least one "Municipal Solid Waste Landfill Facilities and Transfer Stations" Standard Permit authorization under 30 TAC Chapter 330, Subchapter U.	☐ Yes ☒ No
	8.	The application area includes at least one "Concrete Batch Plant" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
	9.	The application area includes at least one "Concrete Batch Plant with Enhanced Controls" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
	10.	The application area includes at least one "Hot Mix Asphalt Plant" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No

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XII.	**New Source Review (NSR) Authorizations (continued)**		
	B.	**Air Quality Standard Permits (continued)**	
♦	11.	The application area includes at least one "Rock Crusher" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
♦	12.	The application area includes at least one "Electric Generating Unit" Air Quality Standard Permit NSR authorization. *If the response to XII.B.12 is "No," go to Question XII.B.15.*	☐ Yes ☒ No
♦	13.	For purposes of "Electric Generating Unit" Air Quality Standard Permit, the application area is located in the East Texas Region.	☐ Yes ☐ No
♦	14.	For purposes of "Electric Generating Unit" Air Quality Standard Permit, the application area is located in the West Texas Region.	☐ Yes ☐ No
♦	15.	The application area includes at least one "Boiler" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
♦	16.	The application area includes at least one "Sawmill" Air Quality Standard Permit NSR authorization.	☐ Yes ☒ No
	C.	**Flexible Permits**	
		1. The application area includes at least one Flexible Permit NSR authorization.	☐ Yes ☒ No
	D.	**Multiple Plant Permits**	
		1. The application area includes at least one Multi-Plant Permit NSR authorization.	☐ Yes ☒ No

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XII. NSR Authorizations (Attach additional sheets if necessary for sections XII.E-J.)

E. PSD Permits and PSD Major Pollutants

Permit No.	Issuance Date	Pollutant(s):	Permit No.	Issuance Date	Pollutant(s):

If PSD Permits are held for the application area, please complete the Major NSR Summary Table located under the Technical Forms heading at: www.tceq.texas.gov/permitting/air/titlev/site/site_experts.html.

F. Nonattainment (NA) Permits and NA Major Pollutants

Permit No.	Issuance Date	Pollutant(s):	Permit No.	Issuance Date	Pollutant(s):

If NA Permits are held for the application area, please complete the Major NSR Summary Table located under the Technical Forms heading at: www.tceq.texas.gov/permitting/air/titlev/site/site_experts.html.

G. NSR Authorizations with FCAA § 112(g) Requirements

NSR Permit No.	Issuance Date	NSR Permit No.	Issuance Date	NSR Permit No	Issuance Date

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XII. NSR Authorizations (continued) - (Attach additional sheets if necessary for sections XII.E-J.)

♦ **H. Title 30 TAC Chapter 116 Permits, Special Permits, Standard Permits, Other Authorizations (Other Than Permits By Rule, PSD Permits, NA Permits) for the Application Area**

Authorization No.	Issuance Date	Authorization No.	Issuance Date	Authorization No.	Issuance Date
18561	09/10/2019				
75751	01/17/2017				
104144	~~07/26/2019~~ ***02/08/2023***				
145335	03/28/2017				

♦ **I. Permits by Rule (30 TAC Chapter 106) for the Application Area**

A list of selected Permits by Rule (previously referred to as standard exemptions) that are required to be listed in the FOP application is available in the instructions.

PBR No.	Version No./Date	PBR No.	Version No./Date	PBR No.	Version No./Date
106.261	11/01/2003	106.478	09/04/2000		
106.262	11/01/2003				
106.263	11/01/2001				
106.264	***09/04/2000***				
106.373	09/04/2000				
106.452	09/04/2000				
106.472	09/04/2000				
~~106.476~~	~~09/04/2000~~				

♦ **J. Municipal Solid Waste and Industrial Hazardous Waste Permits with an Air Addendum**

Permit No.	Issuance Date	Permit No.	Issuance Date	Permit No.	Issuance Date

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Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B13PGE32	OP-REQ2	40 CFR Part 60, Subpart III	60.610(a)	Not an air oxidation reactor
		B13PGE32	OP-REQ2	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI chemical reactor process
		B13PGR1	OP-REQ2	40 CFR Part 60, Subpart III	60.610(a)	Not an air oxidation reactor
		B13PGR1	OP-REQ2	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI chemical reactor process
		B13PGR2	OP-REQ2	40 CFR Part 60, Subpart III	60.610(a)	Not an air oxidation reactor
		B13PGR2	OP-REQ2	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI chemical reactor process
		B13PGR5	OP-REQ2	40 CFR Part 60, Subpart III	60.610(a)	Not an oxidation reactor
		B13PGR5	OP-REQ2	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI chemical process reactor
		B13PGR9	OP-REQ2	40 CFR Part 60, Subpart III	60.610(a)	Not an air oxidation reactor
		B13PGR9	OP-REQ2	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI chemical reactor process
		B13PGST001	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST001	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST001	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST001	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST001	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST001	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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		B13PGST001	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST001	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST003	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST003	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B13PGST003	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST003	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST003	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST003	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST003	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST003	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST004	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST004	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
	9	B13PGST004	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~Storage capacity is <19,800 gallons~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B13PGST004	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST004	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene

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		B13PGST004	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST004	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
	9	B13PGST007	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B13PGST007	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST007	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST007	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST007	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST007	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST01	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST01	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST01	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST01	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST01	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST01	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST01	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart

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		B13PGST16C	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST16C	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST16C	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST16C	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST16C	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST16C	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST16C	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST16D	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST16D	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST16D	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST16D	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST16D	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST16D	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST16D	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST19	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST19	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons

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		B13PGST19	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST19	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST19	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST19	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST19	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST201	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST202	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST203	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST203	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST203	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST203	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST203	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST203	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST203	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST203	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST204	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons

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		B13PGST204	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST204	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST204	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST204	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST204	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST204	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST204	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST21	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST21	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST21	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST21	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST21	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST21	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST21	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST216	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST216	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons

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		B13PGST216	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST216	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST216	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST216	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST216	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST217	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST217	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST217	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST217	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST217	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST217	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST217	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST22	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST22	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
	9	B13PGST22	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~Storage capacity is <19,800 gallons~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***

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		B13PGST22	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST22	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST22	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST22	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST22	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST222	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST223	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST223	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST223	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is < 19,800 gallons
		B13PGST223	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST223	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST223	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST223	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST223	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST224	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST225	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel

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		B13PGST226	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST227	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST228	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST228	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST228	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is < 19,800 gallons
		B13PGST228	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST228	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST228	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST228	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST229	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST229	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST229	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is < 19,800 gallons
		B13PGST229	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST229	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST229	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST229	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart

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		B13PGST229	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST23	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST23	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
	9	B13PGST23	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B13PGST23	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST23	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST23	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST23	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST23	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST240	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST240	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST240	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST240	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST240	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST240	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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		B13PGST240	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST240	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST241	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST241	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST241	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST241	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST241	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST241	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST241	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST242	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST243	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST244	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel
		B13PGST245	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is<40,000 gallons
		B13PGST245	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST245	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST245	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste

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		B13PGST245	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST245	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST245	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST245	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST246	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST246	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST246	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST246	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST246	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST246	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST246	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST253	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST253	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST253	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST253	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST253	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene

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		B13PGST253	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST253	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST254	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST254	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST254	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST254	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST254	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST254	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST254	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST256	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST256	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST256	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST256	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST256	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST256	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST256	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart

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		B13PGST26	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST26	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST26	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST26	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST26	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST26	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST26	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST260	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST260	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST260	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST260	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST260	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST260	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST260	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST261	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST261	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons

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		B13PGST261	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST261	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST261	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST261	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST261	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST262	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST262	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST262	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST262	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST262	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST262	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST262	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST265	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST265	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST265	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST265	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste

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		B13PGST265	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST265	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST265	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST266	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST266	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST266	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST266	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST266	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST266	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST266	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST268	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST268	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST268	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST268	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST268	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST268	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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		B13PGST268	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST269	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST269	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST269	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST269	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST269	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST269	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST269	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST27	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST27	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST27	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST27	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST27	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST27	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST27	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST28	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons

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		B13PGST28	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST28	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST28	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST28	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST28	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST28	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST3	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST3	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST3	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST3	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST3	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST3	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST3	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST306	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST306	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids

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	9	B13PGST306	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B13PGST306	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST306	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST306	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST306	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST308	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST308	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
	9	B13PGST308	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B13PGST308	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST308	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST308	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST308	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST308	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST309	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGST309	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids

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	9	B13PGST309	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B13PGST309	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST309	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST309	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST309	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST40	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST40	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST40	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST40	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST40	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST40	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST40	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST40	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST41	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST41	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons

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		B13PGST41	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST41	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST41	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST41	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST41	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST41	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST44	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST44	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST44	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST44	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST44	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST44	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST44	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST45	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST45	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST45	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons

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		B13PGST45	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST45	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST45	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST45	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST45	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST501	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST501	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST501	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST501	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST501	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST501	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST501	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST506	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST506	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST506	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST506	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste

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		B13PGST506	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST506	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST506	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST508	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST508	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST508	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST508	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST508	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST508	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST508	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST55	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST55	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST55	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST55	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST55	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST55	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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		B13PGST55	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST55	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST56	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST56	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST56	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST56	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST56	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST56	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST56	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST56	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST57	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST57	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST57	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST57	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST57	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST57	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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		B13PGST57	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST58	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST58	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST58	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST58	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST58	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST58	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST58	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST661	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST661	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST661	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST661	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST661	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST661	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST661	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST662	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Surge control vessel

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		B13PGST663	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST663	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST663	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST663	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST663	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST663	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST663	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST663	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST664	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST664	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST664	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST664	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST664	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST664	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST664	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST664	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP

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		B13PGST668	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST668	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST668	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST668	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST668	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST668	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST668	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST668	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST669	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST669	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST669	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST669	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST669	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST669	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST669	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST669	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP

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		B13PGST671	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST671	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST671	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST671	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST671	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST671	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST671	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST701	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST701	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST701	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST701	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST701	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST701	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST701	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST702	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST702	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons

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		B13PGST702	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST702	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST702	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST702	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST702	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST703	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST703	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST703	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST703	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST703	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST703	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST703	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST703	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
		B13PGST803	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST803	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST803	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons

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		B13PGST803	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST803	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST803	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST803	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST870	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST870	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST870	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is <19,800 gallons
		B13PGST870	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST870	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST870	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST870	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST871	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST871	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST871	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is <19,800 gallons
		B13PGST871	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST871	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene

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		B13PGST871	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST871	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGST901	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B13PGST901	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B13PGST901	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity is <19,800 gallons
		B13PGST901	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGST901	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGST901	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGST901	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B13PGSTT7A	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B13PGSTT7A	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B13PGSTT7A	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is <19,800 gallons
		B13PGSTT7A	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B13PGSTT7A	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B13PGSTT7A	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B13PGSTT7A	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart

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		B13PGT11	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI chemical distillation process
		B13PGT12	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI chemical distillation process
		B13PGT13	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI chemical distillation process
		B13PGT20	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI chemical distillation process
		B13PGT21	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI chemical distillation process
		B17PEPT351	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity <40,000 gallons
		B17PEPT351	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity <40,000 gallons
		B17PEPT351	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity <19,800 gallons
		B17PEPT351	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEPT352	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity <40,000 gallons
		B17PEPT352	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity <40,000 gallons
		B17PEPT352	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity <19,800 gallons
		B17PEPT352	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEFU01	OP-REQ2	40 CFR Part 60, Subpart VV	60.489	Complies with MACT H in lieu of NSPS VV.
		B17PEST012	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B17PEST012	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.

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	9	B17PEST012	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~Maximum true vapor pressure <3.5 kPa~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PEST012	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST012	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PEST015	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B17PEST015	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
	9	B17PEST015	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~Maximum true vapor pressure <3.5 kPa~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PEST015	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST015	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PEST01A	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B17PEST01A	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
	9	B17PEST01A	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	~~Maximum true vapor pressure <3.5 kPa~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PEST01A	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST01A	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PEST364	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity <40,000 gallons

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		B17PEST364	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity <40,000 gallons
		B17PEST364	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity <19,800 gallons
		B17PEST364	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST365	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity <40,000 gallons
		B17PEST365	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity <40,000 gallons
		B17PEST365	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity <19,800 gallons
		B17PEST365	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST365	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PEST371	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity <40,000 gallons
		B17PEST371	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity <40,000 gallons
		B17PEST371	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity <19,800 gallons
		B17PEST371	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST371	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PEST372	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity <40,000 gallons
		B17PEST372	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity <40,000 gallons
		B17PEST372	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	Storage capacity <19,800 gallons

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		B17PEST372	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B17PEST372	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGFU2	OP-REQ2	40 CFR Part 60, Subpart VV	60.489	Complies with MACT H in lieu of NSPS VV
	9	B17PGST010	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGST010	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGST010	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGST010	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGST010	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
	9	B17PGST011	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGST011	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGST011	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGST011	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGST011	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGST011	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP

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	9	B17PGST012	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGST012	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGST012	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGST012	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGST012	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGST012	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
	9	B17PGST013	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGST013	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGST013	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGST013	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGST013	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGST013	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
	9	B17PGST014	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGST014	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste

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		B17PGST014	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGST014	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGST014	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGST014	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
	9	B17PGST015	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGST015	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGST015	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGST015	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGST015	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGST015	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
	9	B17PGT201A	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGT201A	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGT201A	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGT201A	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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		B17PGT201A	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B17PGT201A	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Does not store OHAP
	9	B17PGT201B	OP-REQ2	40 CFR Part 60, Subpart Kb	~~60.110b(a)~~ ***60.110b(b)***	~~VOC TVP < 0.5 psia~~ ***Storage capacity is > 39,900 gallons and has a maximum true vapor pressure < 3.5 kPa***
		B17PGT201B	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B17PGT201B	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B17PGT201B	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B17PGT201B	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMCV1	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2490(a)	The pressure difference between the exchanger sides is at least 35 kPa.
	1	B39GMDL1	OP-REQ2	Chapter 115, Loading and Unloading of VOC	~~63.2550(i)~~ ***115.211(1)***	Not loading into a transport vessel
		B39GMDL1	OP-REQ2	Chapter 115, Loading and Unloading of VOC	63.101	Does not meet the definition of a transfer rack
		B39GMFU1	OP-UA01	Chapter 115, Pet. Refinery & Petrochemicals	115.352	Not a specified process.
		B39GMFU1	OP-UA01	40 CFR Part 60, Subpart VV	60.480(a)(1)	Not a SOCMI process.
		B39GMFU2	OP-UA01	Chapter 115, Pet. Refinery & Petrochemicals	115.352	Not a specified process.
		B39GMFU2	OP-UA01	40 CFR Part 60, Subpart VV	60.480(a)(1)	Not a SOCMI process

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		B39GMFU3	OP-UA01	Chapter 115, Pet. Refinery & Petrochemicals	115.352	Not a SOCMI process.
		B39GMFU3	OP-UA01	40 CFR Part 60, Subpart VV	60.480(a)(1)	Not a SOCMI process
		B39GMLR1	OP-UA04	40 CFR Part 63, Subpart EEEE	63.2396(e)(2)	MACT EEEE is superseded by MACT FFFF
		B39GMLR1	OP-UA04	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a transfer rack
		B39GMSP215	OP-UA14	40 CFR Part 63, Subpart VV	63.1040	No applicable subparts within 60, 61, or 63 reference this subpart.
		B39GMSP220	OP-UA14	40 CFR Part 63, Subpart VV	63.1040	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMSP226	OP-UA14	40 CFR Part 63, Subpart VV	63.1040	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMSP228	OP-UA14	40 CFR Part 63, Subpart VV	63.1040	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST264	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B39GMST264	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B39GMST264	OP-UA03	40 CFR Part 60, Subpart Kb	60.110b(a)	Design capacity < 19,800 gals
		B39GMST264	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste
		B39GMST264	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B39GMST264	OP-UA03	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank contains no organic HAPs or hydrogen halide/halogen HAPs
		B39GMST264	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel

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		B39GMST264	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST70A	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39GMST70A	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
	1	***B39GMST70A***	***OP-UA03***	***40 CFR Part 60, Subpart Kb***	***60.110b(a)***	***Vessel design capacity is < 19,800 gallons.***
		B39GMST70A	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMST70A	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMST70A	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMST70A	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST70B	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39GMST70B	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
	1	***B39GMST70B***	***OP-UA03***	***40 CFR Part 60, Subpart Kb***	***60.110b(a)***	***Vessel design capacity is < 19,800 gallons.***
		B39GMST70B	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMST70B	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMST70B	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMST70B	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST75A	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.

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		B39GMST75A	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
	1	***B39GMST75A***	***OP-UA03***	***40 CFR Part 60, Subpart Kb***	***60.110b(b)***	***Vessel design capacity is > 39,890 gallons and storing a liquid with a max true VP <0.5 psia.***
		B39GMST75A	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMST75A	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMST75A	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMST75A	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST75B	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39GMST75B	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
		B39GMST75B	***OP-UA03***	***40 CFR Part 60, Subpart Kb***	***60.110b(b)***	***Vessel design capacity is > 39,890 gallons and storing a liquid with a max true VP <0.5 psia.***
		B39GMST75B	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMST75B	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMST75B	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMST75B	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST801	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39GMST801	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.

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		B39GMST801	OP-UA03	40 CFR Part 60, Subpart Kb	60.110b(a)	Vessel design capacity > 40 K with TVP<0.5.
		B39GMST801	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMST801	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMST801	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMST801	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST828	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39GMST828	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
	1	***B39GMST828***	***OP-UA03***	***40 CFR Part 60, Subpart Kb***	***60.110b(a)***	***Vessel design capacity < 19,800 gallons.***
		B39GMST828	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMST828	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMST828	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMST828	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMST828	OP-UA03	40 CFR Part 63, Subpart FFFF	63.2435(b)	The process stream does not contain any HAP's.
		B39GMWT257	OP-UA03	Chapter 115, Industrial Wastewater	115.142	Does not handle an affected VOC wastewater stream.
		B39GMWT257	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39GMWT257	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.

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		B39GMWT257	OP-UA03	40 CFR Part 60, Subpart Kb	60.110b(a)	Capacity greater than 40K and VP<0.5 psia.
		B39GMWT257	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39GMWT257	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.
		B39GMWT257	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39GMWT257	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39GMWT257	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	The process stream does not contain any HAP's.
		B39PT215	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank is a surge control vessel
		B39PT220	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank is a surge control vessel
		B39PT226	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank is a surge control vessel
		B39PT228	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank is a surge control vessel
		B39PT290	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank is a surge control vessel
		B39ST285	OP-UA03	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids.
		B39ST285	OP-UA03	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids.
		B39ST285	OP-UA03	40 CFR Part 60, Subpart Kb	60.110b(a)	Vessel design capacity > 20K but < 40K gallons TVP < 2.2 psia.
		B39ST285	OP-UA03	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.
		B39ST285	OP-UA03	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene.

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		B39ST285	OP-UA03	40 CFR Part 63, Subpart G	63.101	Does not meet the definition of a storage vessel
		B39ST285	OP-UA03	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B39ST285	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains no organic HAPs or hydrogen halide/halogen HAPs.
		B39ST291	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains no organic HAPs or hydrogen halide/halogen HAPs.
		B39ST801	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains no organic HAPs or hydrogen halide/halogen HAPs.
		B39ST851	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains no organic HAPs or hydrogen halide/halogen HAPs.
		B39ST870	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage tank is a surge control vessel.
		B39ST891	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains no organic HAPs or hydrogen halide/halogen HAPs.
		B39ST892	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains no organic HAPs or hydrogen halide/halogen HAPs.
		B39SP245	OP-UA14	40 CFR Part 63, Subpart VV	63.1040	No applicable subparts within 60, 61, or 63 reference this subpart
		B39SP245	OP-UA14	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains is a continuous process vessel.
		B39SP245	OP-UA14	40 CFR Part 63, Subpart G	63.149(a)	Does not contain or store benzene waste.
		B39SP265	OP-UA14	40 CFR Part 63, Subpart VV	63.1040	No applicable subparts within 60, 61, or 63 reference this subpart
		B39SP265	OP-UA14	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene waste.

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		B39SP265	OP-UA14	40 CFR Part 63, Subpart FFFF	63.2550(i)	Storage contains is a continuous process vessel.
		B39SP265	OP-UA14	40 CFR Part 63, Subpart G	63.149(a)	Does not handle affected liquid stream.
		B39RX210	OP-UA15	40 CFR Part 60, Subpart III	60.610(a)	Not a SOCMI Chemcial process.
		B39RX210	OP-UA15	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI Chemcial reactor process.
		B39GMHE2	OP-UA15	40 CFR Part 63, Subpart FFFF	63.2490(a)	The pressure difference between the exchanger sides is at least 35 kPa.
		B39GMCV2	OP-REQ2	40 CFR Part 63, Subpart FFFF	63.2550(i)	Not a process condenser.
		B39CT900	OP-REQ2	Chapter 115, HRVOC Cooling Towers	115.767(2)	No individual heat exchanger has greater than 100 ppmw HRVOC’s in the process side fluid.
		B39CT900	OP-REQ2	40 CFR Part 63, Subpart Q	63.400(a)	No chromium-based water treatment chemicals on or after September 8, 1994.
		B39DU213	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene.
		B39DU213	OP-REQ2	40 CFR Part 63, Subpart G	63.149(a)	Does not handle affected liquid stream.
		B39DU213	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI Unit.
		B39DU240	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene.
		B39DU240	OP-REQ2	40 CFR Part 63, Subpart G	63.149(a)	Does not handle affected liquid stream.
		B39DU240	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI Unit.
		B39DU250	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene.
		B39DU250	OP-REQ2	40 CFR Part 63, Subpart G	63.149(a)	Does not handle affected liquid stream.

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		B39DU250	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI Unit.
		B39DU260	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(b)	Does not contain or store benzene.
		B39DU260	OP-REQ2	40 CFR Part 63, Subpart G	63.149(a)	Does not handle affected liquid stream.
		B39DU260	OP-REQ2	40 CFR Part 60, Subpart NNN	60.660(a)	Not a SOCMI Unit.
		B43IPFU1	OP-REQ2	40 CFR Part 60, Subpart VV	60.480(b)	Facility not constructed or modified after 1/5/81
		B43IPRX1	OP-REQ2	40 CFR Part 60, Subpart III	60.610(a)	Not an air oxidation reactor
		B43IPRX1	OP-REQ2	40 CFR Part 60, Subpart RRR	60.700(a)	Not a SOCMI chemical reactor process
		B43IPST104	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST104	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST104	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST104	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST104	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST104	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST104	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST105	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST105	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids

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April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST105	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST105	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST105	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST105	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST105	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST106	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST106	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST106	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST106	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST106	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST106	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST106	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST107	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST107	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST107	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST107	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste

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April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST107	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST107	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST107	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST108	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST108	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST108	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST108	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST108	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST108	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST108	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST111	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST111	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST111	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is <19,800 gallons
		B43IPST111	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST111	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST111	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST111	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST113	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST113	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST113	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is <19,800 gallons
		B43IPST113	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST113	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST113	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST113	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST114	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST114	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST114	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is <19,800 gallons
		B43IPST114	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST114	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST114	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST114	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST117	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids

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Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST117	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST117	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is <19,800 gallons
		B43IPST117	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST117	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST117	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST117	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST121	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B43IPST121	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B43IPST121	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is <19,800 gallons
		B43IPST121	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST121	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST121	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST121	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST122	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B43IPST122	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B43IPST122	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is <19,800 gallons

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Date	Permit No.	Regulated Entity No.
April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST122	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST122	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST122	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST122	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST123	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B43IPST123	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B43IPST123	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is <19,800 gallons
		B43IPST123	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST123	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST123	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST123	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST127	OP-REQ2	30 TAC Chapter 115, Storage of VOCs	115.111(a)(8)	Tank capacity is less than 1,000 gallons.
		B43IPST127	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Storage capacity is <40,000 gallons
		B43IPST127	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Storage capacity is <40,000 gallons
		B43IPST127	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Storage capacity is <19,800 gallons
		B43IPST127	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste

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April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST127	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST127	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST127	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST130	OP-REQ2	30 TAC Chapter 115, Storage of VOCs	115.111(a)(8)	Tank capacity is less than 1,000 gallons.
	1	B43IPST130	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(a)	~~VOC TVP < 0.5 psia~~ ***Storage capacity is <19,800 gallons***
		B43IPST130	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST130	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST130	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST130	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST170	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST170	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST170	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST170	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST170	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST170	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility

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April 17, 2025	O2221	RN100225945

Unit AI	Revision No.	Unit/Group/Process ID No.	Unit/Group/Process Applicable Form	Potentially Applicable Regulatory Name	Negative Applicability/Superseded Requirement Citation	Negative Applicability/Superseded Requirement Reason
		B43IPST170	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart
		B43IPST171	OP-REQ2	40 CFR Part 60, Subpart K	60.110(a)	Does not store petroleum liquids
		B43IPST171	OP-REQ2	40 CFR Part 60, Subpart Ka	60.110a(a)	Does not store petroleum liquids
		B43IPST171	OP-REQ2	40 CFR Part 60, Subpart Kb	60.110b(b)	Design capacity is < 19,800 gallons
		B43IPST171	OP-REQ2	40 CFR Part 61, Subpart FF	61.340(a)	Does not contain or store benzene waste
		B43IPST171	OP-REQ2	40 CFR Part 61, Subpart Y	61.270(a)	Does not store benzene
		B43IPST171	OP-REQ2	40 CFR Part 63, Subpart G	63.110(a)	Not a SOCMI facility
		B43IPST171	OP-REQ2	40 CFR Part 63, Subpart OO	63.900	No applicable subparts within 60, 61, or 63 reference this subpart

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGD530	OP-UA15	R5121-01	VOC	Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), 115.122(a)(1)(A)
	B13PGD530	OP-UA15	R5121-02	VOC	Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), 115.122(a)(1)(A)
	B13PGD530	OP-UA15	R5121-03	VOC	Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), 115.122(a)(1)(A)
	B13PGD530	OP-UA15	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2455(a)-Table 1.1.a.i, 63.2450(b), 63.2455(a), (b), 63.2455(b)(1), 63.982(c), (c)(2), 63.983(a)(1), (a)(2), 63.983(d)(1), (d)(1)(i), [G](d)(2), (d)(3), 63.988(a)(1)-(3), (b)(2), (c), 63.996(c)(1), (c)(2), 63.996(c)(2)(i), (c)(3)-(6), 63.997(c)(3)
	B13PGD631	OP-UA15	R5121-01	VOC	Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(A)(1), 115.122(a)(1)(C)
	B13PGD660	OP-UA15	R5121-01	VOC	Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(A)(1), 115.122(a)(1)(C)
	B13PGFU1	OP-UA12	R5352-ALL	VOC	Chapter 115, Pet. Refinery & Petrochemicals	ALL
	B13PGFU1	OP-UA12	60VV-ALL	VOC	40 CFR Part 60, Subpart VV	ALL
	B13PGFU1	OP-UA1	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2480(a)-Table 6.1.a.ii, 63.2435(a), [G](b), 63.2440(a), (b), 63.2445(b), (d), (g), (g)(1), (g)(4), (h), 63.2450(a), (a)(2), (b)-(c), (c)(1), [G](e)(4), (g)(7), 63.2450(k)(8), 63.2480(a)-(b), (b)(3)-(7), (e), (e)(1), [G]63.2480(e)(2)-(7), (e)(8), (f)(1)-(3), 63.2492, [G](c), 63.2535, (k), 63.2540
	B13PGFU1	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGFU1	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	63.1420(a)(1)-(2), [G](a)(4), [G](c), (d)(3), (e)(1)(i), 63.1420(e)(1)(iv), (e)(9), (g), [G](g)(2), (g)(3), [G]63.1420(h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G]63.1422(l), [G]63.1424(a), [G]63.1434
	B13PGHE102	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	63.1435(a), 63.104(a), [G](d), (e), (e)(1), [G](e)(2) 63.1420(a)(1)-(2), [G](a)(4), [G](c), (d)(3), (e)(1)(i), 63.1420(e)(1)(iv), (e)(9), (g), [G](g)(2), (g)(3), [G](h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G](l), [G]63.1424(a) 63.1435(b), (e)
	B13PGHE60	OP-UA13	63FFFF-01	112(B) HAPS	40 CFR Part 63, Subpart FFFF	63.2490(a)-Table 10, 63.104(a), [G](d), (e), (e)(1), [G]63.104(e)(2), 63.2490(a)-(c)
	B13PGLR1	OP-UA4	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	115.217(a)(1) , 115.214(a)(1)(B), (a)(1)(D) 115.214(a)(1)(D)(i)
	B13PGLR1	OP-UA4	R5211-02	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	115.212(a)(3), 115.212(a)(2), (a)(3)(A)-(B), 115.212(a)(3)(A)(i), [G](a)(3)(C), (a)(3)(D), 115.214(a)(1)(B)-(C),
	B13PGLR1	OP-UA4	63G-01	VOC	40 CFR Part 63, Subpart G	63.126(c)
	B13PGLR2	OP-UA4	63G-01	VOC	40 CFR Part 63, Subpart G	63.126(c)
	B13PGLR2	OP-UA4	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	115.217(a)(1), 115.212(a)(2), (a)(7), 115.214(a)(1)(B), 115.214(a)(1)(D), (a)(1)(D)(i)
	B13PGPT34	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGPT601	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGR1	OP-UA60	R5121-01	VOC	30 TAC Chapter 115, Batch Processes	115.167(2), 115.162(3)
	B13PGR2	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	63.1425(b)(2)(ii), 63.1420(a)(1)-(2), [G](a)(4), [G](c), 63.1420(d)(3), (e)(1)(i), (e)(1)(iv), (e)(9), (g), [G](g)(2), 63.1420(g)(3), [G](h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G]63.1422(l), [G]63.1424(a), 63.1425(a)-(b), (b)(2), 63.1426(d), (d)(1), (d)(1)(i), (e)(1)-(2), (e)(2)(i)-(ii), (f), 63.1426(f)(1), (f)(1)(ii), (f)(1)(ii)(A), (f)(1)(vi), 63.1426(f)(1)(vi)(A)-(B), 63.1429(d)(1)-Table 7
	B13PGR2	OP-UA60	R5121-01	VOC	30 TAC Chapter 115, Batch Processes	115.167(2), 115.162(3)
	B13PGR5	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	63.1425(b)(2)(ii), 63.1420(a)(1)-(2), [G](a)(4), [G](c), 63.1420(d)(3), (e)(1)(i), (e)(1)(iv), (e)(9), (g), [G](g)(2), 63.1420(g)(3), [G](h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G]63.1422(l), [G]63.1424(a), 63.1425(a)-(b), (b)(2), 63.1426(d), (d)(1), (d)(1)(i), (e)(1)-(2), (e)(2)(i)-(ii), (f), 63.1426(f)(1), (f)(1)(ii), (f)(1)(ii)(A), (f)(1)(vi), 63.1426(f)(1)(vi)(A)-(B), 63.1429(d)(1)-Table 7
	B13PGR5	OP-UA60	R5121-01	VOC	30 TAC Chapter 115, Batch Processes	115.167(2), 115.162(3)
	B13PGR9	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	63.1425(b)(2)(ii), 63.1420(a)(1)-(2), [G](a)(4), [G](c), 63.1420(d)(3), (e)(1)(i), (e)(1)(iv), (e)(9), (g), [G](g)(2), 63.1420(g)(3), [G](h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G]63.1422(l), [G]63.1424(a), 63.1425(a)-(b), (b)(2), 63.1426(d), (d)(1), (d)(1)(i), (e)(1)-(2), (e)(2)(i)-(ii), (f), 63.1426(f)(1), (f)(1)(ii), (f)(1)(ii)(A), (f)(1)(vi), 63.1426(f)(1)(vi)(A)-(B), 63.1429(d)(1)-Table 7
	B13PGR9	OP-UA60	R5121-01	VOC	30 TAC Chapter 115, Batch Processes	115.167(2), 115.162(3)

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGRX1	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGS955	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST001	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST003	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST004	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST007	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST01	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST01	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST16C	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST16D	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST19	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST2	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)

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Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGST201	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST202	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST203	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST204	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST205	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST21	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST216	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST22	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST222	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST223	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST224	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST225	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)

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Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGST226	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST227	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST228	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST229	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST23	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST240	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST241	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST242	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST243	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST244	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST245	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST246	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)

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Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGST253	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST254	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST256	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST26	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST260	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST261	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST262	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST265	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST266	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST268	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST269	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST27	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGST28	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST3	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST306	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST308	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST309	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST40	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST41	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST44	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST45	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST501	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST506	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST508	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)

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Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGST55	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST56	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST57	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST58	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST607	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST661	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST662	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST663	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST664	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST668	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST669	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST67	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)

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Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGST671	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST701	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST702	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST703	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST803	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST850	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.127(a)(2)(A), 115.122(a)(4), 115.127(a)(2)
	B13PGST870	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST871	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGST901	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGSTT7A	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B13PGVJ3	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(A)
	B13PGVJ3	OP-UA15	R5121-02	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(A)

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B13PGVJ3	OP-UA15	R5121-03	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(A)
	B13SCPOLY	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(C)
	B13PGSV2	OP-UA15	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2455(b), 63.2455(b)(1)-(3)
	B13PGST670	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEFU01	OP-UA12	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	ALL
	B17PEFU01	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL
	B17PELR1	OP-UA4	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	115.217(a)(1), 115.212(a)(2), 115.214(a)(1)(B), 15.214(a)(1)(D), (a)(1)(D)(i)
	B17PELR1	OP-UA4	63G-01	HAPS	40 CFR Part 63, Subpart G	63.126(c)
	B17PEPT351	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEPT351	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEPT352	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEPT352	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST012	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEST012	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST015	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)

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Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B17PEST015	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST01A	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEST01A	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST364	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEST364	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST365	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEST365	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST371	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEST371	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PEST372	OP-UA3	63G-01	HAPS	40 CFR Part 63, Subpart G	63.119(a)(3)
	B17PEST372	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGFU2	OP-UA12	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	ALL
	B17PGFU2	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL
	B17PGST010	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGST011	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)

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	B17PGST012	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGST013	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGST014	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGST015	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGT201A	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17PGT201B	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B17SV384	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(2), 115.122(a)(2), (a)(2)(B)
	B17SV384	OP-UA15	63G-01	HAPS	40 CFR Part 63, Subpart FFFF	63.113(d), [G]63.115(f)
	B39GMFU1	OP-UA1	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2480(a)-Table 6.1.a.ii, 63.162(a), (c), [G](g), (h), 63.2435(a)-(b), (b)(1), (b)(1)(i)-(ii), (b)(2)-(3), 63.2440(a)-(b), 63.2445(b), (d), (g), (g)(1), (g)(4), (h), 63.2450(a), (a)(2), (g)(7), 63.2480(a)-(b), (b)(3)-(6), (e), 63.2480(e)(1), (e)(2)(ii), [G](e)(3)-(7), (f)(1)-(3), 63.2540
	B39GMFU1	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL

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	B39GMFU2	OP-UA1	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2480(a)-Table 6.1.a.ii, 63.162(a), (c), [G](g), (h), 63.2435(a)-(b), (b)(1), (b)(1)(i)-(ii), (b)(2)-(3), 63.2440(a)-(b), 63.2445(b), (d), (g), (g)(1), (g)(4), (h), 63.2450(a), (a)(2), (g)(7), 63.2480(a)-(b), (b)(3)-(6), (e), 63.2480(e)(1), (e)(2)(ii), [G](e)(3)-(7), (f)(1)-(3), 63.2540
	B39GMFU2	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL
	B39GMFU3	OP-UA1	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2480(a)-Table 6.1.a.ii, 63.162(a), (c), [G](g), (h), 63.2435(a)-(b), (b)(1), (b)(1)(i)-(ii), (b)(2)-(3), 63.2440(a)-(b), 63.2445(b), (d), (g), (g)(1), (g)(4), (h), 63.2450(a), (a)(2), (g)(7), 63.2480(a)-(b), (b)(3)-(6), (e), 63.2480(e)(1), (e)(2)(ii), [G](e)(3)-(7), (f)(1)-(3), 63.2540
	B39GMFU3	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL
	B39GMLR1	OP-UA4	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading	115.212(a)(2), (a)(3)(B), (a)(3)(D)-(E), 115.213(b), 115.213(b)(1), (b)(4), [G](b)(6), 115.214(a)(1)(B), 115.214(a)(1)(D), (a)(1)(D)(ii)
	B39GMLR2	OP-UA4	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading	115.212(a)(2), 115.214(a)(1)(B), 115.214(a)(1)(D), 115.214(a)(1)(D)(i), 115.217(a)(1)
	B39GMSP215	OP-UA14	R5131-01	VOC	30 TAC Chapter 115, Water Separation	[G]115.132(a)(4), 115.137(a)(2)
	B39GMSP220	OP-UA14	R5131-01	VOC	30 TAC Chapter 115, Water Separation	[G]115.132(a)(4), 115.137(a)(2)
	B39GMSP226	OP-UA14	R5131-01	VOC	30 TAC Chapter 115, Water Separation	[G]115.132(a)(4), 115.137(a)(2)

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B39GMSP228	OP-UA14	R5131-01	VOC	30 TAC Chapter 115, Water Separation	[G]115.132(a)(4), 115.137(a)(2)
	B39GMST264	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMST70A	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMST70B	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMST75A	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMST75B	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMST801	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMST828	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39GMVH290	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Control	115.121(a)(1), 115.122(a)(1), (a)(1)(C)
	B39GMVH290	OP-UA15	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2455(b), 63.2455(b)(1)-(3), (g), (g)(1)-(2), 63.2450(a)(2)
	B39GMWT257	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B39PT290	OP-UA15	R5121-01	VOC	30 TAC 115, Vent Gas Control	115.121(a)(1), 115.122(a)(1), (a)(1)(C)
	B39RX210	OP-UA15	R5121-01	VOC	30 TAC 115, Vent Gas Control	115.121(a)(1), 115.122(a)(1), (a)(1)(C)

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B39SP245	OP-UA14	R5131-01	VOC	30 TAC Chapter 115, Water Separation	[G]115.132(a)(4), 115.137(a)(2)
	B39SP265	OP-UA14	R5131-01	VOC	30 TAC Chapter 115, Water Separation	[G]115.132(a)(4), 115.137(a)(2)
	B39ST285	OP-UA3	R5112-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPD141	OP-UA15	R5121-01	VOC	30 TAC 115, Vent Gas Control	115.121(a)(1), 115.122(a)(1), (a)(1)(C)
	B43IPFU1	OP-UA12	R5352-ALL	VOC	30 TAC Chapter 115, Pet. Refinery & Petrochemicals	ALL
	B43IPFU1	OP-UA12	63H-ALL	HAPS	40 CFR Part 63, Subpart H	ALL
	B43IPFU1	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	[G]63.1434, 63.1420(a)(1)-(2), [G](a)(4), [G](c), (d)(3), 63.1420(e)(1)(i), (e)(1)(iv), (e)(9), (g), [G](g)(2), (g)(3), [G]63.1420(h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G](l), [G]63.1424(a)
	B43IPLR1	OP-UA4	R5211-01	VOC	30 TAC Chapter 115, Loading and Unloading of VOC	115.217(a)(1), 115.212(a)(2), (a)(7), 115.214(a)(1)(B), 115.214(a)(1)(D), (a)(1)(D)(i)
	B43IPR101A	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(C)
	B43IPR101B	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(C)
	B43IPRX1	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(a)(1), (a)(1)(C)

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B43IPRX1	OP-UA1	63PPP-01	HAPS	40 CFR Part 63, Subpart PPP	63.1425(b)(2)(ii), 63.1420(a)(1)-(2), [G](a)(4), [G](c), 63.1420(d)(3), (e)(1)(i), (e)(1)(iv), (e)(9), (g), [G](g)(2), 63.1420(g)(3), [G](h), 63.1422(c)-(d), (d)(5)-(6), (f)-(g), [G]63.1422(l), [G]63.1424(a), 63.1425(a)-(b), (b)(2), 63.1426(d), (d)(1), (d)(1)(i), (e)(1)-(2), (e)(2)(i)-(ii), (f), 63.1426(f)(1), (f)(1)(ii), (f)(1)(ii)(A), (f)(1)(vi), 63.1426(f)(1)(vi)(A)-(B), 63.1429(d)(1)-Table 7
	B43IPST104	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST105	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST106	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST107	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST108	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST111	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST113	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST114	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST117	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST121	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B43IPST122	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPST123	OP-UA3	R5111-01	VOC	30 TAC Chapter 115, Storage of VOCs	115.111(a)(1)
	B43IPV132	OP-UA15	R5121-01	VOC	30 TAC Chapter 115, Vent Gas Controls	115.121(a)(1), 115.122(A)(1), (a)(1)(C)
	PROGMA	OP-UA57	R5460-01	VOC	30 TAC Chapter 115, Subchapter E, Division 6	[G]115.461(d), [G]115.463(c)
	PROGMA	OP-UA60	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2440(a), 63.2450(a), (l)
	PROIPG	OP-UA57	R5460-01	VOC	Chapter 115, Industrial Cleaning Solvents	115.463(a)(1), [G]115.463(c)
	PROIPG	OP-UA57	R5460-02	VOC	Chapter 115, Industrial Cleaning Solvents	115.463(a)(2), [G]115.463(c)
	PROPGA	OP-UA60	63FFFF-01	HAPS	40 CFR Part 63, Subpart FFFF	63.2440(a), 63.2450(a), (l)
	PROPGA	OP-UA57	R5460-01	VOC	Chapter 115, Industrial Cleaning Solvents	115.463(a)(1), [G]115.463(c)
	PROPGA	OP-UA57	R5460-02	VOC	Chapter 115, Industrial Cleaning Solvents	115.463(a)(2), [G]115.463(c)
	PROPGE	OP-UA60	63G-01	HAPS	40 CFR Part 63, Subpart FFFF	63.100(b), 63.102(a)[G], [G](c), 63.104(a), [G](d), (e), 63.104(e)(1), [G](e)(2), 63.105(d)
	PROPGE	OP-UA57	R5460-01	VOC	Chapter 115, Industrial Cleaning Solvents	115.463(a)(1), [G]115.463(c)
	PROPGE	OP-UA57	R5460-02	VOC	Chapter 115, Industrial Cleaning Solvents	115.463(a)(2), [G]115.463(c)

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/ Process ID No.	Unit/Group/Process Applicable Form	SOP/GOP Index No	Pollutant	Applicable Regulatory Requirement Name	Applicable Regulatory Requirement Standard(s)
	B43IPST170	OP-UA3	R5111-01	VOC	Chapter 115, Industrial Cleaning Solvents	115.111(a)(1)
	B43IPST171	OP-UA3	R5111-01	VOC	Chapter 115, Industrial Cleaning Solvents	115.111(a)(1)

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGD530	R5121-01	VOC	[G]115.125, 115.126(1), (1)(A), 115.126(1)(A)(i), (2)	115.126, (1), (1)(A), (1)(A)(i), 115.126(2)	NONE
	B13PGD530	R5121-02	VOC	[G]115.125, 115.126(1), (1)(A), 115.126(1)(A)(i), (2)	115.126, (1), (1)(A), (1)(A)(i), 115.126(2)	NONE
	B13PGD530	R5121-03	VOC	[G]115.125, 115.126(1), (1)(A), 115.126(1)(A)(i), (2)	115.126, (1), (1)(A), (1)(A)(i), 115.126(2)	NONE
	B13PGD530	63FFFF-01	112(b) HAP	63.2450(g), (g)(1)-(2), [G](g)(3)-(4), 63.2450(k)(6), 63.983(b), [G]63.983(b)(1)-(3), [G](c)(1) 63.983(c)(2)-(3), (d)(1), (d)(1)(ii), 63.988(c), (c)(3), 63.996(b)(1), 63.996(b)(1)(i), (b)(2), 63.997(c)(2)-(3), (c)(3)(iii), [G]63.115(d)(2)(v), (d)(3)(iii)	63.2450(k)(6), 63.2525(g), (h), 63.983(b), [G](d)(2), 63.988(c), 63.996(c)(2)(ii), [G]63.998(b)(1)-(3), [G](b)(5), [G]63.998(c)(1), (c)(2)(iii), 63.998(c)(3)(iii), (d)(3)(i)-(ii), 63.998(d)(5), (a)(2)(ii)(B)(5), 63.998(a)(2)(ii)(B)(3) 63.998(a)(2)(ii)(B)(6), (d)(1)	63.2450(q), 63.996(b)(2), (c)(6), ***63.997(c)(3),*** [G]63.998(b)(3) [G]63.999(a)(1), [G](b)(3), (b)(5), 63.999(c)(1), (c)(2)(i), (c)(6), [G]63.999(c)(6)(i), (c)(6)(iv)
	B13PGD631	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B13PGD660	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B13PGFU1	R5352-ALL	VOC	ALL	ALL	ALL
	B13PGFU1	60VV-ALL	VOC	ALL	ALL	ALL

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGFU1	63FFFF-01	HAPS	63.2450(l), [G]63.2480(e)(2)-(5), [G]63.2492(c), [G]63.2493(d)	63.2445(g)(7), 63.2525(a), [G]63.2525(b), [G](p), [G](q), 63.2525(t), (u)(1)-(3)	63.2445(c), (g)(7), 63.2450(m)(1)-(3), 63.2515(a), 63.2515(b)(1), (d), 63.2520(a), 63.2520(a)-Table 11.1-11.3, [G](b) 63.2520(d), (d)(1)-(2), 63.2520(d)(2)(i)-(viii), [G](d)(4), 63.2520(e)(1)-(4), (e)(5)(i)-(ii), 63.2520(e)(5)(ii)(A), (e)(5)(ii)(D), 63.2520(e)(7), (e)(9)-(10), [G]63.2520(e)(10)(i),(e)(10)(ii)(C) [G]63.2520(e)(14)-(15)
	B13PGFU1	63H-ALL	HAPS	ALL	ALL	ALL
	B13PGFU1	63PPP-01	HAPS	[G]63.1434, 63.1439(a)-(b), [G]63.1439(b)(1), (d), (d)(1)-(2), [G]63.1439(d)(3), (d)(6), [G](d)(7), 63.1439(d)(8) **See Alternative Requirement	[G]63.1434, 63.1439(c), [G]63.1439(d)(10)	63.1420(g)(4), [G]63.1434, 63.1439(c), (e), [G](e)(1), 63.1439(e)(2)-(3), [G](e)(3)(i) 63.1439(e)(3)(ii), (e)(5), [G]§63.1439(e)(5)(i)-(ii), 63.1439(e)(5)(vi), (e)(5)(viii), [G]63.1439(e)(6), (e)(7), (e)(7)(ii), [G]63.1439(e)(7)(iii), 63.1439-Table 8
	B13PGHE102	63PPP-01	HAPS	[G]63.104(b)-(c), 63.1422(j)(1) 63.1435(c) **See Alternative Requirement	[G]63.104(c), [G](e)(2), [G]63.104(f)(1), 63.1422(j)(1), 63.1435(c), 63.1439(a)-(b) [G]63.1439(b)(1), (d), (d)(1)-(2), [G]63.1439(d)(3), (d)(6), [G]63.1439(d)(7), (d)(8)	[G]63.104(f)(2), 63.1420(g)(4) 63.1422(j)(1), 63.1435(c)-(d), [G]63.1439(e)(1), (e)(2)-(3), [G]63.1439(e)(3)(i), (e)(3)(ii), 63.1439(e)(5), [G](e)(5)(i)-(ii), 63.1439(e)(5)(vi), [G](e)(6), (e)(7)

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
						63.1439(e)(7)(ii), [G](e)(7)(iii) 63.1439-Table 8
	B13PGHE60	63FFFF-01	HAPS	[G]63.104(b)	[G]63.104(e)(2), [G](f)(1)	[G]63.104(f)(2)
	B13PGLR1	R5211-01	VOC	115.214(a)(1)(A), (a)(1)(A)(i), 115.215, (4)	115.216, (2), (3)(B)	NONE
	B13PGLR1	R5211-02	VOC	115.212(a)(3)(B), 115.214(a)(1)(A), 115.214(a)(1)(A)(i)-(iii)	115.216, (3)(A), (3)(A)(i), 115.216(3)(A)(iii)	NONE
	B13PGLR1	63G-01	VOC	NONE	63.130(f), (f)(1)-(3), (f)(3)(i)-(ii)	63.152(c)(4)(iii)
	B13PGLR2	63G-01	VOC	NONE	63.130(f), (f)(1)-(3), (f)(3)(i)-(ii)	63.152(c)(4)(iii)
	B13PGLR2	R5211-01	VOC	115.214(a)(1)(A), (a)(1)(A)(i), 115.215, (4)	115.216, (2), (3)(B)	NONE
	B13PGPT34	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGPT601	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGR1	R5160-01	VOC	115.164(1)-(2), 115.166, [G](2)	115.166, [G](2)	NONE

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Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGR2	63PPP-01	HAPS	63.1422(j)(1), 63.1426(b), (b)(3) [G]63.1426(b)(4), (b)(5)-(6), (c), 63.1429(a), (a)(1), (a)(1)(i), (a)(4), [G]63.1429(c)-(d), [G]63.1438(a), 63.1438(d), (e)(1), (e)(1)(iii), (e)(2), [G]63.1438(f)(1), [G](f)(3) **See Alternative Requirement	63.1422(j)(1), 63.1430(b), (b)(2) 63.1430(b)(2)(i), (c)-(d), (d)(1), [G]63.1430(d)(2), (d)(3)-(5), 63.1439(a)-(b), [G](b)(1), (d), 63.1439(d)(1)-(2), [G](d)(3), 63.1439(d)(6), [G](d)(7), (d)(8), 63.1439-Table 5	63.10(d)(2), (d)(4), 63.1420(g)(4), 63.1422(j)(1), 63.1430(g), (g)(1), 63.1430(h), (h)(1)-(4), (i), 63.1438(d), 63.1439(e), [G](e)(1), 63.1439(e)(2)-(3), [G](e)(3)(i), 63.1439(e)(3)(ii), (e)(5), [G]63.1439(e)(5)(i)-(ii), (e)(5)(vi), [G]63.1439(e)(6), (e)(7), (e)(7)(ii) [G]63.1439(e)(7)(iii), 63.1439-Table 5, Table 8
	B13PGR2	R5160-01	VOC	115.164(1)-(2), 115.166, [G](2)	115.166, [G](2)	NONE
	B13PGR5	63PPP-01	HAPS	63.1422(j)(1), 63.1426(b), (b)(3) [G]63.1426(b)(4), (b)(5)-(6), (c), 63.1429(a), (a)(1), (a)(1)(i), (a)(4), [G]63.1429(c)-(d), [G]63.1438(a), 63.1438(d), (e)(1), (e)(1)(iii), (e)(2), [G]63.1438(f)(1), [G](f)(3) **See Alternative Requirement	63.1422(j)(1), 63.1430(b), (b)(2) 63.1430(b)(2)(i), (c)-(d), (d)(1), [G]63.1430(d)(2), (d)(3)-(5), 63.1439(a)-(b), [G](b)(1), (d), 63.1439(d)(1)-(2), [G](d)(3), 63.1439(d)(6), [G](d)(7), (d)(8), 63.1439-Table 5	63.10(d)(2), (d)(4), 63.1420(g)(4), 63.1422(j)(1), 63.1430(g), (g)(1), 63.1430(h), (h)(1)-(4), (i), 63.1438(d), 63.1439(e), [G](e)(1), 63.1439(e)(2)-(3), [G](e)(3)(i), 63.1439(e)(3)(ii), (e)(5), [G]63.1439(e)(5)(i)-(ii), (e)(5)(vi), [G]63.1439(e)(6), (e)(7), (e)(7)(ii) [G]63.1439(e)(7)(iii), 63.1439-Table 5, Table 8
	B13PGR5	R5160-01	VOC	115.164(1)-(2), 115.166, [G](2)	115.166, [G](2)	NONE

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGR9	63PPP-01	HAPS	63.1422(j)(1), 63.1426(b), (b)(3) [G]63.1426(b)(4), (b)(5)-(6), (c), 63.1429(a), (a)(1), (a)(1)(i), (a)(4), [G]63.1429(c)-(d), [G]63.1438(a), 63.1438(d), (e)(1), (e)(1)(iii), (e)(2), [G]63.1438(f)(1), [G](f)(3) **See Alternative Requirement	63.1422(j)(1), 63.1430(b), (b)(2) 63.1430(b)(2)(i), (c)-(d), (d)(1), [G]63.1430(d)(2), (d)(3)-(5), 63.1439(a)-(b), [G](b)(1), (d), 63.1439(d)(1)-(2), [G](d)(3), 63.1439(d)(6), [G](d)(7), (d)(8), 63.1439-Table 5	63.10(d)(2), (d)(4), 63.1420(g)(4), 63.1422(j)(1), 63.1430(g), (g)(1), 63.1430(h), (h)(1)-(4), (i), 63.1438(d), 63.1439(e), [G](e)(1), 63.1439(e)(2)-(3), [G](e)(3)(i), 63.1439(e)(3)(ii), (e)(5), [G]63.1439(e)(5)(i)-(ii), (e)(5)(vi), [G]63.1439(e)(6), (e)(7), (e)(7)(ii) [G]63.1439(e)(7)(iii), 63.1439-Table 5, Table 8
	B13PGR9	R5160-01	VOC	115.164(1)-(2), 115.166, [G](2)	115.166, [G](2)	NONE
	B13PGRX1	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGS955	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST001	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST003	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST004	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST007	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST01	R5121-01	VOC	[G]115.125, §.126(2), (3)(B)	115.126, (2)-(3), (3)(B)	NONE
	B13PGST01	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST16C	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGST16D	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST19	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST2	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST201	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST202	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST203	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST204	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST205	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST21	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST216	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST22	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST222	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST223	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST224	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST225	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST226	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST227	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE

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Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGST228	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST229	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST23	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST240	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST241	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST242	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST243	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST244	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST245	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST246	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST253	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST254	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST256	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST26	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST260	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST261	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGST262	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST265	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST266	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST268	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST269	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST27	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST28	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST3	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST306	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST308	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST309	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7) 115.118(a)(6)(A)	NONE
	B13PGST40	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST41	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST44	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST45	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST501	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGST506	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST508	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST55	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST56	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST57	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST58	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST607	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST661	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST662	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST663	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST664	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST668	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST669	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST67	R5121-01	VOC	[G]115.125, 115.126(2)	115.126, (2), (4)	NONE
	B13PGST671	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST701	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST702	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST703	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

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Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B13PGST803	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST850	R5121-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST870	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST871	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGST901	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGSTT7A	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B13PGVJ3	R5121-01	VOC	[G]115.125, 115.126(1), (1)(A), 115.126(1)(A)(i), (2)	115.126, (1), (1)(A), (1)(A)(i), 115.126(2)	NONE
	B13PGVJ3	R5121-02	VOC	[G]115.125, 115.126(1), (1)(A), 115.126(1)(A)(i), (2)	115.126, (1), (1)(A), (1)(A)(i), 115.126(2)	NONE
	B13PGVJ3	R5121-02	VOC	[G]115.125, 115.126(1), (1)(A), 115.126(1)(A)(i), (2)	115.126, (1), (1)(A), (1)(A)(i), 115.126(2)	NONE
	B13SCPOLY	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	§15.126, (1), (1)(C), (2)	NONE
	B13PGSV2	63FFFF-01	HAPS	63.115(d), [G](d)(1), (d)(2), 63.115(d)(2)(i), [G](d)(2)(ii), 63.115(d)(2)(iii)-(iv), (d)(3)(i)-(ii)	NONE	NONE
	B13PGST670	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B17PEFU01	R5352-ALL	VOC	ALL	ALL	ALL
	B17PEFU01	63H-ALL	HAPS	ALL	ALL	ALL

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Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B17PELR1	OP-UA4	VOC	15.214(a)(1)(A), (a)(1)(A)(i), 115.215, (4)	115.216, (2), (3)(B)	NONE
	B17PELR1	OP-UA4	HAPS	NONE	63.130(f), (f)(1)-(3), (f)(3)(i)-(ii)	63.152(c)(4)(iii)
	B17PEPT351	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEPT351	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B17PEPT352	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEPT352	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B17PEST012	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST012	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PEST015	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST015	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PEST01A	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST01A	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PEST364	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST364	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B17PEST365	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST365	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

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Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B17PEST371	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST371	R5111-01	VOC	[G]§115.117	§115.118(a)(1), §115.118(a)(5), §115.118(a)(7)	None
	B17PEST372	63G-01	HAPS	NONE	63.123(a)	63.152(c)(4)(iii)
	B17PEST372	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B17PGFU2	R5352-ALL	VOC	ALL	ALL	ALL
	B17PGFU2	63H-ALL	HAPS	ALL	ALL	ALL
	B17PGST010	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PGST011	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PGST012	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PGST013	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PGST014	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PGST015	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17PGT201A	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE

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Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B17PGT201B	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B17SV384	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B17SV384	63G-01	HAPS	63.114(b), (b)(1), (e), [G]63.115(a)-(d), ***[G](d)(1), (d)(2), 63.115(d)(2)(i)*** , ***[G](d)(2)(ii), 63.115(d)(2)(iii)-(iv), [G](d)(2)(v), [G]63.115(d)(3),*** (e), (e)(1), [G](f)	63.114(b), (b)(1), [G]63.117(a)(7), (a)(8), ***[G]63.118(b)***, ***[G]63.152(a), [G]63.152(f)***	63.114(e), 63.115(e)(2), [G]63.117(a)(7), (a)(8), 63.118(f)(1), [G](g), [G](k), [G]63.151(b), (e), (e)(1), (e)(3), ~~[G]63.151(g), (h)~~, [G](j), [G]63.152(a), (b), [G](b)(1)-(2), 63.152(c)(1)-(2), (c)(2)(i)-(iii), 63.152(c)(4)(i)-(iii), [G](c)(6)
	B39GMFU1	63FFFF-01	HAPS	[G]63.180(b)-(d), 63.2480(b)(7), 63.2480(e)(2)(ii), [G](e)(2)-(5)	63.181(a), [G](b), (c), [G](f), 63.2445(g)(7), 63.2525(a), [G]63.2525(b), (f), (j), [G](p), [G]63.2525(q), (t), (u)(1)-(3)	[G]§ 63.182(a)-(b), (c), [G](c)(1), 63.182(c)(4), [G](d), 63.2445(c), 63.2445(g)(7), 63.2450(m)(1)-(3), 63.2515(a), (b)(1), (d), 63.2520(a) 63.2520(a)-Table 11.1-11.3, [G](b) 63.2520(d), (d)(1)-(2), 63.2520(d)(2)(i)-(vii), [G](d)(4), 63.2520(e), (e)(1)-(4), (e)(5)(i)-(ii) 63.2520(e)(5)(ii)(A)-(E), (e)(7) 63.2520(e)(9)-(10), [G](e)(10)(i) 63.2520(e)(10)(ii)(C), [G]63.2520(e)(14)-(15)
	B39GMFU1	63H-ALL	HAPS	ALL	ALL	ALL

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Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B39GMFU2	63FFFF-01	HAPS	[G]§ 63.180(b)-(d), 63.2480(b)(7), [G]63.2480(e)(2), (e)(2)(ii) [G]63.2480(e)(3)-(5)	§63.181(a), [G](b), (c), [G](f), 63.2445(g)(7), 63.2525(a), [G]63.2525(b), (f), (j), [G]63.2525(p)-(q), (t), (u)(1)-(3)	[G]§ 63.182(a)-(b), (c), [G](c)(1), 63.182(c)(4), [G](d), 63.2445(c), 63.2445(g)(7), 63.2450(m)(1)-(3), 63.2515(a), (b)(1), (d), 63.2520(a) 63.2520(a)-Table 11.1-11.3, [G](b) 63.2520(d), (d)(1)-(2), 63.2520(d)(2)(i)-(vii), [G](d)(4), 63.2520(e), (e)(1)-(4), (e)(5)(i)-(ii) 63.2520(e)(5)(ii)(A)-(E), (e)(7) 63.2520(e)(9)-(10), [G](e)(10)(i), 63.2520(e)(10)(ii)(C) [G]63.2520(e)(14)-(15)
	B39GMFU2	63H-ALL	HAPS	ALL	ALL	ALL
	B39GMFU3	63FFFF-01	HAPS	[G]§ 63.180(b)-(d), 63.2480(b)(7), [G]63.2480(e)(2), (e)(2)(ii) [G]63.2480(e)(3)-(5)	§63.181(a), [G](b), (c), [G](f), 63.2445(g)(7), 63.2525(a), [G]63.2525(b), (f), (j), [G]63.2525(p)-(q), (t), (u)(1)-(3)	[G]§ 63.182(a)-(b), (c), [G](c)(1), 63.182(c)(4), [G](d), 63.2445(c), 63.2445(g)(7), 63.2450(m)(1)-(3), 63.2515(a), (b)(1), (d), 63.2520(a) 63.2520(a)-Table 11.1-11.3, [G](b) 63.2520(d), (d)(1)-(2), 63.2520(d)(2)(i)-(vii), [G](d)(4), 63.2520(e), (e)(1)-(4), (e)(5)(i)-(ii) 63.2520(e)(5)(ii)(A)-(E), (e)(7) 63.2520(e)(9)-(10), [G](e)(10)(i), 63.2520(e)(10)(ii)(C) [G]63.2520(e)(14)-(15)
	B39GMFU3	63H-ALL	HAPS	ALL	ALL	ALL

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Table 1b: Additions

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B39GMLR1	R5211-01	VOC	115.212(a)(3)(B), 115.213(b), (b)(1), 115.214(a)(1)(A), (a)(1)(A)(i), 115.215, (1), [G](2), (4), (9), (10)	115.213(b)(1), 115.216, (2), 115.216(3)(A), (3)(A)(i)-(iii), 115.216(3)(B)	115.213(b)(1)-(4)
	B39GMLR2	R5211-01	VOC	115.214(a)(1)(A), (a)(1)(A)(i), 115.215, 115.215(4)	115.216, 115.216(2), (3)(B)	NONE
	B39GMSP215	R5131-01	VOC	[G]115.135(a), 115.136(a)(1), 115.136(a)(3)-(4)	115.136(a)(1), (a)(3)-(4)	NONE
	B39GMSP220	R5131-01	VOC	[G]115.135(a), 115.136(a)(1), 115.136(a)(3)-(4)	115.136(a)(1), (a)(3)-(4)	NONE
	B39GMSP226	R5131-01	VOC	[G]115.135(a), 115.136(a)(1), 115.136(a)(3)-(4)	115.136(a)(1), (a)(3)-(4)	NONE
	B39GMSP228	R5131-01	VOC	[G]115.135(a), 115.136(a)(1), 115.136(a)(3)-(4)	115.136(a)(1), (a)(3)-(4)	NONE
	B39GMST264	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B39GMST70A	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B39GMST70B	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B39GMST75A	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B39GMST75B	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B39GMST801	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE

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Federal Operating Permit Program
Table 1b: Additions

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B39GMST828	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B39GMVH290	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B39GMVH290	63FFFF-01	HAPS	63.115(d), [G](d)(1), (d)(2), 63.115(d)(2)(i), [G](d)(2)(ii), 63.115(d)(2)(iii)-(iv), (d)(3)(i)-(ii)	63.2445(g)(7)	63.2445(g)(7), 63.2515(d), 63.2520(e)(5)(i), (e)(5)(ii)(D), [G]63.2520(h)-(i)
	B39GMWT257	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B39PT290	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B39RX210	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B39SP245	R5131-01	VOC	[G]115.135(a), 115.136(a)(1), 115.136(a)(3)-(4)	115.136(a)(1), (a)(3)-(4)	NONE
	B39SP265	R5131-01	VOC	[G]115.135(a), 115.136(a)(1), 115.136(a)(3)-(4)	115.136(a)(1), (a)(3)-(4)	NONE
	B39ST285	R5112-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPD141	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B43IPFU1	R5352-ALL	VOC	ALL	ALL	ALL
	B43IPFU1	63H-ALL	HAPS	ALL	ALL	ALL

Applicable Requirements Summary
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Table 1b: Additions

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B43IPFU1	63PPP-01	HAPS	[G]63.1434, 63.1439(a)-(b), [G]63.1439(b)(1), (d), (d)(1)-(2), [G]63.1439(d)(3), (d)(6), [G](d)(7), 63.1439(d)(8) **See Alternative Requirement	[G]63.1434, 63.1439(c), [G]63.1439(d)(10)	63.1420(g)(4), [G]63.1434, 63.1439(c), (e), [G](e)(1), 63.1439(e)(2)-(3), [G](e)(3)(i), 63.1439(e)(3)(ii), (e)(5), [G]63.1439(e)(5)(i)-(ii), 63.1439(e)(5)(vi), (e)(5)(viii), [G]63.1439(e)(6), (e)(7), (e)(7)(ii) [G]63.1439(e)(7)(iii), 63.1439-Table 8
	B43IPLR1	R5211-01	VOC	115.214(a)(1)(A), (a)(1)(A)(i), 115.215, (4)	115.216, (2), (3)(B)	NONE
	B43IPR101A	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B43IPR101B	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B43IPRX1	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	B43IPRX1	63PPP-01	HAPS	63.1422(j)(1), 63.1426(b), (b)(3) [G]63.1426(b)(4), (b)(5)-(6), (c), 63.1429(a), (a)(1), (a)(1)(i), (a)(4), [G]63.1429(c)-(d), [G]63.1438(a), 63.1438(d), (e)(1), (e)(1)(iii), (e)(2), [G]63.1438(f)(1), [G](f)(3) **See Alternative Requirement	63.1422(j)(1), 63.1430(b), (b)(2) 63.1430(b)(2)(i), (c)-(d), (d)(1), [G]63.1430(d)(2), (d)(3)-(5), 63.1439(a)-(b), [G](b)(1), (d), 63.1439(d)(1)-(2), [G](d)(3), 63.1439(d)(6), [G](d)(7), (d)(8), 63.1439-Table 5	63.10(d)(2), (d)(4), 63.1420(g)(4), 63.1422(j)(1), 63.1430(g), (g)(1), 63.1430(h), (h)(1)-(4), (i), 63.1438(d), 63.1439(e), [G](e)(1), 63.1439(e)(2)-(3), [G](e)(3)(i), 63.1439(e)(3)(ii), (e)(5), [G]63.1439(e)(5)(i)-(ii), (e)(5)(vi), [G]63.1439(e)(6), (e)(7), (e)(7)(ii) [G]63.1439(e)(7)(iii), 63.1439-Table 5, Table 8
	B43IPST104	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE

Applicable Requirements Summary
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Table 1b: Additions

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B43IPST105	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPST106	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPST107	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPST108	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPST111	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B43IPST113	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B43IPST114	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B43IPST117	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE
	B43IPST121	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPST122	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPST123	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(6)(A), 115.118(a)(7)	NONE
	B43IPV132	R5121-01	VOC	[G]115.125, 115.126(1), (1)(C), (2)	115.126, (1), (1)(C), (2)	NONE
	PROGMA	R5460-01	VOC	NONE	115.468(b)(2), (b)(5)	NONE

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Table 1b: Additions

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	PROGMA	63FFFF-01	HAPS	63.2445(d)	63.2525, (a), [G](b), (c), (f), (j)	63.2435(d), 63.2445(c) , 63.2450(g)(5), (m), (m)(1)-(2), 63.2515(a), (c), 63.2520(a), [G]63.2520(b)-(d), (e), (e)(1)-(5) 63.2520(e)(5)(i), [G](e)(5)(ii)-(iii) 63.2520(e)(6)-(7), (e)(9), [G]63.2520(e)(10), 63.2515(b)(1)
	PROIPG	R5460-01	VOC	[G]115.465(1)	115.468(b)(1), (b)(5)	NONE
	PROIPG	R5460-02	VOC	[G]115.465(1)	115.468(b)(1), (b)(5)	NONE
	PROPGA	63FFFF-01	HAPS	63.2445(d)	63.2525, (a), [G](b), (c), (f), (j)	63.2435(d), 63.2445(c) , 63.2450(g)(5), (m), (m)(1)-(2), 63.2515(a), (c), 63.2520(a), [G]63.2520(b)-(d), (e), (e)(1)-(5) 63.2520(e)(5)(i), [G](e)(5)(ii)-(iii) 63.2520(e)(6)-(7), (e)(9), [G]63.2520(e)(10), 63.2515(b)(1)
	PROPGA	R5460-01	VOC	[G]115.465(1)	115.468(b)(1), (b)(5)	NONE
	PROPGA	R5460-02	VOC	[G]115.465(1)	115.468(b)(1), (b)(5)	NONE
	PROPGE	63F-01	HAPS	63.103(b)(1), (b)(3)-(4), [G](b)(5), 63.103(b)(6), 63.104(b)	[G]63.103(c), [G]63.105(b), (c), 63.105(e), [G](e)(2), [G]63.104(f)(1)	63.103(b)(2), [G](b)(5), (d), [G]63.104(f)(2)
	PROPGE	R5460-01	VOC	[G]115.465(1)	115.468(b)(1), (b)(5)	NONE
	PROPGE	R5460-02	VOC	[G]115.465(1)	115.468(b)(1), (b)(5)	NONE
	B43IPST170	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

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Table 1b: Additions

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

Revision No.	Unit/Group/Process ID No.	SOP/GOP Index No.	Pollutant	Monitoring and Testing Requirements	Recordkeeping Requirements	Reporting Requirements
	B43IPST171	R5111-01	VOC	[G]115.117	115.118(a)(1), (a)(5), (a)(7)	NONE

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B17PEFU01	157525	106.262	7/12/2019
B13PGFU1	123137	106.262	9/15/2014
B13OL601 B13BH601	124588	106.262	11/24/2014
B13PGFU1	134008	106.262	8/21/2015
B13WJMA01	144226	106.262	12/15/2016 5/22/2018
B13SCPOLY B13PGST662 B13PGST670 B13PGST243 B13PGRX1	152066	106.262	7/11/2018
B13PGFU1	152733	106.261 106.262	8/16/2018
B13PGFU1	153856	106.261 106.262	11/5/2018
B13PGFU1 B43IPFU1	156462	106.262	5/17/2019
B13PGFU1 B13PTD2T	157242	106.262	8/6/2019 9/28/2020
B13PGFU1	158135	106.261 106.262	9/10/2019

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.		Registration No.	PBR No.	Registration Date
B43IPST130		159782	106.261 106.262	02/20/2020
B43IPFU1		160340	106.262	03/27/2020
B13PGML43 B13PGFAP67 B13PGFAP26		160643	106.262	05/14/2020
B13PGST202 B13PGST205		162153	106.261 106.262	08/25/2020
B13PGSP22		164720	106.261	05/11/2021
B13PGST226 B13PGST256		165980	106.262	08/24/2021
B39GMFU1		106612	106.261 106.262	01/17/2013
B39GMFU1		115993	106.261 106.262	03/05/2014
B39GMFU1		121638	106.262	08/04/2014
B39GMFU1 B39GMLR2 B39GMST264 B39GMST70A B39GMST70B	B39GMST75A B39GMST75B B39GMST801 B39GMVH290 B39GMWT257	123961	106.261 106.262	10/31/2014
B39GMFU1		151705	106.262	05/21/2018

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B39GMFU1 B39GMFU3	153454	106.261 106.262	10/26/2018
B39GMFU1 B39GMVH290	156122	106.262	4/16/2019
B39GMFU1	156047	106.261 106.262	4/25/2019
B39GMFU1	160836	106.262	4/21/2020
B39GMFU1	161122	106.261 106.262	5/13/2020
B39GMFU1	163567	106.262	1/2/2021
B39GMFU3	149152	106.262	12/13/2017
B39GMST801	152933	106.262	8/16/2018
B13PGST222	168074	106.262	4/18/2022
B39GMFU1	164874	106.262	5/27/2021
B39GMFU1	175271	106.261 106.262	2/2/2024
B17PEFU01	169380	106.262	6/17/2022

Permit By Rule Supplemental Table
Table A: Registered Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	Registration No.	PBR No.	Registration Date
B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	168130	106.262	03/25/2022
B17PEFU01 B17PELR1	177535	106.261 106.262	10/8/2024
B43IPFU1 B43IPLR1 B43IPST114	179150	106.262	03/12/2025

Permit By Rule Supplemental Table (Page 2)
Table B: Claimed (not registered) Permits by Rule (30 TAC Chapter 106) for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date
PROGMA PROIPG PROPGA PROPGE	106.263	11/1/2001
PROGMA PROIPG PROPGA PROPGE	106.452	09/04/2000
B13PGST226	106.472	9/4/2000
B43IPST117	106.478	9/4/2000
B13PGST670	106.478	9/4/2000
B13PGST506	106.472	9/4/2000
B13PGST508	106.478	9/4/2000
B13PGFU1	106.373	9/4/2000
B43IPST170	106.478	9/4/2000
B43IPST171	106.478	9/4/2000
B13PGST205	106.264	9/4/2000

Permit By Rule Supplemental Table (Page 3)
Table C: Claimed (not registered) Permits by Rule (30 TAC Chapter 106) for Insignificant Sources for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

PBR No.	Version No./Date
N/A	N/A

Permit By Rule Supplemental Table (Page 4)
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B17PEFU01	106.262	157525	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017)
B13PGFU1	106.262	123137	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13OL601 B13BH601	106.262	124588	Maintain records of loading rack annual throughput.
B13PGFU1	106.262	134008	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13WJMA01	106.262	144226	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13SCPOLY B13PGST662 B13PGST670 B13PGST243 B13PGRX1	106.262	152066	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	152733	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	153856	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).

Permit By Rule Supplemental Table (Page 4)
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGFU1 B43IPFU1	106.262	156462	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1 B13PTD2T	106.262	157242	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019).
B13PGFU1	106.261 106.262	158135	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B43IPST130	106.261 106.262	159782	Maintain records of tank service and annual throughput.
B43IPFU1	106.262	160340	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B13PGML43 B13PGFAP67 B13PGFAP26	106.262	160643	Maintain records of loading rack annual throughput.
B13PGST202 B13PGST205	106.261 106.262	162153	Maintain records of tank service and annual throughput.
B13PGSP22	106.261	164720	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs 28MID.
B13PGST226 B13PGST256	106.262	165980	Maintain records of tank service and annual throughput.
B39GMFU1	106.261 106.262	106612	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).

Permit By Rule Supplemental Table (Page 4)
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.		PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B39GMFU1		106.261 106.262	115993	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1		106.262	121638	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMLR2 B39GMST264 B39GMST70A B39GMST70B	B39GMST75A B39GMST75B B39GMST801 B39GMVH290 B39GMWT257	106.261 106.262	123961	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023). Maintain records of tank service and annual throughput. Maintain records of loading rack annual throughput.
B39GMFU1		106.262	151705	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMFU3		106.261 106.262	153454	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1 B39GMVH290		106.262	156122	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1		106.261 106.262	156047	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).

Permit By Rule Supplemental Table (Page 4)
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B39GMFU1	106.262	160836	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.261 106.262	161122	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.262	163567	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU3	106.262	149152	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMST801	106.262	152933	Maintain records of tank service and annual throughput.
PROGMA PROIPG PROPGA PROPGE	106.263	11/01/2003	Track emissions on a rolling 12-month basis.
PROGMA PROIPG PROPGA PROPGE	106.452	09/04/2000	Confirm annually that grit blasters utilize appropriate fabric filters.
B13PGST1226	106.472	09/04/2000	Maintain records of tank service and annual throughput.
B43IPST117	106.478	09/04/2000	Maintain records of tank service and annual throughput.

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Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGST670	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST506 B13PGST508	106.472 106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGFU1	106.373	09/04/2000	Maintain records of additions to refrigeration system.
B43IPST170	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B43IPST171	106.478	09/04/2000	Maintain records of tank service and annual throughput.
B13PGST222	106.262	168074	Maintain PBR Documentation
B39GMFU1	106.262	164874	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B39GMFU1	106.261 106.262	175271	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28MID, 28CNTQ, 28PI and AVO) as required by NSR 104144 SC 13 (Permit Issue Date 02/08/2023).
B17PEFU01	106.262	169380	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017).

Permit By Rule Supplemental Table (Page 4)
Table D: Monitoring Requirements for registered and claimed PBRs for the Application Area
Texas Commission on Environmental Quality

Date	Permit Number	Regulated Entity Number
April 17, 2025	O2221	RN100225945

Unit ID No.	PBR No.	Version No./Date Or Registration No.	Monitoring Requirement
B13PGST243 B13PGR5 B13PGST622 B13PGML43 B13PGFAP67 B13PGFA26	106.262	168130	Tanks will continue to meet the monitoring and recordkeeping requirements of NSR 18561 SC 8 and SC 9 (permit issue date 09/10/2019) for tank service and annual throughput. Scrubber will continue to meet the requirements of NSR 18561 SC 22 (permit issue date 9/10/2019). Maintain records of magsil addition. Maintain records of filter-aid addition
B17PEFU01 B17PELR1	106.261 106.262	177535	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring program (28VHP, 28CNTQ, and AVO) as required by NSR 75721 SCs 5-8 (Permit Issue Date 01/17/2017). Maintain records of annual throughput
B13PGST205	106.264	9/4/2000	Confirm annually that emissions do not exceed 25 tons per year of any air contaminant.
B43IPFU1 B43IPLR1 B43IPST114	106.262	179150	New piping components are managed in accordance with the current Leak Detection and Repair (LDAR) fugitive monitoring programs (28MID) as required by NSR 18561 SC 6 (Permit Issue Date 09/10/2019). Loading Rack: Maintain records of annual throughput. Tank: Maintain records of tank service and annual throughput.

Section E – Compliance Certification Forms

Form OP-ACPS

Texas Commission on Environmental Quality
Form OP-ACPS
Application Compliance Plan and Schedule

Date: April 17, 2025	**Regulated Entity No.:** RN100225945	**Permit No.:** O2221
Company Name: The Dow Chemical Company	**Area Name:** Specialty Chemicals 2	

- Part 1 of this form must be submitted with all initial FOP applications and renewal applications.
- The Responsible Official must use Form OP-CRO1 (Certification by Responsible Official) to certify information contained in this form in accordance with 30 TAC § 122.132(d)(8).

Part 1

A.	**Compliance Plan — Future Activity Committal Statement**	
The *Responsible Official* commits, utilizing reasonable effort, to the following: As the responsible official it is my intent that all emission units shall continue to be in compliance with all applicable requirements they are currently in compliance with, and all emission units shall be in compliance by the compliance dates with any applicable requirements that become effective during the permit term.		
B.	**Compliance Certification - Statement for Units in Compliance*** **(Indicate response by entering an "X" in the appropriate column)**	
1.	With the exception of those emission units listed in the Compliance Schedule section of this form (Part 2, below), and based, at minimum, on the compliance method specified in the associated applicable requirements, are all emission units addressed in this application in compliance with all their respective applicable requirements as identified in this application?	☒ YES ☐ NO
2.	Are there any non-compliance situations addressed in the Compliance Schedule Section of this form (Part 2)?	☐ YES ☒ NO
3.	If the response to Item B.2, above, is "Yes," indicate the total number of Part 2 attachments included in this submittal. *(For reference only)*	
*	*For Site Operating Permits (SOPs), the complete application should be consulted for applicable requirements and their corresponding emission units when assessing compliance status.* *For General Operating Permits (GOPs), the application documentation, particularly Form OP-REQ1 should be consulted as well as the requirements contained in the appropriate General Permits portion of 30 TAC Chapter 122.* *Compliance should be assessed based, at a minimum, on the required monitoring, testing, record keeping, and/or reporting requirements, as appropriate, associated with the applicable requirement in question.*	

Section F – Alternative Requirement

Alternative Method of Compliance No. 226

Jon Niermann, *Chairman*
Emily Lindley, *Commissioner*
Bobby Janecka, *Commissioner*
Erin E. Chancellor, *Interim Executive Director*

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

Protecting Texas by Reducing and Preventing Pollution

May 24, 2023

MS CHERYL STEVES
REGIONAL ENVIRONMENTAL MANAGER
THE DOW CHEMICAL COMPANY
332 HIGHWAY 332 E
LAKE JACKSON TX 77566-5044

Re: Alternative Method of Compliance (AMOC) No. 226
Semi-Annual Compliance Report Date Adjustment
40 CFR 63 Subpart PPP
Regulated Entity Number: RN100225945
Customer Reference Number: CN600356976
Associated Permit Numbers: 18561, 20525, 20996, O2216, O2219, and O2221

Dear Ms Steves:

This correspondence is in response to The Dow Chemical Company's (DOW's) April 18, 2023 request to synchronize with reporting periods for units applicable to 40 CFR 63 Subpart PPP National Emission Standards for Hazardous Air Pollutant Emissions for Polyether Polyols Production (MACT PPP) and Subpart H National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks (MACT H).

We understand that DOW proposes to synchronize the reporting periods by shortening the current semi-annual reporting period for MACT PPP and following a future semi-annual reporting schedule covering October 1 – March 31 with report due May 30th, and April 1 – September 30 with report due November 29th.

The Texas Commission on Environmental Quality (TCEQ) Executive Director has made a final decision to approve your AMOC request. The TCEQ has been delegated authority to enforce the above cited standards and is authorized to approve this alternative method of compliance (AMOC). You are reminded that approval of any AMOC shall not abrogate the Executive Director or Administrator's authority under the Act or in any way prohibit later canceling the AMOC. By copy of this letter we are informing the Environmental Protection Agency, Region 6, of this decision as required by TCEQ's delegation of authority.

This approval may change applicable requirements for the site, which are identified in the site operating permit (SOP) O2216, O2219, and O2221. The TCEQ recommends the submittal of a SOP administrative revision if any changes are necessary. Changes meeting the criteria for an administrative revision can be operated before issuance of the revision if a complete application is submitted to the TCEQ and this information is maintained with the SOP records at the site.

If you need further information or have any questions, please contact Ms. Anne Inman, P.E. at (512) 239-1276 or write to the Texas Commission on Environmental Quality, Office of Air, Air Permits Division, MC-163, P.O. Box 13087, Austin, Texas 78711-3087.

Sincerely,

Re: Permit Numbers: 18561, 20525, 20996, O2216, O2219, and O2221



Samuel Short, Deputy Director
Air Permits Division
Office of Air
Texas Commission on Environmental Quality

cc: Director, Environmental Health, Brazoria County Health Department, Angleton
Air Section Manager, Region 12 - Houston
Jesse E. Chacon, P.E., Manager, Operating Permits Section, Air Permits Division, OA: MC-163
Becky Tsuchiya, Manager, Chemical New Source Review Permits Section, Air Permits Division, OA: MC-163
Air Permits Section Chief, New Source Review Section (6PD-R), U.S. Environmental Protection Agency, Region 6, Dallas

Project Number: 356471