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AP42 Section:	4.12, draft 1997
Related:	10
Title:	Source Test: Stationary Source Sampling Report Farrel Process Laboratory Ansonia, CT Performed by Trigon Engineering July 1999

Stationary Source Sampling Report
Rubber Manufacturers Association
Farrel Corporation - Ansonia, Connecticut
F80 Banbury Mixer - Rubber Compound No. 3

Trigon Project No. 046-99-116
July 1999

Date: November 10, 1999

MEMORANDUM

SUBJECT: Review of Stationary Source Sampling Report - Farrel Process Laboratory

FROM: Anthony P. Wayne
Policy, Planning and Review Group, ESD/OAQPS

TO: Project File - Rubber Tire Manufacturing NESHAP

The purpose of the stationary source testing program was to establish whether Hexachlorobenzene (HCB) is present in rubber compound #3, a representative compound used in rubber tire production. No other compound used in the rubber tire manufacturing emission factor development program had exhibited the presence of HCB. The presence of HCB had been indicated in earlier testing of internal mixing operations by the Rubber Manufacturer Association (RMA) emission factor study circa 1994. HCB is a persistent organic compound and its presence in the existing emission factors raised concerns regarding Bilateral Agreements with Canada, area source requirements of the NESHAP for Rubber Tire Manufacturing, and Persistent Organic Pollutant (POPs) reduction planning both nationally and internationally. The RMA has contended that the earlier indication of the presence of HCB was an anomaly of the original testing and subsequent data base development for the national rubber tire manufacturer emission factor data base.

In order to determine whether HCB is present in the emissions from the internal mixing process, a replicated test of the 1994 testing was conducted on July 20, 1999 at the Farrel Corporation Process Laboratory in Ansonia, Connecticut using compound number 3.

The Environmental Protection Agency (EPA), Office of Air Quality Planning and Standards (OAQPS) was asked by the RMA to participate in the testing program through review of the testing protocol and observation of the testing in Ansonia. EPA conducted a review of the testing protocol and subsequently observed the testing (sample collection).

The testing report including the results of the testing and sampling, analysis was received by the EPA on November 2, 1999.

TESTING FIRM

Trigon Engineering Consultants, Inc.
Air Monitoring Department
6200 Harris Technology Blvd.
Charlotte, North Carolina 28269

SAMPLE ANALYSIS RESULTS

Hexachlorobenzene (HCB) was not detected in any of the samples taken from the exhaust of the internal mixer (Banbury F80). The detection limits for HCB were 0.055 micro grams, 0.045 micrograms, and 0.055 micrograms for the three runs.

Total gaseous organic(s) emissions were 0.057 lbs per hour as carbon.

ANALYSIS OF TESTING AND RESULTS

The testing was conducted in accordance with the testing protocol reviewed by EPA and with site changes that were approved by EPA on site and in consultation with the Emission Measurement Center of OAQPS on July 20, 1999. On site changes included changes to the orientation of the isokenetic sampling traverses (a 45 degree rotation due to flow) and subsequent saving of the impinger liquids for possible analysis (Method 0010 does not call for analysis).

The EPA observed the sampling runs, leak checks of the sampling trains, documentation of the raw testing data, representativeness of the mixing operation, and the conduct of the testing firm. Review of field notes and the raw sampling systems' output indicated that the testing was accurately conducted per the protocol and the method. In addition, field notes were compared to the report submitted to the EPA for verification of the information submitted.

The EPA did observe the analysis of the samples. Samples were analyzed by Triangle Laboratories, Inc., 801 Capitola Drive, Durham, NC 27712-4411. The analysis was conducted using High resolution GC Mass Spec analysis for HCB. The GC parameters were set by Method SW-846 method 8207C. The field blank detection limit was 0.051 micrograms.

The mixing operation was conducted in accordance with the requirements for mixing and compounding compound number 3. Raw material was supplied by the suppliers to the industry and represented the raw material received by the rubber tire manufacturers. The operations were representative of a typical rubber tire manufacturer.

CONCLUSION

The test and data are acceptable as demonstrating that HCB is not present in rubber compound number 3. Previous indications of the presence of HCB appear to be caused by some other factor not associated with compound number 3.

The preliminary emission factors published in AP-42 that indicate the presence of HCB (pre July 20, 1999) are incorrect.



RUBBER
manufacturers
association

1400 K Street, NW • Washington, DC 20005 • tel (202) 682-4800 • fax (202) 682-4854 • www.rma.org

November 3, 1999

Ron Ryan
U.S. Environmental Protection Agency
EMAD/EFIG
Mail Code 14
Research Triangle Park, NC 27711

Dear Ron:

Please find enclosed a copy of the final test report for the emission testing of rubber compound 3 RMA conducted in July 1999. RMA submits this data to you for your use in updating AP-42 section 4.12 for rubber processing emissions.

As you know, RMA sampled emissions from the rubber mixing process of rubber compound 3, and analyzed the samples for the presence of hexachlorobenzene. The testing occurred at Farrel Corporation in Ansonia, Connecticut and utilized the Farrel F80 Banbury mixer. The testing protocol was developed by Trigon Engineering and reviewed by Walter Smith, Walter Smith & Associates. The protocol was also reviewed and approved by EPA staff from the Office of Air Quality Planning and Standards: Anthony P. Wayne, of the Emissions Standards Division and Mike Toney and Gary McAllister of the Emissions, Monitoring and Analysis Division. Trigon Engineering conducted the emission sampling, and Walter Smith provided technical oversight at the test site. Mr. Wayne observed the testing on behalf of EPA.

Our testing showed that hexachlorobenzene was not present in rubber compound 3, at detection limits of 0.055 µg, 0.045 µg, and 0.055 µg for runs 1, 2, and 3 respectively. It is important to note that the detection limits achieved during this analysis are an order of magnitude lower than during previous testing. This data invalidates previous test results, which showed hexachlorobenzene to be present in rubber compound 3. In addition to invalidating the emission factor for the rubber mixing process, this testing also invalidates the emission factors for calendaring and extruding processes, since these factors were interpolated using the single mixing emission data point. Emission factors for calendaring and extruding would then become non-detect as well. This information also will be used in the development of the maximum achievable control technology standard (MACT) for tire manufacturing and any other EPA programs where this erroneous data has been applied.

Mr. Ron Ryan
November 3, 1999
Page 2

Accordingly, RMA requests that you update the draft hexachlorobenzene report to reflect the findings of this test report. In summary, please change the Compound 3 emission factor for hexachlorobenzene to non-detect for the following processes: mixing; calendering; and extruding.

We look forward to the finalization for AP-42 section for rubber processing emissions. If I can be of assistance as you work to finish the section, please contact me. Thank you for your help in updating the hexachlorobenzene factors to reflect these test results. Please call me at 202-682-4839 should you have any questions.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tracey J. Norberg".

Tracey J. Norberg
Director, Environmental Affairs

Enclosure

cc: Tony Wayne (w/o enclosure)

From: TONY WAYNE
To: RTP10.RTPSTD.RYAN-RON, RTP10.RTPSTD.POPE-ANNE, RTP...
Date: 10/14/99 10:59am
Subject: HCB - Rubber Tires

I would like to pass on the following for your information:

As many of you know, Rubber Tire Manufacturing was identified as a source of Hexachlorobenzene (HCB). HCB is a 112(c)(6) compound and a POP. The presence of the compound was based on 1994 data that had not been quality assured. This was only one of many reported pollutants in the industry that has been in question by my staff in MACT development.

The only source of the initial HCB in rubber processing (mixing and milling) was retested in July of 1999 under the original 1994 testing conditions. We were directly involved in the testing. The only deviation was to improve the detection limit of the analysis by a factor of 10. Today, the Rubber Manufacturers Association has provided preliminary results to me and stated that a report would be submitted in the next two weeks. The report will present the finding that no HCB is present in rubber processing associated with tire manufacturing.

Some background:

- 1) 1994 test of mixing of one compound showed a detection of HCB in 1 of 3 samples.
- 2) None of the substances within the specific mixture contain HCB or potential.
- 3) Many of the emission factors in both the RMA and subsequently EPA emission factor tables were generated by computer algorithms based on limited testing, e.g., the mixing emission factor information (generated by testing) was used to generate potential numbers for curing emissions.
- 4) There was speculation that the anomaly was a lab contamination, or raw material contamination.
- 5) The raw materials were analyzed and no HCB was present.

From: RON RYAN
To: RTP3.RTMU546(WAYNE-TONY)
Date: 6/8/99 11:47am
Subject: RMA emission factor updates -Reply -Reply

Tony,

FYI - The TRC data summaries show that they tested 26 different rubber formulations on what they called "small mixer #2", and got hexachlorobenzene above detect limits only for formulation #3, "Tire Belt Coat (Natural Rubber)". They show emission factor of 9.29E-09 lbs/lb rubber processed. The limits of detection for the other 25 formulations range from 4E-09 to 2E-08 lbs/lb rubber. They also tested a "small mixer #1" vs. a "large mixer #1" for just four formulations (#3 was not one of them) to check for size-up differences, and got all non-detects for hexachlorobenzene. They also tested another large mixer w/a Torit control device (I think it's a fabric filter) for one formulation (#5) and got non-detect on hexachlor. The summaries have the non-detect data in units of ug/m3 and lb/hr as well as lbs/lb, if you're interested. The small mixers look to be 2 lb capacity lab units, large#1 appears to be 200 lb capacity, and the one with the control device appears to be 500 lb capacity.

>>> TONY WAYNE 06/08/99 10:55am >>>

Ron. I also forgot. The RMA is conducting additional tests at a Banbury mixer in Conn. on July 19. I will probably go. They are specifically looking for Hexachlorobenzene (112(c)(6) compound). We may get some other information to qualify testing protocols that were used for The RMA AP-42 submittal.

I'll stay in touch.

6-18-99
Tony is interested indicating
in 1-7 cups Hexachlorobenzene



~~TRC~~
978-452-200
doubletree Lowell
met 8 AM Thurs.

STATIONARY SOURCE SAMPLING REPORT

Prepared For:
Rubber Manufacturers Association (RMA)
1400 K Street, NW
Washington, District of Columbia 20005

Source Location:
Farrel Process Laboratory
25 Main Street
Ansonia, Connecticut 06401-1601

Performed by:
Trigon Engineering Consultants, Inc.
Air Monitoring Department
6200 Harris Technology Blvd.
Charlotte, North Carolina 28269
704/598-1049

Trigon Project No. 046-99-116
July 1999



REPORT CERTIFICATION

This report, all testing details, and the final results have been performed under the supervision and reviewed by the persons named below.

Date October 25, 1999 Signature James A. Lewis

James A. Lewis
Project Manager
Air Monitoring Department
Trigon Engineering Consultants, Inc.

Date October 25, 1999 Signature Paul R. Jenkins, Jr.

Paul R. Jenkins, Jr.
Quality Assurance Manager
Air Monitoring Department
Trigon Engineering Consultants, Inc.

Date October 25, 1999 Signature J.A. Blanton

J.A. "Tony" Blanton
Manager
Air Monitoring Department
Trigon Engineering Consultants, Inc.



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1.0 INTRODUCTION

This section describes the purpose, a brief outline including the sampling and analytical strategy, and the personnel involved in the test program.

1.1 Purpose

The purpose of this sampling project was to determine concentrations and emission rates of selected compounds that may be evolved during the rubber mixing process of tire manufacturing. The F80 Banbury Mixer located at the Farrel Corporation Process Laboratory in Ansonia, Connecticut was selected for this test program. Rubber Compound No. 3 (Tire Belt Cord) was used during the sampling performed at the Farrel Corporation on July 20, 1999. The results of the sampling and the documentation provided in this report will be used to determine emission factors associated with the rubber mixing process used by various tire manufacturers.

1.2 Outline of Test Program

Stationary source sampling was performed July 20, 1999 by the Air Monitoring Department of Trigon Engineering Consultants, Inc. (Trigon) at the F80 Banbury Mixer located at the Farrel Corporation Process Laboratory. Three sampling runs of approximately 144 minutes each in duration were performed for hexachlorobenzene at the exhaust duct leading from the F80 Banbury Mixer and drop mill. Four runs of various length were performed for total gaseous organic(s). The sampling runs were performed during "normal batch" mixing conditions while processing Rubber Compound No. 3. United States Environmental Protection Agency (US EPA) Methods 1 through 4 and Method 0010 were used for the determination of hexachlorobenzene concentrations and emission rates. Method 25A was used to determine total gaseous organic(s) as carbon. The sampling and analytical procedures used in this test program were those established by the US EPA in standard reference test methods and appropriate state-of-the-art analytical procedures.



1.3 Test Participants

A list of the project participants, titles, affiliation and telephone numbers can be found below.

Participant	Title	Affiliation	Contact
James A. Lewis	Project Manager	Trigon Engineering Consultants, Inc.	Telephone: (704) 598-1049 Facsimile: (704) 598-1050
Paul R. Jenkins, Jr.	Quality Assurance Manager	Trigon Engineering Consultants, Inc.	
Joseph P. Konzelmann	Senior Environmental Scientist	Trigon Engineering Consultants, Inc.	
Phillip J. Payton	Environmental Scientist	Trigon Engineering Consultants, Inc.	
Tracey J. Norberg	Director Environmental Affairs	Rubber Manufacturers Association	Telephone: (202) 682-4839 Facsimile: (202) 682-4854
Walter S. Smith	President	Walter Smith & Associates	Telephone: (919) 772-7843 Facsimile: (919) 772-7843
Anthony P. Wayne	Environmental Engineer	US EPA Emission Standards Div. OAQPS	Telephone: (919) 541-5439 Facsimile: (919) 541-0942



2.0 PROCESS DESCRIPTION

This section contains a brief description of the rubber mixing process and an air flow schematic.

2.1 Discussion

The Rubber Mixing Process at the Farrel Corporation consisted of taking the raw rubber and mixing it with several chemical additives. The additives were chosen based upon the desired *properties of the final product*. The raw rubber and additives were formed into a homogenous rubber mass by a large Banbury Mixer and were then discharged to a drop mill. The mill mixing was an external open batch mixing process. The mill process incorporates parallel rolls rotating in opposing directions at slightly different speeds and were typically operated at temperatures in the range of 40° to 100° Centigrade. The milling occurred at the nip between the two rolls.

Milling is commonly performed downstream from internal mixers in rubber product manufacturing. The material exited the drop mill as a hot sticky strip or sheet and was then passed through a water based *anti-tack solution* to prevent it from sticking together as it cools to ambient temperature. The anti-tack solution was used only after the final pass through the mixer, not in between passes. Once the rubber is properly mixed, it can then be extruded or processed further into a finished product.

In order to accurately quantify the emissions from this process and to control fugitive emissions, a temporary enclosure was constructed around the drop mill. The enclosure consisted of a wood frame draped with plastic sheeting around the mill to facilitate the collection of the emissions.

The rubber mixing process is a batch process. Raw materials were weighed and loaded into the Banbury Mixer in individual batches. Each batch consisted of four passes. A batch pass was typically 36 minutes in duration. The operating rate was nine batches for the test program (with four passes per batch) for a total run time of approximately 432 minutes. Each batch weighed approximately 120 pounds.



The emissions from the rubber mixing process passed uncontrolled from the Banbury and drop mill through duct work into a common plenum. The sampling sites were chosen using the criteria in Method 1 to determine the appropriate test port location. Figure 1 details a typical process air flow schematic.



F80 Banbury Mixing Process

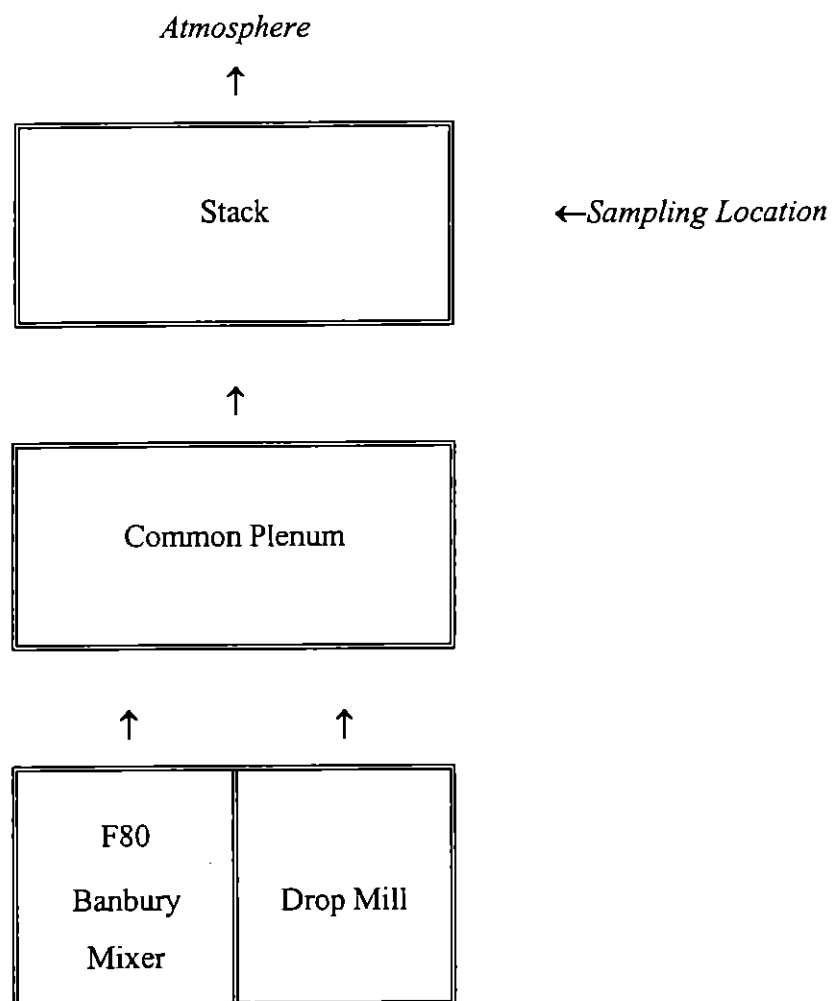


Figure 1
Process Air Flow Schematic

3.0 SAMPLING METHODS

This section describes the sampling strategy, sampling and analytical methods, and quality assurance/quality control procedures implemented during this project.

3.1 Sampling Strategy

The sampling and analytical procedures used during this test program were those established by the US EPA. Sampling runs were conducted in triplicate to validate the sampling. Tests were conducted during normal operating conditions. A Site-Specific Test Plan was prepared on July 2, 1999 and submitted to the US EPA. This test plan was adhered to throughout the sampling project.

There were no unusual operating conditions noted during the sampling. An atypical sampling scheme, developed by RMA's consultant Mr. Walter Smith, was used to perform the Method 0010 sampling. This sampling scheme is discussed in Section 3.2.7.

3.2 Sampling and Analytical Procedures

The US EPA methods used in this sampling program were Method 1 for the location of sampling ports and points, and determination of cyclonic flow, Method 2 for volumetric flow rate determination and assignment of dry molecular weight of the stack gas, and Method 4 for the determination of moisture in the stack gas. Method 0010 was used to determine concentrations and emission rates of hexachlorobenzene. Method 25A was used for the determination of total gaseous organic(s). A sampling and analysis synopsis for each of these methods is discussed briefly in the following subsections. These test methods are available in the Code of Federal Regulations Volume 40, Part 60, SW-846 or by request from Trigon.

3.2.1 Sampling Ports, Traverse Points and Cyclonic Flow Determination

The F80 Banbury Mixer sampling locations were prepared according to the criteria in Method 1. The duct diameters upstream and downstream from the sampling ports were determined prior to sampling. The number of traverse points were chosen with respect to sampling port location. For isokinetic traverses Method 1 specifies a minimum of 8 traverse points for sampling ports located



>8/>2 downstream/upstream stack diameters from flow disturbances and 24 traverse points when located >2/>0.5. The amount of cyclonic flow was determined according to the criteria detailed in Method 1.

The exhaust duct leading from the mixer was a horizontal duct. In order to completely traverse the stack and sample at both sampling ports, which were located 90 degrees apart, the isokinetic sampling was performed at a 45 degree incline from horizontal.

3.2.2 Stack Gas Velocity and Volumetric Flow Rate Determination

Method 2 is used for determining the average gas velocity in a stack from measurements of gas density and the average velocity head with a Type S (Stausscheibe or reverse type) pitot tube. This method is applicable for quantifying gas flows which meet the criteria of Method 1.

In principle, measurements of velocity head and temperature are performed at the traverse points specified by Method 1. A properly scaled differential pressure gauge was selected for the range of Δp values encountered during the traverse. A 0 - 10 inches of water inclined manometer was used as the differential pressure gauge.

During this project, the sampling location met the criteria detailed in Method 1. Gas stream density was assigned the value of 29.0 according to Method 2, Section 3.6. Moisture determination was performed by Method 4. The principal components of the gas velocity measurement system were sequentially:

- A calibrated stainless steel Type S pitot tube and Type K thermocouple;
- Leak-free interface tubing between pitot tube and differential pressure gauge;
- A 0 to 10 inch inclined manometer; and
- An NIST traceable pyrometer.



The apparatus was set-up according to manufacturer and reference method recommendations. Pre-test and post-test leak checks were conducted using procedures outlined in Method 2, Section 3.1. Velocity head and temperature measurements were performed at the traverse points specified by Method 1. The atmospheric and static pressure of the stack was also determined for the velocity head readings. The volumetric flow rate calculations used were those specified in Method 2, Section 5. A more comprehensive explanation of the reference method is detailed in the Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III (EPA/600/R-94/038c).

3.2.3 Dry Molecular Weight Determination

Method 3 is applicable for determining carbon dioxide and oxygen concentrations and dry molecular weight of a sample from a gas stream of a fossil-fuel combustion process. This method may also be applicable to other processes where it has been determined that compounds other than carbon dioxide, oxygen, carbon monoxide, and nitrogen are not present in concentrations sufficient to affect the results.

However, US EPA Method 2, Section 3.6 states that "For processes emitting essentially air, an analysis need not be conducted; use a dry molecular weight of 29.0." The emission source associated with this process was emitting essentially air, therefore the emission rate calculations were based on a dry molecular weight of 29.0 as stated above.

3.2.4 Moisture Determination

Method 4 involves the determination of stack gas moisture. The moisture content is used to correct the emission concentration or mass emission rate to a dry basis. EPA Method 4 and *Field Procedure 4* of the EPA's Quality Assurance Handbook, Volume III, was used to measure stack gas moisture content. *Field Procedure 4* provides detailed information on the application of Method 4.



Preliminary flue gas moisture content (for purposes of setting the isokinetic flow rate) was determined using wet bulb/dry bulb thermometers and partial pressure, vapor and saturated vapor pressure equations. This technique is described in Method 4 and is summarized below:

- Moisten the wet bulb thermometer wick with deionized water;
- Insert both thermometers into the flue gas stream and monitor the wet bulb temperature;
- When the wet bulb temperature has stabilized, record both the wet bulb and dry bulb thermometer temperatures; and
- Calculate the flue gas moisture content (PMV) using the equations below.

SVP = Vapor Pressure of Water at Saturation, inches of Mercury

$$SVP = 10x^y(6.6911 - (3144/(Wet Bulb + 390.86)))$$

PMV = Percent Moisture by Volume

$$PMV = (SVP - (0.000367(P_{abs})(Dry Bulb - Wet Bulb)(1 + ((Wet Bulb - 32)/1571))))/(P_{abs}) \times 100$$

P_{abs} = Absolute Pressure of Stack Gas

$$P_{abs} = (\text{Barometric Pressure} + (\text{Static Pressure}/13.6))$$

The moisture content for emission rate calculations was determined in conjunction with the Method 0010 isokinetic sampling train. The reference method involves the withdrawal of gaseous and particulate pollutants from the emission source at an isokinetic rate using a Method 0010 sampling system. The sampling and analytical procedure for reference Method 4 will be discussed in detail in Section 3.2.5 with the isokinetic sampling procedures.

3.2.5 Hexachlorobenzene Sampling and Analysis

Testing for hexachlorobenzene was performed using a modified EPA Method 5 sampling system. Method 0010 applies to the determination of semi-volatile POHC's which are defined as organic compounds with boiling points greater than 100 degrees Centigrade. Gaseous and particulate pollutants were withdrawn from the emission source at an isokinetic sampling rate and were collected in a multicomponent sampling train. The principal components of the sampling system were sequentially:



- A stainless steel sample nozzle and borosilicate glass probe liner;
- A heated ($248^{\circ}\text{F} \pm 25^{\circ}\text{F}$) probe and filter assembly with quartz glass fiber filter;
- A water cooled condenser and water jacketed organic sampling module packed with a virgin bed of porous polymeric adsorbent resin (XAD-2) mounted on a knockout bottle; and
- An impinger train consisting of four sequential impingers. The first two impingers containing 100 ml each of deionized water followed by an empty impinger and a final impinger containing 200 grams of silica gel.

Prior to sampling, the Method 0010 sampling glassware, probe liners and nozzles were washed in warm soapy water, rinsed thoroughly with deionized water, followed by a rinse of 1:1 methanol/dichloromethane, and dried in an oven for 4 hours at 105 degrees Celsius. After drying, the glassware, probe liners and nozzles were wrapped in aluminum foil to prevent contamination.

At the conclusion of each test run, the quartz glass filter was carefully removed from the Teflon filter support, sealed in a petri dish, and wrapped in aluminum foil. The sample collected in the nozzle, probe liner and front half of the filter assembly was quantitatively recovered by rinsing and brushing these components with a 1:1 solution of methanol/dichloromethane into a precleaned 250 ml glass storage container. After all rinsings were completed the lid of the storage container was sealed with Teflon tape and the liquid level marked in preparation for transport.

The sorbent trap section of the organic module was then recovered and carefully sealed with Teflon tape. The sorbent trap was labeled, covered with aluminum foil and packed on ice during storage and transport. All sampling train components located between the back half of the filter assembly and the outlet of the water cooled condenser were thoroughly rinsed with the 1:1 methanol/dichloromethane solution and stored in a precleaned 250 ml glass storage container. The container was sealed and the liquid level marked.



The sample collection continued by measuring the volume of water collected in the condensate impinger to the nearest milliliter. The condensate was transferred to a 250 ml glass storage container which was sealed with Teflon tape and the liquid level marked. The condensate impinger was then thoroughly rinsed with 1:1 methanol/dichloromethane. This rinse was collected in a 250 ml glass sample container which was sealed with Teflon tape and the liquid level marked.

In the final step of the sample recovery, the liquid in the first three impingers was measured to the nearest milliliter. The moisture collected by the silica gel in the fourth impinger was determined to the nearest 0.1 gram. All moisture determinations were recorded on the semi-volatiles data analysis form. The impinger contents, along with a thorough rinse with 1:1 methanol/dichloromethane, were transferred to a 1000 ml glass sample container, which was sealed with Teflon tape and the liquid marked.

During sampling run 2, the sample train exhibited a high vacuum (approximately 15 inches of mercury) at approximately 100 minutes into the run. The XAD trap and the filter were replaced before the sampling run was resumed. Sampling run 2 therefore included two XAD traps and 2 filters.

The samples were kept cooled at 4 degrees Centigrade and transported to Triangle Laboratories, Inc. Chain of custody documentation, case narrative, quantitation data, chromatographs and quality assurance data are included in Appendix D. Triangle Laboratories prepared the XAD-2 sorbent traps used in the sample collection and the analysis for hexachlorobenzene according to Method 8270 utilizing the gas chromatography/mass spectrometry method of analysis.

3.2.6 Total Gaseous Organic(s) Flame Ionization Analyzer Procedure

Total gaseous organic(s) concentrations were determined according to EPA Method 25A. Method 25A applies to the measurement of total gaseous organic concentration of vapors consisting primarily of alkanes, alkenes, and/or arenes (aromatic hydrocarbons). The concentration is



expressed in terms of propane (or other appropriate organic calibration gas) or in terms of carbon. Results are reported as volume concentration equivalents of the calibration gas or carbon equivalents.

Testing for total gaseous organic(s) was performed using a JUM Model VE-7 total hydrocarbon analyzer system. Gaseous pollutants were withdrawn at a constant rate from the emission source and analyzed by a flame ionization analyzer (FIA). The principal components of the sampling system were sequentially:

- An in-situ filter and heated stainless steel sample probe;
- A heated filter and calibration assembly;
- A heated sample line;
- An FIA analyzer;
- Calibration gases; and
- A data acquisition system that continuously logged 2 second concentrations.

Prior to the test series, the probe, filter and calibration assembly, sample line and hydrocarbon analyzer were heated to prevent condensation. After temperatures were stabilized the hydrocarbon analyzer was ignited using 40 percent hydrogen/balance helium for fuel and hydrocarbon free air. Calibration procedures commenced with the introduction of zero and high-level calibration gas into the sampling system. Any necessary adjustments were made and the response for low-level and mid-level gases were recorded. The predicted values for the calibration gases and the actual responses were recorded on the field data sheet and by the data acquisition system. High-level and zero gas concentrations were introduced into the measurement system and the response time was recorded on the field data sheet. Sampling was initiated immediately following instrument calibration. At the conclusion of the first sampling event, the zero and mid-level calibration gases were reintroduced and their respective responses recorded on the field data sheet.



The zero and calibration drift checks were performed immediately following completion of each test event (approximately 144 minutes) and at the conclusion of the test program. Data collected during the test program was archived on a data acquisition system and is attached to this test report as Appendix C.

3.2.7 Sampling Ports and Points

The dimensions of the sampling site and the location of the sampling ports and points are detailed in Figures 2 and 3. Method 1 sampling criteria was maintained at the sampling sites. The stack cross sections were divided into the appropriate number of equal areas (a total of 24 sampling points). A traverse point was then located within the centroid of the equal areas. Each point was sampled for a period of 6 minutes.

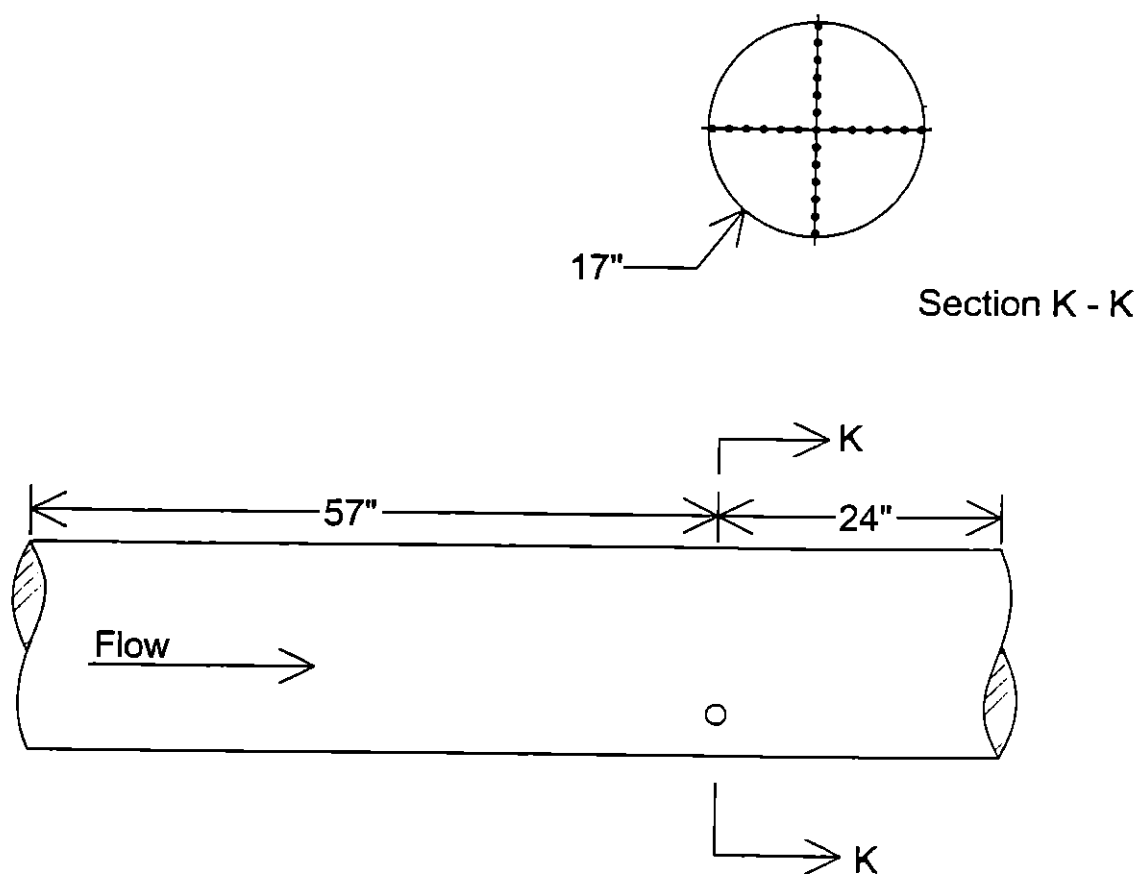
During the Method 0010 sampling runs, measurements to determine velocity, volumetric flow rates, and moisture were performed traversing the sampling site according to the criteria detailed in Methods 1, 2, and 4. The Method 25A probe was positioned at a single representative traverse point located at a different sampling site downstream of the isokinetic sampling site.

Due to the "batch" nature of the rubber mixing process, a sample matrix was devised to ensure that the sampling runs were replicates. Nine total batches were produced, with each batch containing four passes. Sampling runs were not performed continuously from start to finish, but were divided into sub-runs to coincide with each pass. The following matrix details the order in which the sampling runs and sample points were performed corresponding to each pass, and the sampling times for each run and pass.

Method 0010 Sampling Matrix				
Pass	Run 1 - Points Sampled	Run 2 - Points Sampled	Run 3 - Points Sampled	Total Sampling Time
1	A - 10, 11, 12 B - 1, 2, 3	B - 4, 5, 6 A - 7, 8, 9	A - 4, 5, 6 B - 10, 11, 12	108 Minutes
2	A - 1, 2, 3, 4, 5, 6	B - 7, 8, 9 10, 11, 12	A - 7, 8, 9, 10, 11, 12	108 Minutes
3	B - 4, 5, 6 A - 7, 8, 9	A - 10, 11, 12 B - 1, 2, 3	B - 7, 8, 9 A - 1, 2, 3	108 Minutes
4	B - 7, 8, 9, 10, 11, 12	A - 1, 2, 3, 4, 5, 6	B - 1, 2, 3, 4, 5, 6	108 minutes
Total Sampling Time	144 minutes	144 minutes	144 minutes	432 minutes

Since four passes were performed for each batch, but not in sequential order, this sample matrix was devised to ensure that one-third of each batch coincided with each sampling run. No pass was sampled at any traverse point twice and no sampling run sampled any traverse point more than once. Passes took an average of 108 minutes to complete. The total sampling time of the test was 7 hours and 12 minutes.

F80 Banbury Mixer Exhaust Isokinetic Sampling Site



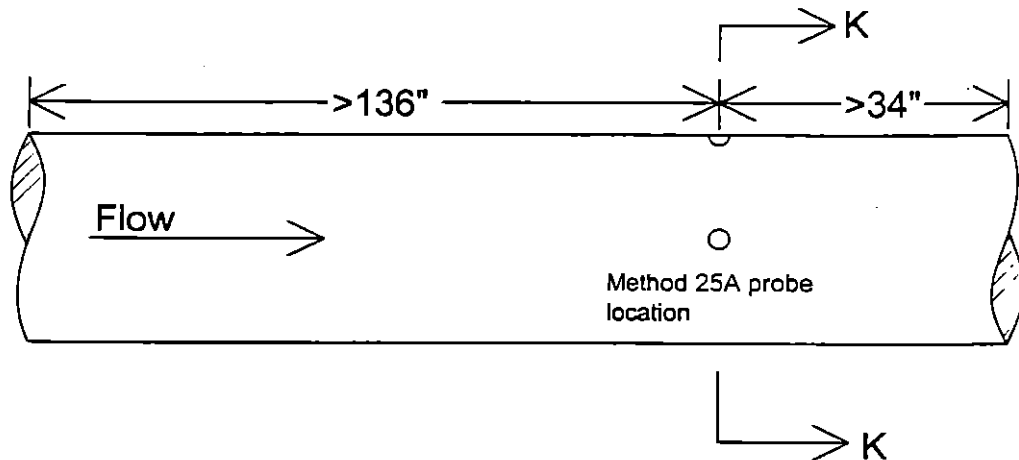
Two ports were angled 45 degrees downward from horizontal and were located 90 degrees apart.

Not to Scale

Figure 2
Location of Sampling Ports and Points

F80 Banbury Mixer Exhaust Gaseous Sampling Site

Section K - K



Not to Scale

Figure 3
Location of Sampling Ports and Points

3.3 Quality Assurance and Quality Control

Trigon Engineering Consultants, Inc., has established quality assurance and quality control (QA/QC) guidelines for providing quality sampling and analytical data from source tests. These QA/QC procedures were implemented to ensure the acceptability and reliability of the data generated.

In summary, acceptable data quality was maintained throughout this project. Leak checks and isokinetic QA criteria were met. The sampling trains were leak checked prior to and immediately after the sampling events and prior to and after each port change. Leak rates for the isokinetic sampling trains were less than the maximum criterion of 0.02 cubic feet per minute. The sampling rates were also within the $100\% \pm 10\%$ criterion established for isokinetic sampling. Quality control procedures for hexachlorobenzene determinations have included the analysis of a field blank and surrogate spikes and spike recoveries. The results of the field blank and recovery data are reported in Appendix D with the laboratory data. Quality control procedures for Method 25A have included the use of EPA Protocol I calibration gases. Copies of the gas certifications are included in Appendix E.

Field data and final laboratory results were entered into Trigon's Air Quality Data System by an environmental scientist, independently audited by the Project Manager, and reviewed by the Quality Assurance Manager for verification of data. After QC review by the QA Manager, the Department Manager verified the final report for completeness and reasonableness of data. The report was returned to the Project Manager for review and preparation of the final draft. The report requires the signature of the Project Manager, QA Manager, and the Department Manager before release to the client. Data and final reports are archived in a secured area for a period of three years.



Trigon's field and laboratory test equipment has been maintained and calibrated in accordance with quality assurance procedures established by the US EPA in the Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III. Equipment calibrations including pre-test and post-test calibration data are presented in Appendix E.



4.0 RESULTS

This section presents a summary of the hexachlorobenzene and total gaseous organic(s) sampling results. Tabular results are also provided to present data from individual sampling runs collected during this project. Detailed sampling results and example calculations for the test program can be found in Appendix A. Field data sheets and sample recovery documentation are presented in Appendix B.

4.1 Summary of Results

The table below is a an average of the total gaseous organic(s) sampling runs performed at the F80 Banbury Mixer Exhaust. Hexachlorobenzene was not detected in any of the samples. The detection limits for hexachlorobenzene were 0.055 μg , 0.045 μg and 0.055 μg for runs 1, 2 and 3, respectively.

Compound No. 3 Sampling Results	Hexachlorobenzene	Total Gaseous Organic(s)
Emission Rate, pounds/hour	Not Detected	0.057

4.2 Discussion

The results from this test program will be used to formulate emission factors associated with the rubber mixing process for the tire manufacturing industry.

4.3 Detailed Stack Sampling Results

Tables 1 and 2 present data from individual sampling runs at the F80 Banbury Mixer. Included in these table are gas velocity and volumetric flow rates, exhaust gas temperatures, and pollutant concentrations, and emission rates. Table 1 includes data from the hexachlorobenzene sampling and Table 2 includes data from the total gaseous organic(s) sampling.



TABLE 1

Summary of Results, Hexachlorobenzene Sampling
F80 Banbury Mixer Exhaust - Compound No. 3

Run Number	1	2	3	Avg.
Date	07/20/99	07/20/99	07/20/99	---
Sample Identification	9116-01	9116-02	9116-03	---
Run Duration, Minutes	144	144	141	---
Sample Time, 24-hour clock	0932-1643	0951-1725	1004-1804	---
Percent Isokinetic	101.5	103.2	99.0	101.2
Volume of Gas Sampled, dry standard cubic feet*(dscf)	119.75	119.24	112.26	117.08
Average Stack Temperature, °F	93.6	86.6	84.7	88.3
Stack Gas Velocity, feet/second	44.3	43.4	42.4	43.4
Stack Gas Flow Rate, dry standard cubic feet/minute*(dscfm)	3853	3772	3752	3792
Stack Gas Flow Rate, actual cubic feet/minute(acfm)	4190	4104	4014	4103
Hexachlorobenzene:				
Catch, µg	ND	ND	ND	---
Concentration, grains/dscf*	ND	ND	ND	---
Emission Rate, lbs/hr	ND	ND	ND	---

* 68°F, 29.92 Inches Hg



TABLE 2
Summary of Results, Total Gaseous Organic(s) Sampling
F80 Banbury Mixer Exhaust - Compound No. 3

Pass Number	1	2	3	4
Date	07/20/99	07/20/99	07/20/99	07/20/99
Run Duration, Minutes	118	104	86	119
Sample Time, 24-hour clock	0933-1131	1204-1348	1435-1601	1605-1804
Average Stack Temperature, °F	86.6	88.5	90.1	90.7
Stack Gas Velocity, feet/second	44.0	43.6	43.7	43.2
Stack Gas Flow Rate, dry standard cubic feet/minute*(DSCFM)	3857	3812	3807	3761
Stack Gas Flow Rate, actual cubic feet/minute(ACFM)	4158	4126	4133	4088
Total Gaseous Organic(s):				
Organic Concentration, ppm as carbon (dry)	11.8	9.7	5.9	4.4
Emission Rate, lbs/hr as carbon	0.085	0.069	0.042	0.031

* 68°F, 29.92 Inches Hg



5.0 APPENDICES

This section contains detailed supportive documentation that encompasses relevant aspects of the emission test program. Its contents serve as the foundation for the test report. The emission test report presents a summary of the information gathered during the sampling activities. The information contained in the appendices is necessary to facilitate the review of the emission test report and determine whether proper procedures were used to accomplish the test plan objectives.

Defensible data and the subsequent pollutant concentrations and emission rates is one of the primary objectives of any emission test program. To this end, test results, example calculations, field data sheets, sample recovery, laboratory results, chain of custody documentation, and equipment calibrations have been provided to support these objectives.



APPENDIX A

SUMMARY OF RESULTS AND EXAMPLE CALCULATIONS



SUMMARY OF RESULTS
EPA METHOD 0010
Determination of Semi-Volatile Organic Emissions
Rubber Manufacturers Association
Ansonia, Connecticut
Banbury Mixer Exhaust

Run Number		1	2	3	Avg
Date:		07/20/99	07/20/99	07/20/99	---
θ	Net Time of Test, minutes	144	144	141	---
P_{bar}	Barometric Pressure, in. Hg	29.97	29.97	29.97	29.97
P_g	Static Pressure, in. Hg	-0.114	-0.114	-0.114	-0.114
P_s	Stack Pressure, Absolute, in. Hg	29.856	29.856	29.856	29.856
V_M	Actual Meter Volume Sampled, cu. ft.	125.65	122.94	116.15	121.58
ΔH	Avg. Delta H, in. H ₂ O	2.48	2.46	2.31	2.42
T_M	Avg. Gas Meter Temp., Deg. F	98.3	88.6	90.3	92.4
V_{STD}	Volume Sampled at Stand. Cond., cu. ft.	119.75	119.24	112.26	117.08
V_C	Volume of Water Collected, ml	88.8	123.5	83.4	98.6
V_{WC}	Volume of Water Vapor at Std. Cond., SCF	4.18	5.82	3.93	4.64
B_{WS}	Moisture Content of Gas Stream	0.034	0.047	0.034	0.038
P_{MV}	Percent Moisture in Stack	3.4	4.7	3.4	3.8
M_{FD}	Mole Fraction of Dry Gas	0.966	0.953	0.966	0.962
%O ₂	Percent Oxygen, Dry	21	21	21	21
%CO ₂	Percent Carbon Dioxide, Dry	0	0	0	0
%CO	Percent Carbon Monoxide, Dry	0	0	0	0
M_d	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29	29	29	29
M_s	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.474	28.336	28.474	28.428
C_p	Pitot Tube Constant	0.85	0.85	0.85	0.85
ΔPS	Avg. Sqrt. Delta P, in. H ₂ O	0.756	0.743	0.730	0.743
T_s	Avg. Stack Temp., Deg. F	93.6	86.6	84.7	88.3
V_s	Avg. Stack Velocity, ft/sec	44.3	43.4	42.4	43.4
A	Area Stack, ft ²	1.58	1.58	1.58	1.58



SUMMARY OF RESULTS
 EPA METHOD 0010
 Determination of Semi-Volatile Organic Emissions
 Rubber Manufacturers Association
 Ansonia, Connecticut
 Banbury Mixer Exhaust

Q _{SD}	Gas Volume Flow, Dry Std. Cond., CFM	3853	3772	3752	3792
Q _A	Actual Gas Volume Flow, CFM	4190	4104	4014	4103
Q _{SW}	Gas Volume Flow, Wet Std. Cond., CFM	3988	3956	3883	3942
D _n	Sample Nozzle Diameter, inches	0.248	0.248	0.249	0.248
A _n	Area of Nozzle, ft ²	0.00034	0.00034	0.00034	0.00034
I	Percent Isokinetic	101.5	103.2	99.0	101.2



SUMMARY OF RESULTS
EPA METHOD 0010
Determination of Semi-Volatile Organic Emissions
Rubber Manufacturers Association
Ansonia, Connecticut
Banbury Mixer Exhaust

Compound	Run 1	Run 2	Run 3
<i>Mass Data (m_n)</i>	µg	µg	µg
Hexachlorobenzene	<0.055	<0.045	<0.055

Analytical results are reported as "less than" the Method Detection Limit (MDL).



SUMMARY OF RESULTS
 EPA METHOD 0010
 Determination of Semi-Volatile Organic Emissions
 Rubber Manufacturers Association
 Ansonia, Connecticut
 Banbury Mixer Exhaust

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg

$$P_s = P_{bar} + P_g = 29.856$$

Volume Sampled at Stand. Cond., cu. ft.

$$V_{STD} = \frac{17.647 * V_M * (P_{bar} + \Delta H / 13.6)}{T_M + 460} = 119.8$$

Volume of Water Vapor at Std. Cond., SCF

$$V_{WC} = 0.04709 * V_C = 4.18$$

Moisture Content of Gas Stream

$$B_{ws} = \frac{V_{WC}}{V_{STD} + V_{WC}} = 0.034$$

Percent Moisture in Stack

$$P_{MV} = \frac{100 * V_{WC}}{V_{STD} + V_{WC}} = 3.4$$

Mole Fraction of Dry Gas

$$M_{FD} = \frac{100 - P_{MV}}{100} = 0.966$$

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole

$$M_d = 0.44 * \%CO_2 + 0.32 * \%O_2 + 0.28 * (100 - \%CO_2 - \%O_2) = 28.840$$

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole

$$M_s = M_d * (1 - B_{ws}) + 18.0 * B_{ws} = 28.474$$

Avg. Stack Velocity, ft/sec

$$V_s = 85.49 * C_p * \Delta PS * SQRT \frac{(T_s + 460)}{(P_s * M_s)} = 44.3$$

Gas Volume Flow, Dry Std. Cond., CFM

$$Q_{SD} = \frac{1058.82 * V_s * A * P_s * (1 - B_{ws})}{T_s + 460} = 3853$$



SUMMARY OF RESULTS
 EPA METHOD 0010
 Determination of Semi-Volatile Organic Emissions
 Rubber Manufacturers Association
 Ansonia, Connecticut
 Banbury Mixer Exhaust

Actual Gas Volume Flow, CFM

$$Q_A = V_s * A * 60 = 4190$$

Gas Volume Flow, Wet Std. Cond., CFM

$$Q_{sw} = Q_{sd} * [1/(1-B_{ws})] = 3988$$

Area of Nozzle, ft²

$$A_n = ((D_n / 2)^2 * 3.14159) / 144 = 0.00034$$

Percent Isokinetic

$$I = \frac{0.0945 * (T_s + 460) * V_{std}}{\theta * V_s * P_s * (1 - B_{ws}) * A_n} = 101.5$$

Standard Conditions 68 Deg. F, 29.92 in. Hg



SUMMARY OF RESULTS
EPA METHOD 25A
Determination of Total Gaseous Organics as Carbon
Rubber Manufacturers Association
Ansonia, Connecticut
Banbury Mixer Exhaust

Run Number		Pass 1	Pass 2	Pass 3	Pass 4
Date:		07/20/99	07/20/99	07/20/99	07/20/99
θ	Net Time of Test, minutes	118	104	86	119
P_{bar}	Barometric Pressure, in. Hg	29.97	29.97	29.97	29.97
P_g	Static Pressure, in. Hg	-0.114	-0.114	-0.114	-0.114
P_s	Stack Pressure, Absolute, in. Hg	29.856	29.856	29.856	29.856
V_M	Actual Meter Volume Sampled, cu. ft.	123.90	123.67	124.11	119.29
ΔH	Avg. Delta H, in. H ₂ O	2.50	2.45	2.43	2.36
T_M	Avg. Gas Meter Temp., Deg. F	88.6	93.5	94.8	95.1
V_{STD}	Volume Sampled at Stand. Cond., cu. ft.	120.2	118.9	119.0	114.3
V_C	Volume of Water Collected, ml	100.4	100.2	100.5	96.6
V_{WC}	Volume of Water Vapor at Std. Cond., SCF	4.73	4.72	4.73	4.55
B_{WS}	Moisture Content of Gas Stream	0.038	0.038	0.038	0.038
P_{MV}	Percent Moisture in Stack	3.8	3.8	3.8	3.8
M_{FD}	Mole Fraction of Dry Gas	0.962	0.962	0.962	0.962
%O ₂	Percent Oxygen, Dry	21	21	21	21
%CO ₂	Percent Carbon Dioxide, Dry	0	0	0	0
%CO	Percent Carbon Monoxide, Dry	0	0	0	0
M_d	Mole. Wt. Stack Gas, Dry Basis, lb/lb mole	29	29	29	29
M_s	Mole. Wt. Stack Gas, Wet Basis, lb/lb mole	28.430	28.426	28.425	28.425
C_p	Pitot Tube Constant	0.85	0.85	0.85	0.85
ΔPS	Avg. Sqrt. Delta P, in. H ₂ O	0.754	0.747	0.747	0.738
T_s	Avg. Stack Temp., Deg. F	86.6	88.5	90.1	90.7
V_s	Avg. Stack Velocity, ft/sec	44.0	43.6	43.7	43.2



SUMMARY OF RESULTS
 EPA METHOD 25A
 Determination of Total Gaseous Organics as Carbon
 Rubber Manufacturers Association
 Ansonia, Connecticut
 Banbury Mixer Exhaust

A	Area Stack, ft ²	1.576	1.576	1.576	1.576
Q _{sd}	Gas Volume Flow, Dry Std. Cond. CFM	3857	3812	3807	3761
Q _A	Actual Gas Volume Flow, CFM	4158	4126	4133	4088
Q _{sw}	Gas Volume Flow, Wet Std. Cond., CFM	4008	3963	3959	3911
Total Gaseous Organic(s) Concentrations and Emission Rates					
M _{wc}	Mole Weight of Carbon, g/mole	12.01	12.01	12.01	12.01
C _{mcus}	Organic Concentration, ppm as propane (wet)	3.8	3.1	1.9	1.4
C _c	Organic Concentration, ppm as carbon (wet)	11.4	9.3	5.7	4.2
C _d	Organic Concentration, ppm as carbon (dry)	11.8	9.7	5.9	4.4
C _{ON}	Organic Concentration, mg/dscm as carbon	5.9	4.8	3.0	2.2
C _{AN}	Organic Concentration, gr/dscf as carbon	0.0026	0.0021	0.0013	0.0010
C _{AW}	Organic Emission Rate, lbs/hr	0.085	0.069	0.042	0.031



SUMMARY OF RESULTS
EPA METHOD 25A
Determination of Total Gaseous Organics as Carbon
Rubber Manufacturers Association
Ansonia, Connecticut
Banbury Mixer Exhaust

Example Calculations Run 1

Stack Pressure, Absolute, in. Hg

$$P_S = P_{\text{bar}} + P_g = 29.856$$

Volume Sampled at Stand. Cond., cu. ft.

$$V_{\text{STD}} = \frac{17.647 * V_M * (P_{\text{bar}} + \Delta H / 13.6)}{T_M + 460} = 120.2$$

Volume of Water Vapor at Std. Cond., SCF

$$V_{\text{WC}} = 0.04709 * V_C = 4.73$$

Moisture Content of Gas Stream

$$B_{\text{WS}} = \frac{V_{\text{WC}}}{V_{\text{STD}} + V_{\text{WC}}} = 0.038$$

Percent Moisture in Stack

$$P_{\text{MV}} = \frac{100 * V_{\text{WC}}}{V_{\text{STD}} + V_{\text{WC}}} = 3.8$$

Mole Fraction of Dry Gas

$$M_{\text{FD}} = \frac{100 - P_{\text{MV}}}{100} = 0.962$$

Mole. Wt. Stack Gas, Dry Basis, lb/lb mole

$$M_d = 0.44 * \% \text{CO}_2 + 0.32 * \% \text{O}_2 + 0.28 * (100 - \% \text{CO}_2 - \% \text{O}_2) = 29$$

Mole. Wt. Stack Gas, Wet Basis, lb/lb mole

$$M_s = M_d * (1 - B_{\text{ws}}) + 18.0 * B_{\text{ws}} = 28.430$$

Avg. Stack Velocity, ft/sec

$$V_s = 85.49 * C_p * \Delta P_S * \text{SQRT} \frac{(T_s + 460)}{(P_s * M_d)} = 44.0$$

Gas Volume Flow, Dry Std. Cond. CFM

$$Q_{\text{sd}} = \frac{1058.82 * V_s * A * P_s * (1 - B_{\text{ws}})}{T_s + 460} = 3857$$



SUMMARY OF RESULTS
 EPA METHOD 25A
 Determination of Total Gaseous Organics as Carbon
 Rubber Manufacturers Association
 Ansonia, Connecticut
 Banbury Mixer Exhaust

Actual Gas Volume Flow, CFM $Q_A = V_s * A * 60 =$	4158
Gas Volume Flow, Wet Std. Cond., CFM $Q_{SW} = Q_{sd} * [1/(1-B_{ws})] =$	4008
Organic Concentration, ppm as carbon (wet) $C_c = C_{meas} * 3 =$	11
Organic Concentration, ppm as carbon (dry) $C_d = \frac{C_c}{(1 - B_{ws})} =$	12
Organic Concentration, mg/dscm as carbon (At Standard Conditions) $C_{ON} = C_d * \frac{(M_{wc})}{24.054048} =$	6
Organic Concentration, gr/dscf as carbon (At Standard Conditions) $C_{an} = C_{ON} * 0.0004371 =$	0.0026
Organic Emission Rate, lbs/hr (At Standard Conditions) $C_{AW} = 0.00857 * C_{AN} * Q_{sd} =$	0.09



APPENDIX B

FIELD DATA SHEETS



EPA Method 1 Determination of Sampling Ports and Points

Client RMA/Farrel Corp.
Sampling Location Bonbury Mixer Exhaust

City/State Ansonia, CT
Date 07/19/99

Sampling Location Dimensions, in inches:

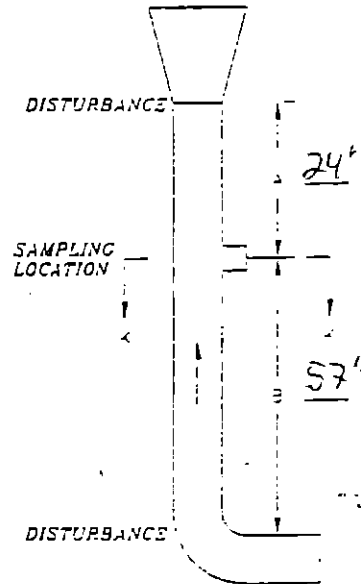
From Far Wall to Outside of Port 17"
Nipple Length 0"
Depth of Duct 17"
Width (Rectangular Duct) NA

Equivalent Diameter Calculation (DE):

$$DE = \frac{2 \times \text{Length} \times \text{Width}}{\text{Length} + \text{Width}} = \frac{2 () ()}{() + ()} = \underline{NA}$$

Distance to Ports From Nearest Flow Disturbance:

	Upstream - A	Downstream - B
Dimensions in Inches	<u>24"</u>	<u>57"</u>
Duct Diameters	<u>1.41</u>	<u>3.35</u>
Stack Area, in Square Feet	<u>1.576</u>	
Calculations By	<u>JAL</u>	



Schematic of Sampling Location

Location of Traverse Points in Circular Stacks					
	4	6	8	10	12
1	6.7	4.4	3.2	2.6	2.1
2	25.0	14.6	10.5	8.2	6.7
3	75.0	29.6	19.4	14.6	11.8
4	93.3	70.4	32.3	22.6	17.7
5		85.4	67.7	34.2	25.0
6		95.6	80.6	65.8	35.6
7			89.5	77.4	64.4
8			96.8	85.4	75.0
9				91.3	82.3
10				97.4	88.2
11					93.3
12					97.9

Location of Traverse Points in Rectangular Stacks							
	2	3	4	5	6	7	8
1	25.0	16.7	12.5	10.0	8.3	7.1	6.3
2	75.0	50.0	37.5	30.0	25.0	21.4	18.8
3		33.3	62.5	50.0	41.7	35.7	31.3
4			37.5	70.0	58.3	50.0	43.8
5				90.0	75.0	64.3	56.3
6					91.7	78.6	68.8
7						92.9	81.3
8							93.8
9							
10							
11							
12							

Point No.	% of Stack ID	Stack ID, in.	Distance From Inside Wall, in.	Nipple Length, in.	Distance From Outside of Port, in.
1	2.1	17"	0.36 → 0.50	0"	0.50
2	6.7		1.14		1.14
3	11.8		2.01		2.01
4	17.7		3.01		3.01
5	25.0		4.25		4.25
6	35.6		6.05		6.05
7	64.4		10.95		10.95
8	75.0		12.75		12.75
9	82.3		13.99		13.99
10	88.2		14.99		14.99
11	93.3		15.86		15.86
12	97.9		16.64 → 16.50		16.50

Stack Diameter = 12 - 24 inches Relocate to 0.50 inches from stack wall
Stack Diameter > 24 inches Relocate to 1.00 inches from stack wall

Audited by: JRP Date: 7/23/99



Determination of Stack Gas Velocity, Volumetric Flow Rate and Cyclonic Flow

City, State Ansonia CT

Operators JA, PPJ

Time 1945

Pitot Tube I.D. No. 200.062

Date Calibrated 01/04/99

Leak Check, in. H₂O ≤ 0.1 @ +7.5 -4.2[illegible]Stack Temperature, Wet °F (B) 71Preliminary Percent Moisture 2.19

Audited by: TRP Date: 7/28/99



EPA Method 0010 - Semi-Volatiles Recovery - Data Analysis

Client Name RMA/Farrel Corp.
 City/State Ansonia, CT
 Sampling Location Banbury Mixer Exhaust
 Clean-Up Box Number 0018
 Chain of Custody: Date Received 07/21/99

Project Number 046-99-116
 Sample Date 07/20/99
 Samples Recovered By JHL
 Recovery Date 07/20/99
 Received By Thurgate Lab Locked? ☒

Equipment Documentation

Run Number	1	2	3	clean train
Sample ID Number	9116-01	9116-02	9116-03	Field blank
Sample Box Number	11	12	8	9116-05
Probe Number	200.021	200.063	200.020	11
				200.021

used train
 Field blank
 9116-05
 11
 200.021

Container #1 - Filter Recovery

Filter #	MLEM-34	MLEM-38	MLEM-37	MLEM-41
Particulate Description	Black	Black	Black	not visible
Filter Container Sealed?	✓	✓	✓	✓

MLEM-42
 non visible

Container #2 - Front Half Rinse

Rinse Container #	9116-01A	9116-02A	9116-03A	9116-04A
Rinse Container Sealed?	✓	✓	✓	✓

9116-05A
 ✓

Container #3 - Organic Module

Module Container #	9116-01B	9116-02B	9116-03B	9116-04B
Sealed With Teflon Tape?	✓	✓	✓	✓
Wrapped With Aluminum Foil?	✓	✓	✓	✓

9116-05B
 ✓
 ✓

Container #4 - Knockout Trap

Recovery Container #	9116-01C	9116-02C	9116-03C	9116-04C
Condensate Volume, ml	60 ml	100	60	0
Container Sealed?	✓	✓	✓	✓

9116-05C
 ✓
 ✓

Container #5 - Back Half Rinse

Rinse Container #	9116-01D	9116-02D	9116-03D	9116-04D
Container Sealed?	✓	✓	✓	✓

9116-05D
 ✓

Container #6 - Impingers 1, 2, and 3

Recovery Container #	9116-01E	9116-02E	9116-03E	9116-04E
Description of Reagent	clear	clear	clear	clear
Final Volume, ml	200	200	200	200
Initial Volume, ml	200	200	200	200
Net Condensed Volume, ml	0	0	0	0
Container Sealed?	✓	✓	✓	✓

9116-05E
 clear
 200
 200
 0
 ✓

Container #7 - Impinger 4

Silica Gel Container #	1	2	3	4
Final Weight, g	229.8	223.5	217.3	206.1
Initial Weight, g	200.0	200.0	200.0	200.0
Net Absorbed Volume, ml	29.8	23.5	23.4	0.0
Total Volume (#4 + #6 + #7), ml	88.8	123.5	83.7	0

NA



0010

Run Number 1

Date 07/20/99

Operators JAL, PRT, JPK, PTP

NOMOGRAPH SET-UP: K Factor 4.29

LEAK CHECKS

 $\Delta H @ 1.33 \quad \gamma = 1.00$

Avg. ΔP 0.42

Pre-Test 0.002 @ 15 In. Hg.

Meter Temp. 95

Ref Δ P 0.43

Post-Test < 0.002 @ 16 In. Hg.

Stack Temp. 85Desired Nozzle 0.249Pre-Test Pilot 0.1 @ 4.2-4.3 H₂OPitot Coeff 0.45

Nozzle No. 300.059

Post-Test Print < 0.1 @ 5.04.6 In. H₂O

% Moisture 2

Nozzle Calibration 0.247, 0.248, 0.248

C Factor 1.130

Nozzle Diameter 0.248

Observer Tony Wayne

Filter No. 10-116-01

Start Time 0932

End Time 1643

Agency US EPA

—0241604

Run on hold @ 136 min @ 1632 up @ 1634.5

DATE 7-28-57

B. 5.



0010

Run Number 2

Date 07/30/99

Operators $\gamma, \alpha, \beta, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega, \delta, \epsilon, \zeta, \eta, \theta, \iota, \kappa, \lambda, \mu, \nu, \xi, \omicron, \pi, \rho, \sigma, \tau, \upsilon, \phi, \chi, \psi, \omega$

NOMOGRAPH SET-UP: K Factor 4.40

LEAK CHECKS

$\Delta H @ 1.93 \quad Y = 1.00$

Avg ΔP 0.42

Pre-Test 6.002 @ 15 In. Hg.

Meter Temp. 95

Ref Δ P 0.42Post-Test 0.002 @ 18. In. HgStack Temp. 85Desired Nozzle 0.248

Pre-Test Pitot @ 0.1 @ 58-4 in H₂O

Pilot Coeff 0.85

Nozzle No. 300-058

Post-Test P/TOT < 0.1 @ 5.2, -4.1 Ln. H₂O

% Moisture 2

Nozzle Calibration 0.247, 0.248, 0.248

C Factor 1.60

Nozzle Diameter 0.248

Observer Tony Wayne

Start Time 0951

End Time 1725

Agency US EPA

40.72

Comments:

Isokinetic Check: 100, 2

Quoted by: TRP Date: 7/28/97

B - 6



Client RMA/Farrel Corp.Run Number 3City/State Arizona, CTDate 07/20/99Sampling Location Banbury Mixer ExhaustOperators JAL, JPL, PAT, RJPBar. Press., In. Hg 29.97NOMOGRAPH SET-UP: K Factor 4.26

LEAK CHECKS

Static Press., In. H₂O -1.55 $\Delta H @ 1.84 \gamma = 100$ Avg. ΔP 0.42Pre-Test 0.002 @ 15 In. HgMeter Box No. 300.045Meter Temp. 95Ref. ΔP 0.43Post-Test 0.004 @ 10 In. HgSample Box No. 8Stack Temp. 85Desired Nozzle 0.251Pre-Test Pitot <0.1 @ 5.6, -4.0 In. H₂OProbe/Pitot No. 200.020Pitot Coeff. 0.85Nozzle No. 300.290Post-Test Pitot <0.1 @ 5.1, -4.3 In. H₂OProbe Temp. Setting 250% Moisture 2Nozzle Calibration 0.248, 0.249, 0.249Sample ID No. 9116-03C Factor 1.104Nozzle Diameter 0.249Observer Tony WayneFilter No. MCB-37Start Time 1004End Time 1804Agency US EPA

Sample Point	Clock Time	Dry Gas Meter Cubic Feet	Pitot Reading ΔP In. H ₂ O	Orifice Setting ΔH Inches H ₂ O	Dry Gas Meter Temp. °F	Pump Vacuum Inches Hg	Stack Temp °F	Filter Box °F	Insp. Temp °F
1 A4	04	515.89	0.502	2.64	84	6.0	82	256	67
2 5	6	521.10	0.60	2.56	84	6.0	81	254	62
3 6	12	526.18	0.58	2.47	86	6.0	81	254	65
4 810	18	531.31/531.60	0.40	1.70	87	5.5	84	256	67
5 11	24	535.80	0.27	1.15	88	5.5	84	250	58
6 12	30	539.28	0.40	1.70	89	6.5	83	249	63
7 A7	36	543.62/543.86	0.51	2.17	88	7.0	85	248	65
8 4	42	548.75	0.57	2.43	89	8.0	84	248	48
9 9	48	553.95	0.57	2.43	91	8.0	83	246	56
10 10	54	558.95	0.67	2.85	93	8.5	84	245	58
11 11	60	564.45	0.53	2.26	94	7.0	84	245	59
12 12	66	569.40	0.30	1.28	95	5.0	84	245	60
1 A7	72	573.09/573.7	0.35	1.49	90	6.0	85	246	64
2 8	78	577.35	0.46	1.96	91	7.0	85	246	53
3 9	84	582.00	0.36	1.53	92	6.0	84	246	58
4 91	90	586.08/586.71	0.37	3.03	91	9.5	87	247	64
5 2	96	592.10	0.60	2.90	92	9.5	87	245	61
6 3	102	597.86	0.63	2.68	95	9.0	87	244	65
7 61	108	603.17	0.71	3.03	89	9.0	87	249	67
8 2	114	609.78	0.71	3.03	89	9.0	86	245	61
9 3	120	615.44	0.71	3.03	92	9.0	87	245	60
10 4	126	621.11	0.64	2.73	94	8.5	86	245	60
11 5	132	626.52	0.49	2.09	95	7.0	87	245	61
* 12 6	138	634.67	0.00	0.00	95		87	251	62 JPK
	141	634.10							
			0.54		90.3 TRP		84.7 (JPK)		
		116.15	0.54	2.31	90.5		84.7		

Comments: Turn the fan off at 138 find value 634.10Isokinetic Check: TRPTotal run Time 141 minsDate: 7/28/99

EPA Method 25A Determination of Gaseous Organic Concentrations as Carbon Using Flame Ionization Analyzer Procedure

Client KMA Fazel Corp City/State Ansonia CT
 Sampling Location Bamberg Mixer Exhaust Instrument Jwm 9412512-10
 Run Date 07/20/99 Operators JPK Observer Tony Wayne Agency US EPA

Instrument Readiness:

Oven Temperature:	<u>190</u> °C	Fuel Pressure:	<u>NA</u> psi
Sample Line Temperature:	<u>750</u> °F	Air Pressure:	<u>NA</u> psi
Sample Back Pressure:	<u>2.9</u> psi	Calibration Factor:	<u>1.002</u> psi

System Calibration Error Check

Span: <u>100</u> ppm	Cylinder Pressure (psi)	Cylinder Value (ppm)	Predicted Value (ppm)	System Value (ppm)	Difference (ppm)	Allowable Difference (ppm)	Spec.
Zero	1800	0.0		0.0	0	3.0	± 3% of Span
High Range	2000	86.9		86.9	0.2	4.3	± 5% of Gas Value
Mid Range	1000	51.1	51.2	51.5	0.3	2.6	± 5% of Gas Value
Low Range	2400	30.4	30.5	30.3	0.2	1.5	± 5% of Gas Value

Hourly System and Drift Data

	Run Time (24 Hour Clock)	Initial System Response (ppm)		Final System Response (ppm)		Drift Difference (ppm)		Calibration Drift (percent)		Spec. (% Of Span)
		Zero	Midscale	Zero	Midscale	Zero	Midscale	Zero	Midscale	
1st Run	0933 - 1131	0.0	51.5	0.2	50.7	0.2	0.8	0.2	0.8	± 3%
2nd Run	1204 - 1348	~~0.0~~ 0.2	50.7	0.2	49.3	0.0	1.4	0.0	1.4	± 3%
3rd Run	1435 - 1601	~~0.0~~ 0.2	49.3	0.1	49.7	0.1	0.4	0.1	0.4	± 3%
4th Run	1605 - 1804	0.1	49.7	0.2	50.2	0.1	0.5	0.1	0.5	± 3%
5th Run										± 3%
6th Run										± 3%

System Response Time

Zero	<u>15</u>	<u>15</u>	<u>16</u>	Avg. <u>15</u>	<u>sec</u> minutes	Upscale	<u>14</u>	<u>15</u>	<u>15</u>	Avg. <u>15</u>	<u>sec</u> minutes
Must be a step change of at least 95%.											

Comments: _____



Initiated by: TRP Date: 7/28/99



APPENDIX C

METHOD 25A DATA ACQUISITION SYSTEM RESULTS



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
934.02	1.2	935.46	13.4	937.30	6.5
934.04	1.2	935.48	12.6	937.32	6.3
934.06	1.3	935.50	12.2	937.34	6.2
934.08	1.4	935.52	11.6	937.36	5.9
934.10	1.4	935.54	10.9	937.38	5.6
934.12	1.2	935.56	10.7	937.40	5.7
934.14	1.3	935.58	10.5	937.42	6.3
934.16	1.5	936.00	10.4	937.44	6.5
934.18	1.5	936.02	10.3	937.46	6.6
934.20	1.6	936.04	9.5	937.48	6.5
934.22	1.6	936.06	9.2	937.50	6.4
934.24	1.7	936.08	9	937.52	6.4
934.26	1.8	936.10	8.8	937.54	6.6
934.28	2	936.12	8.6	937.56	6.9
934.30	2.2	936.14	8.7	937.58	6.9
934.32	2.2	936.16	8.5	938.00	6.5
934.34	2.1	936.18	8.5	938.02	6.1
934.36	2.3	936.20	8.4	938.04	5.7
934.38	2.4	936.22	8.1	938.06	5.3
934.40	2.5	936.24	8.2	938.08	5.1
934.42	2.5	936.26	7.9	938.10	5.2
934.44	2.5	936.28	7.9	938.12	5.2
934.46	2.6	936.30	8.1	938.14	5
934.48	2.7	936.32	7.8	938.16	4.9
934.50	2.8	936.34	7.4	938.18	4.9
934.52	2.8	936.36	7.3	938.20	4.9
934.54	3	936.38	7.4	938.22	4.7
934.56	3.1	936.40	7.3	938.24	4.7
934.58	3.2	936.42	7.1	938.26	4.7
935.00	3.2	936.44	7.1	938.28	4.5
935.02	3.3	936.46	7	938.30	4.3
935.04	3.5	936.48	7	938.32	4.2
935.06	3.6	936.50	6.9	938.34	4.2
935.08	3.8	936.52	6.8	938.36	4.1
935.10	3.9	936.54	6.6	938.38	4
935.12	4	936.56	6.6	938.40	3.9
935.14	8.8	936.58	6.7	938.42	3.9
935.16	26.4	937.00	6.8	938.44	3.9
935.18	24.2	937.02	6.8	938.46	3.9
935.20	22.6	937.04	6.9	938.48	3.8
935.22	20.6	937.06	6.8	938.50	3.8
935.24	20.1	937.08	6.8	938.52	3.7
935.26	18.7	937.10	7.1	938.54	3.6
935.28	18.2	937.12	7.6	938.56	3.6
935.30	17	937.14	7.6	938.58	3.6
935.32	16.2	937.16	7.6	939.00	3.5
935.34	15.6	937.18	7.5	939.02	3.5
935.36	15.1	937.20	7.1	939.04	3.4
935.38	14.8	937.22	6.9	939.06	3.4
935.40	14.4	937.24	6.7	939.08	3.3
935.42	14	937.26	6.8	939.10	3.2
935.44	13.4	937.28	6.7	939.12	3.1

C-2



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
939.14	3.1	940.58	1.7	942.42	1.4
939.16	3.1	941.00	1.7	942.44	1.5
939.18	3	941.02	1.7	942.46	1.5
939.20	3	941.04	1.7	942.48	1.5
939.22	3	941.06	1.7	942.50	1.7
939.24	2.9	941.08	1.7	942.52	1.7
939.26	2.9	941.10	1.6	942.54	1.7
939.28	2.9	941.12	1.6	942.56	1.7
939.30	2.8	941.14	1.6	942.58	1.8
939.32	2.8	941.16	1.6	943.00	1.8
939.34	2.8	941.18	1.6	943.02	1.8
939.36	2.7	941.20	1.6	943.04	1.9
939.38	2.7	941.22	1.6	943.06	2.2
939.40	2.7	941.24	1.6	943.08	2.5
939.42	2.6	941.26	1.6	943.10	2.2
939.44	2.6	941.28	1.6	943.12	2.3
939.46	2.5	941.30	1.5	943.14	2.5
939.48	2.5	941.32	1.5	943.16	2.7
939.50	2.4	941.34	1.5	943.18	2.7
939.52	2.4	941.36	1.5	943.20	2.7
939.54	2.4	941.38	1.5	943.22	2.8
939.56	2.4	941.40	1.5	943.24	2.8
939.58	2.3	941.42	1.5	943.26	2.9
940.00	2.3	941.44	1.5	943.28	3
940.02	2.2	941.46	1.5	943.30	3.1
940.04	2.2	941.48	1.5	943.32	3.2
940.06	2.2	941.50	1.5	943.34	3.3
940.08	2.2	941.52	1.5	943.36	3.3
940.10	2.1	941.54	1.5	943.38	3.5
940.12	2.1	941.56	1.5	943.40	3.6
940.14	2.1	941.58	1.5	943.42	3.8
940.16	2.1	942.00	1.5	943.44	3.9
940.18	2.1	942.02	1.5	943.46	4.2
940.20	2.1	942.04	1.5	943.48	4.3
940.22	2	942.06	1.5	943.50	12.1
940.24	2	942.08	1.5	943.52	23.2
940.26	2	942.10	1.4	943.54	26.4
940.28	2	942.12	1.4	943.56	28.9
940.30	2	942.14	1.4	943.58	26.2
940.32	1.9	942.16	1.4	944.00	22.7
940.34	1.9	942.18	1.4	944.02	21.3
940.36	1.9	942.20	1.4	944.04	19.5
940.38	1.9	942.22	1.4	944.06	18.2
940.40	1.8	942.24	1.4	944.08	17.5
940.42	1.8	942.26	1.4	944.10	16.8
940.44	1.8	942.28	1.4	944.12	15.9
940.46	1.8	942.30	1.4	944.14	15.5
940.48	1.8	942.32	1.4	944.16	14.6
940.50	1.8	942.34	1.4	944.18	13.9
940.52	1.8	942.36	1.4	944.20	14.1
940.54	1.7	942.38	1.4	944.22	13.4
940.56	1.7	942.40	1.4	944.24	13.1

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
944.26	12.8	946.10	6.5	947.54	2.6
944.28	12.6	946.12	6.3	947.56	2.6
944.30	11.9	946.14	6.3	947.58	2.6
944.32	11.5	946.16	6.3	948.00	2.5
944.34	11.1	946.18	6	948.02	2.5
944.36	10.7	946.20	5.6	948.04	2.5
944.38	10.3	946.22	5.3	948.06	2.4
944.40	10.1	946.24	5.3	948.08	2.4
944.42	9.8	946.26	5.3	948.10	2.3
944.44	9.6	946.28	5.3	948.12	2.3
944.46	9.3	946.30	5.1	948.14	2.3
944.48	9.2	946.32	5.1	948.16	2.3
944.50	9	946.34	5.1	948.18	2.2
944.52	8.7	946.36	5	948.20	2.2
944.54	8.7	946.38	4.9	948.22	2.2
944.56	8.6	946.40	4.8	948.24	2.2
944.58	8.5	946.42	4.7	948.26	2.2
945.00	8.3	946.44	4.6	948.28	2.1
945.02	8	946.46	4.5	948.30	2.1
945.04	7.7	946.48	4.4	948.32	2.1
945.06	7.6	946.50	4.4	948.34	2.1
945.08	7.5	946.52	4.4	948.36	2.1
945.10	7.3	946.54	4.3	948.38	2
945.12	7.2	946.56	4.2	948.40	2
945.14	7.1	946.58	4.1	948.42	2
945.16	7	947.00	4.1	948.44	2
945.18	6.9	947.02	4	948.46	2
945.20	6.8	947.04	4	948.48	2
945.22	6.8	947.06	3.9	948.50	2
945.24	7	947.08	3.9	948.52	2
945.26	7.5	947.10	3.9	948.54	2
945.28	7.8	947.12	3.8	948.56	1.9
945.30	7.9	947.14	3.6	948.58	1.9
945.32	7.9	947.16	3.6	949.00	1.9
945.34	7.9	947.18	3.6	949.02	1.9
945.36	8.4	947.20	3.5	949.04	1.9
945.38	8.6	947.22	3.4	949.06	1.9
945.40	9	947.24	3.3	949.08	1.9
945.42	8.4	947.26	3.3	949.10	1.9
945.44	8.2	947.28	3.2	949.12	1.8
945.46	7.8	947.30	3.2	949.14	1.9
945.48	7.6	947.32	3.1	949.16	1.9
945.50	7.4	947.34	3.1	949.18	1.8
945.52	7.2	947.36	3.1	949.20	1.8
945.54	7	947.38	3	949.22	1.8
945.56	7.1	947.40	3	949.24	1.8
945.58	7.3	947.42	2.9	949.26	1.8
946.00	7.1	947.44	2.8	949.28	1.8
946.02	7	947.46	2.8	949.30	1.7
946.04	6.8	947.48	2.7	949.32	1.8
946.06	6.6	947.50	2.7	949.34	1.7
946.08	6.6	947.52	2.6	949.36	1.7

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
949.38	1.7	951.22	1.4	953.06	1.3
949.40	1.7	951.24	1.4	953.08	1.3
949.42	1.7	951.26	1.4	953.10	1.3
949.44	1.7	951.28	1.4	953.12	1.3
949.46	1.7	951.30	1.4	953.14	1.3
949.48	1.7	951.32	1.4	953.16	1.4
949.50	1.7	951.34	1.4	953.18	1.3
949.52	1.7	951.36	1.4	953.20	1.3
949.54	1.7	951.38	1.4	953.22	1.3
949.56	1.7	951.40	1.4	953.24	1.3
949.58	1.6	951.42	1.4	953.26	1.3
950.00	1.6	951.44	1.4	953.28	1.3
950.02	1.6	951.46	1.4	953.30	1.3
950.04	1.6	951.48	1.4	953.32	1.3
950.06	1.6	951.50	1.4	953.34	1.3
950.08	1.6	951.52	1.4	953.36	1.3
950.10	1.6	951.54	1.4	953.38	1.3
950.12	1.6	951.56	1.4	953.40	1.3
950.14	1.6	951.58	1.4	953.42	1.3
950.16	1.6	952.00	1.4	953.44	1.3
950.18	1.6	952.02	1.4	953.46	1.3
950.20	1.6	952.04	1.4	953.48	1.3
950.22	1.6	952.06	1.4	953.50	1.3
950.24	1.6	952.08	1.4	953.52	1.3
950.26	1.5	952.10	1.4	953.54	1.3
950.28	1.5	952.12	1.4	953.56	1.3
950.30	1.5	952.14	1.4	953.58	1.3
950.32	1.5	952.16	1.4	954.00	1.3
950.34	1.5	952.18	1.4	954.02	1.3
950.36	1.5	952.20	1.4	954.04	1.3
950.38	1.5	952.22	1.4	954.06	1.3
950.40	1.5	952.24	1.4	954.08	1.3
950.42	1.5	952.26	1.4	954.10	1.3
950.44	1.5	952.28	1.4	954.12	1.3
950.46	1.5	952.30	1.4	954.14	1.3
950.48	1.5	952.32	1.3	954.16	1.3
950.50	1.5	952.34	1.3	954.18	1.3
950.52	1.5	952.36	1.4	954.20	1.3
950.54	1.5	952.38	1.4	954.22	1.3
950.56	1.5	952.40	1.3	954.24	1.3
950.58	1.5	952.42	1.3	954.26	1.3
951.00	1.5	952.44	1.3	954.28	1.3
951.02	1.5	952.46	1.3	954.30	1.2
951.04	1.4	952.48	1.3	954.32	1.3
951.06	1.4	952.50	1.3	954.34	1.3
951.08	1.5	952.52	1.3	954.36	1.2
951.10	1.4	952.54	1.3	954.38	1.2
951.12	1.4	952.56	1.3	954.40	1.3
951.14	1.4	952.58	1.3	954.42	1.3
951.16	1.4	953.00	1.3	954.44	1.3
951.18	1.4	953.02	1.3	954.46	1.3
951.20	1.4	953.04	1.3	954.48	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
954.50	1.2	956.34	23.2	958.18	9.1
954.52	1.2	956.36	21.5	958.20	9
954.54	1.2	956.38	19.8	958.22	8.6
954.56	1.2	956.40	18.9	958.24	8.3
954.58	1.2	956.42	18	958.26	8.1
955.00	1.2	956.44	16.8	958.28	8.1
955.02	1.3	956.46	16	958.30	7.8
955.04	1.2	956.48	15.5	958.32	7.8
955.06	1.3	956.50	15.2	958.34	7.9
955.08	1.3	956.52	14.8	958.36	8
955.10	1.4	956.54	14.1	958.38	7.8
955.12	1.4	956.56	13.3	958.40	7.7
955.14	1.4	956.58	13	958.42	7.7
955.16	1.5	957.00	12.6	958.44	7.6
955.18	1.6	957.02	12.2	958.46	7.1
955.20	1.7	957.04	11.9	958.48	6.5
955.22	1.8	957.06	11.5	958.50	6.3
955.24	1.8	957.08	11.2	958.52	6.1
955.26	1.9	957.10	11.1	958.54	5.9
955.28	1.9	957.12	10.7	958.56	5.8
955.30	2	957.14	10.3	958.58	6.1
955.32	2	957.16	10.1	959.00	5.8
955.34	2	957.18	9.8	959.02	5.7
955.36	2.1	957.20	9.7	959.04	5.5
955.38	2.2	957.22	9.5	959.06	5.6
955.40	2.2	957.24	9.3	959.08	5.6
955.42	2.6	957.26	9.1	959.10	5.3
955.44	3	957.28	8.9	959.12	5.1
955.46	2.7	957.30	8.8	959.14	5.2
955.48	2.7	957.32	8.6	959.16	5
955.50	3	957.34	8.4	959.18	4.9
955.52	3.1	957.36	8.1	959.20	4.9
955.54	3.1	957.38	8	959.22	4.8
955.56	3.1	957.40	7.9	959.24	4.8
955.58	3.1	957.42	7.7	959.26	4.7
956.00	3.2	957.44	7.6	959.28	4.5
956.02	3.2	957.46	7.5	959.30	4.4
956.04	3.2	957.48	7.4	959.32	4.4
956.06	3.3	957.50	7.3	959.34	4.3
956.08	3.5	957.52	7.2	959.36	4.3
956.10	3.5	957.54	7.3	959.38	4.2
956.12	3.5	957.56	7.8	959.40	4
956.14	3.7	957.58	8.1	959.42	3.9
956.16	3.9	958.00	8.5	959.44	3.9
956.18	3.9	958.02	9.3	959.46	3.9
956.20	4	958.04	9.1	959.48	4
956.22	4	958.06	10	959.50	3.9
956.24	4.2	958.08	10.2	959.52	3.9
956.26	8.9	958.10	10	959.54	3.8
956.28	26.5	958.12	9.7	959.56	3.8
956.30	26.5	958.14	9.5	959.58	3.8
956.32	25.5	958.16	9.1	1000.00	3.7

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1000.02	3.7	1001.46	2	1003.30	1.6
1000.04	3.6	1001.48	2	1003.32	1.6
1000.06	3.6	1001.50	2	1003.34	1.6
1000.08	3.6	1001.52	2	1003.36	1.6
1000.10	3.5	1001.54	1.9	1003.38	1.5
1000.12	3.5	1001.56	1.9	1003.40	1.5
1000.14	3.4	1001.58	1.9	1003.42	1.5
1000.16	3.4	1002.00	1.9	1003.44	1.5
1000.18	3.3	1002.02	1.9	1003.46	1.6
1000.20	3.3	1002.04	1.9	1003.48	1.5
1000.22	3.2	1002.06	1.9	1003.50	1.5
1000.24	3.2	1002.08	1.9	1003.52	1.5
1000.26	3.2	1002.10	1.8	1003.54	1.5
1000.28	3.2	1002.12	1.8	1003.56	1.5
1000.30	3.1	1002.14	1.8	1003.58	1.5
1000.32	3.1	1002.16	1.8	1004.00	1.5
1000.34	3	1002.18	1.8	1004.02	1.5
1000.36	3	1002.20	1.8	1004.04	1.5
1000.38	2.9	1002.22	1.8	1004.06	1.5
1000.40	2.8	1002.24	1.8	1004.08	1.5
1000.42	2.8	1002.26	1.8	1004.10	1.5
1000.44	2.7	1002.28	1.8	1004.12	1.5
1000.46	2.7	1002.30	1.8	1004.14	1.5
1000.48	2.7	1002.32	1.7	1004.16	1.5
1000.50	2.6	1002.34	1.7	1004.18	1.5
1000.52	2.6	1002.36	1.7	1004.20	1.5
1000.54	2.5	1002.38	1.7	1004.22	1.5
1000.56	2.5	1002.40	1.7	1004.24	1.5
1000.58	2.5	1002.42	1.7	1004.26	1.5
1001.00	2.5	1002.44	1.7	1004.28	1.5
1001.02	2.4	1002.46	1.7	1004.30	1.5
1001.04	2.4	1002.48	1.7	1004.32	1.5
1001.06	2.4	1002.50	1.7	1004.34	1.5
1001.08	2.4	1002.52	1.7	1004.36	1.5
1001.10	2.3	1002.54	1.7	1004.38	1.5
1001.12	2.3	1002.56	1.7	1004.40	1.5
1001.14	2.3	1002.58	1.7	1004.42	1.5
1001.16	2.3	1003.00	1.7	1004.44	1.5
1001.18	2.2	1003.02	1.7	1004.46	1.5
1001.20	2.2	1003.04	1.7	1004.48	1.5
1001.22	2.2	1003.06	1.6	1004.50	1.5
1001.24	2.2	1003.08	1.7	1004.52	1.5
1001.26	2.2	1003.10	1.6	1004.54	1.5
1001.28	2.1	1003.12	1.6	1004.56	1.5
1001.30	2.1	1003.14	1.6	1004.58	1.5
1001.32	2.1	1003.16	1.6	1005.00	1.4
1001.34	2.1	1003.18	1.6	1005.02	1.4
1001.36	2	1003.20	1.6	1005.04	1.4
1001.38	2	1003.22	1.6	1005.06	1.5
1001.40	2	1003.24	1.6	1005.08	1.5
1001.42	2	1003.26	1.6	1005.10	1.5
1001.44	2	1003.28	1.6	1005.12	1.5

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1005.14	1.5	1006.58	3.8	1008.42	9.2
1005.16	1.5	1007.00	3.8	1008.44	9.1
1005.18	1.5	1007.02	3.9	1008.46	9.1
1005.20	1.4	1007.04	3.9	1008.48	9.1
1005.22	1.4	1007.06	5.4	1008.50	9.5
1005.24	1.4	1007.08	21.9	1008.52	9.3
1005.26	1.4	1007.10	21.9	1008.54	8.9
1005.28	1.4	1007.12	24.2	1008.56	8.7
1005.30	1.4	1007.14	20.3	1008.58	8.6
1005.32	1.4	1007.16	17.3	1009.00	8.5
1005.34	1.4	1007.18	16.5	1009.02	8.1
1005.36	1.4	1007.20	16.5	1009.04	8.1
1005.38	1.4	1007.22	15.9	1009.06	7.8
1005.40	1.4	1007.24	15.8	1009.08	7.8
1005.42	1.4	1007.26	14.9	1009.10	7.6
1005.44	1.4	1007.28	14.8	1009.12	7.7
1005.46	1.4	1007.30	14.5	1009.14	7.3
1005.48	1.5	1007.32	13.9	1009.16	7.1
1005.50	1.6	1007.34	13.2	1009.18	6.6
1005.52	1.6	1007.36	12.5	1009.20	6.2
1005.54	1.7	1007.38	12.3	1009.22	6.1
1005.56	1.7	1007.40	12.7	1009.24	6
1005.58	1.8	1007.42	12.9	1009.26	6
1006.00	2	1007.44	12.6	1009.28	5.9
1006.02	2.2	1007.46	12.3	1009.30	5.6
1006.04	2.1	1007.48	11.8	1009.32	5.7
1006.06	2.1	1007.50	11.6	1009.34	5.6
1006.08	2.2	1007.52	11.4	1009.36	5.5
1006.10	2.3	1007.54	11.4	1009.38	5.4
1006.12	2.4	1007.56	11.3	1009.40	5.3
1006.14	2.5	1007.58	10.9	1009.42	5.2
1006.16	2.5	1008.00	10.7	1009.44	5.1
1006.18	2.6	1008.02	10.5	1009.46	5
1006.20	2.7	1008.04	10.1	1009.48	5
1006.22	2.8	1008.06	10	1009.50	4.9
1006.24	2.8	1008.08	9.7	1009.52	4.8
1006.26	2.9	1008.10	9.7	1009.54	4.7
1006.28	3.3	1008.12	9.7	1009.56	4.7
1006.30	4	1008.14	9.5	1009.58	4.6
1006.32	3.4	1008.16	9.1	1010.00	4.8
1006.34	3.2	1008.18	9	1010.02	4.7
1006.36	3.4	1008.20	8.9	1010.04	4.6
1006.38	3.5	1008.22	8.6	1010.06	4.6
1006.40	3.6	1008.24	8.4	1010.08	4.5
1006.42	3.7	1008.26	8.3	1010.10	4.5
1006.44	3.7	1008.28	8.1	1010.12	4.4
1006.46	3.7	1008.30	8	1010.14	4.4
1006.48	3.7	1008.32	8.2	1010.16	4.3
1006.50	3.7	1008.34	8.2	1010.18	4.2
1006.52	3.8	1008.36	8.1	1010.20	4.2
1006.54	3.7	1008.38	8.3	1010.22	4.1
1006.56	3.7	1008.40	9	1010.24	4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1010.26	4	1012.10	2.2	1013.54	1.7
1010.28	4	1012.12	2.2	1013.56	1.7
1010.30	4	1012.14	2.2	1013.58	1.7
1010.32	4	1012.16	2.2	1014.00	1.7
1010.34	4	1012.18	2.1	1014.02	1.7
1010.36	4	1012.20	2.1	1014.04	1.7
1010.38	3.9	1012.22	2.1	1014.06	1.7
1010.40	3.9	1012.24	2.1	1014.08	1.7
1010.42	3.8	1012.26	2.1	1014.10	1.7
1010.44	3.8	1012.28	2.1	1014.12	1.7
1010.46	3.7	1012.30	2.1	1014.14	1.7
1010.48	3.6	1012.32	2.1	1014.16	1.7
1010.50	3.6	1012.34	2	1014.18	1.7
1010.52	3.5	1012.36	2	1014.20	1.6
1010.54	3.4	1012.38	2	1014.22	1.6
1010.56	3.4	1012.40	2	1014.24	1.6
1010.58	3.3	1012.42	2	1014.26	1.6
1011.00	3.3	1012.44	2	1014.28	1.6
1011.02	3.2	1012.46	2	1014.30	1.6
1011.04	3.1	1012.48	1.9	1014.32	1.6
1011.06	3.1	1012.50	1.9	1014.34	1.6
1011.08	3.1	1012.52	1.9	1014.36	1.6
1011.10	3	1012.54	1.9	1014.38	1.6
1011.12	2.9	1012.56	1.9	1014.40	1.6
1011.14	2.9	1012.58	1.9	1014.42	1.6
1011.16	2.9	1013.00	1.9	1014.44	1.6
1011.18	2.8	1013.02	1.9	1014.46	1.6
1011.20	2.8	1013.04	1.9	1014.48	1.6
1011.22	2.8	1013.06	1.9	1014.50	1.6
1011.24	2.8	1013.08	1.9	1014.52	1.6
1011.26	2.7	1013.10	1.9	1014.54	1.6
1011.28	2.8	1013.12	1.9	1014.56	1.5
1011.30	2.7	1013.14	1.9	1014.58	1.5
1011.32	2.6	1013.16	1.8	1015.00	1.5
1011.34	2.6	1013.18	1.8	1015.02	1.5
1011.36	2.6	1013.20	1.8	1015.04	1.5
1011.38	2.5	1013.22	1.8	1015.06	1.5
1011.40	2.5	1013.24	1.8	1015.08	1.5
1011.42	2.5	1013.26	1.8	1015.10	1.5
1011.44	2.5	1013.28	1.8	1015.12	1.5
1011.46	2.4	1013.30	1.8	1015.14	1.5
1011.48	2.4	1013.32	1.8	1015.16	1.5
1011.50	2.4	1013.34	1.8	1015.18	1.5
1011.52	2.4	1013.36	1.8	1015.20	1.5
1011.54	2.4	1013.38	1.8	1015.22	1.5
1011.56	2.3	1013.40	1.8	1015.24	1.5
1011.58	2.3	1013.42	1.8	1015.26	1.5
1012.00	2.3	1013.44	1.7	1015.28	1.5
1012.02	2.3	1013.46	1.7	1015.30	1.5
1012.04	2.2	1013.48	1.7	1015.32	1.5
1012.06	2.2	1013.50	C-9 1.7	1015.34	1.5
1012.08	2.2	1013.52	1.7	1015.36	1.5



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1015.38	1.5	1017.22	1.3	1019.06	1.3
1015.40	1.5	1017.24	1.4	1019.08	1.2
1015.42	1.5	1017.26	1.3	1019.10	1.3
1015.44	1.5	1017.28	1.3	1019.12	1.3
1015.46	1.5	1017.30	1.3	1019.14	1.3
1015.48	1.5	1017.32	1.3	1019.16	1.3
1015.50	1.5	1017.34	1.3	1019.18	1.3
1015.52	1.4	1017.36	1.3	1019.20	1.2
1015.54	1.4	1017.38	1.3	1019.22	1.3
1015.56	1.4	1017.40	1.3	1019.24	1.3
1015.58	1.4	1017.42	1.3	1019.26	1.3
1016.00	1.4	1017.44	1.3	1019.28	1.3
1016.02	1.4	1017.46	1.3	1019.30	1.2
1016.04	1.4	1017.48	1.3	1019.32	1.2
1016.06	1.4	1017.50	1.3	1019.34	1.3
1016.08	1.4	1017.52	1.3	1019.36	1.3
1016.10	1.4	1017.54	1.3	1019.38	1.2
1016.12	1.4	1017.56	1.3	1019.40	1.2
1016.14	1.4	1017.58	1.3	1019.42	1.2
1016.16	1.4	1018.00	1.3	1019.44	1.2
1016.18	1.4	1018.02	1.3	1019.46	1.2
1016.20	1.4	1018.04	1.3	1019.48	1.2
1016.22	1.4	1018.06	1.3	1019.50	1.2
1016.24	1.4	1018.08	1.3	1019.52	1.2
1016.26	1.4	1018.10	1.3	1019.54	1.2
1016.28	1.4	1018.12	1.3	1019.56	1.2
1016.30	1.4	1018.14	1.3	1019.58	1.2
1016.32	1.4	1018.16	1.3	1020.00	1.2
1016.34	1.4	1018.18	1.3	1020.02	1.2
1016.36	1.4	1018.20	1.3	1020.04	1.2
1016.38	1.4	1018.22	1.3	1020.06	1.2
1016.40	1.4	1018.24	1.3	1020.08	1.2
1016.42	1.4	1018.26	1.3	1020.10	1.2
1016.44	1.4	1018.28	1.3	1020.12	1.2
1016.46	1.4	1018.30	1.3	1020.14	1.2
1016.48	1.4	1018.32	1.3	1020.16	1.2
1016.50	1.4	1018.34	1.3	1020.18	1.2
1016.52	1.4	1018.36	1.3	1020.20	1.2
1016.54	1.4	1018.38	1.3	1020.22	1.2
1016.56	1.4	1018.40	1.3	1020.24	1.2
1016.58	1.4	1018.42	1.3	1020.26	1.2
1017.00	1.4	1018.44	1.3	1020.28	1.2
1017.02	1.4	1018.46	1.3	1020.30	1.2
1017.04	1.4	1018.48	1.3	1020.32	1.2
1017.06	1.4	1018.50	1.3	1020.34	1.2
1017.08	1.4	1018.52	1.3	1020.36	1.2
1017.10	1.4	1018.54	1.3	1020.38	1.2
1017.12	1.4	1018.56	1.3	1020.40	1.2
1017.14	1.4	1018.58	1.3	1020.42	1.2
1017.16	1.4	1019.00	1.3	1020.44	1.2
1017.18	1.4	1019.02 C-10	1.3	1020.46	1.2
1017.20	1.4	1019.04	1.3	1020.48	1.2



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1020.50	1.2	1022.34	1.1	1024.18	2.7
1020.52	1.2	1022.36	1.1	1024.20	2.4
1020.54	1.2	1022.38	1.1	1024.22	2.8
1020.56	1.2	1022.40	1.1	1024.24	2.9
1020.58	1.2	1022.42	1.1	1024.26	3.2
1021.00	1.2	1022.44	1.1	1024.28	3.1
1021.02	1.2	1022.46	1.1	1024.30	3.1
1021.04	1.2	1022.48	1.1	1024.32	3.1
1021.06	1.2	1022.50	1.1	1024.34	3.1
1021.08	1.2	1022.52	1.1	1024.36	3.2
1021.10	1.2	1022.54	1.1	1024.38	3.3
1021.12	1.2	1022.56	1.1	1024.40	3.5
1021.14	1.2	1022.58	1.1	1024.42	3.6
1021.16	1.2	1023.00	1.1	1024.44	3.7
1021.18	1.2	1023.02	1.1	1024.46	3.8
1021.20	1.2	1023.04	1.1	1024.48	3.9
1021.22	1.2	1023.06	1.1	1024.50	3.8
1021.24	1.2	1023.08	1.2	1024.52	4
1021.26	1.2	1023.10	1.3	1024.54	4.2
1021.28	1.2	1023.12	1.4	1024.56	4.2
1021.30	1.2	1023.14	1.4	1024.58	4.2
1021.32	1.2	1023.16	1.3	1025.00	8.2
1021.34	1.2	1023.18	1.3	1025.02	26.1
1021.36	1.2	1023.20	1.3	1025.04	27.9
1021.38	1.1	1023.22	1.2	1025.06	28.5
1021.40	1.1	1023.24	1.2	1025.08	21.7
1021.42	1.2	1023.26	1.2	1025.10	19.8
1021.44	1.2	1023.28	1.2	1025.12	19.6
1021.46	1.2	1023.30	1.2	1025.14	19.2
1021.48	1.2	1023.32	1.2	1025.16	19.1
1021.50	1.1	1023.34	1.2	1025.18	18.7
1021.52	1.2	1023.36	1.1	1025.20	17.4
1021.54	1.1	1023.38	1.2	1025.22	17.2
1021.56	1.2	1023.40	1.1	1025.24	16.5
1021.58	1.2	1023.42	1.2	1025.26	16.4
1022.00	1.1	1023.44	1.1	1025.28	15.6
1022.02	1.1	1023.46	1.2	1025.30	14.8
1022.04	1.1	1023.48	1.2	1025.32	14.7
1022.06	1.1	1023.50	1.3	1025.34	14.2
1022.08	1.1	1023.52	1.4	1025.36	13.8
1022.10	1.1	1023.54	1.5	1025.38	13.4
1022.12	1.2	1023.56	1.5	1025.40	13.2
1022.14	1.1	1023.58	1.6	1025.42	13.2
1022.16	1.1	1024.00	1.8	1025.44	12.7
1022.18	1.1	1024.02	1.8	1025.46	12.2
1022.20	1.1	1024.04	2	1025.48	11.6
1022.22	1.1	1024.06	2	1025.50	11.6
1022.24	1.1	1024.08	2	1025.52	11.4
1022.26	1.1	1024.10	2	1025.54	11
1022.28	1.1	1024.12	2.1	1025.56	10.6
1022.30	1.1	1024.14 C-11	2.4	1025.58	10.2
1022.32	1.1	1024.16	3	1026.00	9.9



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1026.02	9.7	1027.46	5.3	1029.30	3
1026.04	9.9	1027.48	5.3	1029.32	3
1026.06	9.8	1027.50	5	1029.34	2.9
1026.08	9.6	1027.52	4.7	1029.36	3
1026.10	9.4	1027.54	4.6	1029.38	2.9
1026.12	9.1	1027.56	4.6	1029.40	2.8
1026.14	9.2	1027.58	4.5	1029.42	2.8
1026.16	9	1028.00	4.4	1029.44	2.8
1026.18	8.9	1028.02	4.3	1029.46	2.8
1026.20	8.7	1028.04	4.3	1029.48	2.7
1026.22	8.5	1028.06	4.3	1029.50	2.7
1026.24	8.4	1028.08	4.5	1029.52	2.6
1026.26	8.2	1028.10	4.4	1029.54	2.6
1026.28	8.4	1028.12	4.3	1029.56	2.6
1026.30	8.9	1028.14	4.1	1029.58	2.5
1026.32	9.1	1028.16	4.1	1030.00	2.5
1026.34	9.1	1028.18	4.1	1030.02	2.5
1026.36	9.1	1028.20	4.1	1030.04	2.5
1026.38	9.6	1028.22	4.1	1030.06	2.4
1026.40	9.4	1028.24	4.1	1030.08	2.4
1026.42	9.3	1028.26	4.1	1030.10	2.4
1026.44	9.5	1028.28	3.9	1030.12	2.3
1026.46	9.8	1028.30	3.9	1030.14	2.3
1026.48	9.9	1028.32	3.9	1030.16	2.3
1026.50	9.4	1028.34	3.8	1030.18	2.3
1026.52	9.2	1028.36	3.8	1030.20	2.3
1026.54	8.4	1028.38	3.7	1030.22	2.3
1026.56	7.7	1028.40	3.7	1030.24	2.2
1026.58	7.4	1028.42	3.7	1030.26	2.2
1027.00	7.1	1028.44	3.7	1030.28	2.2
1027.02	6.8	1028.46	3.6	1030.30	2.2
1027.04	6.7	1028.48	3.5	1030.32	2.1
1027.06	6.6	1028.50	3.5	1030.34	2.1
1027.08	6.4	1028.52	3.5	1030.36	2.1
1027.10	6.2	1028.54	3.4	1030.38	2.1
1027.12	6.1	1028.56	3.4	1030.40	2
1027.14	6.1	1028.58	3.5	1030.42	2
1027.16	6	1029.00	3.5	1030.44	2
1027.18	5.9	1029.02	3.4	1030.46	2
1027.20	5.8	1029.04	3.4	1030.48	2
1027.22	5.7	1029.06	3.3	1030.50	2
1027.24	5.5	1029.08	3.3	1030.52	2
1027.26	5.3	1029.10	3.3	1030.54	2
1027.28	5.2	1029.12	3.3	1030.56	2
1027.30	5.1	1029.14	3.2	1030.58	1.9
1027.32	5.1	1029.16	3.2	1031.00	1.9
1027.34	5.2	1029.18	3.1	1031.02	1.9
1027.36	5.4	1029.20	3.1	1031.04	1.9
1027.38	5.4	1029.22	3.1	1031.06	1.9
1027.40	5.4	1029.24	3.1	1031.08	1.9
1027.42	5.5	1029.26	3.1	1031.10	1.8
1027.44	5.4	1029.28	3	1031.12	1.8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1031.14	1.8	1032.58	1.5	1034.42	1.5
1031.16	1.8	1033.00	1.5	1034.44	1.4
1031.18	1.8	1033.02	1.5	1034.46	1.5
1031.20	1.8	1033.04	1.5	1034.48	1.4
1031.22	1.8	1033.06	1.5	1034.50	1.4
1031.24	1.7	1033.08	1.5	1034.52	1.5
1031.26	1.7	1033.10	1.5	1034.54	1.5
1031.28	1.7	1033.12	1.5	1034.56	1.5
1031.30	1.7	1033.14	1.5	1034.58	1.4
1031.32	1.7	1033.16	1.5	1035.00	1.4
1031.34	1.7	1033.18	1.5	1035.02	1.4
1031.36	1.7	1033.20	1.5	1035.04	1.4
1031.38	1.7	1033.22	1.5	1035.06	1.4
1031.40	1.7	1033.24	1.5	1035.08	1.4
1031.42	1.7	1033.26	1.5	1035.10	1.4
1031.44	1.7	1033.28	1.5	1035.12	1.4
1031.46	1.7	1033.30	1.5	1035.14	1.4
1031.48	1.7	1033.32	1.5	1035.16	1.4
1031.50	1.7	1033.34	1.5	1035.18	1.4
1031.52	1.6	1033.36	1.5	1035.20	1.4
1031.54	1.7	1033.38	1.4	1035.22	1.4
1031.56	1.6	1033.40	1.5	1035.24	1.4
1031.58	1.6	1033.42	1.4	1035.26	1.4
1032.00	1.6	1033.44	1.4	1035.28	1.4
1032.02	1.6	1033.46	1.4	1035.30	1.5
1032.04	1.6	1033.48	1.4	1035.32	1.5
1032.06	1.6	1033.50	1.4	1035.34	1.5
1032.08	1.6	1033.52	1.4	1035.36	1.6
1032.10	1.6	1033.54	1.4	1035.38	1.8
1032.12	1.6	1033.56	1.4	1035.40	1.9
1032.14	1.6	1033.58	1.4	1035.42	2
1032.16	1.6	1034.00	1.4	1035.44	2.1
1032.18	1.6	1034.02	1.4	1035.46	2.2
1032.20	1.6	1034.04	1.4	1035.48	2.2
1032.22	1.6	1034.06	1.4	1035.50	2.2
1032.24	1.6	1034.08	1.4	1035.52	2.3
1032.26	1.6	1034.10	1.4	1035.54	2.4
1032.28	1.6	1034.12	1.4	1035.56	2.5
1032.30	1.6	1034.14	1.4	1035.58	2.5
1032.32	1.5	1034.16	1.4	1036.00	2.7
1032.34	1.5	1034.18	1.5	1036.02	3.4
1032.36	1.5	1034.20	1.4	1036.04	3.3
1032.38	1.5	1034.22	1.4	1036.06	2.9
1032.40	1.6	1034.24	1.4	1036.08	3.2
1032.42	1.5	1034.26	1.4	1036.10	3.3
1032.44	1.5	1034.28	1.4	1036.12	3.5
1032.46	1.5	1034.30	1.5	1036.14	3.5
1032.48	1.5	1034.32	1.4	1036.16	3.4
1032.50	1.5	1034.34	1.4	1036.18	3.5
1032.52	1.5	1034.36	1.4	1036.20	3.6
1032.54	1.5	1034.38	1.4	1036.22	3.6
1032.56	1.5	1034.40	1.5	1036.24	3.5

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1036.26	3.5	1038.10	7.6	1039.54	4.3
1036.28	3.6	1038.12	7.6	1039.56	4.2
1036.30	3.8	1038.14	7.7	1039.58	4.2
1036.32	3.9	1038.16	7.6	1040.00	4.1
1036.34	4	1038.18	7.3	1040.02	4.2
1036.36	4	1038.20	7.1	1040.04	4.2
1036.38	4.3	1038.22	7.2	1040.06	4.1
1036.40	4.6	1038.24	7.3	1040.08	4
1036.42	5.4	1038.26	7.2	1040.10	4
1036.44	24.8	1038.28	7.2	1040.12	3.9
1036.46	28	1038.30	7.7	1040.14	4
1036.48	33.5	1038.32	8.1	1040.16	3.9
1036.50	26.6	1038.34	8.5	1040.18	3.9
1036.52	22.9	1038.36	8.7	1040.20	3.8
1036.54	20	1038.38	8.7	1040.22	3.7
1036.56	18.2	1038.40	8.5	1040.24	3.7
1036.58	17.8	1038.42	8.6	1040.26	3.7
1037.00	17.8	1038.44	9.3	1040.28	3.7
1037.02	18.2	1038.46	9.1	1040.30	3.7
1037.04	18.4	1038.48	8.1	1040.32	3.7
1037.06	17	1038.50	7.4	1040.34	3.6
1037.08	16.3	1038.52	7	1040.36	3.5
1037.10	15.5	1038.54	6.7	1040.38	3.4
1037.12	14.8	1038.56	6.5	1040.40	3.5
1037.14	14.4	1038.58	6.3	1040.42	3.5
1037.16	14.8	1039.00	6.1	1040.44	3.5
1037.18	14.3	1039.02	6.1	1040.46	3.4
1037.20	13.5	1039.04	6.1	1040.48	3.4
1037.22	13	1039.06	6	1040.50	3.4
1037.24	12.9	1039.08	5.8	1040.52	3.3
1037.26	12.6	1039.10	5.7	1040.54	3.3
1037.28	12.1	1039.12	5.8	1040.56	3.3
1037.30	11.6	1039.14	5.9	1040.58	3.4
1037.32	11.5	1039.16	5.8	1041.00	3.3
1037.34	11.1	1039.18	5.8	1041.02	3.2
1037.36	11.1	1039.20	5.6	1041.04	3.3
1037.38	10.6	1039.22	5.5	1041.06	3.2
1037.40	10.3	1039.24	5.3	1041.08	3.1
1037.42	10	1039.26	5.2	1041.10	3.1
1037.44	9.8	1039.28	5.2	1041.12	3.1
1037.46	9.7	1039.30	5.2	1041.14	3
1037.48	9.7	1039.32	5	1041.16	3
1037.50	9.3	1039.34	4.9	1041.18	3
1037.52	8.9	1039.36	4.9	1041.20	2.9
1037.54	8.7	1039.38	4.9	1041.22	2.9
1037.56	8.7	1039.40	4.8	1041.24	2.8
1037.58	8.6	1039.42	4.7	1041.26	2.8
1038.00	8.3	1039.44	4.5	1041.28	2.7
1038.02	8.2	1039.46	4.3	1041.30	2.7
1038.04	8.1	1039.48	4.2	1041.32	2.7
1038.06	8.1	1039.50	4.2	1041.34	2.6
1038.08	7.9	1039.52	4.2	1041.36	2.6

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1041.38	2.5	1043.22	1.8	1045.06	1.5
1041.40	2.5	1043.24	1.8	1045.08	1.5
1041.42	2.5	1043.26	1.8	1045.10	1.5
1041.44	2.5	1043.28	1.7	1045.12	1.5
1041.46	2.5	1043.30	1.8	1045.14	1.5
1041.48	2.5	1043.32	1.7	1045.16	1.5
1041.50	2.4	1043.34	1.7	1045.18	1.5
1041.52	2.4	1043.36	1.7	1045.20	1.5
1041.54	2.4	1043.38	1.7	1045.22	1.5
1041.56	2.3	1043.40	1.7	1045.24	1.5
1041.58	2.3	1043.42	1.7	1045.26	1.5
1042.00	2.3	1043.44	1.7	1045.28	1.5
1042.02	2.3	1043.46	1.7	1045.30	1.5
1042.04	2.2	1043.48	1.7	1045.32	1.5
1042.06	2.2	1043.50	1.7	1045.34	1.5
1042.08	2.2	1043.52	1.7	1045.36	1.5
1042.10	2.2	1043.54	1.7	1045.38	1.5
1042.12	2.2	1043.56	1.7	1045.40	1.5
1042.14	2.1	1043.58	1.7	1045.42	1.5
1042.16	2.1	1044.00	1.7	1045.44	1.5
1042.18	2.1	1044.02	1.6	1045.46	1.5
1042.20	2.1	1044.04	1.7	1045.48	1.5
1042.22	2.1	1044.06	1.6	1045.50	1.5
1042.24	2.1	1044.08	1.6	1045.52	1.5
1042.26	2	1044.10	1.6	1045.54	1.5
1042.28	2	1044.12	1.6	1045.56	1.5
1042.30	2	1044.14	1.6	1045.58	1.5
1042.32	2	1044.16	1.6	1046.00	1.5
1042.34	2	1044.18	1.6	1046.02	1.5
1042.36	2	1044.20	1.6	1046.04	1.5
1042.38	2	1044.22	1.6	1046.06	1.5
1042.40	2	1044.24	1.6	1046.08	1.5
1042.42	1.9	1044.26	1.6	1046.10	1.5
1042.44	1.9	1044.28	1.6	1046.12	1.4
1042.46	1.9	1044.30	1.6	1046.14	1.5
1042.48	1.9	1044.32	1.6	1046.16	1.5
1042.50	1.9	1044.34	1.6	1046.18	1.4
1042.52	1.9	1044.36	1.6	1046.20	1.4
1042.54	1.9	1044.38	1.6	1046.22	1.4
1042.56	1.9	1044.40	1.6	1046.24	1.4
1042.58	1.9	1044.42	1.6	1046.26	1.4
1043.00	1.8	1044.44	1.6	1046.28	1.4
1043.02	1.8	1044.46	1.6	1046.30	1.4
1043.04	1.8	1044.48	1.5	1046.32	1.4
1043.06	1.8	1044.50	1.6	1046.34	1.4
1043.08	1.8	1044.52	1.6	1046.36	1.4
1043.10	1.8	1044.54	1.5	1046.38	1.4
1043.12	1.8	1044.56	1.5	1046.40	1.4
1043.14	1.8	1044.58	1.5	1046.42	1.4
1043.16	1.8	1045.00	1.5	1046.44	1.4
1043.18	1.8	1045.02	1.5	1046.46	1.4
1043.20	1.8	1045.04	1.5	1046.48	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1046.50	1.4	1048.34	1.3	1050.18	2.5
1046.52	1.4	1048.36	1.3	1050.20	2.5
1046.54	1.4	1048.38	1.3	1050.22	2.5
1046.56	1.4	1048.40	1.3	1050.24	2.8
1046.58	1.4	1048.42	1.3	1050.26	3.4
1047.00	1.4	1048.44	1.3	1050.28	3.1
1047.02	1.4	1048.46	1.3	1050.30	2.8
1047.04	1.4	1048.48	1.3	1050.32	3.2
1047.06	1.4	1048.50	1.3	1050.34	3.3
1047.08	1.4	1048.52	1.3	1050.36	3.5
1047.10	1.4	1048.54	1.3	1050.38	3.4
1047.12	1.4	1048.56	1.4	1050.40	3.3
1047.14	1.4	1048.58	1.3	1050.42	3.4
1047.16	1.4	1049.00	1.3	1050.44	3.5
1047.18	1.4	1049.02	1.3	1050.46	3.5
1047.20	1.4	1049.04	1.3	1050.48	3.6
1047.22	1.4	1049.06	1.3	1050.50	3.6
1047.24	1.4	1049.08	1.3	1050.52	3.7
1047.26	1.4	1049.10	1.3	1050.54	3.8
1047.28	1.4	1049.12	1.3	1050.56	3.8
1047.30	1.4	1049.14	1.3	1050.58	3.9
1047.32	1.4	1049.16	1.3	1051.00	3.9
1047.34	1.4	1049.18	1.3	1051.02	4.1
1047.36	1.4	1049.20	1.3	1051.04	4.3
1047.38	1.4	1049.22	1.3	1051.06	5.2
1047.40	1.4	1049.24	1.3	1051.08	22.1
1047.42	1.4	1049.26	1.4	1051.10	25.9
1047.44	1.4	1049.28	1.3	1051.12	29.2
1047.46	1.4	1049.30	1.3	1051.14	24.8
1047.48	1.4	1049.32	1.3	1051.16	20.3
1047.50	1.4	1049.34	1.3	1051.18	18.2
1047.52	1.4	1049.36	1.3	1051.20	16.7
1047.54	1.4	1049.38	1.3	1051.22	15.7
1047.56	1.4	1049.40	1.3	1051.24	15.5
1047.58	1.4	1049.42	1.3	1051.26	15.2
1048.00	1.4	1049.44	1.4	1051.28	14.9
1048.02	1.4	1049.46	1.4	1051.30	14.2
1048.04	1.4	1049.48	1.4	1051.32	13.7
1048.06	1.4	1049.50	1.4	1051.34	13.5
1048.08	1.4	1049.52	1.4	1051.36	13.6
1048.10	1.4	1049.54	1.4	1051.38	12.4
1048.12	1.4	1049.56	1.5	1051.40	12.7
1048.14	1.4	1049.58	1.5	1051.42	12.2
1048.16	1.4	1050.00	1.6	1051.44	11.8
1048.18	1.4	1050.02	1.7	1051.46	11.4
1048.20	1.4	1050.04	1.9	1051.48	11.5
1048.22	1.3	1050.06	2	1051.50	11.3
1048.24	1.3	1050.08	2	1051.52	10.9
1048.26	1.3	1050.10	2.1	1051.54	10.5
1048.28	1.3	1050.12	2.4	1051.56	10.6
1048.30	1.3	1050.14	2.4	1051.58	10.2
1048.32	1.3	1050.16	2.5	1052.00	10

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1052.02	10	1053.46	4.8	1055.30	3.3
1052.04	10	1053.48	4.7	1055.32	3.3
1052.06	9.4	1053.50	4.6	1055.34	3.2
1052.08	9	1053.52	4.7	1055.36	3.2
1052.10	9.2	1053.54	4.8	1055.38	3.2
1052.12	9.1	1053.56	4.9	1055.40	3.2
1052.14	8.9	1053.58	4.9	1055.42	3.1
1052.16	8.8	1054.00	4.9	1055.44	3.1
1052.18	8.4	1054.02	4.9	1055.46	3
1052.20	8.4	1054.04	4.9	1055.48	3
1052.22	8.3	1054.06	5.2	1055.50	3
1052.24	7.9	1054.08	5.1	1055.52	2.9
1052.26	7.8	1054.10	4.9	1055.54	2.8
1052.28	7.7	1054.12	4.7	1055.56	2.8
1052.30	7.7	1054.14	4.5	1055.58	2.8
1052.32	7.8	1054.16	4.5	1056.00	2.8
1052.34	7.5	1054.18	4.4	1056.02	2.8
1052.36	7.5	1054.20	4.4	1056.04	2.7
1052.38	7.5	1054.22	4.4	1056.06	2.7
1052.40	7.5	1054.24	4.4	1056.08	2.6
1052.42	7.3	1054.26	4.3	1056.10	2.6
1052.44	7.9	1054.28	4.3	1056.12	2.6
1052.46	8.2	1054.30	4.3	1056.14	2.6
1052.48	8.6	1054.32	4.3	1056.16	2.5
1052.50	9.2	1054.34	4.2	1056.18	2.5
1052.52	9.1	1054.36	4.2	1056.20	2.5
1052.54	9.3	1054.38	4.1	1056.22	2.4
1052.56	9.4	1054.40	4.1	1056.24	2.4
1052.58	9.3	1054.42	4	1056.26	2.4
1053.00	8.8	1054.44	4	1056.28	2.4
1053.02	8.7	1054.46	4.1	1056.30	2.3
1053.04	8.6	1054.48	4	1056.32	2.3
1053.06	8.2	1054.50	4	1056.34	2.3
1053.08	8.2	1054.52	3.9	1056.36	2.3
1053.10	8	1054.54	3.9	1056.38	2.3
1053.12	8.1	1054.56	3.9	1056.40	2.3
1053.14	7.4	1054.58	3.9	1056.42	2.3
1053.16	6.9	1055.00	3.8	1056.44	2.3
1053.18	6.5	1055.02	3.8	1056.46	2.2
1053.20	6.3	1055.04	3.8	1056.48	2.2
1053.22	6.3	1055.06	3.7	1056.50	2.2
1053.24	6.2	1055.08	3.7	1056.52	2.1
1053.26	6	1055.10	3.7	1056.54	2.1
1053.28	6.1	1055.12	3.7	1056.56	2.1
1053.30	6	1055.14	3.7	1056.58	2
1053.32	5.8	1055.16	3.6	1057.00	2
1053.34	5.7	1055.18	3.5	1057.02	2
1053.36	5.5	1055.20	3.5	1057.04	2
1053.38	5.5	1055.22	3.5	1057.06	2
1053.40	5.3	1055.24	3.4	1057.08	2
1053.42	5.2	1055.26	3.4	1057.10	2
1053.44	5	1055.28	3.3	1057.12	2

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1057.14	2	1058.58	1.6	1100.42	1.5
1057.16	1.9	1059.00	1.6	1100.44	1.5
1057.18	1.9	1059.02	1.6	1100.46	1.5
1057.20	1.9	1059.04	1.6	1100.48	1.5
1057.22	1.9	1059.06	1.6	1100.50	1.5
1057.24	1.9	1059.08	1.6	1100.52	1.5
1057.26	1.9	1059.10	1.6	1100.54	1.5
1057.28	1.9	1059.12	1.6	1100.56	1.5
1057.30	1.9	1059.14	1.6	1100.58	1.5
1057.32	1.9	1059.16	1.6	1101.00	1.5
1057.34	1.9	1059.18	1.6	1101.02	1.5
1057.36	1.8	1059.20	1.6	1101.04	1.4
1057.38	1.8	1059.22	1.6	1101.06	1.4
1057.40	1.8	1059.24	1.6	1101.08	1.5
1057.42	1.8	1059.26	1.5	1101.10	1.5
1057.44	1.8	1059.28	1.6	1101.12	1.4
1057.46	1.8	1059.30	1.6	1101.14	1.5
1057.48	1.8	1059.32	1.6	1101.16	1.5
1057.50	1.8	1059.34	1.6	1101.18	1.4
1057.52	1.8	1059.36	1.6	1101.20	1.5
1057.54	1.8	1059.38	1.6	1101.22	1.5
1057.56	1.7	1059.40	1.5	1101.24	1.4
1057.58	1.7	1059.42	1.5	1101.26	1.5
1058.00	1.7	1059.44	1.5	1101.28	1.5
1058.02	1.7	1059.46	1.5	1101.30	1.4
1058.04	1.7	1059.48	1.5	1101.32	1.5
1058.06	1.7	1059.50	1.5	1101.34	1.4
1058.08	1.7	1059.52	1.5	1101.36	1.4
1058.10	1.7	1059.54	1.5	1101.38	1.4
1058.12	1.7	1059.56	1.6	1101.40	1.4
1058.14	1.7	1059.58	1.5	1101.42	1.4
1058.16	1.7	1100.00	1.5	1101.44	1.4
1058.18	1.7	1100.02	1.5	1101.46	1.4
1058.20	1.7	1100.04	1.5	1101.48	1.4
1058.22	1.7	1100.06	1.5	1101.50	1.4
1058.24	1.7	1100.08	1.5	1101.52	1.4
1058.26	1.7	1100.10	1.5	1101.54	1.4
1058.28	1.7	1100.12	1.5	1101.56	1.4
1058.30	1.6	1100.14	1.5	1101.58	1.4
1058.32	1.7	1100.16	1.5	1102.00	1.4
1058.34	1.6	1100.18	1.5	1102.02	1.4
1058.36	1.6	1100.20	1.5	1102.04	1.4
1058.38	1.6	1100.22	1.5	1102.06	1.4
1058.40	1.6	1100.24	1.5	1102.08	1.4
1058.42	1.6	1100.26	1.5	1102.10	1.4
1058.44	1.7	1100.28	1.5	1102.12	1.4
1058.46	1.6	1100.30	1.5	1102.14	1.4
1058.48	1.6	1100.32	1.5	1102.16	1.4
1058.50	1.6	1100.34	1.5	1102.18	1.4
1058.52	1.6	1100.36	1.5	1102.20	1.4
1058.54	1.6	1100.38	1.5	1102.22	1.4
1058.56	1.6	1100.40C - 18	1.5	1102.24	1.4



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1102.26	1.4	1104.10	1.3	1105.54	3.5
1102.28	1.4	1104.12	1.3	1105.56	3.6
1102.30	1.4	1104.14	1.3	1105.58	3.7
1102.32	1.4	1104.16	1.3	1106.00	4
1102.34	1.4	1104.18	1.3	1106.02	9
1102.36	1.4	1104.20	1.3	1106.04	21
1102.38	1.4	1104.22	1.3	1106.06	24.2
1102.40	1.4	1104.24	1.4	1106.08	22.5
1102.42	1.4	1104.26	1.4	1106.10	19.5
1102.44	1.4	1104.28	1.3	1106.12	18.7
1102.46	1.4	1104.30	1.3	1106.14	18
1102.48	1.4	1104.32	1.3	1106.16	16.7
1102.50	1.4	1104.34	1.3	1106.18	16.3
1102.52	1.4	1104.36	1.3	1106.20	15.8
1102.54	1.4	1104.38	1.3	1106.22	15.2
1102.56	1.4	1104.40	1.3	1106.24	14.2
1102.58	1.4	1104.42	1.3	1106.26	13.4
1103.00	1.4	1104.44	1.3	1106.28	13.1
1103.02	1.4	1104.46	1.3	1106.30	12.9
1103.04	1.4	1104.48	1.2	1106.32	12.7
1103.06	1.4	1104.50	1.3	1106.34	12.2
1103.08	1.3	1104.52	1.3	1106.36	12.3
1103.10	1.4	1104.54	1.3	1106.38	11.8
1103.12	1.3	1104.56	1.4	1106.40	11.4
1103.14	1.3	1104.58	1.5	1106.42	11.1
1103.16	1.3	1105.00	1.5	1106.44	10.9
1103.18	1.3	1105.02	1.6	1106.46	10.3
1103.20	1.3	1105.04	1.6	1106.48	10
1103.22	1.3	1105.06	1.6	1106.50	9.9
1103.24	1.4	1105.08	1.7	1106.52	9.8
1103.26	1.3	1105.10	1.7	1106.54	9.5
1103.28	1.3	1105.12	1.7	1106.56	8.9
1103.30	1.3	1105.14	1.8	1106.58	8.8
1103.32	1.3	1105.16	1.9	1107.00	9.1
1103.34	1.3	1105.18	1.9	1107.02	9
1103.36	1.3	1105.20	2	1107.04	8.5
1103.38	1.3	1105.22	2	1107.06	8.4
1103.40	1.3	1105.24	2.1	1107.08	8.5
1103.42	1.3	1105.26	2.5	1107.10	8.4
1103.44	1.3	1105.28	2.6	1107.12	8.5
1103.46	1.3	1105.30	2.3	1107.14	8.6
1103.48	1.3	1105.32	2.4	1107.16	8.3
1103.50	1.3	1105.34	2.4	1107.18	7.9
1103.52	1.3	1105.36	2.7	1107.20	7.6
1103.54	1.3	1105.38	2.8	1107.22	7.4
1103.56	1.3	1105.40	2.8	1107.24	7.3
1103.58	1.3	1105.42	2.8	1107.26	7.2
1104.00	1.3	1105.44	2.9	1107.28	7.3
1104.02	1.3	1105.46	3	1107.30	7.1
1104.04	1.3	1105.48	3	1107.32	7.1
1104.06	1.3	1105.50	3.2	1107.34	6.9
1104.08	1.3	1105.52	3.3	1107.36	7

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1107.38	7.2	1109.22	4.2	1111.06	2.7
1107.40	7	1109.24	4.2	1111.08	2.7
1107.42	7.3	1109.26	4.2	1111.10	2.7
1107.44	7.5	1109.28	4.2	1111.12	2.6
1107.46	8.3	1109.30	4.2	1111.14	2.6
1107.48	8.7	1109.32	4.1	1111.16	2.5
1107.50	8.6	1109.34	4.1	1111.18	2.5
1107.52	8.4	1109.36	4	1111.20	2.5
1107.54	8.5	1109.38	3.9	1111.22	2.5
1107.56	8.4	1109.40	4	1111.24	2.5
1107.58	8.2	1109.42	3.9	1111.26	2.5
1108.00	8.3	1109.44	3.9	1111.28	2.5
1108.02	8.1	1109.46	3.9	1111.30	2.4
1108.04	7.8	1109.48	3.8	1111.32	2.4
1108.06	7.8	1109.50	3.7	1111.34	2.4
1108.08	7.6	1109.52	3.7	1111.36	2.4
1108.10	7.4	1109.54	3.7	1111.38	2.4
1108.12	7.3	1109.56	3.7	1111.40	2.3
1108.14	6.7	1109.58	3.7	1111.42	2.3
1108.16	6.6	1110.00	3.7	1111.44	2.3
1108.18	6.4	1110.02	3.7	1111.46	2.2
1108.20	5.9	1110.04	3.8	1111.48	2.2
1108.22	5.6	1110.06	3.7	1111.50	2.2
1108.24	5.6	1110.08	3.6	1111.52	2.2
1108.26	5.7	1110.10	3.5	1111.54	2.1
1108.28	5.9	1110.12	3.5	1111.56	2.1
1108.30	5.7	1110.14	3.5	1111.58	2.1
1108.32	5.5	1110.16	3.5	1112.00	2.1
1108.34	5.4	1110.18	3.5	1112.02	2.1
1108.36	5.3	1110.20	3.5	1112.04	2
1108.38	5.3	1110.22	3.5	1112.06	2.1
1108.40	5.1	1110.24	3.4	1112.08	2
1108.42	5.1	1110.26	3.5	1112.10	2
1108.44	5.1	1110.28	3.4	1112.12	2
1108.46	4.9	1110.30	3.4	1112.14	2
1108.48	4.8	1110.32	3.4	1112.16	2
1108.50	4.8	1110.34	3.3	1112.18	2
1108.52	4.7	1110.36	3.3	1112.20	2
1108.54	4.7	1110.38	3.3	1112.22	1.9
1108.56	4.6	1110.40	3.2	1112.24	1.9
1108.58	4.7	1110.42	3.2	1112.26	2
1109.00	4.7	1110.44	3.2	1112.28	2
1109.02	4.6	1110.46	3.2	1112.30	1.9
1109.04	4.7	1110.48	3.1	1112.32	1.9
1109.06	4.6	1110.50	3	1112.34	1.9
1109.08	4.5	1110.52	3	1112.36	1.9
1109.10	4.5	1110.54	3	1112.38	1.9
1109.12	4.4	1110.56	3	1112.40	1.9
1109.14	4.3	1110.58	2.9	1112.42	1.9
1109.16	4.2	1111.00	2.9	1112.44	1.9
1109.18	4.2	1111.02	2.9	1112.46	1.9
1109.20	4.1	1111.04	2.8	1112.48	1.8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1112.50	1.9	1114.34	1.6	1116.18	1.4
1112.52	1.8	1114.36	1.6	1116.20	1.4
1112.54	1.8	1114.38	1.6	1116.22	1.4
1112.56	1.8	1114.40	1.6	1116.24	1.5
1112.58	1.8	1114.42	1.6	1116.26	1.4
1113.00	1.8	1114.44	1.6	1116.28	1.5
1113.02	1.8	1114.46	1.6	1116.30	1.4
1113.04	1.8	1114.48	1.5	1116.32	1.4
1113.06	1.8	1114.50	1.6	1116.34	1.4
1113.08	1.8	1114.52	1.6	1116.36	1.4
1113.10	1.8	1114.54	1.5	1116.38	1.5
1113.12	1.8	1114.56	1.5	1116.40	1.4
1113.14	1.8	1114.58	1.5	1116.42	1.4
1113.16	1.8	1115.00	1.5	1116.44	1.4
1113.18	1.7	1115.02	1.5	1116.46	1.4
1113.20	1.8	1115.04	1.5	1116.48	1.4
1113.22	1.7	1115.06	1.5	1116.50	1.4
1113.24	1.7	1115.08	1.5	1116.52	1.4
1113.26	1.7	1115.10	1.5	1116.54	1.4
1113.28	1.7	1115.12	1.5	1116.56	1.4
1113.30	1.7	1115.14	1.5	1116.58	1.4
1113.32	1.7	1115.16	1.5	1117.00	1.4
1113.34	1.7	1115.18	1.5	1117.02	1.4
1113.36	1.7	1115.20	1.5	1117.04	1.4
1113.38	1.7	1115.22	1.5	1117.06	1.4
1113.40	1.7	1115.24	1.5	1117.08	1.4
1113.42	1.7	1115.26	1.5	1117.10	1.4
1113.44	1.7	1115.28	1.5	1117.12	1.4
1113.46	1.7	1115.30	1.5	1117.14	1.4
1113.48	1.7	1115.32	1.5	1117.16	1.4
1113.50	1.7	1115.34	1.5	1117.18	1.4
1113.52	1.7	1115.36	1.5	1117.20	1.4
1113.54	1.6	1115.38	1.5	1117.22	1.4
1113.56	1.6	1115.40	1.5	1117.24	1.4
1113.58	1.7	1115.42	1.5	1117.26	1.4
1114.00	1.6	1115.44	1.5	1117.28	1.4
1114.02	1.7	1115.46	1.5	1117.30	1.4
1114.04	1.6	1115.48	1.5	1117.32	1.4
1114.06	1.6	1115.50	1.5	1117.34	1.4
1114.08	1.6	1115.52	1.5	1117.36	1.4
1114.10	1.6	1115.54	1.5	1117.38	1.4
1114.12	1.6	1115.56	1.5	1117.40	1.4
1114.14	1.6	1115.58	1.5	1117.42	1.4
1114.16	1.6	1116.00	1.5	1117.44	1.4
1114.18	1.6	1116.02	1.5	1117.46	1.4
1114.20	1.6	1116.04	1.5	1117.48	1.4
1114.22	1.6	1116.06	1.5	1117.50	1.4
1114.24	1.6	1116.08	1.5	1117.52	1.4
1114.26	1.6	1116.10	1.5	1117.54	1.4
1114.28	1.6	1116.12	1.5	1117.56	1.4
1114.30	1.6	1116.14	1.5	1117.58	1.4
1114.32	1.6	1116.16	1.5	1118.00	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1118.02	1.4	1119.46	1.3	1121.30	14.9
1118.04	1.4	1119.48	1.3	1121.32	14.7
1118.06	1.4	1119.50	1.3	1121.34	14.1
1118.08	1.4	1119.52	1.3	1121.36	13.5
1118.10	1.4	1119.54	1.4	1121.38	13
1118.12	1.4	1119.56	1.4	1121.40	12.9
1118.14	1.4	1119.58	1.5	1121.42	13.1
1118.16	1.4	1120.00	1.6	1121.44	13.1
1118.18	1.4	1120.02	1.6	1121.46	12.7
1118.20	1.4	1120.04	1.7	1121.48	12
1118.22	1.4	1120.06	1.8	1121.50	11.6
1118.24	1.4	1120.08	1.8	1121.52	11.3
1118.26	1.4	1120.10	1.8	1121.54	11.3
1118.28	1.4	1120.12	1.9	1121.56	11.1
1118.30	1.3	1120.14	1.9	1121.58	10.9
1118.32	1.4	1120.16	2	1122.00	10.6
1118.34	1.3	1120.18	2.1	1122.02	10.5
1118.36	1.4	1120.20	2.3	1122.04	10.3
1118.38	1.4	1120.22	2.7	1122.06	10.1
1118.40	1.4	1120.24	2.7	1122.08	10.4
1118.42	1.3	1120.26	2.5	1122.10	10
1118.44	1.4	1120.28	2.7	1122.12	9.8
1118.46	1.3	1120.30	2.9	1122.14	9.7
1118.48	1.3	1120.32	3.2	1122.16	9.6
1118.50	1.3	1120.34	3.2	1122.18	9.5
1118.52	1.3	1120.36	3	1122.20	9.2
1118.54	1.3	1120.38	3	1122.22	8.9
1118.56	1.3	1120.40	3.1	1122.24	8.7
1118.58	1.3	1120.42	3.2	1122.26	8.8
1119.00	1.3	1120.44	3.3	1122.28	8.7
1119.02	1.3	1120.46	3.4	1122.30	8.6
1119.04	1.3	1120.48	3.6	1122.32	8.6
1119.06	1.3	1120.50	3.8	1122.34	8.3
1119.08	1.3	1120.52	4	1122.36	8.1
1119.10	1.3	1120.54	4.2	1122.38	8
1119.12	1.3	1120.56	4.3	1122.40	7.8
1119.14	1.3	1120.58	4.3	1122.42	7.7
1119.16	1.3	1121.00	4.3	1122.44	7.5
1119.18	1.3	1121.02	4.4	1122.46	7.3
1119.20	1.3	1121.04	17.9	1122.48	7.2
1119.22	1.4	1121.06	24.5	1122.50	7.3
1119.24	1.4	1121.08	24.5	1122.52	7.3
1119.26	1.3	1121.10	23	1122.54	7.1
1119.28	1.3	1121.12	19.3	1122.56	7
1119.30	1.3	1121.14	17.7	1122.58	6.8
1119.32	1.3	1121.16	18.2	1123.00	6.5
1119.34	1.3	1121.18	17.3	1123.02	6.4
1119.36	1.3	1121.20	16.4	1123.04	6.6
1119.38	1.3	1121.22	16	1123.06	6.8
1119.40	1.3	1121.24	16	1123.08	6.9
1119.42	1.3	1121.26	17.1	1123.10	7.5
1119.44	1.3	1121.28	16.3	1123.12	8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1123.14	7.9	1124.58	4.4	1126.42	2.5
1123.16	8.3	1125.00	4.3	1126.44	2.5
1123.18	8.7	1125.02	4.2	1126.46	2.4
1123.20	9.2	1125.04	4.2	1126.48	2.4
1123.22	9.6	1125.06	4	1126.50	2.4
1123.24	9.4	1125.08	4.1	1126.52	2.4
1123.26	9.4	1125.10	4	1126.54	2.3
1123.28	9.6	1125.12	4	1126.56	2.3
1123.30	9.2	1125.14	4	1126.58	2.3
1123.32	9	1125.16	3.9	1127.00	2.3
1123.34	9.3	1125.18	3.8	1127.02	2.3
1123.36	9	1125.20	3.8	1127.04	2.2
1123.38	8.3	1125.22	3.8	1127.06	2.2
1123.40	7.8	1125.24	3.9	1127.08	2.2
1123.42	7.6	1125.26	3.8	1127.10	2.2
1123.44	7.2	1125.28	3.7	1127.12	2.2
1123.46	6.9	1125.30	3.8	1127.14	2.2
1123.48	6.7	1125.32	3.7	1127.16	2.2
1123.50	6.4	1125.34	3.6	1127.18	2.2
1123.52	6.3	1125.36	3.6	1127.20	2.1
1123.54	6.3	1125.38	3.6	1127.22	2.1
1123.56	6.4	1125.40	3.5	1127.24	2.1
1123.58	6.2	1125.42	3.5	1127.26	2.1
1124.00	6.1	1125.44	3.5	1127.28	2.1
1124.02	6.1	1125.46	3.5	1127.30	2.1
1124.04	5.9	1125.48	3.4	1127.32	2
1124.06	5.8	1125.50	3.3	1127.34	2
1124.08	5.9	1125.52	3.3	1127.36	2
1124.10	5.8	1125.54	3.3	1127.38	2
1124.12	5.8	1125.56	3.4	1127.40	2
1124.14	5.6	1125.58	3.4	1127.42	2
1124.16	5.7	1126.00	3.3	1127.44	2
1124.18	5.6	1126.02	3.3	1127.46	2
1124.20	5.4	1126.04	3.3	1127.48	2
1124.22	5.5	1126.06	3.2	1127.50	2
1124.24	5.4	1126.08	3.2	1127.52	2
1124.26	5.3	1126.10	3.1	1127.54	2
1124.28	5.2	1126.12	3	1127.56	1.9
1124.30	5.2	1126.14	3	1127.58	1.9
1124.32	5.1	1126.16	2.9	1128.00	1.9
1124.34	4.9	1126.18	2.9	1128.02	1.9
1124.36	4.9	1126.20	2.8	1128.04	1.9
1124.38	4.9	1126.22	2.8	1128.06	1.9
1124.40	4.9	1126.24	2.8	1128.08	1.9
1124.42	4.8	1126.26	2.8	1128.10	1.9
1124.44	4.6	1126.28	2.7	1128.12	1.9
1124.46	4.5	1126.30	2.7	1128.14	1.9
1124.48	4.5	1126.32	2.7	1128.16	1.9
1124.50	4.5	1126.34	2.7	1128.18	1.8
1124.52	4.4	1126.36	2.6	1128.20	1.9
1124.54	4.5	1126.38	2.6	1128.22	1.8
1124.56	4.4	1126.40	2.5	1128.24	1.8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 1

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1128.26	1.8	1130.10	1.6	1131.54	1.5
1128.28	1.8	1130.12	1.6	1131.56	1.5
1128.30	1.8	1130.14	1.6	1131.58	1.5
1128.32	1.8	1130.16	1.6	1132.00	1.5
1128.34	1.8	1130.18	1.6	1132.02	1.5
1128.36	1.8	1130.20	1.6	1132.04	1.5
1128.38	1.8	1130.22	1.6	1132.06	1.5
1128.40	1.7	1130.24	1.6	1132.08	1.5
1128.42	1.8	1130.26	1.6	1132.10	1.5
1128.44	1.7	1130.28	1.6	1132.12	1.4
1128.46	1.8	1130.30	1.6	1132.14	1.5
1128.48	1.7	1130.32	1.6	1132.16	1.4
1128.50	1.8	1130.34	1.6	1132.18	1.5
1128.52	1.8	1130.36	1.5	1132.20	1.5
1128.54	1.7	1130.38	1.5	1132.22	1.5
1128.56	1.7	1130.40	1.5	1132.24	1.4
1128.58	1.7	1130.42	1.5	1132.26	1.4
1129.00	1.7	1130.44	1.5	1132.28	1.4
1129.02	1.7	1130.46	1.5	1132.30	1.4
1129.04	1.7	1130.48	1.5	1132.32	1.4
1129.06	1.7	1130.50	1.5	1132.34	1.4
1129.08	1.7	1130.52	1.5	Average	3.8
1129.10	1.7	1130.54	1.5		
1129.12	1.7	1130.56	1.5		
1129.14	1.7	1130.58	1.5		
1129.16	1.7	1131.00	1.5		
1129.18	1.7	1131.02	1.5		
1129.20	1.7	1131.04	1.5		
1129.22	1.7	1131.06	1.5		
1129.24	1.7	1131.08	1.5		
1129.26	1.7	1131.10	1.5		
1129.28	1.6	1131.12	1.5		
1129.30	1.6	1131.14	1.5		
1129.32	1.6	1131.16	1.5		
1129.34	1.7	1131.18	1.5		
1129.36	1.6	1131.20	1.5		
1129.38	1.6	1131.22	1.5		
1129.40	1.6	1131.24	1.5		
1129.42	1.6	1131.26	1.5		
1129.44	1.6	1131.28	1.5		
1129.46	1.6	1131.30	1.5		
1129.48	1.6	1131.32	1.5		
1129.50	1.6	1131.34	1.5		
1129.52	1.6	1131.36	1.5		
1129.54	1.6	1131.38	1.5		
1129.56	1.6	1131.40	1.5		
1129.58	1.6	1131.42	1.5		
1130.00	1.6	1131.44	1.5		
1130.02	1.6	1131.46	1.5		
1130.04	1.6	1131.48	1.5		
1130.06	1.6	1131.50	1.5		
1130.08	1.6	1131.52	1.5		

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1204.43	1	1206.27	6.9	1208.11	5
1204.45	1	1206.29	6.8	1208.13	5.1
1204.47	1	1206.31	6.5	1208.15	5.2
1204.49	1	1206.33	6.3	1208.17	5.1
1204.51	1	1206.35	6.1	1208.19	5
1204.53	1	1206.37	5.9	1208.21	5
1204.55	1	1206.39	5.9	1208.23	5
1204.57	1.1	1206.41	5.8	1208.25	4.9
1204.59	1	1206.43	5.7	1208.27	4.9
1205.01	1	1206.45	5.7	1208.29	4.9
1205.03	1.1	1206.47	5.5	1208.31	4.6
1205.05	1	1206.49	5.5	1208.33	4.6
1205.07	1	1206.51	5.4	1208.35	4.6
1205.09	1.1	1206.53	5.3	1208.37	4.6
1205.11	1.1	1206.55	5.3	1208.39	4.7
1205.13	1.1	1206.57	5.1	1208.41	4.8
1205.15	1.1	1206.59	4.9	1208.43	4.6
1205.17	1.1	1207.01	4.9	1208.45	4.2
1205.19	1.2	1207.03	4.8	1208.47	4.1
1205.21	1.2	1207.05	4.8	1208.49	4
1205.23	1.2	1207.07	4.7	1208.51	4
1205.25	1.2	1207.09	4.6	1208.53	4
1205.27	1.3	1207.11	4.5	1208.55	4.1
1205.29	1.3	1207.13	4.4	1208.57	4
1205.31	1.4	1207.15	4.3	1208.59	4.1
1205.33	1.4	1207.17	4.2	1209.01	4.1
1205.35	1.5	1207.19	4.2	1209.03	4
1205.37	1.6	1207.21	4.1	1209.05	3.9
1205.39	1.7	1207.23	4.1	1209.07	3.9
1205.41	1.7	1207.25	4	1209.09	3.8
1205.43	1.8	1207.27	4	1209.11	3.8
1205.45	1.9	1207.29	3.9	1209.13	3.8
1205.47	1.9	1207.31	3.9	1209.15	3.7
1205.49	2	1207.33	3.8	1209.17	3.6
1205.51	2.1	1207.35	3.8	1209.19	3.6
1205.53	2.2	1207.37	3.7	1209.21	3.5
1205.55	2.3	1207.39	3.7	1209.23	3.4
1205.57	2.5	1207.41	3.7	1209.25	3.4
1205.59	2.6	1207.43	3.6	1209.27	3.3
1206.01	8.7	1207.45	3.6	1209.29	3.3
1206.03	14.6	1207.47	3.6	1209.31	3.3
1206.05	16.2	1207.49	3.7	1209.33	3.2
1206.07	15.1	1207.51	3.8	1209.35	3.1
1206.09	12.8	1207.53	4	1209.37	3.1
1206.11	11.3	1207.55	4.2	1209.39	3
1206.13	10.1	1207.57	4.4	1209.41	2.9
1206.15	9.5	1207.59	5	1209.43	2.9
1206.17	8.9	1208.01	5.2	1209.45	2.8
1206.19	8.4	1208.03	5.4	1209.47	2.8
1206.21	7.7	1208.05	5.5	1209.49	2.7
1206.23	7.4	1208.07	5.4	1209.51	2.7
1206.25	7.1	1208.09	5.3	1209.53	2.6

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1209.55	2.6	1211.39	2.4	1213.23	2
1209.57	2.6	1211.41	2.4	1213.25	2
1209.59	2.5	1211.43	2.4	1213.27	2
1210.01	2.5	1211.45	2.4	1213.29	2
1210.03	2.4	1211.47	2.4	1213.31	2
1210.05	2.4	1211.49	2.4	1213.33	2
1210.07	2.4	1211.51	2.4	1213.35	2
1210.09	2.4	1211.53	2.5	1213.37	2
1210.11	2.3	1211.55	2.4	1213.39	2
1210.13	2.3	1211.57	2.4	1213.41	2
1210.15	2.3	1211.59	2.4	1213.43	1.9
1210.17	2.3	1212.01	2.4	1213.45	1.9
1210.19	2.3	1212.03	2.4	1213.47	1.9
1210.21	2.3	1212.05	2.4	1213.49	2
1210.23	2.2	1212.07	2.4	1213.51	1.9
1210.25	2.2	1212.09	2.4	1213.53	1.9
1210.27	2.2	1212.11	2.4	1213.55	1.9
1210.29	2.3	1212.13	2.3	1213.57	1.9
1210.31	2.3	1212.15	2.3	1213.59	1.8
1210.33	2.3	1212.17	2.3	1214.01	1.8
1210.35	2.3	1212.19	2.3	1214.03	1.8
1210.37	2.4	1212.21	2.3	1214.05	1.8
1210.39	2.4	1212.23	2.4	1214.07	1.8
1210.41	2.5	1212.25	2.4	1214.09	1.8
1210.43	2.5	1212.27	2.3	1214.11	1.8
1210.45	2.5	1212.29	2.3	1214.13	1.7
1210.47	2.6	1212.31	2.3	1214.15	1.7
1210.49	2.6	1212.33	2.3	1214.17	1.7
1210.51	2.7	1212.35	2.3	1214.19	1.7
1210.53	2.6	1212.37	2.2	1214.21	1.7
1210.55	2.6	1212.39	2.3	1214.23	1.7
1210.57	2.7	1212.41	2.3	1214.25	1.7
1210.59	2.7	1212.43	2.3	1214.27	1.6
1211.01	2.7	1212.45	2.2	1214.29	1.6
1211.03	2.8	1212.47	2.2	1214.31	1.6
1211.05	2.8	1212.49	2.3	1214.33	1.6
1211.07	2.8	1212.51	2.2	1214.35	1.6
1211.09	2.7	1212.53	2.2	1214.37	1.6
1211.11	2.7	1212.55	2.2	1214.39	1.6
1211.13	2.7	1212.57	2.2	1214.41	1.6
1211.15	2.8	1212.59	2.2	1214.43	1.5
1211.17	2.8	1213.01	2.2	1214.45	1.6
1211.19	2.8	1213.03	2.2	1214.47	1.6
1211.21	2.7	1213.05	2.1	1214.49	1.5
1211.23	2.7	1213.07	2.1	1214.51	1.5
1211.25	3	1213.09	2.1	1214.53	1.5
1211.27	2.8	1213.11	2.1	1214.55	1.5
1211.29	2.7	1213.13	2.1	1214.57	1.5
1211.31	2.6	1213.15	2.2	1214.59	1.5
1211.33	2.5	1213.17	2.1	1215.01	1.5
1211.35	2.5	1213.19	2.1	1215.03	1.5
1211.37	2.4	1213.21	2.1	1215.05	1.5

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1215.07	1.5	1216.51	1.3	1218.35	1.2
1215.09	1.5	1216.53	1.3	1218.37	1.2
1215.11	1.5	1216.55	1.3	1218.39	1.2
1215.13	1.4	1216.57	1.3	1218.41	1.2
1215.15	1.4	1216.59	1.3	1218.43	1.2
1215.17	1.4	1217.01	1.3	1218.45	1.2
1215.19	1.4	1217.03	1.3	1218.47	1.2
1215.21	1.4	1217.05	1.3	1218.49	1.2
1215.23	1.4	1217.07	1.3	1218.51	1.3
1215.25	1.5	1217.09	1.3	1218.53	1.2
1215.27	1.4	1217.11	1.3	1218.55	1.2
1215.29	1.5	1217.13	1.3	1218.57	1.2
1215.31	1.4	1217.15	1.3	1218.59	1.2
1215.33	1.4	1217.17	1.3	1219.01	1.2
1215.35	1.4	1217.19	1.3	1219.03	1.2
1215.37	1.4	1217.21	1.3	1219.05	1.3
1215.39	1.4	1217.23	1.3	1219.07	1.2
1215.41	1.4	1217.25	1.3	1219.09	1.2
1215.43	1.4	1217.27	1.3	1219.11	1.2
1215.45	1.4	1217.29	1.3	1219.13	1.3
1215.47	1.4	1217.31	1.3	1219.15	1.3
1215.49	1.4	1217.33	1.3	1219.17	1.3
1215.51	1.4	1217.35	1.3	1219.19	1.3
1215.53	1.4	1217.37	1.3	1219.21	1.4
1215.55	1.4	1217.39	1.3	1219.23	1.4
1215.57	1.3	1217.41	1.2	1219.25	1.4
1215.59	1.3	1217.43	1.3	1219.27	1.4
1216.01	1.3	1217.45	1.3	1219.29	1.5
1216.03	1.4	1217.47	1.3	1219.31	1.5
1216.05	1.3	1217.49	1.3	1219.33	1.5
1216.07	1.4	1217.51	1.3	1219.35	1.5
1216.09	1.3	1217.53	1.3	1219.37	1.6
1216.11	1.3	1217.55	1.3	1219.39	1.6
1216.13	1.4	1217.57	1.2	1219.41	1.6
1216.15	1.3	1217.59	1.2	1219.43	1.7
1216.17	1.3	1218.01	1.3	1219.45	1.7
1216.19	1.3	1218.03	1.2	1219.47	1.8
1216.21	1.3	1218.05	1.2	1219.49	1.9
1216.23	1.3	1218.07	1.2	1219.51	1.9
1216.25	1.3	1218.09	1.2	1219.53	2
1216.27	1.3	1218.11	1.3	1219.55	2.1
1216.29	1.3	1218.13	1.3	1219.57	2.2
1216.31	1.3	1218.15	1.3	1219.59	2.3
1216.33	1.3	1218.17	1.2	1220.01	2.4
1216.35	1.3	1218.19	1.2	1220.03	2.5
1216.37	1.3	1218.21	1.2	1220.05	2.6
1216.39	1.3	1218.23	1.2	1220.07	2.6
1216.41	1.3	1218.25	1.3	1220.09	2.8
1216.43	1.3	1218.27	1.2	1220.11	10.2
1216.45	1.3	1218.29	1.3	1220.13	16.5
1216.47	1.3	1218.31C - 27	1.2	1220.15	16.6
1216.49	1.3	1218.33	1.2	1220.17	15.5



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1220.19	14.1	1222.03	6.1	1223.47	3.8
1220.21	12.7	1222.05	6.4	1223.49	3.6
1220.23	11.8	1222.07	6.3	1223.51	3.7
1220.25	11.1	1222.09	6.6	1223.53	3.7
1220.27	10.5	1222.11	6.6	1223.55	3.7
1220.29	9.9	1222.13	6.5	1223.57	3.7
1220.31	9.4	1222.15	6.2	1223.59	3.5
1220.33	9.1	1222.17	6.1	1224.01	3.6
1220.35	8.9	1222.19	6.3	1224.03	3.6
1220.37	8.7	1222.21	6.4	1224.05	3.6
1220.39	8.5	1222.23	6.4	1224.07	3.7
1220.41	8.6	1222.25	6.4	1224.09	3.6
1220.43	8.4	1222.27	6.3	1224.11	3.5
1220.45	8.2	1222.29	6.3	1224.13	3.5
1220.47	8	1222.31	5.9	1224.15	3.6
1220.49	7.8	1222.33	5.7	1224.17	3.5
1220.51	7.7	1222.35	5.3	1224.19	3.4
1220.53	7.4	1222.37	5.2	1224.21	3.3
1220.55	7.2	1222.39	5.1	1224.23	3.3
1220.57	7.3	1222.41	5.1	1224.25	3.3
1220.59	7.2	1222.43	5	1224.27	3.3
1221.01	7.2	1222.45	4.8	1224.29	3.3
1221.03	7.1	1222.47	4.6	1224.31	3.2
1221.05	7.1	1222.49	4.6	1224.33	3.1
1221.07	7	1222.51	4.6	1224.35	3.1
1221.09	6.9	1222.53	4.6	1224.37	3
1221.11	6.8	1222.55	4.4	1224.39	3
1221.13	6.5	1222.57	4.4	1224.41	3
1221.15	6.4	1222.59	4.3	1224.43	3
1221.17	6.2	1223.01	4.2	1224.45	3
1221.19	6.2	1223.03	4.3	1224.47	3
1221.21	6.1	1223.05	4.4	1224.49	2.8
1221.23	5.9	1223.07	4.4	1224.51	2.8
1221.25	6	1223.09	4.3	1224.53	2.8
1221.27	5.9	1223.11	4.3	1224.55	2.8
1221.29	5.8	1223.13	4.3	1224.57	2.7
1221.31	5.8	1223.15	4.2	1224.59	2.7
1221.33	5.7	1223.17	4.3	1225.01	2.7
1221.35	5.6	1223.19	4.4	1225.03	2.7
1221.37	5.6	1223.21	4.4	1225.05	2.6
1221.39	5.4	1223.23	4.2	1225.07	2.5
1221.41	5.4	1223.25	4.1	1225.09	2.5
1221.43	5.2	1223.27	4	1225.11	2.5
1221.45	5.1	1223.29	4.1	1225.13	2.5
1221.47	5	1223.31	4.1	1225.15	2.5
1221.49	5	1223.33	4	1225.17	2.5
1221.51	5.1	1223.35	4	1225.19	2.4
1221.53	5	1223.37	4	1225.21	2.4
1221.55	5	1223.39	3.8	1225.23	2.4
1221.57	5.3	1223.41	3.8	1225.25	2.3
1221.59	5.8	1223.43	4	1225.27	2.3
1222.01	5.8	1223.45	4	1225.29	2.3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1225.31	2.3	1227.15	1.6	1228.59	1.4
1225.33	2.2	1227.17	1.6	1229.01	1.4
1225.35	2.2	1227.19	1.6	1229.03	1.4
1225.37	2.2	1227.21	1.6	1229.05	1.4
1225.39	2.1	1227.23	1.6	1229.07	1.4
1225.41	2.2	1227.25	1.6	1229.09	1.5
1225.43	2.2	1227.27	1.6	1229.11	1.4
1225.45	2.1	1227.29	1.6	1229.13	1.4
1225.47	2.1	1227.31	1.6	1229.15	1.4
1225.49	2.1	1227.33	1.6	1229.17	1.4
1225.51	2	1227.35	1.6	1229.19	1.4
1225.53	2	1227.37	1.6	1229.21	1.4
1225.55	2	1227.39	1.6	1229.23	1.4
1225.57	2	1227.41	1.6	1229.25	1.4
1225.59	2	1227.43	1.6	1229.27	1.4
1226.01	1.9	1227.45	1.6	1229.29	1.4
1226.03	1.9	1227.47	1.5	1229.31	1.4
1226.05	1.9	1227.49	1.5	1229.33	1.4
1226.07	1.9	1227.51	1.5	1229.35	1.4
1226.09	1.9	1227.53	1.5	1229.37	1.4
1226.11	1.9	1227.55	1.5	1229.39	1.4
1226.13	1.8	1227.57	1.5	1229.41	1.4
1226.15	1.8	1227.59	1.5	1229.43	1.4
1226.17	1.8	1228.01	1.5	1229.45	1.4
1226.19	1.8	1228.03	1.5	1229.47	1.4
1226.21	1.8	1228.05	1.5	1229.49	1.4
1226.23	1.8	1228.07	1.5	1229.51	1.4
1226.25	1.8	1228.09	1.5	1229.53	1.4
1226.27	1.8	1228.11	1.5	1229.55	1.4
1226.29	1.7	1228.13	1.5	1229.57	1.4
1226.31	1.8	1228.15	1.5	1229.59	1.4
1226.33	1.7	1228.17	1.5	1230.01	1.4
1226.35	1.7	1228.19	1.5	1230.03	1.4
1226.37	1.7	1228.21	1.5	1230.05	1.4
1226.39	1.7	1228.23	1.5	1230.07	1.4
1226.41	1.7	1228.25	1.5	1230.09	1.4
1226.43	1.7	1228.27	1.5	1230.11	1.4
1226.45	1.7	1228.29	1.5	1230.13	1.4
1226.47	1.7	1228.31	1.5	1230.15	1.4
1226.49	1.6	1228.33	1.5	1230.17	1.4
1226.51	1.7	1228.35	1.5	1230.19	1.4
1226.53	1.7	1228.37	1.5	1230.21	1.4
1226.55	1.7	1228.39	1.5	1230.23	1.4
1226.57	1.7	1228.41	1.5	1230.25	1.4
1226.59	1.6	1228.43	1.4	1230.27	1.4
1227.01	1.6	1228.45	1.5	1230.29	1.4
1227.03	1.6	1228.47	1.4	1230.31	1.4
1227.05	1.6	1228.49	1.4	1230.33	1.3
1227.07	1.6	1228.51	1.4	1230.35	1.3
1227.09	1.6	1228.53	1.4	1230.37	1.4
1227.11	1.6	1228.55	1.5	1230.39	1.3
1227.13	1.6	1228.57	1.4	1230.41	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1230.43	1.4	1232.27	1.4	1234.11	8.2
1230.45	1.4	1232.29	1.4	1234.13	8.1
1230.47	1.4	1232.31	1.5	1234.15	8
1230.49	1.3	1232.33	1.5	1234.17	7.8
1230.51	1.4	1232.35	1.5	1234.19	7.7
1230.53	1.4	1232.37	1.5	1234.21	7.5
1230.55	1.4	1232.39	1.5	1234.23	7.2
1230.57	1.3	1232.41	1.5	1234.25	7
1230.59	1.3	1232.43	1.5	1234.27	7
1231.01	1.3	1232.45	1.5	1234.29	6.9
1231.03	1.3	1232.47	1.5	1234.31	6.9
1231.05	1.3	1232.49	1.5	1234.33	6.8
1231.07	1.3	1232.51	1.5	1234.35	6.6
1231.09	1.3	1232.53	1.5	1234.37	6.5
1231.11	1.3	1232.55	1.4	1234.39	6.5
1231.13	1.3	1232.57	1.5	1234.41	6.3
1231.15	1.3	1232.59	1.5	1234.43	5.9
1231.17	1.3	1233.01	1.4	1234.45	5.9
1231.19	1.3	1233.03	1.4	1234.47	5.7
1231.21	1.3	1233.05	1.5	1234.49	5.8
1231.23	1.3	1233.07	1.7	1234.51	5.8
1231.25	1.3	1233.09	2	1234.53	5.6
1231.27	1.3	1233.11	2.1	1234.55	5.6
1231.29	1.3	1233.13	2.2	1234.57	5.5
1231.31	1.3	1233.15	2.1	1234.59	5.4
1231.33	1.3	1233.17	2.1	1235.01	5.5
1231.35	1.3	1233.19	2.1	1235.03	5.4
1231.37	1.3	1233.21	2.1	1235.05	5.3
1231.39	1.3	1233.23	2.2	1235.07	5.3
1231.41	1.3	1233.25	2.2	1235.09	5.2
1231.43	1.3	1233.27	2.3	1235.11	5.2
1231.45	1.3	1233.29	2.3	1235.13	5.1
1231.47	1.3	1233.31	2.4	1235.15	5
1231.49	1.3	1233.33	2.5	1235.17	4.9
1231.51	1.3	1233.35	2.7	1235.19	4.9
1231.53	1.3	1233.37	2.7	1235.21	4.9
1231.55	1.3	1233.39	3.1	1235.23	4.8
1231.57	1.3	1233.41	11.1	1235.25	4.8
1231.59	1.3	1233.43	15.9	1235.27	4.8
1232.01	1.3	1233.45	16.7	1235.29	4.8
1232.03	1.3	1233.47	14.2	1235.31	4.7
1232.05	1.3	1233.49	12.6	1235.33	4.7
1232.07	1.3	1233.51	11.5	1235.35	4.8
1232.09	1.3	1233.53	10.8	1235.37	4.8
1232.11	1.3	1233.55	10	1235.39	4.8
1232.13	1.3	1233.57	9.7	1235.41	4.7
1232.15	1.4	1233.59	9.4	1235.43	4.7
1232.17	1.4	1234.01	9.1	1235.45	4.7
1232.19	1.4	1234.03	9.1	1235.47	4.7
1232.21	1.3	1234.05	8.9	1235.49	4.8
1232.23	1.3	1234.07	8.6	1235.51	5
1232.25	1.3	1234.09	8.4	1235.53	5

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1235.55	5.3	1237.39	3.4	1239.23	2.1
1235.57	5.6	1237.41	3.5	1239.25	2
1235.59	5.5	1237.43	3.4	1239.27	2
1236.01	5.4	1237.45	3.4	1239.29	2
1236.03	5.6	1237.47	3.3	1239.31	2
1236.05	5.3	1237.49	3.3	1239.33	2
1236.07	5.3	1237.51	3.3	1239.35	1.9
1236.09	5.2	1237.53	3.3	1239.37	1.9
1236.11	5.2	1237.55	3.3	1239.39	1.9
1236.13	4.9	1237.57	3.3	1239.41	1.9
1236.15	4.7	1237.59	3.2	1239.43	1.9
1236.17	4.6	1238.01	3.2	1239.45	1.9
1236.19	4.6	1238.03	3.1	1239.47	1.9
1236.21	4.6	1238.05	3.1	1239.49	1.8
1236.23	4.7	1238.07	3.1	1239.51	1.8
1236.25	4.7	1238.09	3.1	1239.53	1.8
1236.27	4.5	1238.11	3.1	1239.55	1.8
1236.29	4.4	1238.13	3	1239.57	1.8
1236.31	4.4	1238.15	3	1239.59	1.8
1236.33	4.5	1238.17	2.9	1240.01	1.8
1236.35	4.5	1238.19	2.9	1240.03	1.8
1236.37	4.3	1238.21	2.9	1240.05	1.8
1236.39	4.3	1238.23	2.8	1240.07	1.8
1236.41	4.4	1238.25	2.8	1240.09	1.8
1236.43	4.3	1238.27	2.8	1240.11	1.8
1236.45	4.3	1238.29	2.7	1240.13	1.7
1236.47	4.2	1238.31	2.7	1240.15	1.7
1236.49	4.1	1238.33	2.7	1240.17	1.7
1236.51	4.1	1238.35	2.7	1240.19	1.7
1236.53	4	1238.37	2.7	1240.21	1.7
1236.55	4	1238.39	2.6	1240.23	1.7
1236.57	4.2	1238.41	2.5	1240.25	1.7
1236.59	4.2	1238.43	2.5	1240.27	1.7
1237.01	4.1	1238.45	2.5	1240.29	1.7
1237.03	4	1238.47	2.5	1240.31	1.7
1237.05	3.9	1238.49	2.5	1240.33	1.7
1237.07	3.7	1238.51	2.4	1240.35	1.7
1237.09	3.7	1238.53	2.4	1240.37	1.7
1237.11	3.6	1238.55	2.4	1240.39	1.7
1237.13	3.6	1238.57	2.3	1240.41	1.6
1237.15	3.7	1238.59	2.3	1240.43	1.7
1237.17	3.6	1239.01	2.3	1240.45	1.7
1237.19	3.7	1239.03	2.3	1240.47	1.6
1237.21	3.8	1239.05	2.3	1240.49	1.6
1237.23	3.9	1239.07	2.2	1240.51	1.6
1237.25	3.8	1239.09	2.2	1240.53	1.6
1237.27	3.7	1239.11	2.2	1240.55	1.6
1237.29	3.7	1239.13	2.2	1240.57	1.6
1237.31	3.6	1239.15	2.2	1240.59	1.6
1237.33	3.5	1239.17	2.1	1241.01	1.6
1237.35	3.6	1239.19	2.1	1241.03	1.6
1237.37	3.5	1239.21	2.1	1241.05	1.6

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1241.07	1.6	1242.51	1.5	1244.35	1.4
1241.09	1.6	1242.53	1.5	1244.37	1.4
1241.11	1.6	1242.55	1.4	1244.39	1.4
1241.13	1.6	1242.57	1.5	1244.41	1.3
1241.15	1.6	1242.59	1.4	1244.43	1.3
1241.17	1.6	1243.01	1.4	1244.45	1.4
1241.19	1.6	1243.03	1.5	1244.47	1.4
1241.21	1.6	1243.05	1.5	1244.49	1.4
1241.23	1.6	1243.07	1.4	1244.51	1.3
1241.25	1.6	1243.09	1.4	1244.53	1.4
1241.27	1.6	1243.11	1.4	1244.55	1.4
1241.29	1.6	1243.13	1.4	1244.57	1.3
1241.31	1.5	1243.15	1.4	1244.59	1.3
1241.33	1.5	1243.17	1.4	1245.01	1.3
1241.35	1.6	1243.19	1.4	1245.03	1.4
1241.37	1.5	1243.21	1.4	1245.05	1.3
1241.39	1.5	1243.23	1.4	1245.07	1.4
1241.41	1.5	1243.25	1.4	1245.09	1.3
1241.43	1.5	1243.27	1.4	1245.11	1.3
1241.45	1.5	1243.29	1.4	1245.13	1.3
1241.47	1.5	1243.31	1.4	1245.15	1.3
1241.49	1.5	1243.33	1.4	1245.17	1.4
1241.51	1.5	1243.35	1.4	1245.19	1.3
1241.53	1.5	1243.37	1.4	1245.21	1.3
1241.55	1.5	1243.39	1.4	1245.23	1.3
1241.57	1.5	1243.41	1.4	1245.25	1.3
1241.59	1.5	1243.43	1.4	1245.27	1.3
1242.01	1.5	1243.45	1.4	1245.29	1.4
1242.03	1.5	1243.47	1.4	1245.31	1.3
1242.05	1.5	1243.49	1.4	1245.33	1.3
1242.07	1.5	1243.51	1.4	1245.35	1.3
1242.09	1.5	1243.53	1.4	1245.37	1.3
1242.11	1.5	1243.55	1.4	1245.39	1.3
1242.13	1.5	1243.57	1.4	1245.41	1.3
1242.15	1.5	1243.59	1.4	1245.43	1.3
1242.17	1.5	1244.01	1.4	1245.45	1.3
1242.19	1.5	1244.03	1.4	1245.47	1.3
1242.21	1.5	1244.05	1.4	1245.49	1.3
1242.23	1.5	1244.07	1.4	1245.51	1.3
1242.25	1.5	1244.09	1.4	1245.53	1.3
1242.27	1.5	1244.11	1.4	1245.55	1.3
1242.29	1.5	1244.13	1.4	1245.57	1.3
1242.31	1.5	1244.15	1.4	1245.59	1.3
1242.33	1.5	1244.17	1.4	1246.01	1.3
1242.35	1.5	1244.19	1.4	1246.03	1.3
1242.37	1.5	1244.21	1.4	1246.05	1.4
1242.39	1.5	1244.23	1.4	1246.07	1.4
1242.41	1.5	1244.25	1.4	1246.09	1.4
1242.43	1.5	1244.27	1.4	1246.11	1.4
1242.45	1.5	1244.29	1.4	1246.13	1.4
1242.47	1.4	1244.31	1.4	1246.15	1.5
1242.49	1.4	1244.33	1.3	1246.17	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1246.19	1.5	1248.03	7.6	1249.47	4.7
1246.21	1.5	1248.05	7.8	1249.49	4.8
1246.23	1.5	1248.07	7.6	1249.51	4.7
1246.25	1.5	1248.09	7.4	1249.53	4.6
1246.27	1.5	1248.11	7.4	1249.55	4.6
1246.29	1.6	1248.13	7.3	1249.57	4.7
1246.31	1.6	1248.15	7.1	1249.59	4.9
1246.33	1.6	1248.17	7.1	1250.01	4.8
1246.35	1.7	1248.19	6.7	1250.03	4.6
1246.37	1.9	1248.21	6.6	1250.05	4.5
1246.39	1.9	1248.23	6.6	1250.07	4.5
1246.41	2	1248.25	6.5	1250.09	4.4
1246.43	2	1248.27	6.3	1250.11	4.5
1246.45	2.1	1248.29	6.1	1250.13	4.6
1246.47	2.2	1248.31	6	1250.15	4.5
1246.49	2.3	1248.33	5.9	1250.17	4.4
1246.51	2.4	1248.35	5.8	1250.19	4.4
1246.53	2.5	1248.37	5.8	1250.21	4.3
1246.55	2.5	1248.39	5.8	1250.23	4.2
1246.57	2.6	1248.41	5.7	1250.25	4.3
1246.59	3	1248.43	5.6	1250.27	4.2
1247.01	3.3	1248.45	5.6	1250.29	4
1247.03	3.2	1248.47	5.5	1250.31	3.8
1247.05	3	1248.49	5.4	1250.33	3.9
1247.07	3.1	1248.51	5.4	1250.35	3.8
1247.09	3	1248.53	5.6	1250.37	3.9
1247.11	3	1248.55	5.6	1250.39	3.8
1247.13	3	1248.57	5.6	1250.41	3.7
1247.15	2.9	1248.59	5.4	1250.43	3.7
1247.17	4.6	1249.01	5.3	1250.45	3.7
1247.19	15.6	1249.03	5.3	1250.47	3.6
1247.21	16.8	1249.05	5.3	1250.49	3.7
1247.23	17	1249.07	5.4	1250.51	3.7
1247.25	14.3	1249.09	5.3	1250.53	3.5
1247.27	13	1249.11	5.5	1250.55	3.5
1247.29	12.2	1249.13	5.8	1250.57	3.6
1247.31	12.1	1249.15	5.7	1250.59	3.5
1247.33	11.7	1249.17	5.5	1251.01	3.5
1247.35	11	1249.19	5.5	1251.03	3.4
1247.37	10.5	1249.21	5.5	1251.05	3.4
1247.39	10.2	1249.23	5.4	1251.07	3.4
1247.41	9.7	1249.25	5.4	1251.09	3.4
1247.43	9.5	1249.27	5.3	1251.11	3.4
1247.45	9.5	1249.29	5.1	1251.13	3.3
1247.47	9.3	1249.31	5	1251.15	3.3
1247.49	8.9	1249.33	4.9	1251.17	3.3
1247.51	8.6	1249.35	4.8	1251.19	3.3
1247.53	8.5	1249.37	4.8	1251.21	3.1
1247.55	8.2	1249.39	4.7	1251.23	3.1
1247.57	8.2	1249.41	4.7	1251.25	3.1
1247.59	8	1249.43	4.6	1251.27	3
1248.01	7.8	1249.45	4.7	1251.29	3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1251.31	3	1253.15	1.9	1254.59	1.6
1251.33	2.9	1253.17	1.9	1255.01	1.6
1251.35	2.9	1253.19	1.8	1255.03	1.6
1251.37	2.9	1253.21	1.8	1255.05	1.5
1251.39	2.8	1253.23	1.8	1255.07	1.6
1251.41	2.8	1253.25	1.8	1255.09	1.6
1251.43	2.8	1253.27	1.8	1255.11	1.5
1251.45	2.7	1253.29	1.8	1255.13	1.5
1251.47	2.6	1253.31	1.8	1255.15	1.5
1251.49	2.6	1253.33	1.8	1255.17	1.5
1251.51	2.6	1253.35	1.8	1255.19	1.5
1251.53	2.6	1253.37	1.8	1255.21	1.5
1251.55	2.6	1253.39	1.8	1255.23	1.5
1251.57	2.5	1253.41	1.8	1255.25	1.5
1251.59	2.5	1253.43	1.7	1255.27	1.5
1252.01	2.5	1253.45	1.7	1255.29	1.5
1252.03	2.5	1253.47	1.8	1255.31	1.5
1252.05	2.4	1253.49	1.7	1255.33	1.5
1252.07	2.4	1253.51	1.7	1255.35	1.5
1252.09	2.4	1253.53	1.7	1255.37	1.5
1252.11	2.3	1253.55	1.7	1255.39	1.5
1252.13	2.3	1253.57	1.7	1255.41	1.5
1252.15	2.3	1253.59	1.7	1255.43	1.5
1252.17	2.3	1254.01	1.7	1255.45	1.5
1252.19	2.2	1254.03	1.7	1255.47	1.5
1252.21	2.2	1254.05	1.7	1255.49	1.5
1252.23	2.2	1254.07	1.7	1255.51	1.5
1252.25	2.2	1254.09	1.7	1255.53	1.5
1252.27	2.2	1254.11	1.7	1255.55	1.5
1252.29	2.2	1254.13	1.6	1255.57	1.5
1252.31	2.1	1254.15	1.6	1255.59	1.5
1252.33	2.1	1254.17	1.7	1256.01	1.5
1252.35	2.1	1254.19	1.6	1256.03	1.5
1252.37	2.1	1254.21	1.7	1256.05	1.5
1252.39	2.1	1254.23	1.6	1256.07	1.5
1252.41	2.1	1254.25	1.6	1256.09	1.5
1252.43	2.1	1254.27	1.6	1256.11	1.5
1252.45	2	1254.29	1.6	1256.13	1.5
1252.47	2	1254.31	1.6	1256.15	1.5
1252.49	2	1254.33	1.6	1256.17	1.5
1252.51	2	1254.35	1.6	1256.19	1.5
1252.53	2	1254.37	1.6	1256.21	1.5
1252.55	2	1254.39	1.6	1256.23	1.5
1252.57	2	1254.41	1.6	1256.25	1.5
1252.59	2	1254.43	1.6	1256.27	1.5
1253.01	2	1254.45	1.6	1256.29	1.5
1253.03	1.9	1254.47	1.6	1256.31	1.5
1253.05	1.9	1254.49	1.6	1256.33	1.5
1253.07	1.9	1254.51	1.6	1256.35	1.5
1253.09	1.9	1254.53	1.6	1256.37	1.5
1253.11	1.9	1254.55	1.6	1256.39	1.5
1253.13	1.9	1254.57	1.6	1256.41	1.5

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1256.43	1.5	1258.27	10.3	1300.11	6.2
1256.45	1.5	1258.29	10.1	1300.13	6.4
1256.47	1.5	1258.31	10	1300.15	6.3
1256.49	1.5	1258.33	9.7	1300.17	6.3
1256.51	1.5	1258.35	9.5	1300.19	6
1256.53	1.5	1258.37	9.5	1300.21	5.7
1256.55	1.5	1258.39	9.3	1300.23	5.7
1256.57	1.5	1258.41	9.1	1300.25	5.5
1256.59	1.5	1258.43	9	1300.27	5.2
1257.01	1.5	1258.45	8.8	1300.29	5
1257.03	1.5	1258.47	9	1300.31	5
1257.05	1.5	1258.49	8.8	1300.33	4.9
1257.07	1.5	1258.51	8.4	1300.35	4.8
1257.09	1.5	1258.53	8.2	1300.37	4.6
1257.11	1.5	1258.55	8.1	1300.39	4.5
1257.13	1.6	1258.57	7.8	1300.41	4.5
1257.15	1.6	1258.59	7.6	1300.43	4.6
1257.17	1.6	1259.01	7.6	1300.45	4.5
1257.19	1.6	1259.03	7.8	1300.47	4.5
1257.21	1.6	1259.05	7.5	1300.49	4.4
1257.23	1.6	1259.07	7.3	1300.51	4.4
1257.25	1.7	1259.09	7.1	1300.53	4.5
1257.27	1.8	1259.11	6.9	1300.55	4.6
1257.29	1.8	1259.13	6.6	1300.57	4.6
1257.31	1.9	1259.15	6.3	1300.59	4.6
1257.33	1.9	1259.17	6.4	1301.01	4.5
1257.35	2	1259.19	6.4	1301.03	4.4
1257.37	2	1259.21	6.3	1301.05	4.4
1257.39	2	1259.23	6.2	1301.07	4.4
1257.41	2	1259.25	6	1301.09	4.5
1257.43	2.1	1259.27	5.7	1301.11	4.4
1257.45	2.1	1259.29	5.6	1301.13	4.3
1257.47	2.1	1259.31	5.6	1301.15	4.2
1257.49	2.1	1259.33	5.6	1301.17	4.1
1257.51	2.1	1259.35	5.6	1301.19	4
1257.53	2.2	1259.37	5.5	1301.21	4
1257.55	2.2	1259.39	5.6	1301.23	4
1257.57	2.3	1259.41	5.4	1301.25	3.9
1257.59	2.3	1259.43	5.2	1301.27	4
1258.01	2.3	1259.45	5.4	1301.29	4
1258.03	2.3	1259.47	5.3	1301.31	4.2
1258.05	2.4	1259.49	5.3	1301.33	4.2
1258.07	2.5	1259.51	5.5	1301.35	4
1258.09	2.6	1259.53	5.7	1301.37	3.9
1258.11	2.8	1259.55	5.9	1301.39	3.9
1258.13	12.5	1259.57	6	1301.41	3.9
1258.15	18.6	1259.59	6.1	1301.43	3.9
1258.17	17.7	1300.01	6.4	1301.45	4.1
1258.19	14.8	1300.03	6.2	1301.47	4.3
1258.21	12.8	1300.05	6.1	1301.49	4.1
1258.23	11.6	1300.07 C - 35	6	1301.51	3.9
1258.25	10.8	1300.09	5.8	1301.53	4



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1301.55	3.9	1303.39	2.3	1305.23	1.7
1301.57	3.8	1303.41	2.3	1305.25	1.7
1301.59	3.8	1303.43	2.2	1305.27	1.7
1302.01	3.7	1303.45	2.2	1305.29	1.7
1302.03	3.7	1303.47	2.2	1305.31	1.7
1302.05	3.7	1303.49	2.1	1305.33	1.7
1302.07	3.7	1303.51	2.1	1305.35	1.7
1302.09	3.7	1303.53	2.1	1305.37	1.7
1302.11	3.6	1303.55	2.1	1305.39	1.7
1302.13	3.6	1303.57	2.1	1305.41	1.7
1302.15	3.6	1303.59	2	1305.43	1.7
1302.17	3.6	1304.01	2	1305.45	1.7
1302.19	3.5	1304.03	2	1305.47	1.7
1302.21	3.4	1304.05	2	1305.49	1.7
1302.23	3.4	1304.07	2	1305.51	1.7
1302.25	3.3	1304.09	2	1305.53	1.7
1302.27	3.3	1304.11	2	1305.55	1.6
1302.29	3.3	1304.13	2	1305.57	1.7
1302.31	3.2	1304.15	1.9	1305.59	1.6
1302.33	3.2	1304.17	1.9	1306.01	1.6
1302.35	3.2	1304.19	1.9	1306.03	1.6
1302.37	3.2	1304.21	1.9	1306.05	1.6
1302.39	3.2	1304.23	1.9	1306.07	1.6
1302.41	3.1	1304.25	1.9	1306.09	1.6
1302.43	3.1	1304.27	1.9	1306.11	1.6
1302.45	3	1304.29	1.9	1306.13	1.6
1302.47	3	1304.31	1.9	1306.15	1.6
1302.49	3	1304.33	1.8	1306.17	1.6
1302.51	3	1304.35	1.9	1306.19	1.6
1302.53	3	1304.37	1.9	1306.21	1.6
1302.55	2.9	1304.39	1.8	1306.23	1.6
1302.57	2.8	1304.41	1.8	1306.25	1.6
1302.59	2.8	1304.43	1.8	1306.27	1.6
1303.01	2.8	1304.45	1.8	1306.29	1.6
1303.03	2.8	1304.47	1.8	1306.31	1.6
1303.05	2.7	1304.49	1.8	1306.33	1.6
1303.07	2.7	1304.51	1.8	1306.35	1.6
1303.09	2.7	1304.53	1.8	1306.37	1.6
1303.11	2.7	1304.55	1.8	1306.39	1.6
1303.13	2.6	1304.57	1.8	1306.41	1.6
1303.15	2.6	1304.59	1.8	1306.43	1.6
1303.17	2.5	1305.01	1.8	1306.45	1.6
1303.19	2.5	1305.03	1.8	1306.47	1.6
1303.21	2.5	1305.05	1.8	1306.49	1.6
1303.23	2.4	1305.07	1.8	1306.51	1.6
1303.25	2.4	1305.09	1.7	1306.53	1.6
1303.27	2.4	1305.11	1.8	1306.55	1.6
1303.29	2.4	1305.13	1.8	1306.57	1.6
1303.31	2.4	1305.15	1.7	1306.59	1.5
1303.33	2.4	1305.17	1.7	1307.01	1.5
1303.35	2.3	1305.19C - 36	1.7	1307.03	1.5
1303.37	2.3	1305.21	1.7	1307.05	1.5



**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1307.07	1.5	1308.51	1.4	1310.35	1.3
1307.09	1.5	1308.53	1.4	1310.37	1.3
1307.11	1.5	1308.55	1.4	1310.39	1.3
1307.13	1.5	1308.57	1.4	1310.41	1.3
1307.15	1.5	1308.59	1.4	1310.43	1.3
1307.17	1.5	1309.01	1.4	1310.45	1.3
1307.19	1.5	1309.03	1.4	1310.47	1.3
1307.21	1.5	1309.05	1.4	1310.49	1.3
1307.23	1.5	1309.07	1.4	1310.51	1.4
1307.25	1.5	1309.09	1.4	1310.53	1.3
1307.27	1.5	1309.11	1.4	1310.55	1.3
1307.29	1.5	1309.13	1.4	1310.57	1.3
1307.31	1.5	1309.15	1.4	1310.59	1.3
1307.33	1.5	1309.17	1.4	1311.01	1.3
1307.35	1.5	1309.19	1.4	1311.03	1.3
1307.37	1.5	1309.21	1.4	1311.05	1.3
1307.39	1.5	1309.23	1.4	1311.07	1.3
1307.41	1.5	1309.25	1.4	1311.09	1.3
1307.43	1.5	1309.27	1.4	1311.11	1.3
1307.45	1.5	1309.29	1.4	1311.13	1.3
1307.47	1.5	1309.31	1.4	1311.15	1.4
1307.49	1.5	1309.33	1.4	1311.17	1.4
1307.51	1.5	1309.35	1.4	1311.19	1.4
1307.53	1.5	1309.37	1.4	1311.21	1.4
1307.55	1.5	1309.39	1.4	1311.23	1.5
1307.57	1.5	1309.41	1.4	1311.25	1.5
1307.59	1.5	1309.43	1.4	1311.27	1.6
1308.01	1.5	1309.45	1.4	1311.29	1.6
1308.03	1.5	1309.47	1.4	1311.31	1.7
1308.05	1.5	1309.49	1.4	1311.33	1.8
1308.07	1.5	1309.51	1.4	1311.35	1.8
1308.09	1.5	1309.53	1.4	1311.37	1.8
1308.11	1.5	1309.55	1.4	1311.39	1.8
1308.13	1.5	1309.57	1.4	1311.41	1.9
1308.15	1.5	1309.59	1.3	1311.43	1.9
1308.17	1.5	1310.01	1.4	1311.45	1.9
1308.19	1.5	1310.03	1.4	1311.47	2
1308.21	1.5	1310.05	1.3	1311.49	2
1308.23	1.4	1310.07	1.3	1311.51	2
1308.25	1.5	1310.09	1.3	1311.53	2
1308.27	1.4	1310.11	1.3	1311.55	2.1
1308.29	1.4	1310.13	1.3	1311.57	2.1
1308.31	1.4	1310.15	1.3	1311.59	2.2
1308.33	1.4	1310.17	1.3	1312.01	2.2
1308.35	1.4	1310.19	1.4	1312.03	2.3
1308.37	1.4	1310.21	1.4	1312.05	2.4
1308.39	1.4	1310.23	1.4	1312.07	2.5
1308.41	1.4	1310.25	1.4	1312.09	2.5
1308.43	1.4	1310.27	1.4	1312.11	5.8
1308.45	1.4	1310.29	1.3	1312.13	16
1308.47	1.4	1310.31	1.3	1312.15	15.3
1308.49	1.4	1310.33	1.3	1312.17	14

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1312.19	11.4	1314.03	5.6	1315.47	4.1
1312.21	10.5	1314.05	5.7	1315.49	4
1312.23	10.2	1314.07	5.8	1315.51	3.9
1312.25	9.8	1314.09	6.1	1315.53	3.9
1312.27	9.8	1314.11	6.2	1315.55	3.8
1312.29	9.5	1314.13	6.1	1315.57	3.7
1312.31	9.5	1314.15	6.3	1315.59	3.6
1312.33	9.1	1314.17	6.6	1316.01	3.6
1312.35	8.8	1314.19	6.7	1316.03	3.7
1312.37	8.7	1314.21	6.6	1316.05	3.6
1312.39	8.5	1314.23	6.6	1316.07	3.5
1312.41	8.5	1314.25	6.5	1316.09	3.5
1312.43	8.5	1314.27	6.6	1316.11	3.5
1312.45	8.5	1314.29	6.3	1316.13	3.5
1312.47	8.3	1314.31	6.1	1316.15	3.6
1312.49	7.9	1314.33	5.8	1316.17	3.6
1312.51	7.6	1314.35	5.5	1316.19	3.5
1312.53	7.4	1314.37	5.3	1316.21	3.4
1312.55	7.3	1314.39	5.1	1316.23	3.4
1312.57	7.5	1314.41	5.1	1316.25	3.3
1312.59	7.3	1314.43	5.2	1316.27	3.3
1313.01	7.1	1314.45	5.2	1316.29	3.2
1313.03	7	1314.47	5.1	1316.31	3.2
1313.05	7	1314.49	5	1316.33	3.2
1313.07	6.9	1314.51	5	1316.35	3.2
1313.09	6.8	1314.53	4.8	1316.37	3.1
1313.11	6.7	1314.55	4.8	1316.39	3.1
1313.13	6.3	1314.57	4.8	1316.41	3.1
1313.15	6.1	1314.59	4.9	1316.43	3
1313.17	6	1315.01	4.8	1316.45	3
1313.19	5.9	1315.03	4.7	1316.47	3
1313.21	5.8	1315.05	4.7	1316.49	2.9
1313.23	5.8	1315.07	4.7	1316.51	2.9
1313.25	5.7	1315.09	4.6	1316.53	2.8
1313.27	5.7	1315.11	4.6	1316.55	2.8
1313.29	5.7	1315.13	4.5	1316.57	2.8
1313.31	5.6	1315.15	4.4	1316.59	2.8
1313.33	5.5	1315.17	4.4	1317.01	2.7
1313.35	5.5	1315.19	4.4	1317.03	2.7
1313.37	5.4	1315.21	4.3	1317.05	2.6
1313.39	5.4	1315.23	4.1	1317.07	2.6
1313.41	5.3	1315.25	4	1317.09	2.6
1313.43	5.2	1315.27	3.9	1317.11	2.5
1313.45	5.1	1315.29	4.1	1317.13	2.5
1313.47	5.1	1315.31	4.2	1317.15	2.5
1313.49	5.1	1315.33	4.3	1317.17	2.4
1313.51	5.1	1315.35	4.3	1317.19	2.4
1313.53	5.1	1315.37	4.2	1317.21	2.4
1313.55	5.1	1315.39	4.1	1317.23	2.4
1313.57	5.3	1315.41	4.2	1317.25	2.4
1313.59	5.4	1315.43	4.1	1317.27	2.4
1314.01	5.5	1315.45	4	1317.29	2.3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1317.31	2.3	1319.15	1.7	1320.59	1.5
1317.33	2.3	1319.17	1.7	1321.01	1.5
1317.35	2.3	1319.19	1.7	1321.03	1.5
1317.37	2.3	1319.21	1.7	1321.05	1.5
1317.39	2.2	1319.23	1.7	1321.07	1.5
1317.41	2.2	1319.25	1.6	1321.09	1.5
1317.43	2.2	1319.27	1.7	1321.11	1.5
1317.45	2.1	1319.29	1.6	1321.13	1.5
1317.47	2.1	1319.31	1.6	1321.15	1.5
1317.49	2.1	1319.33	1.6	1321.17	1.5
1317.51	2.1	1319.35	1.6	1321.19	1.5
1317.53	2.1	1319.37	1.6	1321.21	1.5
1317.55	2	1319.39	1.6	1321.23	1.5
1317.57	2	1319.41	1.6	1321.25	1.5
1317.59	2	1319.43	1.6	1321.27	1.5
1318.01	2	1319.45	1.6	1321.29	1.5
1318.03	2	1319.47	1.6	1321.31	1.5
1318.05	2	1319.49	1.6	1321.33	1.5
1318.07	1.9	1319.51	1.6	1321.35	1.5
1318.09	1.9	1319.53	1.6	1321.37	1.4
1318.11	1.9	1319.55	1.6	1321.39	1.4
1318.13	1.9	1319.57	1.6	1321.41	1.5
1318.15	1.9	1319.59	1.6	1321.43	1.5
1318.17	1.9	1320.01	1.6	1321.45	1.5
1318.19	1.9	1320.03	1.6	1321.47	1.4
1318.21	1.8	1320.05	1.6	1321.49	1.4
1318.23	1.8	1320.07	1.6	1321.51	1.4
1318.25	1.9	1320.09	1.6	1321.53	1.5
1318.27	1.8	1320.11	1.6	1321.55	1.5
1318.29	1.8	1320.13	1.6	1321.57	1.4
1318.31	1.8	1320.15	1.6	1321.59	1.4
1318.33	1.8	1320.17	1.5	1322.01	1.4
1318.35	1.8	1320.19	1.5	1322.03	1.4
1318.37	1.8	1320.21	1.5	1322.05	1.4
1318.39	1.8	1320.23	1.5	1322.07	1.4
1318.41	1.8	1320.25	1.5	1322.09	1.4
1318.43	1.8	1320.27	1.5	1322.11	1.4
1318.45	1.8	1320.29	1.5	1322.13	1.4
1318.47	1.7	1320.31	1.5	1322.15	1.4
1318.49	1.7	1320.33	1.5	1322.17	1.4
1318.51	1.7	1320.35	1.5	1322.19	1.4
1318.53	1.7	1320.37	1.5	1322.21	1.4
1318.55	1.7	1320.39	1.5	1322.23	1.4
1318.57	1.7	1320.41	1.5	1322.25	1.4
1318.59	1.7	1320.43	1.5	1322.27	1.4
1319.01	1.7	1320.45	1.5	1322.29	1.4
1319.03	1.7	1320.47	1.5	1322.31	1.4
1319.05	1.7	1320.49	1.5	1322.33	1.4
1319.07	1.7	1320.51	1.5	1322.35	1.4
1319.09	1.7	1320.53	1.5	1322.37	1.4
1319.11	1.7	1320.55	1.5	1322.39	1.4
1319.13	1.7	1320.57	1.5	1322.41	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1322.43	1.4	1324.27	1.4	1326.11	16.6
1322.45	1.4	1324.29	1.4	1326.13	19.4
1322.47	1.4	1324.31	1.4	1326.15	16.9
1322.49	1.4	1324.33	1.4	1326.17	13.7
1322.51	1.4	1324.35	1.3	1326.19	12.5
1322.53	1.4	1324.37	1.3	1326.21	11.6
1322.55	1.4	1324.39	1.3	1326.23	11.1
1322.57	1.4	1324.41	1.3	1326.25	10.8
1322.59	1.4	1324.43	1.3	1326.27	10.3
1323.01	1.4	1324.45	1.3	1326.29	10
1323.03	1.4	1324.47	1.3	1326.31	9.8
1323.05	1.4	1324.49	1.3	1326.33	9.6
1323.07	1.4	1324.51	1.3	1326.35	9.5
1323.09	1.4	1324.53	1.3	1326.37	9.2
1323.11	1.4	1324.55	1.4	1326.39	9.1
1323.13	1.4	1324.57	1.4	1326.41	8.8
1323.15	1.4	1324.59	1.4	1326.43	8.6
1323.17	1.4	1325.01	1.4	1326.45	8.4
1323.19	1.4	1325.03	1.5	1326.47	8.3
1323.21	1.4	1325.05	1.5	1326.49	8.2
1323.23	1.4	1325.07	1.5	1326.51	7.9
1323.25	1.4	1325.09	1.5	1326.53	7.7
1323.27	1.4	1325.11	1.4	1326.55	7.6
1323.29	1.4	1325.13	1.4	1326.57	7.5
1323.31	1.4	1325.15	1.5	1326.59	7.3
1323.33	1.4	1325.17	1.5	1327.01	7.1
1323.35	1.4	1325.19	1.5	1327.03	7.1
1323.37	1.4	1325.21	1.5	1327.05	7.2
1323.39	1.4	1325.23	1.6	1327.07	7
1323.41	1.4	1325.25	1.6	1327.09	6.8
1323.43	1.3	1325.27	1.6	1327.11	6.5
1323.45	1.4	1325.29	1.6	1327.13	6.5
1323.47	1.4	1325.31	1.7	1327.15	6.4
1323.49	1.4	1325.33	1.8	1327.17	6.1
1323.51	1.4	1325.35	1.7	1327.19	6.1
1323.53	1.4	1325.37	1.7	1327.21	6
1323.55	1.4	1325.39	1.8	1327.23	6
1323.57	1.4	1325.41	2	1327.25	5.9
1323.59	1.4	1325.43	2.1	1327.27	5.7
1324.01	1.3	1325.45	2.1	1327.29	5.7
1324.03	1.3	1325.47	2.1	1327.31	5.6
1324.05	1.3	1325.49	2.2	1327.33	5.5
1324.07	1.4	1325.51	2.2	1327.35	5.4
1324.09	1.4	1325.53	2.3	1327.37	5.4
1324.11	1.4	1325.55	2.4	1327.39	5.4
1324.13	1.3	1325.57	2.4	1327.41	5.4
1324.15	1.3	1325.59	2.5	1327.43	5.4
1324.17	1.4	1326.01	2.5	1327.45	5.3
1324.19	1.4	1326.03	2.6	1327.47	5.2
1324.21	1.4	1326.05	2.7	1327.49	5.1
1324.23	1.4	1326.07	3.1	1327.51	5.2
1324.25	1.4	1326.09	13.7	1327.53	5.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1327.55	5.5	1329.39	4.2	1331.23	2.2
1327.57	5.8	1329.41	4.2	1331.25	2.2
1327.59	6.1	1329.43	4	1331.27	2.2
1328.01	6.4	1329.45	3.8	1331.29	2.1
1328.03	6.4	1329.47	3.8	1331.31	2.1
1328.05	6.2	1329.49	3.8	1331.33	2.1
1328.07	6.2	1329.51	3.7	1331.35	2.1
1328.09	5.8	1329.53	3.7	1331.37	2.1
1328.11	5.8	1329.55	3.7	1331.39	2.1
1328.13	5.8	1329.57	3.7	1331.41	2
1328.15	5.6	1329.59	3.6	1331.43	2
1328.17	5.9	1330.01	3.6	1331.45	2
1328.19	6	1330.03	3.6	1331.47	2
1328.21	5.5	1330.05	3.7	1331.49	2
1328.23	5.2	1330.07	3.6	1331.51	1.9
1328.25	5	1330.09	3.5	1331.53	1.9
1328.27	5.2	1330.11	3.5	1331.55	1.9
1328.29	5.1	1330.13	3.4	1331.57	1.9
1328.31	5.1	1330.15	3.3	1331.59	1.9
1328.33	5.1	1330.17	3.3	1332.01	1.9
1328.35	5.2	1330.19	3.4	1332.03	1.9
1328.37	5.1	1330.21	3.4	1332.05	1.9
1328.39	4.9	1330.23	3.3	1332.07	1.9
1328.41	4.8	1330.25	3.3	1332.09	1.9
1328.43	4.6	1330.27	3.2	1332.11	1.9
1328.45	4.5	1330.29	3.2	1332.13	1.9
1328.47	4.5	1330.31	3.1	1332.15	1.8
1328.49	4.5	1330.33	3.1	1332.17	1.8
1328.51	4.5	1330.35	3	1332.19	1.8
1328.53	4.4	1330.37	3	1332.21	1.8
1328.55	4.3	1330.39	2.9	1332.23	1.8
1328.57	4.4	1330.41	2.9	1332.25	1.8
1328.59	4.4	1330.43	2.8	1332.27	1.8
1329.01	4.5	1330.45	2.8	1332.29	1.8
1329.03	4.4	1330.47	2.8	1332.31	1.8
1329.05	4.4	1330.49	2.7	1332.33	1.8
1329.07	4.4	1330.51	2.7	1332.35	1.8
1329.09	4.3	1330.53	2.6	1332.37	1.8
1329.11	4.2	1330.55	2.6	1332.39	1.8
1329.13	4.1	1330.57	2.6	1332.41	1.8
1329.15	4.2	1330.59	2.6	1332.43	1.7
1329.17	4.2	1331.01	2.5	1332.45	1.7
1329.19	4.1	1331.03	2.5	1332.47	1.7
1329.21	4	1331.05	2.5	1332.49	1.7
1329.23	3.9	1331.07	2.5	1332.51	1.7
1329.25	4	1331.09	2.4	1332.53	1.7
1329.27	4	1331.11	2.4	1332.55	1.7
1329.29	3.9	1331.13	2.4	1332.57	1.7
1329.31	4	1331.15	2.3	1332.59	1.7
1329.33	4	1331.17	2.3	1333.01	1.7
1329.35	3.9	1331.19	2.3	1333.03	1.7
1329.37	4	1331.21	2.3	1333.05	1.7

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1333.07	1.7	1334.51	1.5	1336.35	1.4
1333.09	1.7	1334.53	1.5	1336.37	1.4
1333.11	1.7	1334.55	1.5	1336.39	1.4
1333.13	1.7	1334.57	1.5	1336.41	1.4
1333.15	1.7	1334.59	1.5	1336.43	1.4
1333.17	1.7	1335.01	1.5	1336.45	1.4
1333.19	1.7	1335.03	1.5	1336.47	1.4
1333.21	1.6	1335.05	1.5	1336.49	1.4
1333.23	1.6	1335.07	1.5	1336.51	1.4
1333.25	1.6	1335.09	1.5	1336.53	1.4
1333.27	1.6	1335.11	1.5	1336.55	1.4
1333.29	1.6	1335.13	1.5	1336.57	1.4
1333.31	1.6	1335.15	1.5	1336.59	1.4
1333.33	1.6	1335.17	1.5	1337.01	1.4
1333.35	1.6	1335.19	1.5	1337.03	1.4
1333.37	1.6	1335.21	1.5	1337.05	1.4
1333.39	1.6	1335.23	1.5	1337.07	1.4
1333.41	1.6	1335.25	1.4	1337.09	1.4
1333.43	1.6	1335.27	1.5	1337.11	1.4
1333.45	1.6	1335.29	1.5	1337.13	1.4
1333.47	1.6	1335.31	1.5	1337.15	1.4
1333.49	1.6	1335.33	1.5	1337.17	1.4
1333.51	1.6	1335.35	1.5	1337.19	1.4
1333.53	1.6	1335.37	1.5	1337.21	1.4
1333.55	1.6	1335.39	1.4	1337.23	1.4
1333.57	1.6	1335.41	1.4	1337.25	1.4
1333.59	1.6	1335.43	1.4	1337.27	1.4
1334.01	1.6	1335.45	1.4	1337.29	1.4
1334.03	1.6	1335.47	1.5	1337.31	1.4
1334.05	1.6	1335.49	1.4	1337.33	1.4
1334.07	1.6	1335.51	1.5	1337.35	1.4
1334.09	1.6	1335.53	1.4	1337.37	1.4
1334.11	1.6	1335.55	1.4	1337.39	1.4
1334.13	1.6	1335.57	1.4	1337.41	1.4
1334.15	1.5	1335.59	1.4	1337.43	1.4
1334.17	1.5	1336.01	1.4	1337.45	1.4
1334.19	1.6	1336.03	1.4	1337.47	1.4
1334.21	1.5	1336.05	1.4	1337.49	1.4
1334.23	1.5	1336.07	1.4	1337.51	1.4
1334.25	1.5	1336.09	1.4	1337.53	1.4
1334.27	1.5	1336.11	1.4	1337.55	1.4
1334.29	1.5	1336.13	1.4	1337.57	1.4
1334.31	1.5	1336.15	1.4	1337.59	1.4
1334.33	1.5	1336.17	1.4	1338.01	1.4
1334.35	1.5	1336.19	1.4	1338.03	1.4
1334.37	1.5	1336.21	1.4	1338.05	1.4
1334.39	1.5	1336.23	1.4	1338.07	1.4
1334.41	1.5	1336.25	1.4	1338.09	1.4
1334.43	1.5	1336.27	1.4	1338.11	1.4
1334.45	1.5	1336.29	1.4	1338.13	1.4
1334.47	1.5	1336.31	1.4	1338.15	1.4
1334.49	1.5	1336.33	1.4	1338.17	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1338.19	1.4	1340.03	9.4	1341.47	6.3
1338.21	1.4	1340.05	9	1341.49	6.2
1338.23	1.4	1340.07	8.8	1341.51	6.2
1338.25	1.3	1340.09	8.4	1341.53	5.9
1338.27	1.4	1340.11	8.2	1341.55	6
1338.29	1.4	1340.13	7.9	1341.57	6.2
1338.31	1.4	1340.15	7.8	1341.59	6
1338.33	1.3	1340.17	8	1342.01	6.2
1338.35	1.3	1340.19	7.6	1342.03	6.3
1338.37	1.4	1340.21	7.3	1342.05	5.9
1338.39	1.4	1340.23	7.4	1342.07	5.6
1338.41	1.4	1340.25	7.4	1342.09	5.4
1338.43	1.3	1340.27	7.3	1342.11	5.3
1338.45	1.4	1340.29	7.2	1342.13	5.1
1338.47	1.3	1340.31	6.9	1342.15	5.1
1338.49	1.4	1340.33	6.6	1342.17	5
1338.51	1.4	1340.35	6.5	1342.19	5
1338.53	1.4	1340.37	6.4	1342.21	4.8
1338.55	1.4	1340.39	6.3	1342.23	4.7
1338.57	1.4	1340.41	6.1	1342.25	4.8
1338.59	1.4	1340.43	5.9	1342.27	4.8
1339.01	1.4	1340.45	5.9	1342.29	4.8
1339.03	1.5	1340.47	5.7	1342.31	4.7
1339.05	1.5	1340.49	5.7	1342.33	4.6
1339.07	1.5	1340.51	5.6	1342.35	4.7
1339.09	1.6	1340.53	5.5	1342.37	4.7
1339.11	1.6	1340.55	5.3	1342.39	4.8
1339.13	1.7	1340.57	5.2	1342.41	5.1
1339.15	1.8	1340.59	5.1	1342.43	5
1339.17	1.9	1341.01	5	1342.45	4.8
1339.19	1.9	1341.03	5	1342.47	4.5
1339.21	2	1341.05	5.1	1342.49	4.4
1339.23	2.1	1341.07	5	1342.51	4.4
1339.25	2.1	1341.09	4.8	1342.53	4.4
1339.27	2.2	1341.11	4.8	1342.55	4.4
1339.29	2.3	1341.13	4.8	1342.57	4.4
1339.31	2.3	1341.15	4.9	1342.59	4.3
1339.33	2.3	1341.17	5.1	1343.01	4.3
1339.35	2.4	1341.19	5.3	1343.03	4.3
1339.37	2.5	1341.21	5.5	1343.05	4.3
1339.39	2.5	1341.23	5.6	1343.07	4.3
1339.41	2.6	1341.25	5.6	1343.09	4.3
1339.43	3.1	1341.27	5.9	1343.11	4.2
1339.45	17.4	1341.29	6.4	1343.13	4
1339.47	18.1	1341.31	6.4	1343.15	3.9
1339.49	15.3	1341.33	6.2	1343.17	3.8
1339.51	13.4	1341.35	6.1	1343.19	3.9
1339.53	11.5	1341.37	5.9	1343.21	3.9
1339.55	10.7	1341.39	5.9	1343.23	3.9
1339.57	10.2	1341.41	6	1343.25	3.9
1339.59	9.9	1341.43	6.1	1343.27	3.9
1340.01	9.4	1341.45	6.1	1343.29	3.8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 2

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1343.31	3.7	1345.15	2.2	1346.59	1.7
1343.33	3.8	1345.17	2.2	1347.01	1.7
1343.35	3.8	1345.19	2.2	1347.03	1.7
1343.37	3.7	1345.21	2.2	1347.05	1.6
1343.39	3.7	1345.23	2.2	1347.07	1.6
1343.41	3.7	1345.25	2.1	1347.09	1.7
1343.43	3.7	1345.27	2.1	1347.11	1.6
1343.45	3.6	1345.29	2.1	1347.13	1.6
1343.47	3.5	1345.31	2.1	1347.15	1.6
1343.49	3.5	1345.33	2.1	1347.17	1.6
1343.51	3.4	1345.35	2	1347.19	1.6
1343.53	3.4	1345.37	2	1347.21	1.6
1343.55	3.4	1345.39	2	1347.23	1.6
1343.57	3.3	1345.41	2	1347.25	1.6
1343.59	3.3	1345.43	2	1347.27	1.6
1344.01	3.4	1345.45	2	1347.29	1.6
1344.03	3.4	1345.47	1.9	1347.31	1.6
1344.05	3.4	1345.49	1.9	1347.33	1.6
1344.07	3.3	1345.51	1.9	1347.35	1.6
1344.09	3.2	1345.53	1.9	1347.37	1.6
1344.11	3.2	1345.55	1.9	1347.39	1.6
1344.13	3.1	1345.57	1.9	1347.41	1.6
1344.15	3	1345.59	1.9	1347.43	1.6
1344.17	3.1	1346.01	1.9	1347.45	1.6
1344.19	3.1	1346.03	1.9	1347.47	1.6
1344.21	3	1346.05	1.9	1347.49	1.6
1344.23	2.9	1346.07	1.9	1347.51	1.6
1344.25	2.9	1346.09	1.8	1347.53	1.6
1344.27	2.9	1346.11	1.8	1347.55	1.6
1344.29	2.9	1346.13	1.8	1347.57	1.6
1344.31	2.8	1346.15	1.8	1347.59	1.6
1344.33	2.8	1346.17	1.8	1348.01	1.6
1344.35	2.7	1346.19	1.8	1348.03	1.5
1344.37	2.7	1346.21	1.8	1348.05	1.6
1344.39	2.7	1346.23	1.8	1348.07	1.5
1344.41	2.6	1346.25	1.8	1348.09	1.4
1344.43	2.6	1346.27	1.8	Average	3.1
1344.45	2.6	1346.29	1.8		
1344.47	2.5	1346.31	1.7		
1344.49	2.5	1346.33	1.7		
1344.51	2.5	1346.35	1.7		
1344.53	2.5	1346.37	1.7		
1344.55	2.5	1346.39	1.7		
1344.57	2.4	1346.41	1.7		
1344.59	2.4	1346.43	1.7		
1345.01	2.4	1346.45	1.7		
1345.03	2.4	1346.47	1.7		
1345.05	2.3	1346.49	1.7		
1345.07	2.3	1346.51	1.7		
1345.09	2.3	1346.53	1.7		
1345.11	2.3	1346.55	1.7		
1345.13	2.3	1346.57	1.7		

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1435.51	2.5	1437.35	1.8	1439.19	1.4
1435.53	2.3	1437.37	1.8	1439.21	1.4
1435.55	2.4	1437.39	1.8	1439.23	1.4
1435.57	2.4	1437.41	1.8	1439.25	1.4
1435.59	2.4	1437.43	1.8	1439.27	1.4
1436.01	2.5	1437.45	1.7	1439.29	1.4
1436.03	2.5	1437.47	1.7	1439.31	1.4
1436.05	2.4	1437.49	1.7	1439.33	1.4
1436.07	2.4	1437.51	1.7	1439.35	1.4
1436.09	2.4	1437.53	1.7	1439.37	1.3
1436.11	2.4	1437.55	1.7	1439.39	1.3
1436.13	2.4	1437.57	1.7	1439.41	1.3
1436.15	2.4	1437.59	1.6	1439.43	1.4
1436.17	2.4	1438.01	1.6	1439.45	1.4
1436.19	2.5	1438.03	1.6	1439.47	1.3
1436.21	2.5	1438.05	1.6	1439.49	1.3
1436.23	2.4	1438.07	1.6	1439.51	1.3
1436.25	2.5	1438.09	1.6	1439.53	1.3
1436.27	2.4	1438.11	1.6	1439.55	1.3
1436.29	2.4	1438.13	1.5	1439.57	1.3
1436.31	2.4	1438.15	1.5	1439.59	1.3
1436.33	2.4	1438.17	1.5	1440.01	1.3
1436.35	2.4	1438.19	1.5	1440.03	1.3
1436.37	2.3	1438.21	1.5	1440.05	1.3
1436.39	2.3	1438.23	1.5	1440.07	1.3
1436.41	2.3	1438.25	1.5	1440.09	1.3
1436.43	2.3	1438.27	1.5	1440.11	1.3
1436.45	2.3	1438.29	1.5	1440.13	1.3
1436.47	2.2	1438.31	1.5	1440.15	1.3
1436.49	2.2	1438.33	1.5	1440.17	1.3
1436.51	2.3	1438.35	1.5	1440.19	1.3
1436.53	2.2	1438.37	1.5	1440.21	1.3
1436.55	2.2	1438.39	1.5	1440.23	1.3
1436.57	2.2	1438.41	1.5	1440.25	1.3
1436.59	2.2	1438.43	1.4	1440.27	1.3
1437.01	2.1	1438.45	1.4	1440.29	1.3
1437.03	2.1	1438.47	1.4	1440.31	1.3
1437.05	2.1	1438.49	1.4	1440.33	1.3
1437.07	2.1	1438.51	1.4	1440.35	1.3
1437.09	2.1	1438.53	1.4	1440.37	1.3
1437.11	2.1	1438.55	1.4	1440.39	1.3
1437.13	2	1438.57	1.4	1440.41	1.3
1437.15	2	1438.59	1.4	1440.43	1.3
1437.17	2	1439.01	1.4	1440.45	1.3
1437.19	2	1439.03	1.4	1440.47	1.3
1437.21	2	1439.05	1.4	1440.49	1.3
1437.23	2	1439.07	1.4	1440.51	1.3
1437.25	1.9	1439.09	1.4	1440.53	1.3
1437.27	1.9	1439.11	1.4	1440.55	1.3
1437.29	1.9	1439.13	1.4	1440.57	1.3
1437.31	1.9	1439.15 C - 45	1.4	1440.59	1.2
1437.33	1.8	1439.17	1.4	1441.01	1.3



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1441.03	1.3	1442.47	1.2	1444.31	1.2
1441.05	1.3	1442.49	1.2	1444.33	1.2
1441.07	1.3	1442.51	1.2	1444.35	1.2
1441.09	1.3	1442.53	1.2	1444.37	1.2
1441.11	1.2	1442.55	1.2	1444.39	1.2
1441.13	1.2	1442.57	1.2	1444.41	1.2
1441.15	1.2	1442.59	1.2	1444.43	1.2
1441.17	1.3	1443.01	1.2	1444.45	1.2
1441.19	1.3	1443.03	1.2	1444.47	1.2
1441.21	1.3	1443.05	1.2	1444.49	1.2
1441.23	1.2	1443.07	1.2	1444.51	1.2
1441.25	1.3	1443.09	1.2	1444.53	1.2
1441.27	1.2	1443.11	1.2	1444.55	1.2
1441.29	1.2	1443.13	1.2	1444.57	1.2
1441.31	1.2	1443.15	1.2	1444.59	1.2
1441.33	1.2	1443.17	1.2	1445.01	1.2
1441.35	1.2	1443.19	1.2	1445.03	1.2
1441.37	1.2	1443.21	1.2	1445.05	1.2
1441.39	1.2	1443.23	1.2	1445.07	1.2
1441.41	1.2	1443.25	1.2	1445.09	1.2
1441.43	1.2	1443.27	1.2	1445.11	1.2
1441.45	1.2	1443.29	1.2	1445.13	1.2
1441.47	1.2	1443.31	1.2	1445.15	1.2
1441.49	1.2	1443.33	1.2	1445.17	1.2
1441.51	1.2	1443.35	1.2	1445.19	1.2
1441.53	1.2	1443.37	1.2	1445.21	1.2
1441.55	1.2	1443.39	1.2	1445.23	1.2
1441.57	1.2	1443.41	1.2	1445.25	1.2
1441.59	1.2	1443.43	1.2	1445.27	1.2
1442.01	1.2	1443.45	1.2	1445.29	1.3
1442.03	1.2	1443.47	1.2	1445.31	1.3
1442.05	1.2	1443.49	1.2	1445.33	1.4
1442.07	1.2	1443.51	1.2	1445.35	1.4
1442.09	1.2	1443.53	1.2	1445.37	1.4
1442.11	1.2	1443.55	1.2	1445.39	1.5
1442.13	1.2	1443.57	1.2	1445.41	1.5
1442.15	1.2	1443.59	1.2	1445.43	1.6
1442.17	1.2	1444.01	1.2	1445.45	1.6
1442.19	1.2	1444.03	1.2	1445.47	1.6
1442.21	1.2	1444.05	1.2	1445.49	1.6
1442.23	1.2	1444.07	1.2	1445.51	1.6
1442.25	1.2	1444.09	1.2	1445.53	1.6
1442.27	1.2	1444.11	1.2	1445.55	1.6
1442.29	1.2	1444.13	1.2	1445.57	1.6
1442.31	1.2	1444.15	1.2	1445.59	1.6
1442.33	1.2	1444.17	1.2	1446.01	1.7
1442.35	1.2	1444.19	1.2	1446.03	1.7
1442.37	1.2	1444.21	1.2	1446.05	1.7
1442.39	1.2	1444.23	1.2	1446.07	1.7
1442.41	1.2	1444.25C - 46	1.2	1446.09	1.7
1442.43	1.2	1444.27	1.2	1446.11	2
1442.45	1.2	1444.29	1.2	1446.13	5



**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1446.15	5.6	1447.59	2.8	1449.43	2.6
1446.17	5.5	1448.01	2.9	1449.45	2.6
1446.19	4.9	1448.03	2.8	1449.47	2.5
1446.21	4.4	1448.05	2.8	1449.49	2.5
1446.23	4	1448.07	2.7	1449.51	2.5
1446.25	3.9	1448.09	2.7	1449.53	2.4
1446.27	3.8	1448.11	2.7	1449.55	2.4
1446.29	3.7	1448.13	2.7	1449.57	2.4
1446.31	3.6	1448.15	2.7	1449.59	2.4
1446.33	3.5	1448.17	2.7	1450.01	2.3
1446.35	3.5	1448.19	2.8	1450.03	2.4
1446.37	3.5	1448.21	2.7	1450.05	2.4
1446.39	3.4	1448.23	2.7	1450.07	2.4
1446.41	3.3	1448.25	2.7	1450.09	2.3
1446.43	3.3	1448.27	2.7	1450.11	2.3
1446.45	3.2	1448.29	2.8	1450.13	2.2
1446.47	3.2	1448.31	2.8	1450.15	2.2
1446.49	3.2	1448.33	2.8	1450.17	2.3
1446.51	3.1	1448.35	2.7	1450.19	2.2
1446.53	3	1448.37	2.7	1450.21	2.2
1446.55	3	1448.39	2.6	1450.23	2.2
1446.57	3	1448.41	2.7	1450.25	2.1
1446.59	3	1448.43	2.6	1450.27	2.1
1447.01	2.9	1448.45	2.6	1450.29	2.1
1447.03	2.9	1448.47	2.6	1450.31	2.1
1447.05	2.9	1448.49	2.7	1450.33	2
1447.07	2.8	1448.51	2.7	1450.35	2
1447.09	2.8	1448.53	2.8	1450.37	2
1447.11	2.8	1448.55	2.8	1450.39	2
1447.13	2.7	1448.57	2.7	1450.41	1.9
1447.15	2.7	1448.59	2.7	1450.43	1.9
1447.17	2.7	1449.01	2.7	1450.45	1.9
1447.19	2.6	1449.03	2.7	1450.47	1.9
1447.21	2.6	1449.05	2.6	1450.49	1.9
1447.23	2.6	1449.07	2.6	1450.51	1.9
1447.25	2.6	1449.09	2.6	1450.53	1.8
1447.27	2.5	1449.11	2.5	1450.55	1.8
1447.29	2.5	1449.13	2.6	1450.57	1.8
1447.31	2.5	1449.15	2.5	1450.59	1.8
1447.33	2.5	1449.17	2.6	1451.01	1.8
1447.35	2.5	1449.19	2.6	1451.03	1.8
1447.37	2.5	1449.21	2.6	1451.05	1.8
1447.39	2.5	1449.23	2.6	1451.07	1.7
1447.41	2.5	1449.25	2.6	1451.09	1.7
1447.43	2.6	1449.27	2.6	1451.11	1.7
1447.45	2.6	1449.29	2.6	1451.13	1.7
1447.47	2.6	1449.31	2.6	1451.15	1.7
1447.49	2.6	1449.33	2.6	1451.17	1.7
1447.51	2.7	1449.35	2.6	1451.19	1.6
1447.53	2.7	1449.37	2.5	1451.21	1.6
1447.55	2.8	1449.39 C - 47	2.5	1451.23	1.6
1447.57	2.8	1449.41	2.5	1451.25	1.6



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1451.27	1.6	1453.11	1.4	1454.55	1.3
1451.29	1.6	1453.13	1.4	1454.57	1.3
1451.31	1.6	1453.15	1.3	1454.59	1.2
1451.33	1.6	1453.17	1.3	1455.01	1.3
1451.35	1.6	1453.19	1.3	1455.03	1.3
1451.37	1.6	1453.21	1.3	1455.05	1.3
1451.39	1.5	1453.23	1.3	1455.07	1.3
1451.41	1.5	1453.25	1.3	1455.09	1.2
1451.43	1.5	1453.27	1.3	1455.11	1.3
1451.45	1.5	1453.29	1.3	1455.13	1.2
1451.47	1.5	1453.31	1.3	1455.15	1.2
1451.49	1.5	1453.33	1.3	1455.17	1.2
1451.51	1.5	1453.35	1.3	1455.19	1.2
1451.53	1.5	1453.37	1.3	1455.21	1.2
1451.55	1.5	1453.39	1.3	1455.23	1.2
1451.57	1.5	1453.41	1.3	1455.25	1.2
1451.59	1.5	1453.43	1.3	1455.27	1.2
1452.01	1.5	1453.45	1.3	1455.29	1.2
1452.03	1.5	1453.47	1.3	1455.31	1.2
1452.05	1.5	1453.49	1.3	1455.33	1.2
1452.07	1.5	1453.51	1.3	1455.35	1.2
1452.09	1.5	1453.53	1.3	1455.37	1.2
1452.11	1.5	1453.55	1.3	1455.39	1.2
1452.13	1.5	1453.57	1.3	1455.41	1.2
1452.15	1.5	1453.59	1.3	1455.43	1.2
1452.17	1.5	1454.01	1.3	1455.45	1.2
1452.19	1.5	1454.03	1.3	1455.47	1.2
1452.21	1.4	1454.05	1.3	1455.49	1.2
1452.23	1.4	1454.07	1.3	1455.51	1.2
1452.25	1.4	1454.09	1.3	1455.53	1.2
1452.27	1.4	1454.11	1.3	1455.55	1.2
1452.29	1.4	1454.13	1.3	1455.57	1.2
1452.31	1.4	1454.15	1.3	1455.59	1.2
1452.33	1.4	1454.17	1.3	1456.01	1.2
1452.35	1.4	1454.19	1.3	1456.03	1.2
1452.37	1.4	1454.21	1.3	1456.05	1.2
1452.39	1.4	1454.23	1.3	1456.07	1.2
1452.41	1.4	1454.25	1.3	1456.09	1.2
1452.43	1.4	1454.27	1.3	1456.11	1.2
1452.45	1.4	1454.29	1.3	1456.13	1.2
1452.47	1.4	1454.31	1.3	1456.15	1.2
1452.49	1.4	1454.33	1.3	1456.17	1.2
1452.51	1.4	1454.35	1.3	1456.19	1.2
1452.53	1.4	1454.37	1.3	1456.21	1.2
1452.55	1.4	1454.39	1.3	1456.23	1.2
1452.57	1.4	1454.41	1.3	1456.25	1.2
1452.59	1.4	1454.43	1.3	1456.27	1.2
1453.01	1.4	1454.45	1.3	1456.29	1.2
1453.03	1.4	1454.47	1.3	1456.31	1.3
1453.05	1.4	1454.49	1.3	1456.33	1.3
1453.07	1.3	1454.51 C - 48	1.3	1456.35	1.3
1453.09	1.4	1454.53	1.3	1456.37	1.3



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1456.39	1.4	1458.23	3	1500.07	2.9
1456.41	1.4	1458.25	3	1500.09	2.9
1456.43	1.5	1458.27	2.9	1500.11	2.9
1456.45	1.5	1458.29	2.9	1500.13	2.9
1456.47	1.5	1458.31	2.9	1500.15	2.9
1456.49	1.5	1458.33	2.8	1500.17	3
1456.51	1.5	1458.35	2.8	1500.19	3
1456.53	1.6	1458.37	2.8	1500.21	2.9
1456.55	1.6	1458.39	2.7	1500.23	2.9
1456.57	1.6	1458.41	2.7	1500.25	2.9
1456.59	1.5	1458.43	2.7	1500.27	2.9
1457.01	1.6	1458.45	2.7	1500.29	2.9
1457.03	1.6	1458.47	2.7	1500.31	2.9
1457.05	1.6	1458.49	2.6	1500.33	2.8
1457.07	1.6	1458.51	2.6	1500.35	2.8
1457.09	1.6	1458.53	2.5	1500.37	2.8
1457.11	1.6	1458.55	2.5	1500.39	2.8
1457.13	1.6	1458.57	2.5	1500.41	2.8
1457.15	1.7	1458.59	2.5	1500.43	2.9
1457.17	1.7	1459.01	2.5	1500.45	2.9
1457.19	1.8	1459.03	2.5	1500.47	2.8
1457.21	4.2	1459.05	2.5	1500.49	2.8
1457.23	5.4	1459.07	2.5	1500.51	2.9
1457.25	5.1	1459.09	2.4	1500.53	2.9
1457.27	4.8	1459.11	2.4	1500.55	2.8
1457.29	4.5	1459.13	2.4	1500.57	2.8
1457.31	4.3	1459.15	2.4	1500.59	2.8
1457.33	4.2	1459.17	2.4	1501.01	2.8
1457.35	4.1	1459.19	2.4	1501.03	2.7
1457.37	4	1459.21	2.4	1501.05	2.7
1457.39	3.8	1459.23	2.4	1501.07	2.8
1457.41	3.7	1459.25	2.4	1501.09	2.7
1457.43	3.7	1459.27	2.4	1501.11	2.6
1457.45	3.7	1459.29	2.5	1501.13	2.6
1457.47	3.7	1459.31	2.5	1501.15	2.7
1457.49	3.6	1459.33	2.6	1501.17	2.7
1457.51	3.5	1459.35	2.6	1501.19	2.7
1457.53	3.5	1459.37	2.5	1501.21	2.7
1457.55	3.4	1459.39	2.6	1501.23	2.6
1457.57	3.4	1459.41	2.7	1501.25	2.6
1457.59	3.3	1459.43	2.8	1501.27	2.6
1458.01	3.3	1459.45	2.9	1501.29	2.6
1458.03	3.2	1459.47	3	1501.31	2.6
1458.05	3.2	1459.49	2.9	1501.33	2.6
1458.07	3.3	1459.51	2.9	1501.35	2.6
1458.09	3.3	1459.53	2.9	1501.37	2.5
1458.11	3.2	1459.55	2.9	1501.39	2.5
1458.13	3.2	1459.57	2.8	1501.41	2.5
1458.15	3.1	1459.59	2.8	1501.43	2.5
1458.17	3.1	1500.01	2.8	1501.45	2.5
1458.19	3.1	1500.03	2.9	1501.47	2.4
1458.21	3	1500.05	2.9	1501.49	2.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1501.51	2.4	1503.35	1.5	1505.19	1.4
1501.53	2.4	1503.37	1.5	1505.21	1.4
1501.55	2.4	1503.39	1.5	1505.23	1.4
1501.57	2.3	1503.41	1.5	1505.25	1.3
1501.59	2.3	1503.43	1.5	1505.27	1.3
1502.01	2.3	1503.45	1.5	1505.29	1.3
1502.03	2.2	1503.47	1.5	1505.31	1.3
1502.05	2.2	1503.49	1.5	1505.33	1.3
1502.07	2.2	1503.51	1.5	1505.35	1.3
1502.09	2.2	1503.53	1.5	1505.37	1.3
1502.11	2.2	1503.55	1.5	1505.39	1.3
1502.13	2.1	1503.57	1.4	1505.41	1.3
1502.15	2.1	1503.59	1.4	1505.43	1.3
1502.17	2.1	1504.01	1.4	1505.45	1.3
1502.19	2	1504.03	1.5	1505.47	1.3
1502.21	2	1504.05	1.4	1505.49	1.3
1502.23	2	1504.07	1.4	1505.51	1.3
1502.25	2	1504.09	1.4	1505.53	1.3
1502.27	2	1504.11	1.4	1505.55	1.3
1502.29	1.9	1504.13	1.4	1505.57	1.3
1502.31	1.9	1504.15	1.4	1505.59	1.3
1502.33	1.9	1504.17	1.4	1506.01	1.3
1502.35	1.9	1504.19	1.4	1506.03	1.3
1502.37	1.9	1504.21	1.4	1506.05	1.3
1502.39	1.8	1504.23	1.4	1506.07	1.3
1502.41	1.8	1504.25	1.4	1506.09	1.3
1502.43	1.8	1504.27	1.4	1506.11	1.3
1502.45	1.8	1504.29	1.4	1506.13	1.3
1502.47	1.8	1504.31	1.4	1506.15	1.3
1502.49	1.7	1504.33	1.4	1506.17	1.3
1502.51	1.7	1504.35	1.4	1506.19	1.3
1502.53	1.7	1504.37	1.4	1506.21	1.3
1502.55	1.7	1504.39	1.4	1506.23	1.3
1502.57	1.7	1504.41	1.4	1506.25	1.3
1502.59	1.7	1504.43	1.4	1506.27	1.3
1503.01	1.7	1504.45	1.4	1506.29	1.3
1503.03	1.6	1504.47	1.4	1506.31	1.3
1503.05	1.6	1504.49	1.4	1506.33	1.3
1503.07	1.6	1504.51	1.4	1506.35	1.3
1503.09	1.6	1504.53	1.4	1506.37	1.3
1503.11	1.6	1504.55	1.4	1506.39	1.3
1503.13	1.6	1504.57	1.4	1506.41	1.3
1503.15	1.6	1504.59	1.4	1506.43	1.3
1503.17	1.6	1505.01	1.4	1506.45	1.3
1503.19	1.6	1505.03	1.4	1506.47	1.3
1503.21	1.6	1505.05	1.4	1506.49	1.3
1503.23	1.6	1505.07	1.4	1506.51	1.3
1503.25	1.5	1505.09	1.4	1506.53	1.3
1503.27	1.5	1505.11	1.4	1506.55	1.3
1503.29	1.6	1505.13	1.3	1506.57	1.3
1503.31	1.5	1505.15C - 50	1.4	1506.59	1.3
1503.33	1.5	1505.17	1.4	1507.01	1.3



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

• Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1507.03	1.3	1508.47	1.2	1510.31	1.2
1507.05	1.3	1508.49	1.2	1510.33	1.2
1507.07	1.3	1508.51	1.2	1510.35	1.2
1507.09	1.3	1508.53	1.2	1510.37	1.2
1507.11	1.3	1508.55	1.2	1510.39	1.2
1507.13	1.3	1508.57	1.2	1510.41	1.2
1507.15	1.3	1508.59	1.2	1510.43	1.2
1507.17	1.3	1509.01	1.2	1510.45	1.2
1507.19	1.3	1509.03	1.2	1510.47	1.2
1507.21	1.3	1509.05	1.2	1510.49	1.2
1507.23	1.3	1509.07	1.2	1510.51	1.2
1507.25	1.3	1509.09	1.2	1510.53	1.2
1507.27	1.3	1509.11	1.2	1510.55	1.2
1507.29	1.3	1509.13	1.2	1510.57	1.2
1507.31	1.3	1509.15	1.2	1510.59	1.2
1507.33	1.3	1509.17	1.2	1511.01	1.2
1507.35	1.3	1509.19	1.2	1511.03	1.2
1507.37	1.2	1509.21	1.2	1511.05	1.2
1507.39	1.3	1509.23	1.2	1511.07	1.2
1507.41	1.2	1509.25	1.2	1511.09	1.2
1507.43	1.2	1509.27	1.2	1511.11	1.2
1507.45	1.2	1509.29	1.2	1511.13	1.2
1507.47	1.3	1509.31	1.2	1511.15	1.2
1507.49	1.3	1509.33	1.2	1511.17	1.2
1507.51	1.3	1509.35	1.2	1511.19	1.2
1507.53	1.3	1509.37	1.2	1511.21	1.2
1507.55	1.3	1509.39	1.2	1511.23	1.3
1507.57	1.2	1509.41	1.2	1511.25	1.3
1507.59	1.3	1509.43	1.2	1511.27	1.2
1508.01	1.3	1509.45	1.2	1511.29	1.3
1508.03	1.2	1509.47	1.2	1511.31	1.4
1508.05	1.3	1509.49	1.2	1511.33	1.4
1508.07	1.2	1509.51	1.2	1511.35	1.4
1508.09	1.3	1509.53	1.2	1511.37	1.5
1508.11	1.3	1509.55	1.2	1511.39	1.5
1508.13	1.2	1509.57	1.2	1511.41	1.6
1508.15	1.2	1509.59	1.2	1511.43	1.6
1508.17	1.2	1510.01	1.2	1511.45	1.6
1508.19	1.2	1510.03	1.2	1511.47	1.5
1508.21	1.2	1510.05	1.2	1511.49	1.6
1508.23	1.2	1510.07	1.2	1511.51	1.6
1508.25	1.2	1510.09	1.2	1511.53	1.6
1508.27	1.2	1510.11	1.2	1511.55	1.6
1508.29	1.2	1510.13	1.2	1511.57	1.6
1508.31	1.2	1510.15	1.2	1511.59	1.6
1508.33	1.2	1510.17	1.2	1512.01	1.6
1508.35	1.2	1510.19	1.2	1512.03	1.6
1508.37	1.2	1510.21	1.2	1512.05	1.7
1508.39	1.2	1510.23	1.2	1512.07	3.4
1508.41	1.2	1510.25	1.2	1512.09	4.7
1508.43	1.2	1510.27	1.2	1512.11	4.4
1508.45	1.2	1510.29	1.2	1512.13	4.5

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1512.15	4.3	1513.59	2.2	1515.43	2.6
1512.17	4.1	1514.01	2.2	1515.45	2.6
1512.19	3.9	1514.03	2.2	1515.47	2.6
1512.21	3.9	1514.05	2.2	1515.49	2.6
1512.23	3.8	1514.07	2.2	1515.51	2.6
1512.25	3.7	1514.09	2.2	1515.53	2.6
1512.27	3.6	1514.11	2.2	1515.55	2.6
1512.29	3.7	1514.13	2.2	1515.57	2.5
1512.31	3.7	1514.15	2.3	1515.59	2.6
1512.33	3.6	1514.17	2.3	1516.01	2.6
1512.35	3.5	1514.19	2.4	1516.03	2.5
1512.37	3.4	1514.21	2.5	1516.05	2.5
1512.39	3.4	1514.23	2.5	1516.07	2.5
1512.41	3.3	1514.25	2.5	1516.09	2.5
1512.43	3.2	1514.27	2.7	1516.11	2.6
1512.45	3.2	1514.29	2.7	1516.13	2.6
1512.47	3.1	1514.31	2.6	1516.15	2.6
1512.49	3.1	1514.33	2.7	1516.17	2.5
1512.51	3.1	1514.35	2.7	1516.19	2.5
1512.53	3	1514.37	2.7	1516.21	2.5
1512.55	3	1514.39	2.7	1516.23	2.5
1512.57	2.9	1514.41	2.7	1516.25	2.5
1512.59	2.9	1514.43	2.7	1516.27	2.5
1513.01	2.9	1514.45	2.6	1516.29	2.4
1513.03	2.9	1514.47	2.7	1516.31	2.4
1513.05	2.8	1514.49	2.8	1516.33	2.4
1513.07	2.7	1514.51	2.9	1516.35	2.3
1513.09	2.7	1514.53	2.9	1516.37	2.3
1513.11	2.7	1514.55	2.8	1516.39	2.3
1513.13	2.7	1514.57	2.8	1516.41	2.3
1513.15	2.6	1514.59	2.8	1516.43	2.3
1513.17	2.6	1515.01	2.9	1516.45	2.2
1513.19	2.6	1515.03	2.9	1516.47	2.2
1513.21	2.6	1515.05	2.8	1516.49	2.2
1513.23	2.5	1515.07	2.8	1516.51	2.2
1513.25	2.5	1515.09	2.8	1516.53	2.1
1513.27	2.5	1515.11	2.8	1516.55	2.1
1513.29	2.5	1515.13	2.8	1516.57	2.1
1513.31	2.5	1515.15	2.9	1516.59	2
1513.33	2.4	1515.17	2.9	1517.01	2
1513.35	2.4	1515.19	2.8	1517.03	2
1513.37	2.4	1515.21	2.7	1517.05	2
1513.39	2.4	1515.23	2.7	1517.07	2
1513.41	2.4	1515.25	2.7	1517.09	2
1513.43	2.3	1515.27	2.7	1517.11	2
1513.45	2.3	1515.29	2.7	1517.13	1.9
1513.47	2.3	1515.31	2.7	1517.15	1.9
1513.49	2.3	1515.33	2.7	1517.17	1.9
1513.51	2.3	1515.35	2.6	1517.19	1.9
1513.53	2.3	1515.37	2.6	1517.21	1.9
1513.55	2.3	1515.39 C - 52	2.6	1517.23	1.8
1513.57	2.3	1515.41	2.6	1517.25	1.8



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1517.27	1.8	1519.11	1.4	1520.55	1.3
1517.29	1.8	1519.13	1.4	1520.57	1.3
1517.31	1.8	1519.15	1.4	1520.59	1.3
1517.33	1.7	1519.17	1.4	1521.01	1.3
1517.35	1.7	1519.19	1.4	1521.03	1.3
1517.37	1.7	1519.21	1.4	1521.05	1.3
1517.39	1.7	1519.23	1.4	1521.07	1.3
1517.41	1.7	1519.25	1.4	1521.09	1.3
1517.43	1.7	1519.27	1.4	1521.11	1.3
1517.45	1.7	1519.29	1.4	1521.13	1.3
1517.47	1.7	1519.31	1.4	1521.15	1.3
1517.49	1.7	1519.33	1.4	1521.17	1.3
1517.51	1.7	1519.35	1.4	1521.19	1.3
1517.53	1.6	1519.37	1.4	1521.21	1.3
1517.55	1.6	1519.39	1.4	1521.23	1.3
1517.57	1.6	1519.41	1.4	1521.25	1.3
1517.59	1.6	1519.43	1.4	1521.27	1.3
1518.01	1.6	1519.45	1.3	1521.29	1.3
1518.03	1.6	1519.47	1.4	1521.31	1.3
1518.05	1.6	1519.49	1.4	1521.33	1.3
1518.07	1.6	1519.51	1.3	1521.35	1.3
1518.09	1.6	1519.53	1.3	1521.37	1.3
1518.11	1.6	1519.55	1.4	1521.39	1.3
1518.13	1.6	1519.57	1.4	1521.41	1.3
1518.15	1.6	1519.59	1.4	1521.43	1.3
1518.17	1.5	1520.01	1.4	1521.45	1.3
1518.19	1.5	1520.03	1.4	1521.47	1.3
1518.21	1.5	1520.05	1.3	1521.49	1.3
1518.23	1.5	1520.07	1.4	1521.51	1.3
1518.25	1.5	1520.09	1.4	1521.53	1.3
1518.27	1.5	1520.11	1.4	1521.55	1.3
1518.29	1.5	1520.13	1.4	1521.57	1.3
1518.31	1.5	1520.15	1.4	1521.59	1.3
1518.33	1.5	1520.17	1.4	1522.01	1.3
1518.35	1.5	1520.19	1.4	1522.03	1.3
1518.37	1.5	1520.21	1.3	1522.05	1.3
1518.39	1.5	1520.23	1.4	1522.07	1.3
1518.41	1.5	1520.25	1.3	1522.09	1.3
1518.43	1.5	1520.27	1.3	1522.11	1.3
1518.45	1.5	1520.29	1.3	1522.13	1.3
1518.47	1.5	1520.31	1.3	1522.15	1.3
1518.49	1.5	1520.33	1.4	1522.17	1.3
1518.51	1.5	1520.35	1.3	1522.19	1.3
1518.53	1.5	1520.37	1.3	1522.21	1.3
1518.55	1.5	1520.39	1.3	1522.23	1.3
1518.57	1.4	1520.41	1.3	1522.25	1.3
1518.59	1.4	1520.43	1.3	1522.27	1.3
1519.01	1.4	1520.45	1.3	1522.29	1.3
1519.03	1.4	1520.47	1.3	1522.31	1.3
1519.05	1.5	1520.49	1.3	1522.33	1.3
1519.07	1.4	1520.51	1.3	1522.35	1.3
1519.09	1.4	1520.53	1.3	1522.37	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1522.39	1.3	1524.23	1.4	1526.07	3.1
1522.41	1.3	1524.25	1.3	1526.09	3
1522.43	1.3	1524.27	1.4	1526.11	3
1522.45	1.3	1524.29	1.5	1526.13	3
1522.47	1.3	1524.31	1.5	1526.15	2.9
1522.49	1.3	1524.33	1.5	1526.17	2.9
1522.51	1.3	1524.35	1.5	1526.19	2.8
1522.53	1.3	1524.37	1.5	1526.21	2.9
1522.55	1.3	1524.39	1.6	1526.23	2.9
1522.57	1.3	1524.41	1.7	1526.25	2.8
1522.59	1.3	1524.43	1.7	1526.27	2.8
1523.01	1.3	1524.45	1.7	1526.29	2.8
1523.03	1.3	1524.47	1.7	1526.31	2.7
1523.05	1.3	1524.49	1.6	1526.33	2.7
1523.07	1.3	1524.51	1.7	1526.35	2.7
1523.09	1.3	1524.53	1.7	1526.37	2.7
1523.11	1.3	1524.55	1.7	1526.39	2.6
1523.13	1.3	1524.57	1.7	1526.41	2.6
1523.15	1.3	1524.59	1.8	1526.43	2.6
1523.17	1.3	1525.01	1.8	1526.45	2.6
1523.19	1.3	1525.03	1.8	1526.47	2.6
1523.21	1.3	1525.05	1.8	1526.49	2.6
1523.23	1.3	1525.07	1.8	1526.51	2.7
1523.25	1.3	1525.09	3.2	1526.53	2.7
1523.27	1.3	1525.11	5.6	1526.55	2.8
1523.29	1.3	1525.13	6.1	1526.57	3
1523.31	1.3	1525.15	5.8	1526.59	3.1
1523.33	1.3	1525.17	5	1527.01	3.1
1523.35	1.2	1525.19	4.7	1527.03	3.1
1523.37	1.2	1525.21	4.6	1527.05	3.1
1523.39	1.3	1525.23	4.4	1527.07	3.1
1523.41	1.2	1525.25	4.2	1527.09	3.2
1523.43	1.3	1525.27	4.2	1527.11	3.2
1523.45	1.3	1525.29	4.1	1527.13	3.3
1523.47	1.2	1525.31	4	1527.15	3.2
1523.49	1.2	1525.33	3.8	1527.17	3.2
1523.51	1.2	1525.35	3.8	1527.19	3.2
1523.53	1.2	1525.37	3.8	1527.21	3.1
1523.55	1.2	1525.39	3.6	1527.23	3
1523.57	1.3	1525.41	3.5	1527.25	3.1
1523.59	1.3	1525.43	3.5	1527.27	3.1
1524.01	1.2	1525.45	3.6	1527.29	3.1
1524.03	1.2	1525.47	3.5	1527.31	3
1524.05	1.2	1525.49	3.4	1527.33	3
1524.07	1.2	1525.51	3.4	1527.35	2.9
1524.09	1.2	1525.53	3.4	1527.37	3
1524.11	1.2	1525.55	3.3	1527.39	3.1
1524.13	1.2	1525.57	3.3	1527.41	3.3
1524.15	1.2	1525.59	3.2	1527.43	3.3
1524.17	1.3	1526.01	3.1	1527.45	3.2
1524.19	1.3	1526.03	3.1	1527.47	3.2
1524.21	1.4	1526.05	3.1	1527.49	3.2

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1527.51	3.2	1529.35	2.3	1531.19	1.6
1527.53	3.2	1529.37	2.3	1531.21	1.6
1527.55	3.1	1529.39	2.3	1531.23	1.6
1527.57	3.1	1529.41	2.2	1531.25	1.6
1527.59	3.1	1529.43	2.2	1531.27	1.6
1528.01	3.1	1529.45	2.1	1531.29	1.6
1528.03	3.1	1529.47	2.1	1531.31	1.6
1528.05	3.1	1529.49	2.1	1531.33	1.6
1528.07	3.1	1529.51	2.1	1531.35	1.6
1528.09	3.1	1529.53	2.1	1531.37	1.6
1528.11	3	1529.55	2	1531.39	1.6
1528.13	3	1529.57	2	1531.41	1.6
1528.15	3	1529.59	2	1531.43	1.6
1528.17	3	1530.01	2	1531.45	1.6
1528.19	2.9	1530.03	1.9	1531.47	1.5
1528.21	2.9	1530.05	1.9	1531.49	1.6
1528.23	2.9	1530.07	1.9	1531.51	1.6
1528.25	2.8	1530.09	1.9	1531.53	1.5
1528.27	2.8	1530.11	1.9	1531.55	1.5
1528.29	2.9	1530.13	1.9	1531.57	1.5
1528.31	2.9	1530.15	1.9	1531.59	1.5
1528.33	2.9	1530.17	1.9	1532.01	1.5
1528.35	2.9	1530.19	1.9	1532.03	1.5
1528.37	2.9	1530.21	1.8	1532.05	1.5
1528.39	2.8	1530.23	1.8	1532.07	1.5
1528.41	2.9	1530.25	1.8	1532.09	1.5
1528.43	2.9	1530.27	1.8	1532.11	1.5
1528.45	2.8	1530.29	1.8	1532.13	1.5
1528.47	2.9	1530.31	1.8	1532.15	1.5
1528.49	2.8	1530.33	1.8	1532.17	1.5
1528.51	2.8	1530.35	1.8	1532.19	1.5
1528.53	2.8	1530.37	1.8	1532.21	1.5
1528.55	2.8	1530.39	1.7	1532.23	1.5
1528.57	2.7	1530.41	1.7	1532.25	1.5
1528.59	2.7	1530.43	1.7	1532.27	1.5
1529.01	2.7	1530.45	1.7	1532.29	1.5
1529.03	2.7	1530.47	1.7	1532.31	1.5
1529.05	2.7	1530.49	1.7	1532.33	1.5
1529.07	2.8	1530.51	1.7	1532.35	1.5
1529.09	2.7	1530.53	1.7	1532.37	1.5
1529.11	2.6	1530.55	1.7	1532.39	1.5
1529.13	2.6	1530.57	1.7	1532.41	1.5
1529.15	2.6	1530.59	1.7	1532.43	1.5
1529.17	2.6	1531.01	1.7	1532.45	1.5
1529.19	2.5	1531.03	1.7	1532.47	1.4
1529.21	2.5	1531.05	1.6	1532.49	1.4
1529.23	2.5	1531.07	1.6	1532.51	1.4
1529.25	2.4	1531.09	1.6	1532.53	1.5
1529.27	2.4	1531.11	1.6	1532.55	1.4
1529.29	2.3	1531.13	1.6	1532.57	1.5
1529.31	2.3	1531.15 C - 55	1.6	1532.59	1.5
1529.33	2.3	1531.17	1.6	1533.01	1.4



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1533.03	1.4	1534.47	1.4	1536.31	1.3
1533.05	1.4	1534.49	1.3	1536.33	1.3
1533.07	1.4	1534.51	1.3	1536.35	1.3
1533.09	1.4	1534.53	1.4	1536.37	1.3
1533.11	1.4	1534.55	1.4	1536.39	1.3
1533.13	1.4	1534.57	1.3	1536.41	1.3
1533.15	1.4	1534.59	1.3	1536.43	1.3
1533.17	1.4	1535.01	1.3	1536.45	1.3
1533.19	1.4	1535.03	1.3	1536.47	1.3
1533.21	1.4	1535.05	1.3	1536.49	1.3
1533.23	1.4	1535.07	1.3	1536.51	1.3
1533.25	1.4	1535.09	1.3	1536.53	1.3
1533.27	1.4	1535.11	1.3	1536.55	1.3
1533.29	1.4	1535.13	1.3	1536.57	1.3
1533.31	1.4	1535.15	1.3	1536.59	1.3
1533.33	1.4	1535.17	1.3	1537.01	1.3
1533.35	1.4	1535.19	1.3	1537.03	1.3
1533.37	1.4	1535.21	1.3	1537.05	1.3
1533.39	1.4	1535.23	1.3	1537.07	1.3
1533.41	1.4	1535.25	1.3	1537.09	1.3
1533.43	1.4	1535.27	1.3	1537.11	1.3
1533.45	1.4	1535.29	1.3	1537.13	1.3
1533.47	1.4	1535.31	1.3	1537.15	1.3
1533.49	1.4	1535.33	1.3	1537.17	1.3
1533.51	1.4	1535.35	1.3	1537.19	1.3
1533.53	1.4	1535.37	1.3	1537.21	1.3
1533.55	1.4	1535.39	1.3	1537.23	1.3
1533.57	1.4	1535.41	1.3	1537.25	1.3
1533.59	1.4	1535.43	1.3	1537.27	1.3
1534.01	1.4	1535.45	1.3	1537.29	1.3
1534.03	1.4	1535.47	1.3	1537.31	1.2
1534.05	1.4	1535.49	1.3	1537.33	1.3
1534.07	1.4	1535.51	1.3	1537.35	1.3
1534.09	1.4	1535.53	1.3	1537.37	1.3
1534.11	1.4	1535.55	1.3	1537.39	1.2
1534.13	1.4	1535.57	1.3	1537.41	1.3
1534.15	1.4	1535.59	1.3	1537.43	1.2
1534.17	1.4	1536.01	1.3	1537.45	1.3
1534.19	1.3	1536.03	1.3	1537.47	1.2
1534.21	1.3	1536.05	1.3	1537.49	1.2
1534.23	1.3	1536.07	1.3	1537.51	1.2
1534.25	1.4	1536.09	1.3	1537.53	1.3
1534.27	1.3	1536.11	1.3	1537.55	1.3
1534.29	1.4	1536.13	1.3	1537.57	1.3
1534.31	1.3	1536.15	1.3	1537.59	1.2
1534.33	1.3	1536.17	1.3	1538.01	1.2
1534.35	1.3	1536.19	1.3	1538.03	1.2
1534.37	1.4	1536.21	1.3	1538.05	1.3
1534.39	1.3	1536.23	1.3	1538.07	1.3
1534.41	1.3	1536.25	1.3	1538.09	1.2
1534.43	1.3	1536.27	1.3	1538.11	1.3
1534.45	1.3	1536.29	1.3	1538.13	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1538.15	1.2	1539.59	3.2	1541.43	2.9
1538.17	1.2	1540.01	3.1	1541.45	2.8
1538.19	1.2	1540.03	3.1	1541.47	2.9
1538.21	1.3	1540.05	3.1	1541.49	3
1538.23	1.2	1540.07	3	1541.51	3
1538.25	1.3	1540.09	3	1541.53	3.1
1538.27	1.3	1540.11	3	1541.55	3
1538.29	1.3	1540.13	2.9	1541.57	3
1538.31	1.3	1540.15	2.9	1541.59	3
1538.33	1.3	1540.17	2.8	1542.01	3.1
1538.35	1.4	1540.19	2.8	1542.03	3
1538.37	1.4	1540.21	2.8	1542.05	3.1
1538.39	1.4	1540.23	2.8	1542.07	3
1538.41	1.4	1540.25	2.7	1542.09	3
1538.43	1.4	1540.27	2.7	1542.11	2.9
1538.45	1.5	1540.29	2.7	1542.13	2.9
1538.47	1.5	1540.31	2.6	1542.15	2.9
1538.49	1.6	1540.33	2.6	1542.17	2.8
1538.51	1.6	1540.35	2.6	1542.19	2.7
1538.53	1.6	1540.37	2.6	1542.21	2.7
1538.55	1.6	1540.39	2.5	1542.23	2.7
1538.57	1.6	1540.41	2.5	1542.25	2.7
1538.59	1.6	1540.43	2.5	1542.27	2.7
1539.01	1.6	1540.45	2.5	1542.29	2.7
1539.03	1.6	1540.47	2.5	1542.31	2.7
1539.05	1.7	1540.49	2.4	1542.33	2.8
1539.07	1.7	1540.51	2.4	1542.35	2.8
1539.09	1.7	1540.53	2.4	1542.37	2.8
1539.11	1.7	1540.55	2.5	1542.39	2.8
1539.13	1.7	1540.57	2.5	1542.41	2.7
1539.15	1.8	1540.59	2.5	1542.43	2.7
1539.17	2.6	1541.01	2.7	1542.45	2.8
1539.19	6.1	1541.03	2.7	1542.47	2.7
1539.21	6.1	1541.05	2.8	1542.49	2.6
1539.23	6.1	1541.07	2.8	1542.51	2.6
1539.25	5.3	1541.09	2.9	1542.53	2.6
1539.27	4.7	1541.11	3	1542.55	2.6
1539.29	4.4	1541.13	3	1542.57	2.6
1539.31	4.3	1541.15	2.9	1542.59	2.7
1539.33	4.2	1541.17	2.9	1543.01	2.7
1539.35	4.1	1541.19	2.9	1543.03	2.6
1539.37	3.9	1541.21	2.9	1543.05	2.6
1539.39	3.8	1541.23	3	1543.07	2.6
1539.41	3.7	1541.25	2.9	1543.09	2.5
1539.43	3.6	1541.27	2.9	1543.11	2.5
1539.45	3.5	1541.29	2.9	1543.13	2.5
1539.47	3.5	1541.31	2.9	1543.15	2.5
1539.49	3.5	1541.33	2.9	1543.17	2.5
1539.51	3.5	1541.35	3	1543.19	2.4
1539.53	3.3	1541.37	3.1	1543.21	2.4
1539.55	3.3	1541.39 C - 57	3	1543.23	2.3
1539.57	3.2	1541.41	2.9	1543.25	2.3



**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1543.27	2.3	1545.11	1.5	1546.55	1.3
1543.29	2.3	1545.13	1.5	1546.57	1.3
1543.31	2.2	1545.15	1.5	1546.59	1.3
1543.33	2.2	1545.17	1.5	1547.01	1.3
1543.35	2.2	1545.19	1.5	1547.03	1.3
1543.37	2.2	1545.21	1.5	1547.05	1.3
1543.39	2.1	1545.23	1.5	1547.07	1.3
1543.41	2.1	1545.25	1.5	1547.09	1.3
1543.43	2.1	1545.27	1.5	1547.11	1.3
1543.45	2.1	1545.29	1.4	1547.13	1.3
1543.47	2.1	1545.31	1.5	1547.15	1.3
1543.49	2	1545.33	1.4	1547.17	1.3
1543.51	2	1545.35	1.4	1547.19	1.3
1543.53	2	1545.37	1.4	1547.21	1.3
1543.55	1.9	1545.39	1.4	1547.23	1.3
1543.57	1.9	1545.41	1.4	1547.25	1.3
1543.59	1.9	1545.43	1.4	1547.27	1.3
1544.01	1.9	1545.45	1.4	1547.29	1.3
1544.03	1.8	1545.47	1.4	1547.31	1.3
1544.05	1.8	1545.49	1.4	1547.33	1.3
1544.07	1.8	1545.51	1.4	1547.35	1.3
1544.09	1.8	1545.53	1.4	1547.37	1.3
1544.11	1.7	1545.55	1.4	1547.39	1.3
1544.13	1.7	1545.57	1.4	1547.41	1.3
1544.15	1.7	1545.59	1.4	1547.43	1.3
1544.17	1.7	1546.01	1.4	1547.45	1.3
1544.19	1.7	1546.03	1.4	1547.47	1.3
1544.21	1.7	1546.05	1.4	1547.49	1.3
1544.23	1.7	1546.07	1.4	1547.51	1.3
1544.25	1.7	1546.09	1.4	1547.53	1.3
1544.27	1.6	1546.11	1.4	1547.55	1.3
1544.29	1.6	1546.13	1.4	1547.57	1.3
1544.31	1.6	1546.15	1.4	1547.59	1.3
1544.33	1.6	1546.17	1.4	1548.01	1.3
1544.35	1.6	1546.19	1.4	1548.03	1.3
1544.37	1.6	1546.21	1.4	1548.05	1.3
1544.39	1.6	1546.23	1.4	1548.07	1.3
1544.41	1.6	1546.25	1.4	1548.09	1.3
1544.43	1.6	1546.27	1.4	1548.11	1.3
1544.45	1.6	1546.29	1.3	1548.13	1.3
1544.47	1.6	1546.31	1.4	1548.15	1.3
1544.49	1.5	1546.33	1.4	1548.17	1.3
1544.51	1.5	1546.35	1.3	1548.19	1.3
1544.53	1.5	1546.37	1.3	1548.21	1.3
1544.55	1.5	1546.39	1.3	1548.23	1.3
1544.57	1.5	1546.41	1.3	1548.25	1.3
1544.59	1.5	1546.43	1.3	1548.27	1.3
1545.01	1.5	1546.45	1.3	1548.29	1.3
1545.03	1.5	1546.47	1.3	1548.31	1.2
1545.05	1.5	1546.49	1.3	1548.33	1.3
1545.07	1.5	1546.51 C - 58	1.3	1548.35	1.3
1545.09	1.5	1546.53	1.3	1548.37	1.3



**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1548.39	1.3	1550.23	1.2	1552.07	1.7
1548.41	1.3	1550.25	1.2	1552.09	1.7
1548.43	1.3	1550.27	1.2	1552.11	1.7
1548.45	1.3	1550.29	1.2	1552.13	1.7
1548.47	1.3	1550.31	1.2	1552.15	1.7
1548.49	1.2	1550.33	1.2	1552.17	1.7
1548.51	1.3	1550.35	1.2	1552.19	3.1
1548.53	1.3	1550.37	1.2	1552.21	6.2
1548.55	1.3	1550.39	1.2	1552.23	6.2
1548.57	1.3	1550.41	1.2	1552.25	5.9
1548.59	1.3	1550.43	1.2	1552.27	5.4
1549.01	1.3	1550.45	1.2	1552.29	4.8
1549.03	1.3	1550.47	1.2	1552.31	4.5
1549.05	1.3	1550.49	1.2	1552.33	4.3
1549.07	1.3	1550.51	1.2	1552.35	4.2
1549.09	1.3	1550.53	1.2	1552.37	4
1549.11	1.3	1550.55	1.2	1552.39	3.9
1549.13	1.3	1550.57	1.2	1552.41	3.9
1549.15	1.3	1550.59	1.2	1552.43	3.9
1549.17	1.3	1551.01	1.2	1552.45	3.8
1549.19	1.3	1551.03	1.2	1552.47	3.8
1549.21	1.2	1551.05	1.2	1552.49	3.8
1549.23	1.2	1551.07	1.2	1552.51	3.7
1549.25	1.2	1551.09	1.2	1552.53	3.6
1549.27	1.3	1551.11	1.2	1552.55	3.5
1549.29	1.3	1551.13	1.2	1552.57	3.4
1549.31	1.3	1551.15	1.2	1552.59	3.4
1549.33	1.3	1551.17	1.2	1553.01	3.4
1549.35	1.2	1551.19	1.2	1553.03	3.3
1549.37	1.3	1551.21	1.2	1553.05	3.2
1549.39	1.2	1551.23	1.2	1553.07	3.2
1549.41	1.3	1551.25	1.2	1553.09	3.1
1549.43	1.3	1551.27	1.2	1553.11	3.1
1549.45	1.2	1551.29	1.2	1553.13	3
1549.47	1.2	1551.31	1.2	1553.15	3
1549.49	1.2	1551.33	1.3	1553.17	3
1549.51	1.2	1551.35	1.3	1553.19	2.9
1549.53	1.3	1551.37	1.3	1553.21	2.8
1549.55	1.2	1551.39	1.3	1553.23	2.8
1549.57	1.2	1551.41	1.3	1553.25	2.8
1549.59	1.2	1551.43	1.5	1553.27	2.7
1550.01	1.2	1551.45	1.5	1553.29	2.7
1550.03	1.2	1551.47	1.5	1553.31	2.7
1550.05	1.2	1551.49	1.5	1553.33	2.7
1550.07	1.3	1551.51	1.5	1553.35	2.6
1550.09	1.2	1551.53	1.6	1553.37	2.6
1550.11	1.2	1551.55	1.6	1553.39	2.5
1550.13	1.2	1551.57	1.7	1553.41	2.5
1550.15	1.2	1551.59	1.7	1553.43	2.5
1550.17	1.2	1552.01	1.7	1553.45	2.5
1550.19	1.2	1552.03 C - 59	1.7	1553.47	2.5
1550.21	1.2	1552.05	1.7	1553.49	2.5



**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1553.51	2.4	1555.35	2.8	1557.19	2.2
1553.53	2.4	1555.37	2.9	1557.21	2.1
1553.55	2.4	1555.39	2.9	1557.23	2.1
1553.57	2.4	1555.41	2.9	1557.25	2.1
1553.59	2.4	1555.43	2.8	1557.27	2.1
1554.01	2.4	1555.45	2.8	1557.29	2.1
1554.03	2.4	1555.47	2.7	1557.31	2.1
1554.05	2.5	1555.49	2.7	1557.33	2
1554.07	2.5	1555.51	2.7	1557.35	2
1554.09	2.6	1555.53	2.7	1557.37	2
1554.11	2.7	1555.55	2.7	1557.39	2
1554.13	2.8	1555.57	2.7	1557.41	2
1554.15	2.8	1555.59	2.8	1557.43	2
1554.17	2.9	1556.01	2.8	1557.45	1.9
1554.19	3	1556.03	2.8	1557.47	1.9
1554.21	3	1556.05	2.7	1557.49	1.9
1554.23	3	1556.07	2.7	1557.51	1.9
1554.25	3.1	1556.09	2.7	1557.53	1.9
1554.27	3.1	1556.11	2.7	1557.55	1.9
1554.29	3	1556.13	2.6	1557.57	1.8
1554.31	2.9	1556.15	2.6	1557.59	1.8
1554.33	2.9	1556.17	2.6	1558.01	1.8
1554.35	2.8	1556.19	2.6	1558.03	1.8
1554.37	2.8	1556.21	2.6	1558.05	1.7
1554.39	2.8	1556.23	2.6	1558.07	1.7
1554.41	2.8	1556.25	2.6	1558.09	1.7
1554.43	2.9	1556.27	2.6	1558.11	1.7
1554.45	2.8	1556.29	2.6	1558.13	1.7
1554.47	2.8	1556.31	2.6	1558.15	1.7
1554.49	2.9	1556.33	2.6	1558.17	1.7
1554.51	2.8	1556.35	2.6	1558.19	1.6
1554.53	2.8	1556.37	2.6	1558.21	1.7
1554.55	2.8	1556.39	2.5	1558.23	1.7
1554.57	2.8	1556.41	2.5	1558.25	1.6
1554.59	2.9	1556.43	2.4	1558.27	1.6
1555.01	2.9	1556.45	2.4	1558.29	1.6
1555.03	2.8	1556.47	2.4	1558.31	1.6
1555.05	2.8	1556.49	2.4	1558.33	1.6
1555.07	2.8	1556.51	2.4	1558.35	1.6
1555.09	2.9	1556.53	2.4	1558.37	1.6
1555.11	2.8	1556.55	2.4	1558.39	1.6
1555.13	2.8	1556.57	2.4	1558.41	1.6
1555.15	2.8	1556.59	2.4	1558.43	1.6
1555.17	2.8	1557.01	2.3	1558.45	1.6
1555.19	2.8	1557.03	2.3	1558.47	1.5
1555.21	2.8	1557.05	2.3	1558.49	1.5
1555.23	2.8	1557.07	2.3	1558.51	1.5
1555.25	2.9	1557.09	2.3	1558.53	1.6
1555.27	2.8	1557.11	2.3	1558.55	1.5
1555.29	2.7	1557.13	2.3	1558.57	1.5
1555.31	2.8	1557.15 C - 60	2.2	1558.59	1.5
1555.33	2.8	1557.17	2.2	1559.01	1.5



RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999

Pass 3

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1559.03	1.5	1600.45	1.4		
1559.05	1.5	1600.47	1.4		
1559.07	1.5	1600.49	1.4		
1559.09	1.5	1600.51	1.4		
1559.11	1.5	1600.53	1.4		
1559.13	1.5	1600.55	1.4		
1559.15	1.5	1600.57	1.4		
1559.17	1.5	1600.59	1.4		
1559.19	1.5	1601.01	1.4		
1559.21	1.5	1601.03	1.4		
1559.23	1.5	1601.05	1.4		
1559.25	1.5	1601.07	1.4		
1559.27	1.5	1601.09	1.4		
1559.29	1.5	1601.11	1.4		
1559.31	1.5	1601.13	1.4		
1559.33	1.5	1601.15	1.4		
1559.35	1.5	1601.17	1.4		
1559.37	1.5	1601.19	1.3		
1559.39	1.5	1601.21	1.3		
1559.41	1.5	1601.23	1.4		
1559.43	1.5	1601.25	1.3		
1559.45	1.4	1601.27	1.3		
1559.47	1.5	1601.29	1.3		
1559.49	1.4	1601.31	1.3		
1559.51	1.4	Average	1.9		
1559.53	1.4				
1559.55	1.4				
1559.57	1.4				
1559.59	1.4				
1559.59	1.4				
1600.01	1.4				
1600.03	1.4				
1600.05	1.4				
1600.07	1.4				
1600.09	1.4				
1600.11	1.4				
1600.13	1.4				
1600.15	1.4				
1600.17	1.4				
1600.19	1.4				
1600.21	1.4				
1600.23	1.4				
1600.25	1.4				
1600.27	1.4				
1600.29	1.4				
1600.31	1.4				
1600.33	1.4				
1600.35	1.4				
1600.37	1.4				
1600.39	1.4				
1600.41	1.4				
1600.43	1.4				



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

• Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1605.24	1.3	1607.04	1.5	1608.44	1.7
1605.26	1.3	1607.06	1.5	1608.46	1.7
1605.28	1.4	1607.08	1.5	1608.48	1.8
1605.30	1.3	1607.10	1.5	1608.50	1.8
1605.32	1.4	1607.12	1.5	1608.52	1.8
1605.34	1.4	1607.14	1.5	1608.54	1.8
1605.36	1.4	1607.16	1.5	1608.56	1.8
1605.38	1.4	1607.18	1.5	1608.58	1.9
1605.40	1.4	1607.20	1.5	1609.00	1.9
1605.42	1.4	1607.22	1.5	1609.02	1.9
1605.44	1.4	1607.24	1.5	1609.04	1.9
1605.46	1.4	1607.26	1.5	1609.06	1.9
1605.48	1.4	1607.28	1.5	1609.08	1.8
1605.50	1.4	1607.30	1.5	1609.10	1.9
1605.52	1.4	1607.32	1.5	1609.12	1.9
1605.54	1.4	1607.34	1.5	1609.14	1.8
1605.56	1.3	1607.36	1.5	1609.16	1.9
1605.58	1.3	1607.38	1.5	1609.18	1.8
1606.00	1.3	1607.40	1.5	1609.20	1.9
1606.02	1.4	1607.42	1.4	1609.22	1.9
1606.04	1.3	1607.44	1.4	1609.24	1.9
1606.06	1.3	1607.46	1.4	1609.26	1.9
1606.08	1.3	1607.48	1.4	1609.28	1.9
1606.10	1.3	1607.50	1.4	1609.30	1.9
1606.12	1.3	1607.52	1.4	1609.32	1.9
1606.14	1.3	1607.54	1.4	1609.34	1.9
1606.16	1.3	1607.56	1.4	1609.36	1.9
1606.18	1.3	1607.58	1.4	1609.38	1.9
1606.20	1.4	1608.00	1.4	1609.40	1.9
1606.22	1.9	1608.02	1.4	1609.42	1.8
1606.24	2	1608.04	1.4	1609.44	1.8
1606.26	1.9	1608.06	1.4	1609.46	1.8
1606.28	1.8	1608.08	1.4	1609.48	1.9
1606.30	1.7	1608.10	1.4	1609.50	1.9
1606.32	1.7	1608.12	1.4	1609.52	1.8
1606.34	1.6	1608.14	1.4	1609.54	1.8
1606.36	1.6	1608.16	1.5	1609.56	1.8
1606.38	1.6	1608.18	1.5	1609.58	1.8
1606.40	1.6	1608.20	1.6	1610.00	1.8
1606.42	1.6	1608.22	1.6	1610.02	1.8
1606.44	1.6	1608.24	1.6	1610.04	1.8
1606.46	1.6	1608.26	1.6	1610.06	1.8
1606.48	1.6	1608.28	1.6	1610.08	1.8
1606.50	1.6	1608.30	1.7	1610.10	1.8
1606.52	1.6	1608.32	1.7	1610.12	1.8
1606.54	1.6	1608.34	1.7	1610.14	1.8
1606.56	1.5	1608.36	1.7	1610.16	1.9
1606.58	1.5	1608.38	1.7	1610.18	1.9
1607.00	1.5	1608.40	1.7	1610.20	1.9
1607.02	1.5	1608.42	1.7	1610.22	1.9

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1610.24	1.8	1612.06	1.8	1613.48	1.4
1610.26	1.8	1612.08	1.8	1613.50	1.4
1610.28	1.8	1612.10	1.8	1613.52	1.4
1610.30	1.8	1612.12	1.8	1613.54	1.4
1610.32	1.8	1612.14	1.8	1613.56	1.4
1610.34	1.8	1612.16	1.8	1613.58	1.4
1610.36	1.8	1612.18	1.8	1614.00	1.4
1610.38	1.8	1612.20	1.8	1614.02	1.3
1610.40	1.9	1612.22	1.8	1614.04	1.3
1610.42	1.9	1612.24	1.8	1614.06	1.3
1610.44	1.9	1612.26	1.8	1614.08	1.3
1610.46	1.9	1612.28	1.7	1614.10	1.3
1610.48	1.8	1612.30	1.7	1614.12	1.3
1610.50	1.8	1612.32	1.7	1614.14	1.3
1610.52	1.8	1612.34	1.8	1614.16	1.3
1610.54	1.9	1612.36	1.8	1614.18	1.3
1610.56	1.8	1612.38	1.7	1614.20	1.3
1610.58	1.9	1612.40	1.7	1614.22	1.3
1611.00	1.9	1612.42	1.7	1614.24	1.3
1611.02	1.9	1612.44	1.7	1614.26	1.3
1611.04	1.8	1612.46	1.7	1614.28	1.3
1611.06	1.8	1612.48	1.7	1614.30	1.3
1611.08	1.8	1612.50	1.7	1614.32	1.3
1611.10	1.8	1612.52	1.7	1614.34	1.3
1611.12	1.8	1612.54	1.7	1614.36	1.3
1611.14	1.8	1612.56	1.6	1614.38	1.3
1611.16	1.8	1612.58	1.6	1614.40	1.3
1611.18	1.8	1613.00	1.6	1614.42	1.2
1611.20	1.8	1613.02	1.6	1614.44	1.3
1611.22	1.8	1613.04	1.6	1614.46	1.3
1611.24	1.8	1613.06	1.6	1614.48	1.3
1611.26	1.8	1613.08	1.6	1614.50	1.2
1611.28	1.8	1613.10	1.6	1614.52	1.2
1611.30	1.8	1613.12	1.6	1614.54	1.2
1611.32	1.8	1613.14	1.6	1614.56	1.2
1611.34	1.9	1613.16	1.5	1614.58	1.2
1611.36	1.8	1613.18	1.5	1615.00	1.2
1611.38	1.8	1613.20	1.5	1615.02	1.2
1611.40	1.9	1613.22	1.5	1615.04	1.2
1611.42	1.8	1613.24	1.5	1615.06	1.2
1611.44	1.8	1613.26	1.5	1615.08	1.2
1611.46	1.8	1613.28	1.5	1615.10	1.2
1611.48	1.8	1613.30	1.5	1615.12	1.2
1611.50	1.8	1613.32	1.5	1615.14	1.2
1611.52	1.8	1613.34	1.5	1615.16	1.2
1611.54	1.8	1613.36	1.5	1615.18	1.2
1611.56	1.8	1613.38	1.5	1615.20	1.2
1611.58	1.8	1613.40	1.5	1615.22	1.2
1612.00	1.8	1613.42	1.4	1615.24	1.2
1612.02	1.8	1613.44	1.4	1615.26	1.2
1612.04	1.8	1613.46	1.4	1615.28	1.2

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1615.30	1.2	1617.12	1.2	1618.54	1.3
1615.32	1.2	1617.14	1.2	1618.56	1.3
1615.34	1.2	1617.16	1.2	1618.58	1.3
1615.36	1.2	1617.18	1.1	1619.00	1.3
1615.38	1.2	1617.20	1.2	1619.02	1.3
1615.40	1.2	1617.22	1.2	1619.04	1.3
1615.42	1.2	1617.24	1.2	1619.06	1.3
1615.44	1.2	1617.26	1.2	1619.08	1.3
1615.46	1.2	1617.28	1.2	1619.10	1.3
1615.48	1.2	1617.30	1.2	1619.12	1.3
1615.50	1.2	1617.32	1.2	1619.14	1.3
1615.52	1.2	1617.34	1.1	1619.16	1.3
1615.54	1.2	1617.36	1.1	1619.18	1.3
1615.56	1.2	1617.38	1.1	1619.20	1.3
1615.58	1.2	1617.40	1.1	1619.22	1.3
1616.00	1.2	1617.42	1.2	1619.24	1.3
1616.02	1.2	1617.44	1.1	1619.26	1.3
1616.04	1.2	1617.46	1.1	1619.28	1.3
1616.06	1.2	1617.48	1.2	1619.30	1.3
1616.08	1.2	1617.50	1.1	1619.32	1.3
1616.10	1.2	1617.52	1.2	1619.34	1.3
1616.12	1.2	1617.54	1.1	1619.36	1.3
1616.14	1.2	1617.56	1.2	1619.38	1.3
1616.16	1.2	1617.58	1.2	1619.40	1.3
1616.18	1.2	1618.00	1.1	1619.42	1.3
1616.20	1.1	1618.02	1.2	1619.44	1.3
1616.22	1.2	1618.04	1.2	1619.46	1.3
1616.24	1.2	1618.06	1.1	1619.48	1.3
1616.26	1.2	1618.08	1.2	1619.50	1.3
1616.28	1.1	1618.10	1.1	1619.52	1.5
1616.30	1.2	1618.12	1.1	1619.54	1.8
1616.32	1.2	1618.14	1.2	1619.56	1.8
1616.34	1.2	1618.16	1.2	1619.58	1.8
1616.36	1.2	1618.18	1.1	1620.00	1.7
1616.38	1.2	1618.20	1.2	1620.02	1.7
1616.40	1.2	1618.22	1.2	1620.04	1.6
1616.42	1.1	1618.24	1.1	1620.06	1.6
1616.44	1.1	1618.26	1.1	1620.08	1.6
1616.46	1.2	1618.28	1.2	1620.10	1.6
1616.48	1.2	1618.30	1.2	1620.12	1.6
1616.50	1.2	1618.32	1.2	1620.14	1.6
1616.52	1.1	1618.34	1.2	1620.16	1.6
1616.54	1.2	1618.36	1.2	1620.18	1.6
1616.56	1.1	1618.38	1.2	1620.20	1.5
1616.58	1.2	1618.40	1.2	1620.22	1.5
1617.00	1.2	1618.42	1.2	1620.24	1.5
1617.02	1.2	1618.44	1.2	1620.26	1.5
1617.04	1.2	1618.46	1.2	1620.28	1.5
1617.06	1.2	1618.48	1.2	1620.30	1.5
1617.08	1.2	1618.50	1.2	1620.32	1.5
1617.10	1.2	1618.52 C - 64	1.3	1620.34	1.5



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1620.36	1.5	1622.18	1.7	1624.00	1.8
1620.38	1.5	1622.20	1.7	1624.02	1.8
1620.40	1.5	1622.22	1.7	1624.04	1.9
1620.42	1.5	1622.24	1.7	1624.06	1.9
1620.44	1.5	1622.26	1.8	1624.08	1.9
1620.46	1.5	1622.28	1.8	1624.10	1.9
1620.48	1.5	1622.30	1.8	1624.12	1.9
1620.50	1.5	1622.32	1.8	1624.14	1.9
1620.52	1.5	1622.34	1.8	1624.16	1.9
1620.54	1.5	1622.36	1.8	1624.18	1.9
1620.56	1.5	1622.38	1.8	1624.20	1.8
1620.58	1.5	1622.40	1.8	1624.22	1.8
1621.00	1.5	1622.42	1.8	1624.24	1.8
1621.02	1.5	1622.44	1.8	1624.26	1.8
1621.04	1.5	1622.46	1.8	1624.28	1.8
1621.06	1.5	1622.48	1.8	1624.30	1.8
1621.08	1.5	1622.50	1.7	1624.32	1.8
1621.10	1.5	1622.52	1.8	1624.34	1.8
1621.12	1.5	1622.54	1.8	1624.36	1.8
1621.14	1.5	1622.56	1.8	1624.38	1.8
1621.16	1.4	1622.58	1.8	1624.40	1.8
1621.18	1.4	1623.00	1.8	1624.42	1.8
1621.20	1.4	1623.02	1.8	1624.44	1.8
1621.22	1.4	1623.04	1.8	1624.46	1.8
1621.24	1.4	1623.06	1.9	1624.48	1.8
1621.26	1.4	1623.08	1.8	1624.50	1.8
1621.28	1.4	1623.10	1.8	1624.52	1.7
1621.30	1.4	1623.12	1.8	1624.54	1.7
1621.32	1.4	1623.14	1.8	1624.56	1.7
1621.34	1.4	1623.16	1.8	1624.58	1.7
1621.36	1.4	1623.18	1.8	1625.00	1.7
1621.38	1.3	1623.20	1.8	1625.02	1.7
1621.40	1.4	1623.22	1.8	1625.04	1.7
1621.42	1.4	1623.24	1.8	1625.06	1.7
1621.44	1.4	1623.26	1.9	1625.08	1.7
1621.46	1.4	1623.28	1.9	1625.10	1.7
1621.48	1.5	1623.30	1.9	1625.12	1.7
1621.50	1.5	1623.32	1.8	1625.14	1.7
1621.52	1.6	1623.34	1.9	1625.16	1.6
1621.54	1.6	1623.36	1.8	1625.18	1.6
1621.56	1.6	1623.38	1.9	1625.20	1.6
1621.58	1.7	1623.40	1.9	1625.22	1.6
1622.00	1.7	1623.42	1.8	1625.24	1.6
1622.02	1.7	1623.44	1.8	1625.26	1.6
1622.04	1.7	1623.46	1.8	1625.28	1.6
1622.06	1.7	1623.48	1.8	1625.30	1.6
1622.08	1.7	1623.50	1.9	1625.32	1.5
1622.10	1.7	1623.52	1.9	1625.34	1.5
1622.12	1.7	1623.54	1.9	1625.36	1.5
1622.14	1.7	1623.56	1.8	1625.38	1.5
1622.16	1.7	1623.58 C - 65	1.8	1625.40	1.5



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1625.42	1.5	1627.24	1.2	1629.06	1.2
1625.44	1.5	1627.26	1.2	1629.08	1.2
1625.46	1.5	1627.28	1.2	1629.10	1.2
1625.48	1.5	1627.30	1.2	1629.12	1.2
1625.50	1.5	1627.32	1.2	1629.14	1.2
1625.52	1.4	1627.34	1.2	1629.16	1.2
1625.54	1.4	1627.36	1.2	1629.18	1.2
1625.56	1.4	1627.38	1.2	1629.20	1.2
1625.58	1.4	1627.40	1.2	1629.22	1.2
1626.00	1.4	1627.42	1.2	1629.24	1.2
1626.02	1.4	1627.44	1.2	1629.26	1.2
1626.04	1.4	1627.46	1.2	1629.28	1.2
1626.06	1.4	1627.48	1.2	1629.30	1.2
1626.08	1.4	1627.50	1.2	1629.32	1.2
1626.10	1.4	1627.52	1.2	1629.34	1.2
1626.12	1.4	1627.54	1.2	1629.36	1.2
1626.14	1.3	1627.56	1.2	1629.38	1.2
1626.16	1.3	1627.58	1.2	1629.40	1.2
1626.18	1.3	1628.00	1.2	1629.42	1.2
1626.20	1.3	1628.02	1.2	1629.44	1.2
1626.22	1.3	1628.04	1.2	1629.46	1.2
1626.24	1.3	1628.06	1.2	1629.48	1.1
1626.26	1.3	1628.08	1.2	1629.50	1.2
1626.28	1.3	1628.10	1.2	1629.52	1.2
1626.30	1.3	1628.12	1.2	1629.54	1.2
1626.32	1.3	1628.14	1.2	1629.56	1.2
1626.34	1.3	1628.16	1.2	1629.58	1.1
1626.36	1.3	1628.18	1.2	1630.00	1.2
1626.38	1.3	1628.20	1.2	1630.02	1.2
1626.40	1.3	1628.22	1.2	1630.04	1.2
1626.42	1.3	1628.24	1.2	1630.06	1.1
1626.44	1.3	1628.26	1.2	1630.08	1.1
1626.46	1.3	1628.28	1.2	1630.10	1.1
1626.48	1.3	1628.30	1.2	1630.12	1.1
1626.50	1.3	1628.32	1.2	1630.14	1.2
1626.52	1.3	1628.34	1.2	1630.16	1.1
1626.54	1.3	1628.36	1.2	1630.18	1.1
1626.56	1.3	1628.38	1.2	1630.20	1.1
1626.58	1.3	1628.40	1.2	1630.22	1.1
1627.00	1.3	1628.42	1.2	1630.24	1.1
1627.02	1.3	1628.44	1.2	1630.26	1.1
1627.04	1.3	1628.46	1.2	1630.28	1.1
1627.06	1.2	1628.48	1.2	1630.30	1.1
1627.08	1.3	1628.50	1.2	1630.32	1.1
1627.10	1.2	1628.52	1.2	1630.34	1.1
1627.12	1.2	1628.54	1.2	1630.36	1.1
1627.14	1.2	1628.56	1.2	1630.38	1.1
1627.16	1.2	1628.58	1.2	1630.40	1.1
1627.18	1.2	1629.00	1.2	1630.42	1.1
1627.20	1.2	1629.02	1.2	1630.44	1.1
1627.22	1.2	1629.04 C - 66	1.2	1630.46	1.1



**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1630.48	1.1	1632.30	1.1	1634.12	1.1
1630.50	1.1	1632.32	1.1	1634.14	1.1
1630.52	1.1	1632.34	1.1	1634.16	1.1
1630.54	1.1	1632.36	1.1	1634.18	1.1
1630.56	1.1	1632.38	1.1	1634.20	1.1
1630.58	1.2	1632.40	1.1	1634.22	1.1
1631.00	1.1	1632.42	1.1	1634.24	1.1
1631.02	1.1	1632.44	1.1	1634.26	1.1
1631.04	1.1	1632.46	1.1	1634.28	1.1
1631.06	1.2	1632.48	1.1	1634.30	1.1
1631.08	1.2	1632.50	1.1	1634.32	1.1
1631.10	1.2	1632.52	1.1	1634.34	1.1
1631.12	1.2	1632.54	1.1	1634.36	1.1
1631.14	1.2	1632.56	1.1	1634.38	1.1
1631.16	1.2	1632.58	1.1	1634.40	1.1
1631.18	1.2	1633.00	1.1	1634.42	1.1
1631.20	1.2	1633.02	1.1	1634.44	1.1
1631.22	1.2	1633.04	1.1	1634.46	1.1
1631.24	1.2	1633.06	1.1	1634.48	1.1
1631.26	1.2	1633.08	1.1	1634.50	1.1
1631.28	1.2	1633.10	1.1	1634.52	1.1
1631.30	1.2	1633.12	1.1	1634.54	1.1
1631.32	1.2	1633.14	1.1	1634.56	1.1
1631.34	1.1	1633.16	1.1	1634.58	1.1
1631.36	1.2	1633.18	1.1	1635.00	1.1
1631.38	1.2	1633.20	1.1	1635.02	1.1
1631.40	1.1	1633.22	1.1	1635.04	1.1
1631.42	1.1	1633.24	1.1	1635.06	1.1
1631.44	1.1	1633.26	1.1	1635.08	1.1
1631.46	1.1	1633.28	1.1	1635.10	1.1
1631.48	1.1	1633.30	1.1	1635.12	1.1
1631.50	1.1	1633.32	1.1	1635.14	1.1
1631.52	1.1	1633.34	1.1	1635.16	1.1
1631.54	1.1	1633.36	1.1	1635.18	1.1
1631.56	1.1	1633.38	1.1	1635.20	1.2
1631.58	1.1	1633.40	1.1	1635.22	1.2
1632.00	1.1	1633.42	1.1	1635.24	1.1
1632.02	1.1	1633.44	1.1	1635.26	1.2
1632.04	1.1	1633.46	1.1	1635.28	1.1
1632.06	1.1	1633.48	1.1	1635.30	1.2
1632.08	1.2	1633.50	1.1	1635.32	1.2
1632.10	1.1	1633.52	1.1	1635.34	1.2
1632.12	1.1	1633.54	1.1	1635.36	1.2
1632.14	1.1	1633.56	1.1	1635.38	1.2
1632.16	1.1	1633.58	1.1	1635.40	1.2
1632.18	1.1	1634.00	1.1	1635.42	1.2
1632.20	1.1	1634.02	1.1	1635.44	1.2
1632.22	1.1	1634.04	1.1	1635.46	1.2
1632.24	1.1	1634.06	1.1	1635.48	1.2
1632.26	1.1	1634.08	1.1	1635.50	1.3
1632.28	1.1	1634.10	1.1	1635.52	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1635.54	1.3	1637.36	1.5	1639.18	1.6
1635.56	1.2	1637.38	1.5	1639.20	1.6
1635.58	1.2	1637.40	1.5	1639.22	1.6
1636.00	1.2	1637.42	1.5	1639.24	1.6
1636.02	1.2	1637.44	1.5	1639.26	1.6
1636.04	1.3	1637.46	1.5	1639.28	1.6
1636.06	1.3	1637.48	1.5	1639.30	1.6
1636.08	1.3	1637.50	1.4	1639.32	1.6
1636.10	1.3	1637.52	1.4	1639.34	1.6
1636.12	1.3	1637.54	1.4	1639.36	1.7
1636.14	1.3	1637.56	1.4	1639.38	1.7
1636.16	1.3	1637.58	1.4	1639.40	1.7
1636.18	1.3	1638.00	1.4	1639.42	1.7
1636.20	1.3	1638.02	1.4	1639.44	1.7
1636.22	1.3	1638.04	1.4	1639.46	1.7
1636.24	1.3	1638.06	1.4	1639.48	1.7
1636.26	1.3	1638.08	1.4	1639.50	1.7
1636.28	1.3	1638.10	1.4	1639.52	1.7
1636.30	1.3	1638.12	1.4	1639.54	1.7
1636.32	1.3	1638.14	1.4	1639.56	1.7
1636.34	1.3	1638.16	1.4	1639.58	1.7
1636.36	1.3	1638.18	1.4	1640.00	1.8
1636.38	1.3	1638.20	1.4	1640.02	1.8
1636.40	1.3	1638.22	1.4	1640.04	1.8
1636.42	1.2	1638.24	1.3	1640.06	1.8
1636.44	1.2	1638.26	1.3	1640.08	1.8
1636.46	1.2	1638.28	1.3	1640.10	1.7
1636.48	1.2	1638.30	1.3	1640.12	1.7
1636.50	1.2	1638.32	1.3	1640.14	1.8
1636.52	1.2	1638.34	1.3	1640.16	1.8
1636.54	1.2	1638.36	1.3	1640.18	1.8
1636.56	1.3	1638.38	1.3	1640.20	1.8
1636.58	1.2	1638.40	1.3	1640.22	1.8
1637.00	1.2	1638.42	1.3	1640.24	1.7
1637.02	1.2	1638.44	1.3	1640.26	1.8
1637.04	1.2	1638.46	1.3	1640.28	1.8
1637.06	1.2	1638.48	1.3	1640.30	1.7
1637.08	1.5	1638.50	1.3	1640.32	1.8
1637.10	1.9	1638.52	1.3	1640.34	1.8
1637.12	2	1638.54	1.3	1640.36	1.8
1637.14	1.8	1638.56	1.3	1640.38	1.8
1637.16	1.7	1638.58	1.4	1640.40	1.8
1637.18	1.7	1639.00	1.4	1640.42	1.8
1637.20	1.6	1639.02	1.4	1640.44	1.8
1637.22	1.6	1639.04	1.5	1640.46	1.8
1637.24	1.5	1639.06	1.5	1640.48	1.8
1637.26	1.5	1639.08	1.5	1640.50	1.8
1637.28	1.5	1639.10	1.5	1640.52	1.8
1637.30	1.5	1639.12	1.6	1640.54	1.8
1637.32	1.5	1639.14	1.6	1640.56	1.8
1637.34	1.5	1639.16	1.6	1640.58	1.9

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1641.00	1.9	1642.42	1.7	1644.24	1.3
1641.02	1.8	1642.44	1.7	1644.26	1.3
1641.04	1.9	1642.46	1.7	1644.28	1.3
1641.06	1.8	1642.48	1.6	1644.30	1.3
1641.08	1.8	1642.50	1.6	1644.32	1.2
1641.10	1.8	1642.52	1.6	1644.34	1.3
1641.12	1.8	1642.54	1.6	1644.36	1.2
1641.14	1.9	1642.56	1.6	1644.38	1.2
1641.16	1.9	1642.58	1.6	1644.40	1.3
1641.18	1.8	1643.00	1.6	1644.42	1.2
1641.20	1.8	1643.02	1.6	1644.44	1.2
1641.22	1.8	1643.04	1.5	1644.46	1.2
1641.24	1.8	1643.06	1.5	1644.48	1.2
1641.26	1.8	1643.08	1.5	1644.50	1.2
1641.28	1.8	1643.10	1.5	1644.52	1.2
1641.30	1.8	1643.12	1.5	1644.54	1.2
1641.32	1.8	1643.14	1.5	1644.56	1.2
1641.34	1.8	1643.16	1.5	1644.58	1.2
1641.36	1.8	1643.18	1.5	1645.00	1.2
1641.38	1.8	1643.20	1.5	1645.02	1.2
1641.40	1.8	1643.22	1.5	1645.04	1.2
1641.42	1.8	1643.24	1.5	1645.06	1.2
1641.44	1.8	1643.26	1.4	1645.08	1.2
1641.46	1.8	1643.28	1.4	1645.10	1.2
1641.48	1.8	1643.30	1.4	1645.12	1.2
1641.50	1.8	1643.32	1.4	1645.14	1.2
1641.52	1.8	1643.34	1.4	1645.16	1.2
1641.54	1.8	1643.36	1.4	1645.18	1.2
1641.56	1.8	1643.38	1.4	1645.20	1.2
1641.58	1.8	1643.40	1.4	1645.22	1.2
1642.00	1.8	1643.42	1.4	1645.24	1.2
1642.02	1.8	1643.44	1.4	1645.26	1.2
1642.04	1.8	1643.46	1.4	1645.28	1.2
1642.06	1.8	1643.48	1.4	1645.30	1.2
1642.08	1.8	1643.50	1.4	1645.32	1.2
1642.10	1.8	1643.52	1.3	1645.34	1.2
1642.12	1.8	1643.54	1.3	1645.36	1.2
1642.14	1.8	1643.56	1.3	1645.38	1.2
1642.16	1.8	1643.58	1.3	1645.40	1.2
1642.18	1.8	1644.00	1.3	1645.42	1.2
1642.20	1.8	1644.02	1.3	1645.44	1.2
1642.22	1.7	1644.04	1.3	1645.46	1.2
1642.24	1.7	1644.06	1.3	1645.48	1.2
1642.26	1.7	1644.08	1.3	1645.50	1.2
1642.28	1.7	1644.10	1.3	1645.52	1.2
1642.30	1.7	1644.12	1.3	1645.54	1.2
1642.32	1.7	1644.14	1.3	1645.56	1.2
1642.34	1.7	1644.16	1.3	1645.58	1.2
1642.36	1.7	1644.18	1.3	1646.00	1.2
1642.38	1.7	1644.20	1.3	1646.02	1.2
1642.40	1.6	1644.22	1.3	1646.04	1.1

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1646.06	1.2	1647.48	1.3	1649.30	1.4
1646.08	1.2	1647.50	1.3	1649.32	1.4
1646.10	1.2	1647.52	1.3	1649.34	1.4
1646.12	1.2	1647.54	1.3	1649.36	1.4
1646.14	1.1	1647.56	1.3	1649.38	1.4
1646.16	1.2	1647.58	1.4	1649.40	1.4
1646.18	1.2	1648.00	1.7	1649.42	1.5
1646.20	1.2	1648.02	1.8	1649.44	1.5
1646.22	1.2	1648.04	1.7	1649.46	1.5
1646.24	1.2	1648.06	1.7	1649.48	1.5
1646.26	1.2	1648.08	1.6	1649.50	1.5
1646.28	1.2	1648.10	1.6	1649.52	1.6
1646.30	1.2	1648.12	1.6	1649.54	1.6
1646.32	1.2	1648.14	1.6	1649.56	1.6
1646.34	1.2	1648.16	1.6	1649.58	1.6
1646.36	1.2	1648.18	1.6	1650.00	1.6
1646.38	1.2	1648.20	1.6	1650.02	1.6
1646.40	1.2	1648.22	1.5	1650.04	1.6
1646.42	1.2	1648.24	1.5	1650.06	1.6
1646.44	1.2	1648.26	1.5	1650.08	1.6
1646.46	1.2	1648.28	1.5	1650.10	1.6
1646.48	1.2	1648.30	1.5	1650.12	1.6
1646.50	1.2	1648.32	1.5	1650.14	1.6
1646.52	1.3	1648.34	1.5	1650.16	1.7
1646.54	1.3	1648.36	1.5	1650.18	1.7
1646.56	1.3	1648.38	1.5	1650.20	1.7
1646.58	1.3	1648.40	1.5	1650.22	1.7
1647.00	1.3	1648.42	1.5	1650.24	1.7
1647.02	1.3	1648.44	1.5	1650.26	1.8
1647.04	1.3	1648.46	1.5	1650.28	1.8
1647.06	1.3	1648.48	1.5	1650.30	1.8
1647.08	1.3	1648.50	1.5	1650.32	1.8
1647.10	1.3	1648.52	1.5	1650.34	1.8
1647.12	1.3	1648.54	1.5	1650.36	1.8
1647.14	1.3	1648.56	1.5	1650.38	1.8
1647.16	1.3	1648.58	1.4	1650.40	1.7
1647.18	1.3	1649.00	1.4	1650.42	1.7
1647.20	1.3	1649.02	1.4	1650.44	1.8
1647.22	1.3	1649.04	1.4	1650.46	1.8
1647.24	1.3	1649.06	1.4	1650.48	1.7
1647.26	1.3	1649.08	1.4	1650.50	1.8
1647.28	1.3	1649.10	1.4	1650.52	1.8
1647.30	1.3	1649.12	1.4	1650.54	1.8
1647.32	1.3	1649.14	1.4	1650.56	1.8
1647.34	1.3	1649.16	1.4	1650.58	1.7
1647.36	1.3	1649.18	1.4	1651.00	1.7
1647.38	1.3	1649.20	1.4	1651.02	1.7
1647.40	1.3	1649.22	1.4	1651.04	1.7
1647.42	1.3	1649.24	1.4	1651.06	1.7
1647.44	1.3	1649.26	1.4	1651.08	1.8
1647.46	1.4	1649.28	1.4	1651.10	1.8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1651.12	1.8	1652.54	1.8	1654.36	1.3
1651.14	1.8	1652.56	1.8	1654.38	1.3
1651.16	1.8	1652.58	1.7	1654.40	1.3
1651.18	1.8	1653.00	1.7	1654.42	1.3
1651.20	1.7	1653.02	1.7	1654.44	1.3
1651.22	1.7	1653.04	1.7	1654.46	1.3
1651.24	1.8	1653.06	1.7	1654.48	1.3
1651.26	1.8	1653.08	1.7	1654.50	1.3
1651.28	1.8	1653.10	1.7	1654.52	1.3
1651.30	1.8	1653.12	1.6	1654.54	1.3
1651.32	1.8	1653.14	1.6	1654.56	1.3
1651.34	1.8	1653.16	1.6	1654.58	1.3
1651.36	1.8	1653.18	1.6	1655.00	1.3
1651.38	1.8	1653.20	1.7	1655.02	1.3
1651.40	1.8	1653.22	1.7	1655.04	1.3
1651.42	1.8	1653.24	1.6	1655.06	1.3
1651.44	1.8	1653.26	1.6	1655.08	1.3
1651.46	1.8	1653.28	1.6	1655.10	1.3
1651.48	1.8	1653.30	1.6	1655.12	1.3
1651.50	1.8	1653.32	1.6	1655.14	1.3
1651.52	1.8	1653.34	1.6	1655.16	1.2
1651.54	1.8	1653.36	1.6	1655.18	1.2
1651.56	1.8	1653.38	1.6	1655.20	1.2
1651.58	1.8	1653.40	1.6	1655.22	1.2
1652.00	1.8	1653.42	1.5	1655.24	1.2
1652.02	1.8	1653.44	1.5	1655.26	1.2
1652.04	1.8	1653.46	1.5	1655.28	1.2
1652.06	1.8	1653.48	1.5	1655.30	1.2
1652.08	1.8	1653.50	1.5	1655.32	1.2
1652.10	1.8	1653.52	1.5	1655.34	1.2
1652.12	1.8	1653.54	1.5	1655.36	1.2
1652.14	1.8	1653.56	1.5	1655.38	1.2
1652.16	1.8	1653.58	1.5	1655.40	1.2
1652.18	1.8	1654.00	1.5	1655.42	1.2
1652.20	1.8	1654.02	1.5	1655.44	1.2
1652.22	1.8	1654.04	1.5	1655.46	1.2
1652.24	1.8	1654.06	1.4	1655.48	1.2
1652.26	1.8	1654.08	1.4	1655.50	1.2
1652.28	1.8	1654.10	1.4	1655.52	1.2
1652.30	1.8	1654.12	1.4	1655.54	1.2
1652.32	1.8	1654.14	1.4	1655.56	1.2
1652.34	1.8	1654.16	1.4	1655.58	1.2
1652.36	1.7	1654.18	1.4	1656.00	1.2
1652.38	1.7	1654.20	1.4	1656.02	1.2
1652.40	1.7	1654.22	1.4	1656.04	1.2
1652.42	1.7	1654.24	1.4	1656.06	1.2
1652.44	1.7	1654.26	1.4	1656.08	1.2
1652.46	1.8	1654.28	1.3	1656.10	1.2
1652.48	1.8	1654.30	1.3	1656.12	1.2
1652.50	1.7	1654.32	1.3	1656.14	1.2
1652.52	1.8	1654.34	1.3	1656.16	1.2

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1656.18	1.2	1658.00	1.2	1659.42	1.5
1656.20	1.2	1658.02	1.2	1659.44	1.5
1656.22	1.2	1658.04	1.3	1659.46	1.5
1656.24	1.2	1658.06	1.2	1659.48	1.5
1656.26	1.2	1658.08	1.2	1659.50	1.5
1656.28	1.2	1658.10	1.2	1659.52	1.5
1656.30	1.2	1658.12	1.3	1659.54	1.5
1656.32	1.2	1658.14	1.3	1659.56	1.5
1656.34	1.2	1658.16	1.3	1659.58	1.5
1656.36	1.2	1658.18	1.3	1700.00	1.5
1656.38	1.2	1658.20	1.3	1700.02	1.5
1656.40	1.2	1658.22	1.4	1700.04	1.5
1656.42	1.2	1658.24	1.4	1700.06	1.5
1656.44	1.2	1658.26	1.4	1700.08	1.5
1656.46	1.2	1658.28	1.4	1700.10	1.5
1656.48	1.2	1658.30	1.4	1700.12	1.5
1656.50	1.2	1658.32	1.4	1700.14	1.5
1656.52	1.2	1658.34	1.4	1700.16	1.4
1656.54	1.1	1658.36	1.4	1700.18	1.4
1656.56	1.2	1658.38	1.4	1700.20	1.4
1656.58	1.2	1658.40	1.4	1700.22	1.4
1657.00	1.1	1658.42	1.4	1700.24	1.4
1657.02	1.2	1658.44	1.4	1700.26	1.4
1657.04	1.2	1658.46	1.4	1700.28	1.4
1657.06	1.2	1658.48	1.3	1700.30	1.4
1657.08	1.2	1658.50	1.3	1700.32	1.4
1657.10	1.2	1658.52	1.3	1700.34	1.4
1657.12	1.2	1658.54	1.3	1700.36	1.4
1657.14	1.2	1658.56	1.4	1700.38	1.4
1657.16	1.2	1658.58	1.3	1700.40	1.4
1657.18	1.2	1659.00	1.3	1700.42	1.4
1657.20	1.2	1659.02	1.3	1700.44	1.4
1657.22	1.2	1659.04	1.3	1700.46	1.4
1657.24	1.2	1659.06	1.3	1700.48	1.4
1657.26	1.2	1659.08	1.5	1700.50	1.4
1657.28	1.2	1659.10	1.8	1700.52	1.3
1657.30	1.2	1659.12	1.8	1700.54	1.4
1657.32	1.2	1659.14	1.7	1700.56	1.3
1657.34	1.3	1659.16	1.7	1700.58	1.3
1657.36	1.3	1659.18	1.6	1701.00	1.3
1657.38	1.3	1659.20	1.6	1701.02	1.3
1657.40	1.3	1659.22	1.6	1701.04	1.3
1657.42	1.3	1659.24	1.6	1701.06	1.3
1657.44	1.2	1659.26	1.5	1701.08	1.3
1657.46	1.3	1659.28	1.5	1701.10	1.3
1657.48	1.3	1659.30	1.5	1701.12	1.3
1657.50	1.3	1659.32	1.5	1701.14	1.3
1657.52	1.3	1659.34	1.5	1701.16	1.4
1657.54	1.3	1659.36	1.5	1701.18	1.4
1657.56	1.3	1659.38	1.5	1701.20	1.4
1657.58	1.3	1659.40	1.5	1701.22	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1701.24	1.5	1703.06	1.7	1704.48	1.6
1701.26	1.5	1703.08	1.8	1704.50	1.6
1701.28	1.5	1703.10	1.8	1704.52	1.6
1701.30	1.5	1703.12	1.8	1704.54	1.6
1701.32	1.6	1703.14	1.8	1704.56	1.6
1701.34	1.6	1703.16	1.8	1704.58	1.6
1701.36	1.6	1703.18	1.8	1705.00	1.5
1701.38	1.6	1703.20	1.8	1705.02	1.5
1701.40	1.6	1703.22	1.8	1705.04	1.5
1701.42	1.6	1703.24	1.8	1705.06	1.5
1701.44	1.6	1703.26	1.8	1705.08	1.5
1701.46	1.6	1703.28	1.8	1705.10	1.5
1701.48	1.6	1703.30	1.8	1705.12	1.5
1701.50	1.6	1703.32	1.8	1705.14	1.5
1701.52	1.6	1703.34	1.8	1705.16	1.5
1701.54	1.6	1703.36	1.8	1705.18	1.5
1701.56	1.7	1703.38	1.8	1705.20	1.4
1701.58	1.7	1703.40	1.8	1705.22	1.4
1702.00	1.7	1703.42	1.8	1705.24	1.4
1702.02	1.7	1703.44	1.8	1705.26	1.4
1702.04	1.8	1703.46	1.8	1705.28	1.4
1702.06	1.8	1703.48	1.8	1705.30	1.4
1702.08	1.8	1703.50	1.8	1705.32	1.4
1702.10	1.7	1703.52	1.7	1705.34	1.4
1702.12	1.7	1703.54	1.8	1705.36	1.4
1702.14	1.7	1703.56	1.8	1705.38	1.4
1702.16	1.7	1703.58	1.8	1705.40	1.4
1702.18	1.7	1704.00	1.8	1705.42	1.3
1702.20	1.7	1704.02	1.8	1705.44	1.3
1702.22	1.8	1704.04	1.8	1705.46	1.3
1702.24	1.8	1704.06	1.8	1705.48	1.3
1702.26	1.8	1704.08	1.8	1705.50	1.3
1702.28	1.7	1704.10	1.7	1705.52	1.3
1702.30	1.7	1704.12	1.7	1705.54	1.3
1702.32	1.8	1704.14	1.7	1705.56	1.3
1702.34	1.8	1704.16	1.7	1705.58	1.3
1702.36	1.8	1704.18	1.7	1706.00	1.3
1702.38	1.7	1704.20	1.7	1706.02	1.3
1702.40	1.7	1704.22	1.7	1706.04	1.3
1702.42	1.7	1704.24	1.7	1706.06	1.3
1702.44	1.7	1704.26	1.7	1706.08	1.3
1702.46	1.7	1704.28	1.7	1706.10	1.3
1702.48	1.7	1704.30	1.7	1706.12	1.3
1702.50	1.7	1704.32	1.7	1706.14	1.3
1702.52	1.8	1704.34	1.7	1706.16	1.3
1702.54	1.8	1704.36	1.6	1706.18	1.3
1702.56	1.8	1704.38	1.6	1706.20	1.3
1702.58	1.8	1704.40	1.6	1706.22	1.3
1703.00	1.7	1704.42	1.6	1706.24	1.3
1703.02	1.7	1704.44	1.6	1706.26	1.3
1703.04	1.7	1704.46	1.6	1706.28	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1706.30	1.3	1708.12	1.1	1709.54	1.1
1706.32	1.3	1708.14	1.2	1709.56	1.1
1706.34	1.3	1708.16	1.2	1709.58	1.2
1706.36	1.3	1708.18	1.2	1710.00	1.1
1706.38	1.2	1708.20	1.1	1710.02	1.1
1706.40	1.3	1708.22	1.1	1710.04	1.1
1706.42	1.2	1708.24	1.1	1710.06	1.1
1706.44	1.2	1708.26	1.2	1710.08	1.2
1706.46	1.3	1708.28	1.2	1710.10	1.1
1706.48	1.2	1708.30	1.2	1710.12	1.2
1706.50	1.2	1708.32	1.1	1710.14	1.1
1706.52	1.2	1708.34	1.1	1710.16	1.1
1706.54	1.2	1708.36	1.2	1710.18	1.2
1706.56	1.2	1708.38	1.2	1710.20	1.2
1706.58	1.2	1708.40	1.1	1710.22	1.2
1707.00	1.2	1708.42	1.1	1710.24	1.2
1707.02	1.2	1708.44	1.2	1710.26	1.2
1707.04	1.2	1708.46	1.1	1710.28	1.2
1707.06	1.2	1708.48	1.2	1710.30	1.2
1707.08	1.2	1708.50	1.1	1710.32	1.2
1707.10	1.2	1708.52	1.1	1710.34	1.2
1707.12	1.2	1708.54	1.1	1710.36	1.2
1707.14	1.2	1708.56	1.1	1710.38	1.2
1707.16	1.2	1708.58	1.1	1710.40	1.2
1707.18	1.2	1709.00	1.1	1710.42	1.3
1707.20	1.2	1709.02	1.1	1710.44	1.3
1707.22	1.2	1709.04	1.1	1710.46	1.3
1707.24	1.2	1709.06	1.1	1710.48	1.3
1707.26	1.2	1709.08	1.1	1710.50	1.3
1707.28	1.2	1709.10	1.1	1710.52	1.3
1707.30	1.2	1709.12	1.1	1710.54	1.3
1707.32	1.2	1709.14	1.1	1710.56	1.3
1707.34	1.2	1709.16	1.1	1710.58	1.3
1707.36	1.2	1709.18	1.1	1711.00	1.3
1707.38	1.2	1709.20	1.1	1711.02	1.3
1707.40	1.2	1709.22	1.1	1711.04	1.3
1707.42	1.2	1709.24	1.1	1711.06	1.3
1707.44	1.2	1709.26	1.1	1711.08	1.3
1707.46	1.2	1709.28	1.1	1711.10	1.3
1707.48	1.2	1709.30	1.1	1711.12	1.3
1707.50	1.2	1709.32	1.1	1711.14	1.3
1707.52	1.2	1709.34	1.1	1711.16	1.3
1707.54	1.2	1709.36	1.1	1711.18	1.3
1707.56	1.2	1709.38	1.1	1711.20	1.3
1707.58	1.2	1709.40	1.1	1711.22	1.3
1708.00	1.2	1709.42	1.1	1711.24	1.3
1708.02	1.2	1709.44	1.2	1711.26	1.3
1708.04	1.2	1709.46	1.1	1711.28	1.4
1708.06	1.2	1709.48	1.1	1711.30	1.3
1708.08	1.2	1709.50	1.1	1711.32	1.3
1708.10	1.2	1709.52	1.1	1711.34	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1711.36	1.3	1713.18	1.4	1715.00	1.8
1711.38	1.3	1713.20	1.4	1715.02	1.8
1711.40	1.3	1713.22	1.4	1715.04	1.8
1711.42	1.3	1713.24	1.4	1715.06	1.7
1711.44	1.3	1713.26	1.4	1715.08	1.8
1711.46	1.3	1713.28	1.4	1715.10	1.7
1711.48	1.3	1713.30	1.4	1715.12	1.7
1711.50	1.7	1713.32	1.4	1715.14	1.7
1711.52	1.8	1713.34	1.4	1715.16	1.7
1711.54	1.7	1713.36	1.4	1715.18	1.8
1711.56	1.7	1713.38	1.4	1715.20	1.8
1711.58	1.6	1713.40	1.5	1715.22	1.8
1712.00	1.6	1713.42	1.6	1715.24	1.8
1712.02	1.6	1713.44	1.6	1715.26	1.8
1712.04	1.5	1713.46	1.6	1715.28	1.8
1712.06	1.5	1713.48	1.6	1715.30	1.8
1712.08	1.5	1713.50	1.6	1715.32	1.8
1712.10	1.5	1713.52	1.6	1715.34	1.7
1712.12	1.5	1713.54	1.6	1715.36	1.7
1712.14	1.5	1713.56	1.6	1715.38	1.8
1712.16	1.5	1713.58	1.6	1715.40	1.8
1712.18	1.5	1714.00	1.6	1715.42	1.8
1712.20	1.5	1714.02	1.6	1715.44	1.8
1712.22	1.5	1714.04	1.6	1715.46	1.9
1712.24	1.5	1714.06	1.6	1715.48	1.8
1712.26	1.5	1714.08	1.6	1715.50	1.8
1712.28	1.5	1714.10	1.7	1715.52	1.8
1712.30	1.5	1714.12	1.7	1715.54	1.8
1712.32	1.5	1714.14	1.7	1715.56	1.8
1712.34	1.5	1714.16	1.7	1715.58	1.9
1712.36	1.5	1714.18	1.7	1716.00	1.9
1712.38	1.5	1714.20	1.7	1716.02	1.8
1712.40	1.4	1714.22	1.7	1716.04	1.8
1712.42	1.5	1714.24	1.8	1716.06	1.8
1712.44	1.4	1714.26	1.7	1716.08	1.8
1712.46	1.5	1714.28	1.7	1716.10	1.8
1712.48	1.4	1714.30	1.7	1716.12	1.8
1712.50	1.4	1714.32	1.7	1716.14	1.8
1712.52	1.4	1714.34	1.7	1716.16	1.8
1712.54	1.4	1714.36	1.8	1716.18	1.8
1712.56	1.4	1714.38	1.8	1716.20	1.8
1712.58	1.4	1714.40	1.8	1716.22	1.8
1713.00	1.4	1714.42	1.8	1716.24	1.7
1713.02	1.4	1714.44	1.8	1716.26	1.7
1713.04	1.4	1714.46	1.8	1716.28	1.8
1713.06	1.4	1714.48	1.8	1716.30	1.8
1713.08	1.4	1714.50	1.8	1716.32	1.8
1713.10	1.4	1714.52	1.8	1716.34	1.7
1713.12	1.3	1714.54	1.8	1716.36	1.7
1713.14	1.4	1714.56	1.8	1716.38	1.7
1713.16	1.4	1714.58	1.8	1716.40	1.7

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3**

JULY 20, 1999

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1716.42	1.7	1718.24	1.4	1720.06	1.2
1716.44	1.7	1718.26	1.3	1720.08	1.1
1716.46	1.7	1718.28	1.3	1720.10	1.1
1716.48	1.7	1718.30	1.3	1720.12	1.1
1716.50	1.7	1718.32	1.3	1720.14	1.2
1716.52	1.7	1718.34	1.3	1720.16	1.1
1716.54	1.8	1718.36	1.3	1720.18	1.1
1716.56	1.8	1718.38	1.3	1720.20	1.1
1716.58	1.8	1718.40	1.3	1720.22	1.1
1717.00	1.7	1718.42	1.3	1720.24	1.1
1717.02	1.7	1718.44	1.3	1720.26	1.2
1717.04	1.7	1718.46	1.3	1720.28	1.1
1717.06	1.7	1718.48	1.3	1720.30	1.1
1717.08	1.7	1718.50	1.3	1720.32	1.2
1717.10	1.7	1718.52	1.2	1720.34	1.2
1717.12	1.7	1718.54	1.2	1720.36	1.1
1717.14	1.7	1718.56	1.2	1720.38	1.1
1717.16	1.7	1718.58	1.3	1720.40	1.2
1717.18	1.6	1719.00	1.2	1720.42	1.1
1717.20	1.6	1719.02	1.2	1720.44	1.1
1717.22	1.6	1719.04	1.2	1720.46	1.1
1717.24	1.6	1719.06	1.2	1720.48	1.1
1717.26	1.6	1719.08	1.2	1720.50	1.2
1717.28	1.6	1719.10	1.2	1720.52	1.2
1717.30	1.6	1719.12	1.2	1720.54	1.1
1717.32	1.6	1719.14	1.2	1720.56	1.1
1717.34	1.6	1719.16	1.2	1720.58	1.2
1717.36	1.6	1719.18	1.2	1721.00	1.1
1717.38	1.6	1719.20	1.2	1721.02	1.1
1717.40	1.5	1719.22	1.2	1721.04	1.1
1717.42	1.5	1719.24	1.2	1721.06	1.2
1717.44	1.5	1719.26	1.2	1721.08	1.1
1717.46	1.5	1719.28	1.2	1721.10	1.1
1717.48	1.5	1719.30	1.2	1721.12	1.1
1717.50	1.5	1719.32	1.2	1721.14	1.2
1717.52	1.5	1719.34	1.2	1721.16	1.1
1717.54	1.5	1719.36	1.2	1721.18	1.1
1717.56	1.5	1719.38	1.2	1721.20	1.1
1717.58	1.5	1719.40	1.2	1721.22	1.1
1718.00	1.5	1719.42	1.2	1721.24	1.1
1718.02	1.4	1719.44	1.2	1721.26	1.1
1718.04	1.4	1719.46	1.2	1721.28	1.1
1718.06	1.4	1719.48	1.1	1721.30	1.1
1718.08	1.4	1719.50	1.2	1721.32	1.1
1718.10	1.4	1719.52	1.2	1721.34	1.1
1718.12	1.4	1719.54	1.2	1721.36	1.1
1718.14	1.4	1719.56	1.2	1721.38	1.1
1718.16	1.4	1719.58	1.1	1721.40	1.1
1718.18	1.4	1720.00	1.1	1721.42	1.1
1718.20	1.4	1720.02	1.2	1721.44	1.1
1718.22	1.4	1720.04	1.2	1721.46	1.1

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1721.48	1.1	1723.30	1.1	1725.12	1.3
1721.50	1.1	1723.32	1.1	1725.14	1.3
1721.52	1.1	1723.34	1	1725.16	1.3
1721.54	1.1	1723.36	1.1	1725.18	1.3
1721.56	1.1	1723.38	1.1	1725.20	1.3
1721.58	1.1	1723.40	1.1	1725.22	1.3
1722.00	1.1	1723.42	1.1	1725.24	1.3
1722.02	1.1	1723.44	1.1	1725.26	1.3
1722.04	1.1	1723.46	1.1	1725.28	1.3
1722.06	1.1	1723.48	1.1	1725.30	1.3
1722.08	1.1	1723.50	1.1	1725.32	1.3
1722.10	1.1	1723.52	1.1	1725.34	1.3
1722.12	1.1	1723.54	1.1	1725.36	1.3
1722.14	1.1	1723.56	1.1	1725.38	1.3
1722.16	1.1	1723.58	1.1	1725.40	1.6
1722.18	1.1	1724.00	1.1	1725.42	1.9
1722.20	1.1	1724.02	1.1	1725.44	1.8
1722.22	1.1	1724.04	1.2	1725.46	1.7
1722.24	1.1	1724.06	1.1	1725.48	1.6
1722.26	1.1	1724.08	1.1	1725.50	1.6
1722.28	1.1	1724.10	1.2	1725.52	1.5
1722.30	1.1	1724.12	1.1	1725.54	1.5
1722.32	1.1	1724.14	1.2	1725.56	1.5
1722.34	1.1	1724.16	1.2	1725.58	1.6
1722.36	1.1	1724.18	1.2	1726.00	1.5
1722.38	1.1	1724.20	1.1	1726.02	1.5
1722.40	1.1	1724.22	1.1	1726.04	1.5
1722.42	1.1	1724.24	1.2	1726.06	1.5
1722.44	1.1	1724.26	1.2	1726.08	1.5
1722.46	1.1	1724.28	1.2	1726.10	1.5
1722.48	1.1	1724.30	1.2	1726.12	1.5
1722.50	1.1	1724.32	1.2	1726.14	1.5
1722.52	1.1	1724.34	1.2	1726.16	1.5
1722.54	1.1	1724.36	1.3	1726.18	1.5
1722.56	1.1	1724.38	1.3	1726.20	1.5
1722.58	1.1	1724.40	1.3	1726.22	1.5
1723.00	1.1	1724.42	1.3	1726.24	1.5
1723.02	1.1	1724.44	1.2	1726.26	1.5
1723.04	1.1	1724.46	1.2	1726.28	1.5
1723.06	1.1	1724.48	1.2	1726.30	1.5
1723.08	1.1	1724.50	1.3	1726.32	1.5
1723.10	1.1	1724.52	1.3	1726.34	1.5
1723.12	1.1	1724.54	1.3	1726.36	1.5
1723.14	1.1	1724.56	1.3	1726.38	1.5
1723.16	1.1	1724.58	1.3	1726.40	1.4
1723.18	1.1	1725.00	1.3	1726.42	1.4
1723.20	1.1	1725.02	1.2	1726.44	1.4
1723.22	1.1	1725.04	1.3	1726.46	1.4
1723.24	1.1	1725.06	1.4	1726.48	1.4
1723.26	1	1725.08	1.4	1726.50	1.4
1723.28	1	1725.10	1.3	1726.52	1.4

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1726.54	1.4	1728.36	1.7	1730.18	1.8
1726.56	1.4	1728.38	1.7	1730.20	1.8
1726.58	1.4	1728.40	1.7	1730.22	1.8
1727.00	1.4	1728.42	1.8	1730.24	1.8
1727.02	1.4	1728.44	1.8	1730.26	1.8
1727.04	1.4	1728.46	1.8	1730.28	1.8
1727.06	1.4	1728.48	1.8	1730.30	1.7
1727.08	1.4	1728.50	1.8	1730.32	1.7
1727.10	1.4	1728.52	1.8	1730.34	1.7
1727.12	1.4	1728.54	1.8	1730.36	1.7
1727.14	1.4	1728.56	1.8	1730.38	1.7
1727.16	1.4	1728.58	1.8	1730.40	1.7
1727.18	1.4	1729.00	1.8	1730.42	1.6
1727.20	1.4	1729.02	1.8	1730.44	1.6
1727.22	1.4	1729.04	1.8	1730.46	1.6
1727.24	1.4	1729.06	1.8	1730.48	1.6
1727.26	1.5	1729.08	1.8	1730.50	1.6
1727.28	1.5	1729.10	1.9	1730.52	1.6
1727.30	1.6	1729.12	1.8	1730.54	1.6
1727.32	1.6	1729.14	1.8	1730.56	1.6
1727.34	1.6	1729.16	1.8	1730.58	1.6
1727.36	1.6	1729.18	1.8	1731.00	1.6
1727.38	1.6	1729.20	1.8	1731.02	1.6
1727.40	1.7	1729.22	1.8	1731.04	1.5
1727.42	1.7	1729.24	1.8	1731.06	1.5
1727.44	1.6	1729.26	1.8	1731.08	1.5
1727.46	1.6	1729.28	1.8	1731.10	1.5
1727.48	1.6	1729.30	1.8	1731.12	1.5
1727.50	1.6	1729.32	1.8	1731.14	1.5
1727.52	1.6	1729.34	1.9	1731.16	1.5
1727.54	1.6	1729.36	1.9	1731.18	1.5
1727.56	1.7	1729.38	1.9	1731.20	1.5
1727.58	1.7	1729.40	1.9	1731.22	1.5
1728.00	1.7	1729.42	1.9	1731.24	1.5
1728.02	1.7	1729.44	1.9	1731.26	1.5
1728.04	1.7	1729.46	1.9	1731.28	1.4
1728.06	1.8	1729.48	1.9	1731.30	1.5
1728.08	1.8	1729.50	1.9	1731.32	1.4
1728.10	1.7	1729.52	1.9	1731.34	1.4
1728.12	1.8	1729.54	1.8	1731.36	1.4
1728.14	1.8	1729.56	1.8	1731.38	1.4
1728.16	1.8	1729.58	1.8	1731.40	1.4
1728.18	1.8	1730.00	1.8	1731.42	1.4
1728.20	1.8	1730.02	1.8	1731.44	1.4
1728.22	1.7	1730.04	1.8	1731.46	1.4
1728.24	1.7	1730.06	1.8	1731.48	1.3
1728.26	1.7	1730.08	1.8	1731.50	1.3
1728.28	1.7	1730.10	1.8	1731.52	1.3
1728.30	1.7	1730.12	1.8	1731.54	1.3
1728.32	1.7	1730.14	1.8	1731.56	1.3
1728.34	1.7	1730.16	1.8	1731.58	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1732.00	1.3	1733.42	1.2	1735.24	1.2
1732.02	1.3	1733.44	1.2	1735.26	1.1
1732.04	1.3	1733.46	1.2	1735.28	1.1
1732.06	1.3	1733.48	1.1	1735.30	1.1
1732.08	1.3	1733.50	1.2	1735.32	1.1
1732.10	1.3	1733.52	1.2	1735.34	1.1
1732.12	1.3	1733.54	1.2	1735.36	1.1
1732.14	1.3	1733.56	1.2	1735.38	1.1
1732.16	1.3	1733.58	1.2	1735.40	1.1
1732.18	1.3	1734.00	1.2	1735.42	1.1
1732.20	1.3	1734.02	1.2	1735.44	1.1
1732.22	1.3	1734.04	1.1	1735.46	1.1
1732.24	1.3	1734.06	1.2	1735.48	1.1
1732.26	1.3	1734.08	1.2	1735.50	1.1
1732.28	1.3	1734.10	1.1	1735.52	1.1
1732.30	1.3	1734.12	1.1	1735.54	1.1
1732.32	1.2	1734.14	1.2	1735.56	1.1
1732.34	1.3	1734.16	1.2	1735.58	1.1
1732.36	1.3	1734.18	1.1	1736.00	1.1
1732.38	1.3	1734.20	1.1	1736.02	1.1
1732.40	1.3	1734.22	1.1	1736.04	1.1
1732.42	1.3	1734.24	1.2	1736.06	1.1
1732.44	1.2	1734.26	1.1	1736.08	1.1
1732.46	1.3	1734.28	1.1	1736.10	1.1
1732.48	1.2	1734.30	1.1	1736.12	1.1
1732.50	1.2	1734.32	1.1	1736.14	1.1
1732.52	1.2	1734.34	1.1	1736.16	1.1
1732.54	1.2	1734.36	1.1	1736.18	1.1
1732.56	1.2	1734.38	1.1	1736.20	1.1
1732.58	1.2	1734.40	1.1	1736.22	1.1
1733.00	1.2	1734.42	1.1	1736.24	1.1
1733.02	1.2	1734.44	1.1	1736.26	1.1
1733.04	1.2	1734.46	1.1	1736.28	1.1
1733.06	1.2	1734.48	1.1	1736.30	1.1
1733.08	1.2	1734.50	1.1	1736.32	1.1
1733.10	1.2	1734.52	1.1	1736.34	1.1
1733.12	1.2	1734.54	1.2	1736.36	1.1
1733.14	1.2	1734.56	1.1	1736.38	1.1
1733.16	1.2	1734.58	1.1	1736.40	1.1
1733.18	1.2	1735.00	1.2	1736.42	1.1
1733.20	1.2	1735.02	1.1	1736.44	1.1
1733.22	1.2	1735.04	1.1	1736.46	1.1
1733.24	1.2	1735.06	1.1	1736.48	1.1
1733.26	1.2	1735.08	1.1	1736.50	1.1
1733.28	1.2	1735.10	1.1	1736.52	1.1
1733.30	1.2	1735.12	1.1	1736.54	1.1
1733.32	1.2	1735.14	1.1	1736.56	1.1
1733.34	1.2	1735.16	1.1	1736.58	1.1
1733.36	1.2	1735.18	1.1	1737.00	1.1
1733.38	1.2	1735.20	1.1	1737.02	1.1
1733.40	1.2	1735.22	1.1	1737.04	1.1

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1737.06	1.1	1738.48	1.2	1740.30	1.5
1737.08	1.1	1738.50	1.3	1740.32	1.5
1737.10	1.1	1738.52	1.3	1740.34	1.5
1737.12	1.1	1738.54	1.3	1740.36	1.5
1737.14	1.1	1738.56	1.3	1740.38	1.5
1737.16	1.1	1738.58	1.3	1740.40	1.5
1737.18	1.1	1739.00	1.3	1740.42	1.5
1737.20	1.1	1739.02	1.3	1740.44	1.5
1737.22	1.1	1739.04	1.3	1740.46	1.5
1737.24	1.1	1739.06	1.3	1740.48	1.4
1737.26	1.1	1739.08	1.3	1740.50	1.4
1737.28	1.1	1739.10	1.3	1740.52	1.5
1737.30	1.1	1739.12	1.3	1740.54	1.4
1737.32	1.2	1739.14	1.3	1740.56	1.4
1737.34	1.1	1739.16	1.3	1740.58	1.4
1737.36	1.1	1739.18	1.3	1741.00	1.4
1737.38	1.1	1739.20	1.3	1741.02	1.4
1737.40	1.1	1739.22	1.3	1741.04	1.4
1737.42	1.1	1739.24	1.3	1741.06	1.4
1737.44	1.1	1739.26	1.3	1741.08	1.4
1737.46	1.1	1739.28	1.3	1741.10	1.4
1737.48	1.1	1739.30	1.3	1741.12	1.4
1737.50	1.1	1739.32	1.4	1741.14	1.4
1737.52	1.1	1739.34	1.4	1741.16	1.4
1737.54	1.1	1739.36	1.3	1741.18	1.4
1737.56	1.1	1739.38	1.3	1741.20	1.4
1737.58	1.1	1739.40	1.4	1741.22	1.4
1738.00	1.1	1739.42	1.4	1741.24	1.4
1738.02	1.1	1739.44	1.6	1741.26	1.4
1738.04	1.1	1739.46	2	1741.28	1.4
1738.06	1.1	1739.48	1.9	1741.30	1.4
1738.08	1.2	1739.50	1.7	1741.32	1.4
1738.10	1.1	1739.52	1.7	1741.34	1.5
1738.12	1.1	1739.54	1.7	1741.36	1.5
1738.14	1.1	1739.56	1.7	1741.38	1.5
1738.16	1.1	1739.58	1.6	1741.40	1.5
1738.18	1.1	1740.00	1.6	1741.42	1.5
1738.20	1.1	1740.02	1.6	1741.44	1.6
1738.22	1.1	1740.04	1.6	1741.46	1.6
1738.24	1.2	1740.06	1.6	1741.48	1.6
1738.26	1.2	1740.08	1.6	1741.50	1.6
1738.28	1.2	1740.10	1.6	1741.52	1.6
1738.30	1.2	1740.12	1.6	1741.54	1.6
1738.32	1.2	1740.14	1.5	1741.56	1.6
1738.34	1.2	1740.16	1.5	1741.58	1.6
1738.36	1.2	1740.18	1.5	1742.00	1.6
1738.38	1.2	1740.20	1.5	1742.02	1.6
1738.40	1.2	1740.22	1.5	1742.04	1.6
1738.42	1.2	1740.24	1.5	1742.06	1.6
1738.44	1.2	1740.26	1.5	1742.08	1.6
1738.46	1.3	1740.28	1.5	1742.10	1.6

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1742.12	1.6	1743.54	1.8	1745.36	1.5
1742.14	1.6	1743.56	1.8	1745.38	1.5
1742.16	1.6	1743.58	1.8	1745.40	1.5
1742.18	1.7	1744.00	1.8	1745.42	1.5
1742.20	1.7	1744.02	1.8	1745.44	1.5
1742.22	1.7	1744.04	1.8	1745.46	1.4
1742.24	1.7	1744.06	1.8	1745.48	1.4
1742.26	1.7	1744.08	1.8	1745.50	1.4
1742.28	1.7	1744.10	1.8	1745.52	1.4
1742.30	1.7	1744.12	1.8	1745.54	1.4
1742.32	1.7	1744.14	1.8	1745.56	1.4
1742.34	1.7	1744.16	1.8	1745.58	1.4
1742.36	1.7	1744.18	1.8	1746.00	1.4
1742.38	1.7	1744.20	1.8	1746.02	1.4
1742.40	1.7	1744.22	1.8	1746.04	1.4
1742.42	1.7	1744.24	1.8	1746.06	1.4
1742.44	1.7	1744.26	1.8	1746.08	1.3
1742.46	1.7	1744.28	1.8	1746.10	1.3
1742.48	1.8	1744.30	1.7	1746.12	1.3
1742.50	1.7	1744.32	1.7	1746.14	1.3
1742.52	1.8	1744.34	1.7	1746.16	1.3
1742.54	1.8	1744.36	1.7	1746.18	1.3
1742.56	1.8	1744.38	1.7	1746.20	1.3
1742.58	1.8	1744.40	1.7	1746.22	1.3
1743.00	1.8	1744.42	1.7	1746.24	1.3
1743.02	1.8	1744.44	1.7	1746.26	1.3
1743.04	1.8	1744.46	1.7	1746.28	1.3
1743.06	1.8	1744.48	1.7	1746.30	1.3
1743.08	1.8	1744.50	1.7	1746.32	1.3
1743.10	1.8	1744.52	1.7	1746.34	1.3
1743.12	1.8	1744.54	1.7	1746.36	1.3
1743.14	1.8	1744.56	1.7	1746.38	1.3
1743.16	1.8	1744.58	1.6	1746.40	1.3
1743.18	1.8	1745.00	1.6	1746.42	1.3
1743.20	1.8	1745.02	1.6	1746.44	1.2
1743.22	1.8	1745.04	1.6	1746.46	1.2
1743.24	1.8	1745.06	1.6	1746.48	1.2
1743.26	1.8	1745.08	1.6	1746.50	1.2
1743.28	1.8	1745.10	1.6	1746.52	1.2
1743.30	1.8	1745.12	1.6	1746.54	1.2
1743.32	1.8	1745.14	1.6	1746.56	1.2
1743.34	1.8	1745.16	1.6	1746.58	1.2
1743.36	1.8	1745.18	1.6	1747.00	1.2
1743.38	1.9	1745.20	1.6	1747.02	1.2
1743.40	1.8	1745.22	1.6	1747.04	1.2
1743.42	1.8	1745.24	1.6	1747.06	1.2
1743.44	1.8	1745.26	1.6	1747.08	1.2
1743.46	1.8	1745.28	1.5	1747.10	1.2
1743.48	1.8	1745.30	1.5	1747.12	1.2
1743.50	1.8	1745.32	1.5	1747.14	1.2
1743.52	1.8	1745.34	1.5	1747.16	1.2

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1747.18	1.2	1749.00	1.2	1750.42	1.2
1747.20	1.2	1749.02	1.2	1750.44	1.1
1747.22	1.2	1749.04	1.2	1750.46	1.2
1747.24	1.2	1749.06	1.2	1750.48	1.2
1747.26	1.2	1749.08	1.2	1750.50	1.2
1747.28	1.2	1749.10	1.2	1750.52	1.2
1747.30	1.2	1749.12	1.1	1750.54	1.2
1747.32	1.2	1749.14	1.2	1750.56	1.2
1747.34	1.2	1749.16	1.1	1750.58	1.2
1747.36	1.2	1749.18	1.2	1751.00	1.2
1747.38	1.2	1749.20	1.2	1751.02	1.2
1747.40	1.2	1749.22	1.2	1751.04	1.2
1747.42	1.2	1749.24	1.1	1751.06	1.3
1747.44	1.2	1749.26	1.1	1751.08	1.3
1747.46	1.2	1749.28	1.1	1751.10	1.2
1747.48	1.2	1749.30	1.2	1751.12	1.2
1747.50	1.2	1749.32	1.1	1751.14	1.3
1747.52	1.2	1749.34	1.2	1751.16	1.3
1747.54	1.2	1749.36	1.1	1751.18	1.3
1747.56	1.2	1749.38	1.1	1751.20	1.3
1747.58	1.2	1749.40	1.1	1751.22	1.3
1748.00	1.2	1749.42	1.1	1751.24	1.3
1748.02	1.2	1749.44	1.1	1751.26	1.3
1748.04	1.2	1749.46	1.1	1751.28	1.3
1748.06	1.2	1749.48	1.1	1751.30	1.3
1748.08	1.2	1749.50	1.1	1751.32	1.3
1748.10	1.2	1749.52	1.1	1751.34	1.3
1748.12	1.2	1749.54	1.1	1751.36	1.3
1748.14	1.2	1749.56	1.2	1751.38	1.3
1748.16	1.2	1749.58	1.1	1751.40	1.3
1748.18	1.2	1750.00	1.2	1751.42	1.3
1748.20	1.2	1750.02	1.1	1751.44	1.3
1748.22	1.1	1750.04	1.2	1751.46	1.3
1748.24	1.2	1750.06	1.1	1751.48	1.3
1748.26	1.2	1750.08	1.1	1751.50	1.3
1748.28	1.2	1750.10	1.1	1751.52	1.3
1748.30	1.2	1750.12	1.1	1751.54	1.3
1748.32	1.2	1750.14	1.2	1751.56	1.3
1748.34	1.2	1750.16	1.2	1751.58	1.4
1748.36	1.2	1750.18	1.2	1752.00	1.3
1748.38	1.2	1750.20	1.1	1752.02	1.3
1748.40	1.2	1750.22	1.2	1752.04	1.4
1748.42	1.2	1750.24	1.1	1752.06	1.4
1748.44	1.2	1750.26	1.2	1752.08	1.3
1748.46	1.2	1750.28	1.1	1752.10	1.3
1748.48	1.2	1750.30	1.1	1752.12	1.3
1748.50	1.2	1750.32	1.2	1752.14	1.3
1748.52	1.2	1750.34	1.1	1752.16	1.4
1748.54	1.2	1750.36	1.2	1752.18	1.8
1748.56	1.2	1750.38	1.2	1752.20	2
1748.58	1.2	1750.40	1.2	1752.22	1.8

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**RUBBER MANUFACTURERS ASSOCIATION
FARRELL CORPORATION - ANSONIA, CT
TOTAL GASEOUS ORGANIC(S) SAMPLING
F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1752.24	1.7	1754.06	1.7	1755.48	1.9
1752.26	1.7	1754.08	1.7	1755.50	1.9
1752.28	1.7	1754.10	1.7	1755.52	1.9
1752.30	1.6	1754.12	1.7	1755.54	1.9
1752.32	1.6	1754.14	1.7	1755.56	1.9
1752.34	1.6	1754.16	1.8	1755.58	1.9
1752.36	1.6	1754.18	1.8	1756.00	1.9
1752.38	1.6	1754.20	1.8	1756.02	2
1752.40	1.6	1754.22	1.8	1756.04	2
1752.42	1.6	1754.24	1.8	1756.06	2
1752.44	1.6	1754.26	1.8	1756.08	1.9
1752.46	1.6	1754.28	1.9	1756.10	1.9
1752.48	1.6	1754.30	1.9	1756.12	1.9
1752.50	1.6	1754.32	1.8	1756.14	1.9
1752.52	1.5	1754.34	1.8	1756.16	1.9
1752.54	1.5	1754.36	1.8	1756.18	1.9
1752.56	1.5	1754.38	1.8	1756.20	1.9
1752.58	1.5	1754.40	1.8	1756.22	1.9
1753.00	1.5	1754.42	1.8	1756.24	1.9
1753.02	1.5	1754.44	1.9	1756.26	1.9
1753.04	1.5	1754.46	1.8	1756.28	1.9
1753.06	1.5	1754.48	1.8	1756.30	1.9
1753.08	1.5	1754.50	1.9	1756.32	1.9
1753.10	1.5	1754.52	1.9	1756.34	1.9
1753.12	1.5	1754.54	1.8	1756.36	1.9
1753.14	1.5	1754.56	1.9	1756.38	1.9
1753.16	1.5	1754.58	1.9	1756.40	1.9
1753.18	1.5	1755.00	1.9	1756.42	1.8
1753.20	1.5	1755.02	1.9	1756.44	1.8
1753.22	1.5	1755.04	1.9	1756.46	1.8
1753.24	1.5	1755.06	1.9	1756.48	1.8
1753.26	1.5	1755.08	1.9	1756.50	1.8
1753.28	1.5	1755.10	1.9	1756.52	1.8
1753.30	1.5	1755.12	1.9	1756.54	1.8
1753.32	1.5	1755.14	1.9	1756.56	1.8
1753.34	1.5	1755.16	1.9	1756.58	1.8
1753.36	1.5	1755.18	1.9	1757.00	1.8
1753.38	1.5	1755.20	1.9	1757.02	1.8
1753.40	1.4	1755.22	1.9	1757.04	1.8
1753.42	1.5	1755.24	1.9	1757.06	1.8
1753.44	1.4	1755.26	1.9	1757.08	1.8
1753.46	1.4	1755.28	1.9	1757.10	1.8
1753.48	1.5	1755.30	1.9	1757.12	1.8
1753.50	1.5	1755.32	1.9	1757.14	1.8
1753.52	1.6	1755.34	1.9	1757.16	1.7
1753.54	1.6	1755.36	1.9	1757.18	1.7
1753.56	1.6	1755.38	1.9	1757.20	1.7
1753.58	1.7	1755.40	1.9	1757.22	1.7
1754.00	1.7	1755.42	1.9	1757.24	1.7
1754.02	1.7	1755.44	1.9	1757.26	1.7
1754.04	1.7	1755.46	1.9	1757.28	1.7

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1757.30	1.7	1759.12	1.4	1800.54	1.3
1757.32	1.6	1759.14	1.4	1800.56	1.2
1757.34	1.6	1759.16	1.4	1800.58	1.2
1757.36	1.6	1759.18	1.4	1801.00	1.2
1757.38	1.6	1759.20	1.4	1801.02	1.3
1757.40	1.6	1759.22	1.4	1801.04	1.3
1757.42	1.6	1759.24	1.4	1801.06	1.3
1757.44	1.6	1759.26	1.4	1801.08	1.3
1757.46	1.6	1759.28	1.4	1801.10	1.2
1757.48	1.6	1759.30	1.4	1801.12	1.3
1757.50	1.6	1759.32	1.4	1801.14	1.3
1757.52	1.6	1759.34	1.4	1801.16	1.3
1757.54	1.6	1759.36	1.4	1801.18	1.3
1757.56	1.6	1759.38	1.4	1801.20	1.2
1757.58	1.6	1759.40	1.4	1801.22	1.3
1758.00	1.5	1759.42	1.4	1801.24	1.3
1758.02	1.5	1759.44	1.4	1801.26	1.3
1758.04	1.5	1759.46	1.4	1801.28	1.2
1758.06	1.5	1759.48	1.4	1801.30	1.2
1758.08	1.5	1759.50	1.4	1801.32	1.3
1758.10	1.5	1759.52	1.4	1801.34	1.3
1758.12	1.5	1759.54	1.4	1801.36	1.2
1758.14	1.5	1759.56	1.4	1801.38	1.2
1758.16	1.5	1759.58	1.3	1801.40	1.3
1758.18	1.5	1800.00	1.3	1801.42	1.3
1758.20	1.5	1800.02	1.4	1801.44	1.3
1758.22	1.5	1800.04	1.4	1801.46	1.3
1758.24	1.5	1800.06	1.4	1801.48	1.3
1758.26	1.5	1800.08	1.4	1801.50	1.3
1758.28	1.5	1800.10	1.3	1801.52	1.3
1758.30	1.4	1800.12	1.3	1801.54	1.3
1758.32	1.5	1800.14	1.4	1801.56	1.3
1758.34	1.5	1800.16	1.3	1801.58	1.3
1758.36	1.5	1800.18	1.3	1802.00	1.3
1758.38	1.5	1800.20	1.3	1802.02	1.3
1758.40	1.4	1800.22	1.3	1802.04	1.3
1758.42	1.4	1800.24	1.4	1802.06	1.3
1758.44	1.4	1800.26	1.4	1802.08	1.3
1758.46	1.4	1800.28	1.3	1802.10	1.3
1758.48	1.4	1800.30	1.3	1802.12	1.3
1758.50	1.4	1800.32	1.3	1802.14	1.3
1758.52	1.4	1800.34	1.3	1802.16	1.3
1758.54	1.4	1800.36	1.2	1802.18	1.3
1758.56	1.4	1800.38	1.2	1802.20	1.3
1758.58	1.4	1800.40	1.2	1802.22	1.3
1759.00	1.4	1800.42	1.2	1802.24	1.3
1759.02	1.4	1800.44	1.2	1802.26	1.3
1759.04	1.4	1800.46	1.2	1802.28	1.3
1759.06	1.4	1800.48	1.2	1802.30	1.3
1759.08	1.4	1800.50	1.2	1802.32	1.3
1759.10	1.4	1800.52	1.2	1802.34	1.3

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1802.36	1.3	1804.18	1.3	1806.00	1.2
1802.38	1.3	1804.20	1.3	1806.02	1.2
1802.40	1.3	1804.22	1.2	1806.04	1.2
1802.42	1.3	1804.24	1.3	1806.06	1.2
1802.44	1.3	1804.26	1.2	1806.08	1.2
1802.46	1.3	1804.28	1.2	1806.10	1.2
1802.48	1.3	1804.30	1.2	1806.12	1.2
1802.50	1.3	1804.32	1.2	1806.14	1.3
1802.52	1.3	1804.34	1.2	1806.16	1.2
1802.54	1.3	1804.36	1.3	1806.18	1.2
1802.56	1.3	1804.38	1.2	1806.20	1.2
1802.58	1.3	1804.40	1.2	1806.22	1.3
1803.00	1.3	1804.42	1.3	1806.24	1.2
1803.02	1.3	1804.44	1.3	1806.26	1.2
1803.04	1.3	1804.46	1.2	1806.28	1.2
1803.06	1.3	1804.48	1.2	1806.30	1.2
1803.08	1.3	1804.50	1.3	1806.32	1.2
1803.10	1.3	1804.52	1.2	1806.34	1.2
1803.12	1.3	1804.54	1.2	1806.36	1.2
1803.14	1.3	1804.56	1.2	1806.38	1.2
1803.16	1.3	1804.58	1.3	1806.40	1.2
1803.18	1.2	1805.00	1.2	1806.42	1.2
1803.20	1.3	1805.02	1.3	1806.44	1.2
1803.22	1.3	1805.04	1.2	1806.46	1.2
1803.24	1.3	1805.06	1.2	1806.48	1.2
1803.26	1.3	1805.08	1.2	1806.50	1.2
1803.28	1.3	1805.10	1.2	1806.52	1.2
1803.30	1.3	1805.12	1.2	1806.54	1.2
1803.32	1.3	1805.14	1.2	1806.56	1.2
1803.34	1.3	1805.16	1.2	1806.58	1.2
1803.36	1.3	1805.18	1.2	1807.00	1.2
1803.38	1.3	1805.20	1.2	1807.02	1.2
1803.40	1.2	1805.22	1.2	1807.04	1.2
1803.42	1.3	1805.24	1.2	1807.06	1.2
1803.44	1.3	1805.26	1.2	1807.08	1.2
1803.46	1.2	1805.28	1.2	1807.10	1.2
1803.48	1.3	1805.30	1.2	1807.12	1.2
1803.50	1.2	1805.32	1.2	1807.14	1.2
1803.52	1.2	1805.34	1.2	1807.16	1.2
1803.54	1.3	1805.36	1.2	1807.18	1.2
1803.56	1.3	1805.38	1.2	1807.20	1.2
1803.58	1.2	1805.40	1.2	1807.22	1.2
1804.00	1.3	1805.42	1.2	1807.24	1.2
1804.02	1.3	1805.44	1.2	1807.26	1.2
1804.04	1.2	1805.46	1.3	1807.28	1.2
1804.06	1.3	1805.48	1.2	1807.30	1.2
1804.08	1.3	1805.50	1.2	1807.32	1.2
1804.10	1.2	1805.52	1.2	1807.34	1.2
1804.12	1.3	1805.54	1.3	1807.36	1.2
1804.14	1.2	1805.56	1.2	1807.38	1.2
1804.16	1.2	1805.58	1.2	1807.40	1.2

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**RUBBER MANUFACTURERS ASSOCIATION
 FARRELL CORPORATION - ANSONIA, CT
 TOTAL GASEOUS ORGANIC(S) SAMPLING
 F80 BANBURY MIXER - RUBBER COMPOUND NO. 3
 JULY 20, 1999**

Pass 4

* Results as parts per million, propane

<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>	<u>Clock Time</u>	<u>Concentration</u>
1807.42	1.2	1809.24	1.2	1811.06	1.2
1807.44	1.2	1809.26	1.2	1811.08	1.2
1807.46	1.2	1809.28	1.2	1811.10	1.2
1807.48	1.2	1809.30	1.1	1811.12	1.2
1807.50	1.2	1809.32	1.2	1811.14	1.2
1807.52	1.2	1809.34	1.2	1811.16	1.2
1807.54	1.2	1809.36	1.1	1811.18	1.2
1807.56	1.2	1809.38	1.1	1811.20	1.2
1807.58	1.2	1809.40	1.2	1811.22	1.2
1808.00	1.2	1809.42	1.2	1811.24	1.2
1808.02	1.2	1809.44	1.2	1811.26	1.2
1808.04	1.2	1809.46	1.2	1811.28	1.2
1808.06	1.2	1809.48	1.2	1811.30	1.2
1808.08	1.2	1809.50	1.2	1811.32	1.2
1808.10	1.2	1809.52	1.1	1811.34	1.2
1808.12	1.2	1809.54	1.1	1811.36	1.2
1808.14	1.2	1809.56	1.2	1811.38	1.2
1808.16	1.2	1809.58	1.2	1811.40	1.2
1808.18	1.2	1810.00	1.2	1811.42	1.2
1808.20	1.2	1810.02	1.2	1811.44	1.2
1808.22	1.2	1810.04	1.2	1811.46	1.2
1808.24	1.2	1810.06	1.2	1811.48	1.2
1808.26	1.2	1810.08	1.2	1811.50	1.2
1808.28	1.2	1810.10	1.2	1811.52	1.2
1808.30	1.2	1810.12	1.2	1811.54	1.2
1808.32	1.2	1810.14	1.1	1811.56	1.2
1808.34	1.2	1810.16	1.1	1811.58	1.2
1808.36	1.2	1810.18	1.2	1812.00	1.2
1808.38	1.2	1810.20	1.2	1812.02	1.2
1808.40	1.2	1810.22	1.2	1812.04	1.2
1808.42	1.2	1810.24	1.2	1812.06	1.2
1808.44	1.2	1810.26	1.2	1812.08	1.2
1808.46	1.2	1810.28	1.2	1812.10	1.2
1808.48	1.2	1810.30	1.2	1812.12	1.2
1808.50	1.2	1810.32	1.2	1812.14	1.2
1808.52	1.2	1810.34	1.2	1812.16	1.2
1808.54	1.2	1810.36	1.2	1812.18	1.2
1808.56	1.2	1810.38	1.2	1812.20	1.2
1808.58	1.2	1810.40	1.2	1812.22	1.2
1809.00	1.2	1810.42	1.2	Average	1.4
1809.02	1.2	1810.44	1.2		
1809.04	1.1	1810.46	1.2		
1809.06	1.2	1810.48	1.2		
1809.08	1.1	1810.50	1.2		
1809.10	1.2	1810.52	1.2		
1809.12	1.2	1810.54	1.2		
1809.14	1.2	1810.56	1.2		
1809.16	1.1	1810.58	1.2		
1809.18	1.1	1811.00	1.2		
1809.20	1.2	1811.02	1.2		
1809.22	1.2	1811.04	1.2		

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APPENDIX D

LABORATORY DATA



TRIANGLE LABS

October 21, 1999

Att: Paul Jenkins
Trigon Engineering Consultants
6200 Harris Technology Blvd
Charlotte, NC 28269

Reference: RMA hexachlorbenzene analysis

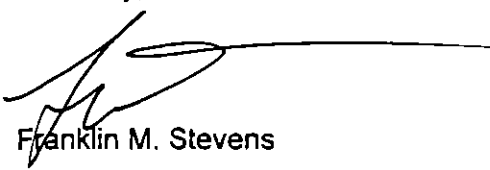
Dear Mr. Jenkins:

As was requested by RMA, we performed a High Resolution GC Mass Spec analysis for hexachlorobenzene on the samples from the RMA project (TLI Project Number 49157). The GC parameters were set up the same as the method used for the initial analysis, SW- 846 Method 8270C. A single point calibration was performed using a 1 in 10 dilution of the lowest calibration standard utilized for our SW- 846 8270C analyses, resulting in a calibration standard of 2ug/ml. We then ran samples Run 1 - 9116 - 01, Run 2 - 9116 - 02, Run 3 - 9116 - 03 and the Used Train Field Blank. The estimated detection limit and final results were as follows:

TLI ID	Client ID	Estimated Detection Limit	Results	Units	Matrix	File
TLI Train 1	Run 1 - 9116 - 01	(0.055)	ND	ug	MM5	X3016
TLI Train 2	Run 2 - 9116 - 02	(0.045)	ND	ug	MM5	X3016
TLI Train 3	Run 3 - 9116 - 03	(0.055)	ND	ug	MM5	X3016
Fld Blnk Trn	Used Train Field Blank	(0.051)	ND	ug	MM5	X3016

If you have any questions or need additional information please feel free to give me a call at (919) 544 - 5729 ext. 258.

Sincerely;



Franklin M. Stevens

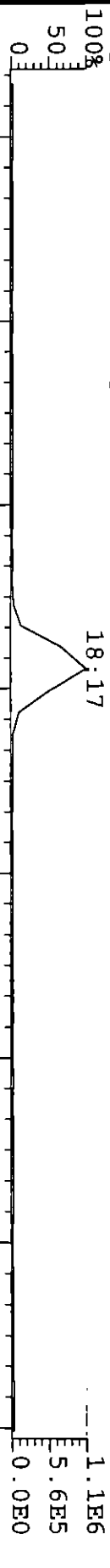
Project Scientist

Triangle Laboratories, Inc.

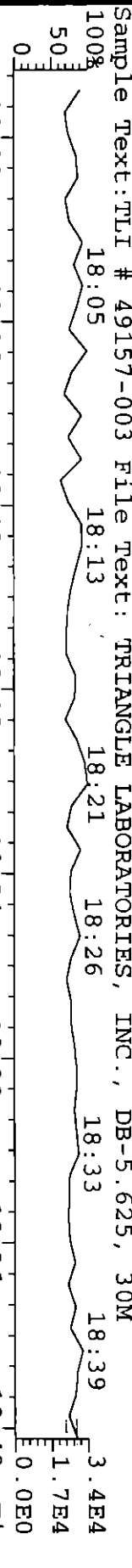
Triangle Laboratories, Inc.
801 Capitola Drive
Durham, NC 27713-4411
919-544-5729

P.O. Box 13485
Research Triangle Park, NC 27709-3485
Fax # 919-544-5491

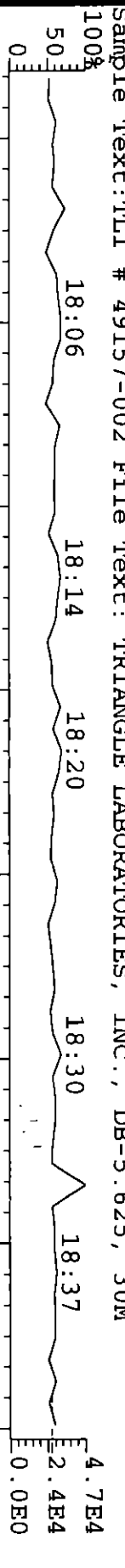
File:X0316 #1-2631 Acq:19-AUG-1999 22:42:12 GC EI+ Magnet AutoSpec
281_283 (-RP) Win 100PPM S:5 Exp:MA_SCAN
Sample Text:8270 Cal 2ug/mL File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



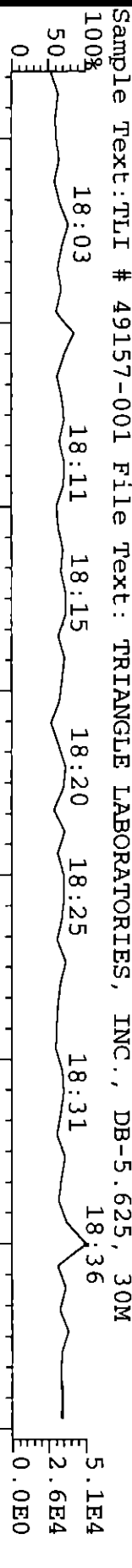
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Sample Text:TLI # 49157-003 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



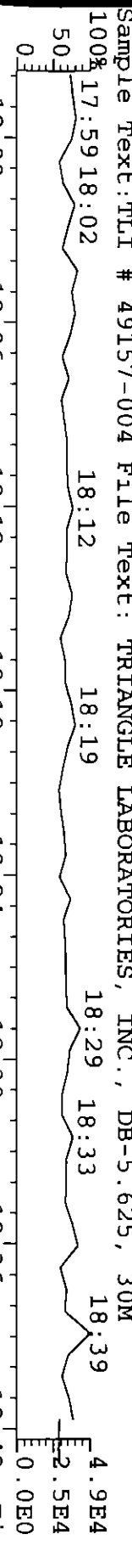
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Sample Text:TLI # 49157-002 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



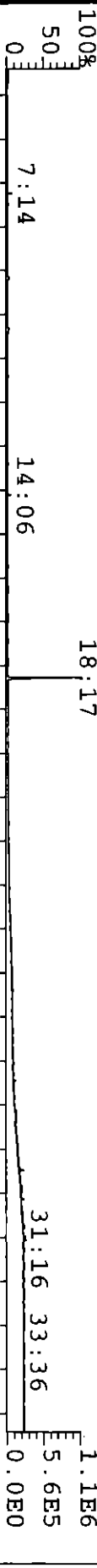
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Sample Text:TLI # 49157-001 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



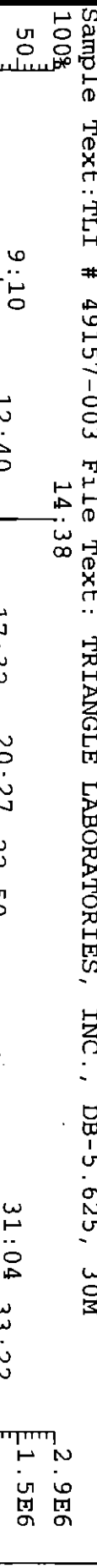
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281_283 (-RP) Win 100PPM Exp:MA_SCAN
Sample Text:TLI # 49157-004 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



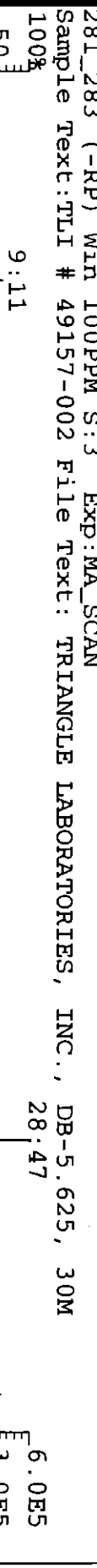
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281_283 (-RP) Win 100PPM S:5 Exp:MA_SCAN
Sample Text:8270 Cal 2ug/mL File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



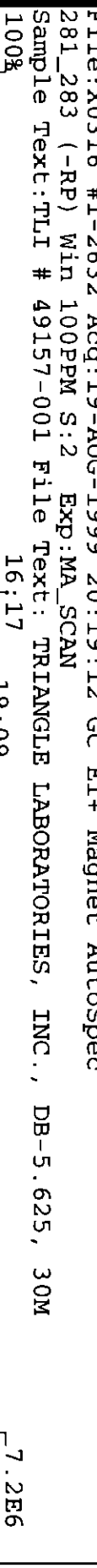
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Sample Text:TLI # 49157-003 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



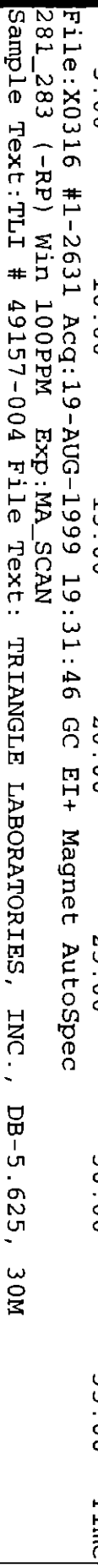
File:X0316 #1-2631 Acq:19-AUG-1999 21:06:58 GC EI+ Magnet AutoSpec
281_283 (-RP) Win 100PPM S:3 Exp:MA_SCAN
Sample Text:TLI # 49157-002 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



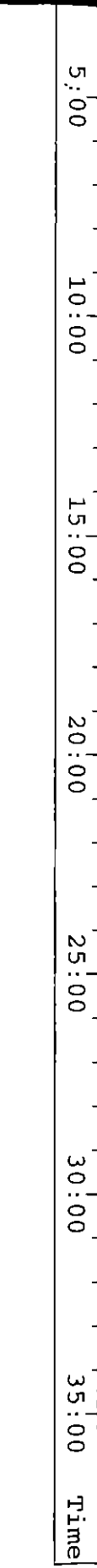
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281_283 (-RP) Win 100PPM S:2 Exp:MA_SCAN
Sample Text:TLI # 49157-001 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



File:X0316 #1-2631 Acq:19-AUG-1999 19:31:46 GC EI+ Magnet AutoSpec
281_283 (-RP) Win 100PPM Exp:MA_SCAN
Sample Text:TLI # 49157-004 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



File:X0316 #1-2631 Acq:19-AUG-1999 19:31:46 GC EI+ Magnet AutoSpec
281_283 (-RP) Win 100PPM Exp:MA_SCAN
Sample Text:TLI # 49157-004 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



File:X0316 #1-2631 Acq:19-AUG-1999 19:31:46 GC EI+ Magnet AutoSpec

TIC (-RP) Exp:MA_SCAN

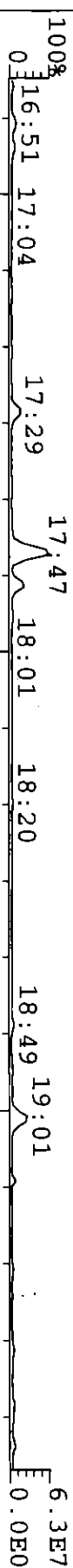
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File:X0316 #1-2632 Acq:19-AUG-1999 20:19:12 GC EI+ Magnet AutoSpec

TIC (-RP) S:2 Exp:MA_SCAN

Sample Text:TLI # 49157-001 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



File:X0316 #1-2631 Acq:19-AUG-1999 21:06:58 GC EI+ Magnet AutoSpec

TIC (-RP) S:3 Exp:MA_SCAN

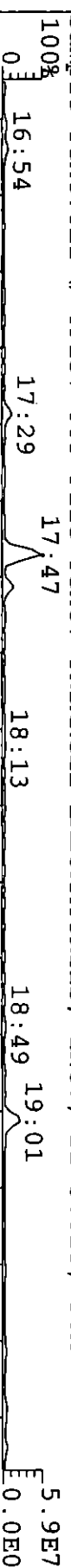
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File:X0316 #1-2632 Acq:19-AUG-1999 21:54:32 GC EI+ Magnet AutoSpec

TIC (-RP) S:4 Exp:MA_SCAN

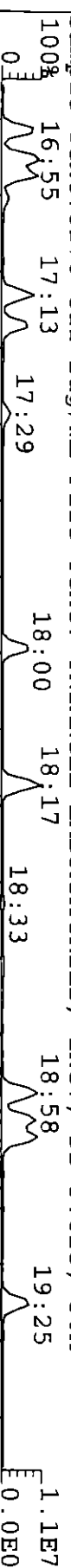
Sample Text:TLI # 49157-003 File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



File:X0316 #1-2631 Acq:19-AUG-1999 22:42:12 GC EI+ Magnet AutoSpec

TIC (-RP) S:5 Exp:MA_SCAN

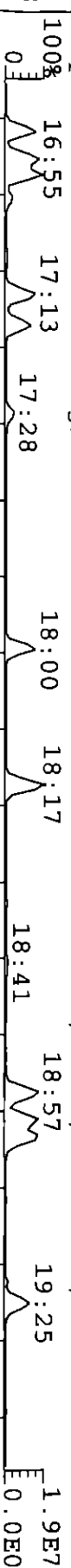
Sample Text:8270 Cal 2ug/mL File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M



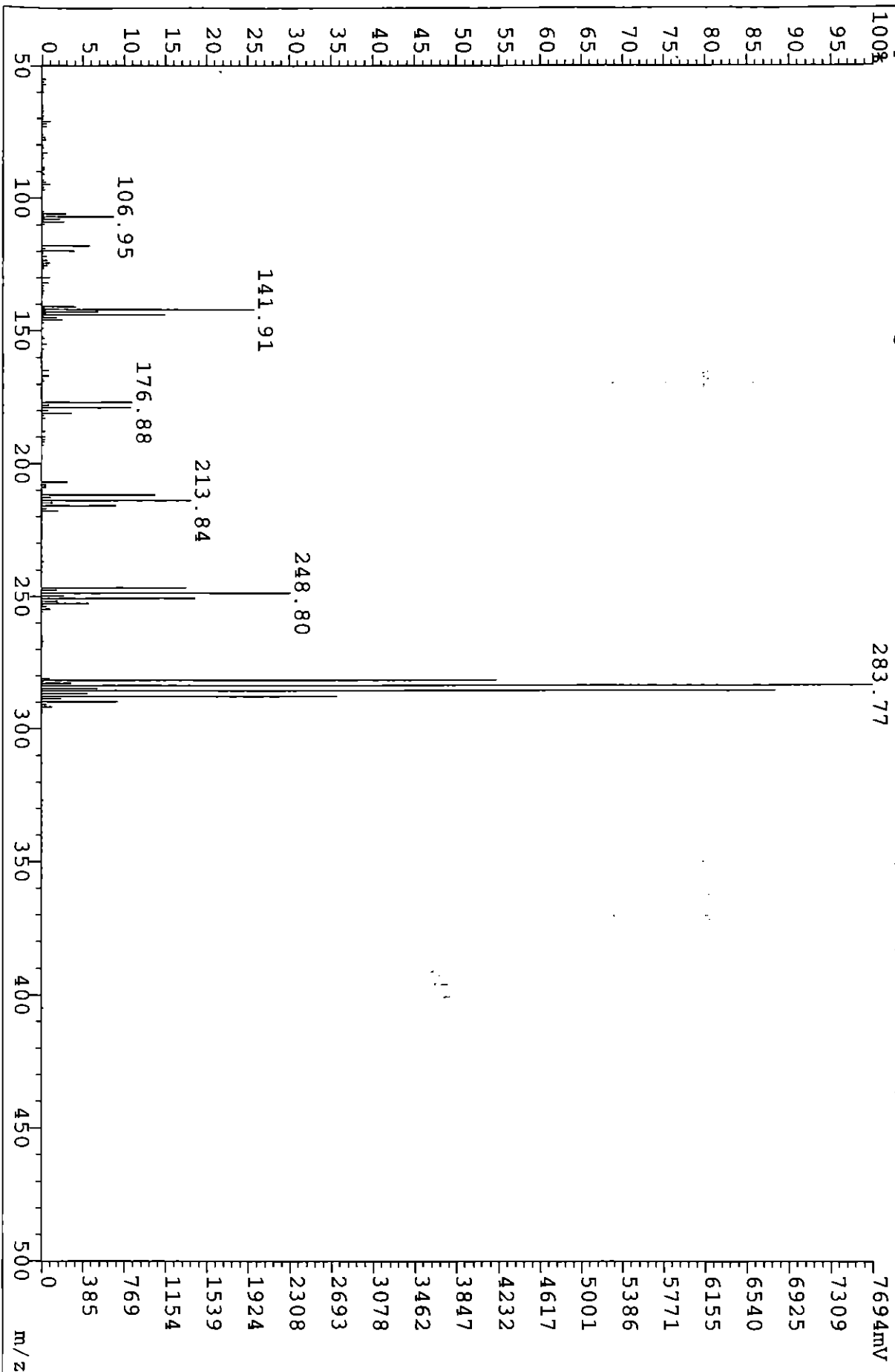
File:X990315 #1-2256 Acq:19-AUG-1999 18:53:37 GC EI+ Magnet AutoSpec

TIC (-RP) Exp:MA_SCAN

Sample Text:8270 Cal 2 ug/mL File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M

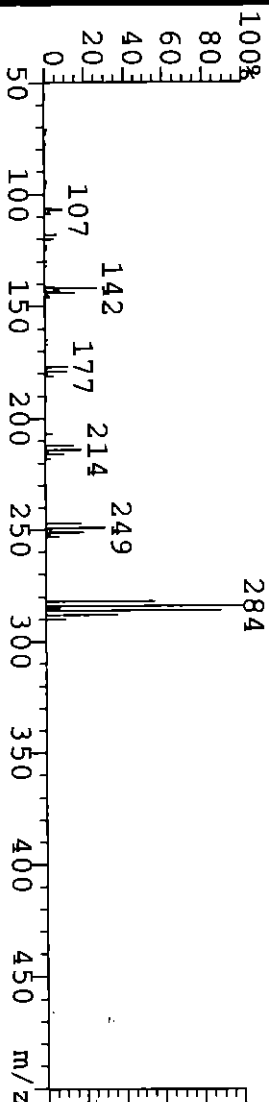


File: X0316 Ident: 1178 S: 5 Acq: 19-AUG-1999 22:42:12 +18:17 Cal: X990314_1
AutoSpec EI+ Magnet BpI: 1896388 TIC: 10985998 Flags: HALL
Sample Text: 8270 Cal 2ug/mL File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M
1008 283.77

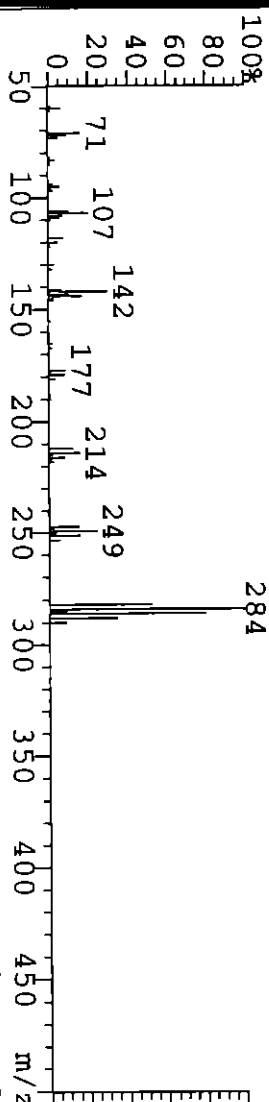


Libraries 1: NIST (62235) 2: NISTREP (12593)

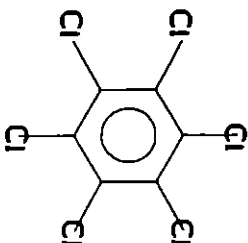
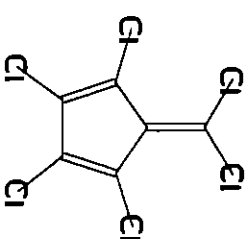
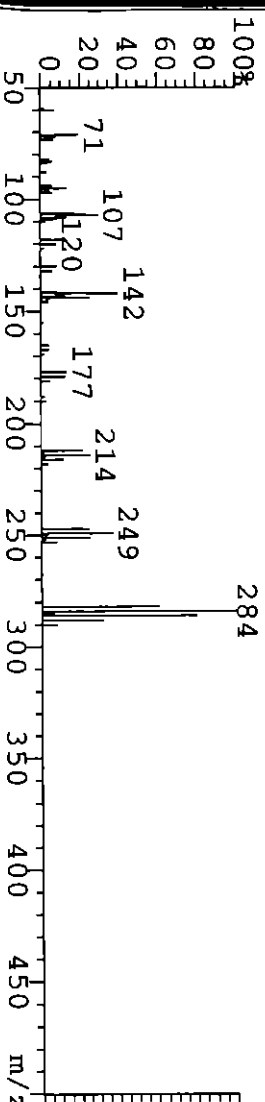
Peaks: 8 7 6 5 4 3 2 1 0
Matches: 4 2 6 2 17 140 1361 8688 64608
Total: 4 6 12 14 31 171 1532 10220 74828
Normal Search: 18 of 31 Rank: Purity Mass Weighting: On Presearch Minimum: 20
File Text: TRIANGLE LABORATORIES, INC., DB-5.625, 30M File: X0316 Ident: 1178 S: 5 Acquired: 19-AUG-
Autospec EI+ Function: Magnet TIC: 10985998



Name: Benzene, hexachloro- | Amatin | Anticarie SMILES: ClC1c(Cl)c(Cl)c(Cl)c(Cl)c1Cl



Name: 1,3-Cyclopentadiene, 1,2,3,4-tetrachloro-5-(dichloromethylene)- | Hexachlorofulvene | Hexa»



APPENDIX E

CALIBRATION DATA



QUALITY ASSURANCE AND EQUIPMENT CALIBRATION PROCEDURES

General. Each item of field or laboratory test equipment purchased or fabricated by Trigon Engineering Consultants is assigned a unique, permanent identification number. New items for which calibration is required are calibrated before initial field use. Equipment whose calibration status may change with use or with time is inspected in the field before testing begins, and again upon return from each field use. When an item of equipment is found to be out of calibration, it is adjusted and recalibrated or retired from service. All equipment is periodically recalibrated in full, regardless of the outcome of these regular inspections.

Calibrations are conducted in accordance with United States Environmental Protection Agency (US EPA) specifications. Trigon follows the calibration procedures outlined in EPA Reference Methods found in the Code of Federal Regulations (Volume 40, Part 60) and those recommended in the Quality Assurance Handbook for Air Pollution Measurement Systems: Volume III (EPA/600/R-94/038c). When the Reference Methods do not detail procedures, Trigon uses methods such as those prescribed by the American Society for Testing and Materials (ASTM).

Data obtained during calibrations are recorded on standardized forms, which are verified for completeness and accuracy by the Quality Assurance Manager. Data reduction and subsequent calculations are performed using Trigon's Air Quality Data System. Calibration calculations are performed by an environmental scientist, independently audited by the Project Manager, and reviewed by the Quality Assurance Manager for verification of data. Copies of calibration data are included in each test or project report.

Inspection and Maintenance. An effective preventative maintenance program is necessary to ensure equipment performance quality prior to, during, and following every test. Each item of equipment returning from the field is inspected before it is returned to storage. During the course of these inspections, items are cleaned, repaired, reconditioned, and recalibrated when necessary.

Each item of equipment transported to the field for a test project is inspected again prior to being packed. Trigon performs these quality assurance checks prior to departure for the project site to detect equipment problems which may occur during periods of storage. Trigon transports adequate back-up equipment to each project so as to avoid any unforeseen circumstances.

Calibration. Source sampling equipment that require calibration include nozzles, pitot tubes, thermometers, flow meters, dry gas meters, and barometers. The following sections detail the calibration procedures followed by Trigon for each item.



Nozzles. Each probe nozzle is uniquely and permanently identified at the time of purchase or fabrication, and it is calibrated before initial field use and prior to each test. The inside diameter of the nozzle is measured to the nearest 0.001 inch using a precision jeweled micrometer. Three measurements are made using different diameters each time. If the difference between the high and the low measurements do not exceed 0.004 inch, the average of the three measurements is used. If the difference exceeds this amount, or when the nozzle becomes nicked, dented, or corroded, the nozzle is reshaped, sharpened, and recalibrated. Regardless of usage, all nozzles are inspected and recalibrated on a yearly basis.

Pitot Tubes. All Trigon Type S pitot tubes have been constructed and calibrated in strict accordance with EPA Reference Method 2, Calibration Procedures 2 and 2a. Trigon Type S pitot tubes C_p coefficients have been determined according Calibration Procedure 2a.. Trigon standard pitot tubes have been assigned a C_p coefficient of 0.99 according to Calibration Procedure 2. Each pitot tube is visually inspected prior to any field use. If the inspection indicates damage, it is recalibrated. Regardless of usage, all pitot tubes are inspected and recalibrated on a yearly basis.

Dry Gas Meter and Orifice. Each metering system receives a full calibration at the time of purchase and annually, thereafter. Post-test calibrations are performed after each source test. If the calibration factor, γ (gamma), deviates by less than five percent from the initial value, the test data are acceptable. If γ deviates by more than five percent, the meter is recalibrated and the meter coefficient (initial or recalibrated) that yields the lowest sample volume for the test runs is used. Standard practice at Trigon is to recalibrate the dry gas meter anytime γ is found to be outside the range of $0.98 \leq \gamma \leq 1.02$.

Barometer. Each field barometer is calibrated to agree within ± 0.1 inches Hg of a reference mercury barometer. The barometric pressure is corrected for pressure and temperature. Prior to and following each field test the field barometer is verified.

Thermometers. Each new thermometer, pyrometer and thermocouple purchased or fabricated by Trigon is calibrated in strict accordance with US EPA Protocol. Calibration tolerance limits are as follow:

Impinger Temperature Gauge	$\pm 1^\circ\text{C}$ or 2°F
Dry Gas Meter Temperature Gauge	$\pm 3^\circ\text{C}$ or 5.4°F
Stack Thermocouples	$\pm 1.5\%$ of absolute temperature

All thermometers and thermocouples are inspected and calibrated prior to and following each field test. Regardless of usage, all thermometers and thermocouples are inspected and recalibrated on a yearly basis.

Laboratory Equipment. Trigon Engineering Consultants has a written quality assurance document that covers calibration and maintenance of laboratory equipment. This includes calibration of each analytical balance against Class S weights. Calibration of thermometers, barometers, and wet test meters are traceable to NIST. A copy of our quality assurance document may be obtained by written request.



PRETEST - POSTEST CALIBRATION DATA FORM

Client RMA City/State (France Corp) Ansonia, CT
 Pretest Date 02/15/99 Calibrator RPB Posttest Date 07/26/99 Calibrator RDP
 Reference Thermometer 100.022 Reference Barometer 600.003

	Pretest		Posttest	
	Temperature, °F	Ref. Temp., °F	Temperature, °F	Ref. Temp., °F
Omega Red Team DB/WB #100.025				
Omega Green Team DB/WB #100.031	83.83	83	86/86	86
Omega Blue Team DB/WB #100.017				
Omega Gold Team DB/WB #100.032				
Omega Grev Team DB/WB #100.033				
Omega CEM DB/WB #100.026				
Drv Gas Meter Inlet/Outlet #300.035 ✓	82.83	83	85/86	86
Drv Gas Meter Inlet/Outlet #300.045 ✓	83.83	83	86/86	86
Drv Gas Meter Inlet/Outlet #300.067 ✓	83.83	83	86/86	86
Drv Gas Meter Inlet/Outlet #300.100				
Drv Gas Meter Inlet/Outlet #300.200				
Drv Gas Meter Inlet/Outlet #300.214				
Drv Gas Meter Inlet/Outlet #300.241				
Drv Gas Meter Inlet/Outlet #300.248 ✓	83.83	83	86/86	86
Drv Gas Meter Inlet/Outlet #300.				
Drv Gas Meter Inlet/Outlet #300.				
Umbilical Adaptor # 5 #300.	83	83	85	86
Umbilical Adaptor # 6 #300.	82	83	85	86
Umbilical Adaptor # 11 #300.	82	83	85	86
Umbilical Adaptor # 17 #300.	83	83	86	86
Umbilical Adaptor # #300.				
Umbilical Adaptor # #300.				
Probe #200. 020	82	83	85	86
Probe #200. 020	83	83	85	86
Probe #200. 020	83	83	85	86
Probe #200. 020	83	83	86	86
Probe #200.				
Probe #200.				
Pitot #200.				
Pitot #200.				
	Field Baro., in. Hg	Ref. Baro., in. Hg	Field Baro., in. Hg	Ref. Baro., in. Hg
Barometer Red Team #600.001				
Barometer Green Team #600.014	29.35	29.35	29.06	29.06
Barometer Blue Team #600.010				
Barometer Gold Team #600.021(D)				
Barometer CEM #600.020(D)				

Were all posttest calibrations within the specified EPA Quality Assurance criteria? ☒ Yes ☐ No



ISOKINETIC CONSOLE CALIBRATION DATA SHEET

Client: RMA	City, State/Location: Ansonia, CT Bunbury M Air Mon.	Project No: 046-99-116
Date: 07/28/99	Baro. Press., in. Hg: 29.15	Calibrator Initials: DAC
Console #: 300.045	Dry Gas Meter No.: "009421	Wet Test Meter No.: 600.002

Initial Settings, Volumes and Temperatures							
Isokinetic Console				Wet Test Meter		Time θ minutes	Yi
Orifice Meter, ∅ H in. H ₂ O	Console Vacuum In. Hg	Meter Volume (Vd) ft ³	Meter Avg. Temp. (td) °F	Meter Volume (Vw) ft ³	Meter Temp. (tw) °F		
2.31	10.0	9.93	77.0	10.0	71.5	12.10	1.012
2.31	10.0	9.97	80.5	10.0	71.0	12.10	1.015
2.31	10.0	10.01	83.5	10.0	71.5	12.10	1.016

θ̄ = 1.01

Example Calculation:

$$\frac{V_w P_b (t_d + 460)}{V_d (P_b + (\emptyset H / 13.6))(t_w + 460)}$$

Where:

V_w = Gas volume of wet test meter, cubic feet

V_d = Gas volume of dry gas meter, cubic feet

t_w = Temperature of wet test meter, degrees Fahrenheit

t_d = Average temperature of dry gas meter, degrees Fahrenheit

∅ H = Pressure differential across orifice meter, inches water

θ̄ = Ratio of accuracy of wet test meter to dry gas meter for each replicate

θ̄ = Average ratio of accuracy of wet test meter to dry gas meter for all replicates;
tolerance = pretest θ̄ ± 0.05 θ̄

P_b = Barometric pressure, inches mercury

T = Time of calibration run, minutes

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Revised 02/13/98



ISOKINETIC CONSOLE CALIBRATION DATA SHEET

Client: RMA City, State/Location: Ansonia, CT Bunbury M Air Mon. Project No: 046-99-116
 Date: 07/28/99 Baro. Press., in. Hg: 29.14 Calibrator Initials: DAC
 Console #: 300.067 Dry Gas Meter No.: 839875 Wet Test Meter No.: 600.002

Initial Settings, Volumes and Temperatures							
Isokinetic Console				Wet Test Meter		Time 0 minutes	Yi
Orifice Meter, ΔH in. H ₂ O	Console Vacuum In. Hg	Meter Volume (Vd) ft ³	Meter Avg. Temp. (td) °F	Meter Volume (Vw) ft ³	Meter Temp. (tw) °F		
2.46	18.0	9.76	76.5	10.0	71.5	11.50	1.028
2.46	18.0	9.91	80.5	10.0	71.0	11.60	1.021
2.46	18.0	9.79	83.0	10.0	71.0	11.70	1.038

$\bar{Y} = 1.03$

Example Calculation:

$$\frac{V_w P_b (t_d + 460)}{V_d (P_b + (\Delta H/13.6))(t_w + 460)}$$

Where:

V_w = Gas volume of wet test meter, cubic feet

V_d = Gas volume of dry gas meter, cubic feet

t_w = Temperature of wet test meter, degrees Fahrenheit

t_d = Average temperature of dry gas meter, degrees Fahrenheit

ΔH = Pressure differential across orifice meter, inches water

$\bar{Y}$ = Ratio of accuracy of wet test meter to dry gas meter for each replicate

$\bar{Y}$ = Average ratio of accuracy of wet test meter to dry gas meter for all replicates;

tolerance = pretest $\bar{Y} \pm 0.05 \bar{Y}$

P_b = Barometric pressure, inches mercury

T = Time of calibration run, minutes

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 Revised 02/13/98



ISOKINETIC CONSOLE CALIBRATION DATA SHEET

Client: RMA City, State/Location: Ansonia, CT Bunbury M Air Mon. Project No: 046-99-116
 Date: 07/28/99 Baro. Press., in. Hg: 29.16 Calibrator Initials: DAC
 Console #: 300.248 Dry Gas Meter No.: "008761 Wet Test Meter No.: 600.002

Initial Settings, Volumes and Temperatures							
Isokinetic Console				Wet Test Meter		Time θ minutes	Yi
Orifice Meter, ∅ H in. H ₂ O	Console Vacuum In. Hg	Meter Volume (Vd) ft ³	Meter Avg. Temp. (td) °F	Meter Volume (Vw) ft ³	Meter Temp. (tw) °F		
2.48	11.0	10.35	91.0	10.0	72.0	11.80	0.994
2.48	11.0	10.40	92.5	10.0	71.5	11.80	0.993
2.48	11.0	10.40	92.0	10.0	71.5	11.80	0.992

Ȓ = 0.99

Example Calculation:

$$\frac{V_w P_b (t_d + 460)}{V_d (P_b + (\emptyset H / 13.6))(t_w + 460)}$$

Where:

V_w = Gas volume of wet test meter, cubic feet

V_d = Gas volume of dry gas meter, cubic feet

t_w = Temperature of wet test meter, degrees Fahrenheit

t_d = Average temperature of dry gas meter, degrees Fahrenheit

∅ H = Pressure differential across orifice meter, inches water

Ȓ = Ratio of accuracy of wet test meter to dry gas meter for each replicate

Ȓ = Average ratio of accuracy of wet test meter to dry gas meter for all replicates;

tolerance = pretest Ȓ ± 0.05 Ȓ

P_b = Barometric pressure, inches mercury

T = Time of calibration run, minutes

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 Revised 02/13/98



ISOKINETIC CONTROL CONSOLE CALIBRATION FORM

Console Number: 300.045
Calibration Date: 12/10/98
Expiration Date: 12/10/99

Calibrator: PRJ
Dry Gas Meter Number: 009421
Barometric Pressure, in. Hg: 29.476

Console	Gas Volume		Meter Temperatures				Time	Console	
Orifice Setting ΔH in. H ₂ O	Wet Test Meter V_w ft ³	Dry Gas Meter V_d ft ³	Wet Test Meter t_w °F	Dry Gas Meter		DGM Avg. t_d °F	θ Minutes	DGM Factor γ	Orifice Meter $\Delta H_{@}$ in. H ₂ O
				Inlet t_{di} °F	Outlet t_{do} °F				
0.50	5	5.06	67.7	79.0	73.0	76.0	12.63	1.002	1.783
1.00	5	5.08	67.7	83.0	77.0	80.0	9.03	1.005	1.809
1.50	10	10.20	67.7	86.0	79.0	82.5	14.85	1.004	1.826
2.00	10	10.22	68.1	88.0	81.0	84.5	12.95	1.004	1.848
3.00	10	10.23	68.2	91.0	83.0	87.0	10.66	1.005	1.870
4.00	10	10.23	68.2	93.0	84.0	88.5	9.26	1.005	1.876

Average 1.00 1.84

γ and $\Delta H_{@}$ are calculated as follows:

Tolerances:

γ 1.00
 ± 0.02
 $\Delta H_{@}$ 1.84
 ± 0.15

$$\gamma = \frac{V_w \cdot P_b \cdot (t_d + 460)}{V_d \cdot (P_b + \Delta H/13.6) \cdot (t_w + 460)} = 1.00$$

$$\Delta H_{@} = \frac{0.0317 \cdot \Delta H}{P_b \cdot (t_d + 460)} \cdot \left(\frac{(t_w + 460) \cdot \theta}{V_w} \right)^2 = 1.84$$



ISOKINETIC CONTROL CONSOLE CALIBRATION FORM

Console Number: 300.067
Calibration Date: 05/13/1999
Expiration Date: 05/13/2000

Calibrator: PRJ
Dry Gas Meter Number: 839875
Barometric Pressure, in. Hg: 29.014

Console	Gas Volume		Meter Temperatures				Time	Console	
Orifice Setting ΔH in. H ₂ O	Wet Test Meter V_w ft ³	Dry Gas Meter V_d ft ³	Wet Test Meter t_w °F	Dry Gas Meter		DGM Avg. t_d °F	θ Minutes	DGM Factor γ	Orifice Meter $\Delta H@$ in. H ₂ O
0.50	5	5.11	71.0	Inlet t_{di} °F	Outlet t_{do} °F	79.5	12.77	0.993	1.862
1.00	5	5.11	71.1	85.5	76.5	81.0	9.15	0.994	1.908
1.50	10	10.21	71.0	86.0	76.5	81.3	14.94	0.995	1.906
2.00	10	10.22	71.5	90.0	80.0	85.0	13.14	0.998	1.956
3.00	10	10.24	71.7	94.5	81.0	87.8	10.75	0.998	1.955
4.00	10	10.26	71.9	95.0	81.0	88.0	9.37	0.994	1.981

Average 1.00 1.93

γ and $\Delta H@$ are calculated as follows:

Tolerances:

γ 1.00
 ± 0.02
 $\Delta H@$ 1.84
 ± 0.15

$$\gamma = \frac{V_w * P_b * (t_d + 460)}{V_d * (P_b + \Delta H/13.6) * (t_w + 460)} = 1.00$$

$$\Delta H@ = \frac{0.0317 * \Delta H}{P_b * (t_d + 460)} * \left(\frac{(t_w + 460) * \theta}{V_w} \right)^2 = 1.93$$



ISOKINETIC CONTROL CONSOLE CALIBRATION FORM

Console Number: 300.248
 Calibration Date: 05/18/1999
 Expiration Date: 05/18/2000

Calibrator: PRJ
 Dry Gas Meter Number: 008761
 Barometric Pressure, in. Hg: 29.214

Console	Gas Volume		Meter Temperatures				Time	Console	
Orifice Setting ΔH in. H ₂ O	Wet Test Meter V_w ft ³	Dry Gas Meter V_d ft ³	Wet Test Meter t_w °F	Dry Gas Meter		DGM Avg. t_d °F	θ Minutes	DGM Factor γ	Orifice Meter ΔH_{θ} in. H ₂ O
0.50	5	5.15	70.3	Inlet t_{di} °F	Outlet t_{do} °F	84.0	12.63	0.995	1.790
1.00	5	5.15	70.2	89.0	82.5	85.8	9.11	0.997	1.855
1.50	10	10.29	70.1	89.5	83.5	86.5	15.11	0.998	1.911
2.00	10	10.29	70.0	92.0	83.0	87.5	13.12	0.999	1.917
3.00	10	10.29	69.7	94.5	84.0	89.3	10.72	1.000	1.911
4.00	10	10.27	69.7	96.5	84.5	90.5	9.31	1.002	1.917

Average 1.00 1.88

γ and ΔH_{θ} are calculated as follows:

Tolerances:

γ 1.00
 ± 0.02
 ΔH_{θ} 1.84
 ± 0.15

$$\gamma = \frac{V_w * P_b * (t_d + 460)}{V_d * (P_b + \Delta H/13.6) * (t_w + 460)} = 1.00$$

$$\Delta H_{\theta} = \frac{0.0317 * \Delta H}{P_b * (t_d + 460)} * \left(\frac{(t_w + 460) * \theta}{V_w} \right)^2 = 1.88$$



TYPE "S" PITOT TUBE CALIBRATION FORM

Date: 01/04/99

Calibrator: JPM

Specifications:

A.) Pitot tube assembly must be level.

B.) If pitot tube is damaged explain under comments section.

C.) $Z = A \sin \gamma$ (<0.125) and $W = A \sin \theta$ (<0.03125)

D.) $\alpha < 10^\circ$ and $\beta < 5^\circ$

Pitot Tubes Attached to Probes

I.D. Length	$\alpha 1^\circ$	$\alpha 2^\circ$	$\beta 1^\circ$	$\beta 2^\circ$	γ°	θ°	A, in.	Z, in.	W, in.	PA, in.	PB, in.	Dt, in.
200.020 2'	2.0	1.0	1.0	2.0	1.0	0.0	1.062	0.019	0.00000	0.531	0.531	0.374
200.021 2'	1.0	2.0	1.0	0.0	2.0	1.0	1.044	0.036	0.01822	0.522	0.522	0.375
200.036 2'	1.0	0.0	1.0	0.0	1.0	0.0	0.988	0.017	0.00000	0.494	0.494	0.374
200.037 2'	1.0	0.0	1.0	2.0	1.0	0.0	0.968	0.017	0.00000	0.484	0.484	0.373
200.063 2'	0.0	1.0	0.0	0.0	1.0	1.0	0.937	0.016	0.01635	0.469	0.468	0.374
200.064 2'	0.0	1.0	1.0	1.0	0.0	1.0	0.933	0.000	0.01628	0.467	0.466	0.378
200.004 3'	0.0	0.0	1.0	1.0	0.0	0.0	0.938	0.000	0.00000	0.469	0.469	0.374
200.005 3'	1.0	0.0	1.0	2.0	2.0	1.0	0.946	0.033	0.01651	0.473	0.473	0.375
200.006 3'	2.0	1.0	0.0	1.0	0.0	0.0	0.935	0.000	0.00000	0.468	0.467	0.377
200.015 3'	0.0	0.0	3.0	4.0	3.0	1.0	0.938	0.049	0.01637	0.469	0.469	0.376
200.016 3'	0.0	0.0	0.0	1.0	0.0	0.0	0.940	0.000	0.00000	0.470	0.470	0.376
200.017 3'	0.0	0.0	0.0	0.0	0.0	0.0	0.938	0.000	0.00000	0.469	0.469	0.375
200.066 3'	0.0	0.0	0.0	1.0	0.0	0.0	0.944	0.000	0.00000	0.472	0.472	0.375
200.297 3'	0.0	0.0	0.0	0.0	0.0	0.0	0.944	0.000	0.00000	0.472	0.472	0.376
200.007 5'	0.0	0.0	0.0	0.0	1.0	1.0	0.945	0.016	0.01649	0.473	0.472	0.374
200.008 5'	0.0	0.0	1.0	1.0	2.0	0.0	0.948	0.033	0.00000	0.474	0.474	0.374
200.009 5'	0.0	0.0	0.0	0.0	1.0	0.0	0.935	0.016	0.00000	0.468	0.467	0.377
200.022 5'	0.0	0.0	3.0	3.0	2.0	0.0	0.944	0.033	0.00000	0.472	0.472	0.373
200.027 5'	0.0	0.0	1.0	1.0	1.0	0.0	0.941	0.016	0.00000	0.471	0.470	0.375
200.034 5'	0.0	1.0	0.0	0.0	0.0	1.0	0.933	0.000	0.01628	0.467	0.466	0.376
200.056 5'	0.0	0.0	0.0	0.0	0.0	1.0	0.940	0.000	0.01641	0.470	0.470	0.374
200.061 5'	0.0	0.0	0.0	1.0	1.0	0.0	0.596	0.010	0.00000	0.298	0.298	0.251
200.024 6'	0.0	0.0	1.0	0.0	1.0	1.0	0.569	0.010	0.00993	0.285	0.284	0.252
200.010 7'	0.0	0.0	0.0	0.0	2.0	1.0	0.938	0.033	0.01637	0.469	0.469	0.373
200.011 7'	0.0	0.0	0.0	0.0	1.0	0.0	0.938	0.016	0.00000	0.469	0.469	0.374
200.012 7'	0.0	0.0	0.0	0.0	0.0	0.0	0.944	0.000	0.00000	0.472	0.472	0.375
200.039 7'	0.0	0.0	0.0	0.0	0.0	0.0	0.943	0.000	0.00000	0.472	0.471	0.375
200.040 7'	0.0	0.0	0.0	1.0	1.0	1.0	0.940	0.016	0.01641	0.470	0.470	0.371
200.059 7'	0.0	1.0	1.0	1.0	0.0	1.0	0.598	0.000	0.01044	0.299	0.299	0.253
200.060 7'	0.0	0.0	0.0	1.0	1.0	0.0	0.604	0.011	0.00000	0.302	0.302	0.251
200.041 8'	0.0	0.0	0.0	1.0	1.0	1.0	0.931	0.016	0.01625	0.466	0.465	0.376
200.045 8'	0.0	1.0	1.0	2.0	2.0	1.0	0.937	0.033	0.01635	0.469	0.468	0.375
200.013 10'	2.0	2.0	2.0	3.0	1.0	1.0	0.937	0.016	0.01635	0.469	0.468	0.374
200.014 10'	2.0	2.0	1.0	1.0	1.0	1.0	0.955	0.017	0.01667	0.478	0.477	0.375
200.050 12'	0.0	0.0	0.0	0.0	0.0	0.0	0.964	0.000	0.00000	0.482	0.482	0.375
200.051 12'	0.0	0.0	0.0	0.0	0.0	1.5	0.917	0.000	0.02400	0.459	0.458	0.376
200.052 12'	3.0	2.0	1.0	1.0	0.0	1.0	0.907	0.000	0.01583	0.454	0.453	0.376
200.053 12'	0.0	0.0	0.0	1.0	1.0	0.0	0.961	0.017	0.00000	0.481	0.480	0.376

Comments: Pitot Tubes Required Only Minor Maintenance & Reconditioning

200.066 & 200.297 = Inconel Probes

200.024 = Water Cooled Probe



TYPE "S" PITOT TUBE CALIBRATION FORM

Date: 01/04/99

Calibrator: JPM

Specifications:

A.) Pitot tube assembly must be level.

B.) If pitot tube is damaged explain under comments section.

C.) $Z = A \sin \gamma$ (<0.125) and $W = A \sin \theta$ (<0.03125)

D.) $\alpha < 10^\circ$ and $\beta < 5^\circ$

Individual Pitot Tubes

I.D. Length	$\alpha 1^\circ$	$\alpha 2^\circ$	$\beta 1^\circ$	$\beta 2^\circ$	γ°	θ°	A, in.	Z, in.	W, in.	PA, in.	PB, in.	Dt, in.
200.057 1.5'	0.0	0.0	1.0	0.0	0.0	1.0	0.629	0.000	0.01098	0.315	0.314	0.246
200.062 1.5'	1.0	1.0	0.0	0.0	0.0	0.0	0.655	0.000	0.00000	0.328	0.327	0.250
200.019 2'	2.0	1.0	0.0	0.0	0.0	1.0	0.943	0.000	0.01646	0.472	0.471	0.378
200.058 30"	0.0	0.0	2.0	2.0	2.0	0.0	0.916	0.032	0.00000	0.458	0.458	0.377
200.049 3'	0.0	0.0	0.0	0.0	0.0	1.0	0.939	0.000	0.01639	0.470	0.469	0.373
200.028 3'	4.0	5.0	1.0	3.0	1.0	1.5	0.923	0.016	0.02416	0.462	0.461	0.377
200.025 5'	0.0	0.0	0.0	0.5	0.5	0.0	0.818	0.007	0.00000	0.409	0.409	0.377
200.067 5'	1.0	1.0	1.0	0.0	1.0	1.0	0.943	0.016	0.01646	0.472	0.471	0.375
200.044 6'	0.0	0.0	1.0	1.0	1.0	0.0	0.923	0.016	0.00000	0.462	0.461	0.376
200.038 7'	1.0	0.0	0.0	0.0	0.0	0.0	0.879	0.000	0.00000	0.440	0.439	0.376
200.030 7'	2.0	5.0	1.0	2.0	0.0	0.0	0.937	0.000	0.00000	0.469	0.468	0.375
200.055 7'	1.0	1.0	0.0	1.0	1.0	1.0	0.848	0.015	0.01480	0.424	0.424	0.378
200.031 10'	1.0	2.0	2.0	1.0	2.0	1.0	0.942	0.033	0.01644	0.471	0.471	0.376
300.164 And	3.0	3.0	1.0	1.0	1.0	1.0	1.111	0.019	0.01939	0.556	0.555	0.376

Comments: Pitot Tubes Required Only Minor Maintenance

300.164 And = Anderson Probe Extension

200.062 Alc = 4075TF Probe



Probe Type S Pitot Tube Calibration Sheet

Date: 01/04/99 Standard Pitot Tube No: 200.063

Barometric Press., in. Hg: 29.32

Calibrator: TRP $C_p(\text{std})$: 0.99

Ambient Temperature °F: 64

Pitot Tube ID No./Side	Velocity Head, Inches of Water						Calibration Coefficients	
	Run 1 Δp_{std}	Run 2 Δp_{std}	Run 3 Δp_{std}	Run 1 Δp_S	Run 2 Δp_S	Run 3 Δp_S	$C_p(S)$ Side A/B	Avg. Dev. σ
200.020/A	0.31	0.31	0.31	0.42	0.42	0.42	0.85	0.001
200.020/B	0.31	0.31	0.30	0.42	0.42	0.41	0.85	0.002
200.021/A	0.31	0.32	0.31	0.42	0.43	0.42	0.85	0.002
200.021/B	0.33	0.32	0.33	0.45	0.44	0.45	0.85	0.003
200.036/A	0.31	0.31	0.31	0.41	0.41	0.40	0.86	0.005
200.036/B	0.31	0.32	0.32	0.41	0.42	0.42	0.86	0.003
200.037/A	0.32	0.32	0.32	0.43	0.43	0.43	0.85	0.004
200.037/B	0.32	0.32	0.32	0.42	0.42	0.42	0.86	0.004
200.063/A	0.31	0.31	0.30	0.42	0.42	0.41	0.85	0.002
200.063/B	0.28	0.30	0.29	0.39	0.41	0.40	0.84	0.004
200.064/A	0.30	0.31	0.31	0.40	0.41	0.41	0.86	0.002
200.064/B	0.30	0.30	0.31	0.40	0.40	0.41	0.86	0.002
200.004/A	0.32	0.32	0.32	0.44	0.43	0.43	0.85	0.005
200.004/B	0.32	0.33	0.32	0.43	0.44	0.43	0.86	0.005
200.005/A	0.33	0.33	0.33	0.44	0.44	0.44	0.86	0.003
200.005/B	0.32	0.32	0.32	0.43	0.43	0.43	0.85	0.004
200.006/A	0.33	0.33	0.33	0.44	0.44	0.44	0.86	0.003
200.006/B	0.33	0.33	0.33	0.44	0.44	0.43	0.86	0.004
200.015/A	0.32	0.32	0.32	0.43	0.43	0.44	0.85	0.005
200.015/B	0.32	0.32	0.32	0.43	0.43	0.43	0.85	0.004
200.016/A	0.33	0.33	0.34	0.44	0.44	0.45	0.86	0.002
200.016/B	0.33	0.33	0.33	0.44	0.44	0.44	0.86	0.003
200.017/A	0.33	0.33	0.32	0.45	0.45	0.44	0.85	0.003
200.017/B	0.32	0.32	0.32	0.43	0.43	0.43	0.85	0.004
200.066/A	0.31	0.31	0.31	0.41	0.41	0.41	0.86	0.001
200.066/B	0.31	0.31	0.31	0.41	0.41	0.41	0.86	0.001
200.297/A	0.30	0.30	0.30	0.40	0.40	0.40	0.86	0.003
200.297/B	0.32	0.31	0.32	0.42	0.41	0.42	0.86	0.003
200.007/A	0.32	0.32	0.32	0.42	0.42	0.42	0.86	0.004
200.007/B	0.33	0.33	0.33	0.43	0.43	0.43	0.87	0.003
200.008/A	0.33	0.34	0.33	0.47	0.48	0.47	0.83	0.001
200.008/B	0.32	0.32	0.32	0.45	0.45	0.45	0.84	0.005
200.009/A	0.32	0.32	0.31	0.42	0.42	0.41	0.86	0.003
200.009/B	0.32	0.32	0.32	0.42	0.42	0.42	0.86	0.004
200.022/A	0.33	0.31	0.31	0.43	0.41	0.41	0.86	0.003
200.022/B	0.32	0.33	0.32	0.43	0.44	0.43	0.86	0.005
200.027/A	0.33	0.33	0.32	0.47	0.47	0.46	0.83	0.001
200.027/B	0.33	0.33	0.33	0.46	0.46	0.46	0.84	0.001

Example Calculations:

$$C_p(S) = C_p(\text{std}) ((\Delta p_{\text{std}})/(\Delta p_S))^{0.5} \quad \text{Deviation} = C_p(S) - C_p(A \text{ or } B) \quad \text{must be } \leq 0.01$$



Probe Type S Pitot Tube Calibration Sheet

Date: 01/04/99 Standard Pitot Tube No: 200.065

Barometric Press., in. Hg: 29.32

Calibrator: TRP $C_p(\text{std})$: 0.99

Ambient Temperature °F: 64

Pitot Tube ID No./Side	Velocity Head, Inches of Water						Calibration Coefficients	
	Run 1 Δp_{std}	Run 2 Δp_{std}	Run 3 Δp_{std}	Run 1 Δp_s	Run 2 Δp_s	Run 3 Δp_s	$C_p(S)$ Side A/B	Avg. Dev. σ
200.034/A	0.34	0.33	0.33	0.46	0.45	0.45	0.85	0.002
200.034/B	0.34	0.33	0.33	0.46	0.45	0.45	0.85	0.002
200.056/A	0.32	0.32	0.32	0.42	0.42	0.42	0.86	0.004
200.056/B	0.33	0.33	0.33	0.44	0.44	0.44	0.86	0.003
200.061/A	0.29	0.28	0.29	0.38	0.37	0.38	0.86	0.004
200.061/B	0.27	0.28	0.28	0.37	0.38	0.38	0.85	0.001
200.024/A	0.30	0.31	0.31	0.41	0.42	0.42	0.85	0.002
200.024/B	0.30	0.29	0.31	0.40	0.39	0.41	0.86	0.003
200.010/A	0.36	0.34	0.35	0.51	0.49	0.50	0.83	0.003
200.010/B	0.33	0.35	0.35	0.48	0.50	0.50	0.83	0.004
200.011/A	0.31	0.32	0.32	0.42	0.43	0.43	0.85	0.003
200.011/B	0.34	0.34	0.34	0.45	0.45	0.45	0.86	0.001
200.012/A	0.33	0.33	0.33	0.44	0.44	0.44	0.86	0.003
200.012/B	0.32	0.33	0.33	0.43	0.43	0.43	0.86	0.007
200.039/A	0.32	0.31	0.33	0.47	0.46	0.48	0.82	0.004
200.039/B	0.31	0.33	0.32	0.45	0.47	0.46	0.83	0.004
200.040/A	0.33	0.33	0.32	0.45	0.45	0.44	0.85	0.003
200.040/B	0.32	0.32	0.31	0.44	0.44	0.43	0.84	0.003
200.059/A	0.25	0.25	0.26	0.37	0.37	0.38	0.82	0.004
200.059/B	0.25	0.26	0.27	0.37	0.38	0.39	0.82	0.004
200.060/A	0.26	0.26	0.26	0.36	0.36	0.36	0.84	0.001
200.060/B	0.25	0.26	0.25	0.35	0.37	0.35	0.83	0.005
200.041/A	0.26	0.25	0.26	0.35	0.34	0.35	0.85	0.002
200.041/B	0.27	0.27	0.27	0.36	0.36	0.36	0.86	0.003
200.045/A	0.28	0.28	0.29	0.38	0.38	0.39	0.85	0.001
200.045/B	0.27	0.28	0.27	0.37	0.38	0.37	0.85	0.003
200.013/A	0.27	0.26	0.26	0.37	0.36	0.36	0.84	0.003
200.013/B	0.28	0.28	0.27	0.38	0.38	0.37	0.85	0.001
200.014/A	0.27	0.27	0.28	0.38	0.38	0.39	0.84	0.004
200.014/B	0.27	0.27	0.28	0.38	0.38	0.39	0.84	0.004
200.050/A	0.28	0.27	0.27	0.38	0.37	0.37	0.85	0.003
200.050/B	0.27	0.27	0.27	0.37	0.37	0.37	0.85	0.004
200.051/A	0.26	0.26	0.26	0.36	0.36	0.36	0.84	0.001
200.051/B	0.27	0.27	0.28	0.37	0.37	0.38	0.85	0.003
200.052/A	0.27	0.28	0.27	0.36	0.37	0.36	0.86	0.002
200.052/B	0.28	0.27	0.28	0.37	0.36	0.37	0.86	0.002
200.053/A	0.26	0.27	0.26	0.36	0.37	0.36	0.84	0.003
200.053/B	0.26	0.26	0.27	0.36	0.36	0.37	0.84	0.003

Example Calculations:

$$C_p(S) = C_p(\text{std}) ((\Delta p_{\text{std}})/(\Delta p_s))^{0.5} \quad \text{Deviation} = C_p(S) - C_p(A \text{ or } B) \quad \text{must be } \leq 0.01$$



Individual Type S Pitot Tube Calibration Sheet

Date: 01/04/99

Standard Pitot Tube No: 200.065

Barometric Press., in. Hg: 29.32

Calibrator: TRP

Cp(std): 0.99

Ambient Temperature °F: 64

Pitot Tube ID No./Side	Velocity Head, Inches of Water						Calibration Coefficients	
	Run 1 Δ Pstd	Run 2 Δ Pstd	Run 3 Δ Pstd	Run 1 Δ PS	Run 2 Δ PS	Run 3 Δ PS	Cp(S) Side A/B	Avg. Dev. σ
200.057/A	0.30	0.30	0.29	0.41	0.41	0.40	0.85	0.004
200.057/B	0.29	0.30	0.30	0.40	0.41	0.41	0.85	0.004
200.062/A	0.30	0.29	0.31	0.40	0.39	0.41	0.86	0.003
200.062/B	0.31	0.31	0.29	0.41	0.41	0.39	0.86	0.003
200.019/A	0.31	0.30	0.31	0.42	0.41	0.42	0.85	0.002
200.019/B	0.32	0.32	0.32	0.43	0.43	0.43	0.85	0.004
200.058/A	0.32	0.32	0.33	0.44	0.44	0.45	0.85	0.005
200.058/B	0.32	0.32	0.32	0.43	0.44	0.44	0.85	0.005
200.049/A	0.30	0.31	0.30	0.41	0.42	0.41	0.85	0.002
200.049/B	0.29	0.29	0.29	0.40	0.41	0.41	0.84	0.006
200.028/A	0.30	0.30	0.30	0.43	0.43	0.43	0.83	0.003
200.028/B	0.31	0.30	0.30	0.43	0.42	0.42	0.84	0.002
200.025/A	0.32	0.32	0.32	0.44	0.44	0.44	0.84	0.004
200.025/B	0.32	0.32	0.32	0.44	0.44	0.44	0.84	0.004
200.067/A	0.33	0.33	0.33	0.45	0.45	0.45	0.85	0.002
200.067/B	0.33	0.33	0.33	0.45	0.45	0.45	0.85	0.002
200.044/A	0.30	0.31	0.31	0.43	0.44	0.44	0.83	0.002
200.044/B	0.31	0.31	0.31	0.43	0.43	0.43	0.84	0.001
200.038/A	0.30	0.30	0.30	0.43	0.43	0.43	0.83	0.003
200.038/B	0.32	0.32	0.32	0.44	0.44	0.44	0.84	0.004
200.030/A	0.31	0.31	0.31	0.44	0.44	0.45	0.83	0.003
200.030/B	0.32	0.31	0.31	0.45	0.45	0.45	0.83	0.007
200.055/A	0.29	0.29	0.30	0.40	0.40	0.41	0.84	0.004
200.055/B	0.30	0.31	0.31	0.41	0.42	0.42	0.85	0.002
200.031/A	0.31	0.31	0.31	0.44	0.44	0.44	0.83	0.001
200.031/B	0.31	0.30	0.30	0.44	0.43	0.43	0.83	0.002
300.164/A	0.30	0.30	0.29	0.40	0.40	0.39	0.86	0.004
300.164/B	0.30	0.31	0.30	0.40	0.41	0.40	0.86	0.002

Example Calculations:

$$C_p(S) = C_p(std) ((\Delta P_{std})/(\Delta P_S))^{0.5} \quad \text{Deviation} = C_p(S) - C_p(A \text{ or } B) \quad \text{must be } \leq 0.01$$



Summary Pitot Tube Calibration Sheet

Date: 01/04/99 Standard Pitot Tube No: 200.065
 Calibrator: TRP $C_p(\text{std})$: 0.99

Barometric Press., in. Hg: 29.32
 Ambient Temperature °F: 64

Standard Pitot Tubes

Pitot Tube ID No./Size	Coefficient $C_p(\text{std})$
200.029 6.5"	0.99
200.035 12.5"	0.99
200.001 18.5"	0.99
200.018 18.5"	0.99
200.032 18.5"	0.99

Pitot Tube ID No./Size	Coefficient $C_p(\text{std})$
200.033 18.5"	0.99
200.046 12.5"	0.99
200.048 18.5"	0.99
200.026 48.5"	0.99

Individual Type S Pitot Tubes

Pitot Tube ID No./Size	Coefficient $C_p(\text{std})$
200.057 1'	0.85
200.062 1'	0.86
200.019 2'	0.85
200.058 30"	0.85
200.049 3'	0.85
200.028 3'	0.84
200.025 5'	0.84
200.067 5'	0.85

Pitot Tube ID No./Size	Coefficient $C_p(\text{std})$
200.044 6'	0.84
200.038 7'	0.84
200.030 7'	0.83
200.055 7'	0.85
200.031 10'	0.83
300.164 An.	0.86
200.062 Alc.	

Probe Type S Pitot Tubes

Pitot Tube ID No./Size	Coefficient $C_p(\text{std})$
200.020 2'	0.85
200.021 2'	0.85
200.036 2'	0.86
200.037 2'	0.86
200.063 2'	0.85
200.064 2'	0.86
200.004 3'	0.86
200.005 3'	0.86
200.006 3'	0.86
200.015 3'	0.85
200.016 3'	0.86
200.017 3'	0.85
200.066 3'	0.86
200.297 3'	0.86
200.007 5'	0.87
200.008 5'	0.84
200.009 5'	0.86
200.022 5'	0.86
200.027 5'	0.84
200.034 5'	0.85
200.056 5'	0.86

Pitot Tube ID No./Size	Coefficient $C_p(\text{std})$
200.061 5'	0.86
200.024 6'	0.86
200.010 7'	0.83
200.011 7'	0.86
200.012 7'	0.86
200.039 7'	0.83
200.040 7'	0.85
200.059 7'	0.82
200.060 7'	0.84
200.041 8'	0.86
200.045 8'	0.85
200.013 10'	0.85
200.014 10'	0.84
200.050 12'	0.85
200.051 12'	0.85
200.052 12'	0.86
200.053 12'	0.84



TEMPERATURE SENSOR CALIBRATION FORM

NIST REFERENCE THERMOMETER TRANSFER CALIBRATION

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99	Barometric Pressure, In. Hg: 29.53
Ambient Temperature, Deg. F: 73	Reference Thermometer Serial No: 2890
Calibrated By: JPM	Reference Thermometer Serial No: 2775

Thermocouple ID No.	Reference Point	Source	NIST Reference Thermometer Temperature Degrees F	Transfer Instrument Temperature Degrees F	Temperature Difference Calculation Percent, %
-30 to 120 Deg. F Thermometer Serial Number F96-247					
100.022	1	Water Bath	35	35	0.00
	2	Water Bath	78	78	0.00
	3	Water Bath	117	117	0.00
-5 to 400 Deg. C Thermometer Serial Number U38717					
100.024	1	Water Bath	78	25 Deg. C	0.19
	2	Water Bath	117	47 Deg. C	0.07
	3	Water Bath	200	93 Deg. C	0.09
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-124997 Red Team					
100.025	1	Water Bath	39	39	0.00
	2	Water Bath	79	79	0.00
	3	Water Bath	159	159	0.00
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-151625 Green Team					
100.031	1	Water Bath	39	39	0.00
	2	Water Bath	80	79	0.19
	3	Water Bath	159	158	0.16
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-173773 Blue Team					
100.017	1	Water Bath	39	38	0.20
	2	Water Bath	80	79	0.19
	3	Water Bath	158	157	0.16
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-177429 Gold Team					
100.032	1	Water Bath	37	36	0.20
	2	Water Bath	78	77	0.19
	3	Water Bath	158	158	0.00
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-148889 Grey Team					
100.026	1	Water Bath	37	37	0.00
	2	Water Bath	79	79	0.00
	3	Water Bath	158	158	0.00
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-148841 CEM					
100.027	1	Water Bath	37	36	0.20
	2	Water Bath	79	78	0.19
	3	Water Bath	158	157	0.16

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

----- X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

NIST REFERENCE THERMOMETER TRANSFER CALIBRATION

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99	Barometric Pressure, In. Hg: 29.53
Ambient Temperature, Deg. F: 73	Reference Thermometer Serial No 2890
Calibrated By: JPM	Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	NIST Reference Thermometer Temperature Degrees F	Transfer Instrument Temperature Degrees F	Temperature Difference Calculation Percent, %
-120 to 2000 Deg. F Omega HH25 KF Pyrometer Serial Number T-156877					
100.033	1	Water Bath	37	37	0.00
	2	Water Bath	79	79	0.00
	3	Water Bath	158	158	0.00

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

NIST REFERENCE THERMOMETER TRANSFER CALIBRATION

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99	Barometric Pressure, In. Hg: 29.53
Ambient Temperature, Deg. F: 73	Reference Thermometer Serial No 2890
Calibrated By: JPM	Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	NIST Reference Thermometer Temperature Degrees F	Transfer Instrument Temperature Degrees F	Temperature Difference Calculation Percent, %
25 to 1125 Deg. C Thermolyne 1400 Pyrometer Serial Number 746940350496					
600.015	1	Muffle Furnace	76 Deg. F	25 Deg. C	-0.19
	2	Muffle Furnace	112 Deg. F	45 Deg. C	-0.17
	3	Muffle Furnace	165 Deg. F	75 Deg. C	-0.32
	4	Muffle Furnace	115 Deg. C*	114 Deg. C	0.26
	5	Muffle Furnace	210 Deg. C*	209 Deg. C	0.21
	6	Muffle Furnace	320 Deg. C*	320 Deg. C	0.00

*Used 100.024 Thermometer Serial Number U38717 as Reference Thermometer

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99
 Ambient Temperature, Deg. F: 73
 Calibrated By: BLS

Barometric Pressure, In. Hg: 29.51
 Reference Thermometer Serial No 2890
 Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
Omega HH-25 KF Dry Bulb - Red Team					
100.025	1	Water Bath	36	36	0.00
	2	Water Bath	84	83	0.18
	3	Water Bath	159	160	-0.16
Omega HH-25 KF Wet Bulb - Red Team					
100.025	1	Water Bath	36	37	-0.20
	2	Water Bath	83	84	-0.18
	3	Water Bath	159	159	0.00
Omega HH-25 KF Dry Bulb - Green Team					
100.031	1	Water Bath	35	34	0.20
	2	Water Bath	82	82	0.00
	3	Water Bath	161	160	0.16
Omega HH-25 KF Wet Bulb - Green Team					
100.031	1	Water Bath	36	37	-0.20
	2	Water Bath	82	82	0.00
	3	Water Bath	159	159	0.00
Omega HH-25 KF Dry Bulb - Blue Team					
100.017	1	Water Bath	34	33	0.20
	2	Water Bath	82	80	0.37
	3	Water Bath	161	159	0.32
Omega HH-25 KF Wet Bulb - Blue Team					
100.017	1	Water Bath	34	33	0.20
	2	Water Bath	79	78	0.19
	3	Water Bath	160	158	0.32
Omega HH-25 KF Dry Bulb - Gold Team					
100.032	1	Water Bath	34	33	0.20
	2	Water Bath	80	79	0.19
	3	Water Bath	160	159	0.16
Omega HH-25 KF Wet Bulb - Gold Team					
100.032	1	Water Bath	36	34	0.40
	2	Water Bath	79	77	0.37
	3	Water Bath	160	158	0.32

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99

Barometric Pressure, In. Hg: 29.51

Ambient Temperature, Deg. F: 73

Reference Thermometer Serial No 2890

Calibrated By: NRK

Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
DGM Inlet					
300.035	1	Water Bath	34	34	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	118	118	0.00
DGM Outlet					
300.035	1	Water Bath	34	34	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	118	118	0.00
DGM Inlet					
300.045	1	Water Bath	36	36	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	114	114	0.00
DGM Outlet					
300.045	1	Water Bath	36	36	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	115	115	0.00
DGM Inlet					
300.067	1	Water Bath	35	35	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	114	114	0.00
DGM Outlet					
300.067	1	Water Bath	35	35	0.00
	2	Water Bath	74	73	0.19
	3	Water Bath	114	114	0.00
DGM Inlet					
300.100	1	Water Bath	34	34	0.00
	2	Water Bath	73	73	0.00
	3	Water Bath	117	117	0.00
DGM Outlet					
300.100	1	Water Bath	34	35	-0.20
	2	Water Bath	73	73	0.00
	3	Water Bath	117	117	0.00

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99

Ambient Temperature, Deg. F: 73

Calibrated By: NRK

Barometric Pressure, In. Hg: 29.51

Reference Thermometer Serial No 2890

Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
DGM Inlet					
300.200	1	Water Bath	34	34	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	118	118	0.00
DGM Outlet					
300.200	1	Water Bath	34	34	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	118	118	0.00
DGM Inlet					
300.214	1	Water Bath	34	34	0.00
	2	Water Bath	73	73	0.00
	3	Water Bath	117	117	0.00
DGM Outlet					
300.214	1	Water Bath	34	34	0.00
	2	Water Bath	73	73	0.00
	3	Water Bath	117	117	0.00
DGM Inlet					
300.241	1	Water Bath	34	34	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	119	119	0.00
DGM Outlet					
300.241	1	Water Bath	34	34	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	119	119	0.00
DGM Inlet					
300.248	1	Water Bath	36	36	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	115	115	0.00
DGM Outlet					
300.248	1	Water Bath	36	36	0.00
	2	Water Bath	74	74	0.00
	3	Water Bath	115	115	0.00

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99
 Ambient Temperature, Deg. F: 73
 Calibrated By: NRK

Barometric Pressure, In. Hg: 29.51
 Reference Thermometer Serial No 2890
 Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
Umbilical Adaptor #1					
300.030	1	Water Bath	33	34	-0.20
	2	Water Bath	46	46	0.00
	3	Water Bath	77	76	0.19
Umbilical Adaptor #2					
300.031	1	Water Bath	33	33	0.00
	2	Water Bath	42	41	0.20
	3	Water Bath	77	77	0.00
Umbilical Adaptor #3					
300.032	1	Water Bath	34	34	0.00
	2	Water Bath	40	39	0.20
	3	Water Bath	76	76	0.00
Umbilical Adaptor #4					
300.042	1	Water Bath	34	34	0.00
	2	Water Bath	39	39	0.00
	3	Water Bath	76	75	0.19
Umbilical Adaptor #5					
300.043	1	Water Bath	34	34	0.00
	2	Water Bath	40	40	0.00
	3	Water Bath	76	76	0.00
Umbilical Adaptor #6					
300.044	1	Water Bath	33	33	0.00
	2	Water Bath	41	41	0.00
	3	Water Bath	75	75	0.00
Umbilical Adaptor #7					
300.134	1	Water Bath	33	33	0.00
	2	Water Bath	41	41	0.00
	3	Water Bath	75	75	0.00
Umbilical Adaptor #8					
300.135	1	Water Bath	33	33	0.00
	2	Water Bath	42	42	0.00
	3	Water Bath	75	75	0.00

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99
 Ambient Temperature, Deg. F: 73
 Calibrated By: NRK

Barometric Pressure, In. Hg: 29.51
 Reference Thermometer Serial No 2890
 Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
Umbilical Adaptor #9					
300.207	1	Water Bath	34	34	0.00
	2	Water Bath	42	42	0.00
	3	Water Bath	74	74	0.00
Umbilical Adaptor #10					
300.208	1	Water Bath	34	34	0.00
	2	Water Bath	43	43	0.00
	3	Water Bath	74	74	0.00
Umbilical Adaptor #11					
300.216	1	Water Bath	34	34	0.00
	2	Water Bath	43	43	0.00
	3	Water Bath	74	74	0.00
Umbilical Adaptor #12					
300.217	1	Water Bath	33	33	0.00
	2	Water Bath	43	43	0.00
	3	Water Bath	74	74	0.00
Umbilical Adaptor #13					
300.264	1	Water Bath	33	33	0.00
	2	Water Bath	44	44	0.00
	3	Water Bath	74	74	0.00
Umbilical Adaptor Frame Train					
300.295	1	Water Bath	33	33	0.00
	2	Water Bath	45	45	0.00
	3	Water Bath	73	73	0.00
Umbilical Adaptor Frame Train					
300.296	1	Water Bath	33	33	0.00
	2	Water Bath	45	45	0.00
	3	Water Bath	74	74	0.00

Source = Type of calibration system used.

Temperature Difference Calculation:
 (Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

----- X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99

Ambient Temperature, Deg. F: 73

Calibrated By: NRK

Barometric Pressure, In. Hg: 29.51

Reference Thermometer Serial No 2890

Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
2' Pitot Tube					
200.019	1	Water Bath	62	61	0.19
	2	Water Bath	183	184	-0.16
	3	Oil Bath	377	376	0.12
30" Pitot Tube					
200.058	1	Water Bath	62	61	0.19
	2	Water Bath	183	183	0.00
	3	Oil Bath	377	376	0.12
3' Pitot Tube					
200.049	1	Water Bath	60	60	0.00
	2	Water Bath	204	204	0.00
	3	Oil Bath	384	384	0.00
3' Pitot Tube					
200.028	1	Water Bath	60	60	0.00
	2	Water Bath	208	209	-0.15
	3	Oil Bath	384	384	0.00
5' Pitot Tube Inconel					
200.025	1	Water Bath	64	64	0.00
	2	Water Bath	210	210	0.00
	3	Oil Bath	337	338	-0.13
	4	Muffle Furnace	521	522	-0.10
	5	Muffle Furnace	823	823	0.00
	6	Muffle Furnace	1100	1101	-0.06
5' Pitot Tube					
200.067	1	Water Bath	64	64	0.00
	2	Water Bath	210	210	0.00
	3	Oil Bath	352	352	0.00
6' Pitot Tube					
200.044	1	Water Bath	61	61	0.00
	2	Water Bath	208	208	0.00
	3	Oil Bath	381	381	0.00

Source = Type of calibration system used.

Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460



TEMPERATURE SENSOR CALIBRATION FORM

THERMOCOUPLES

Tolerance: +/- 1.5% of Absolute Temperature

Date: 01/04/99

Barometric Pressure, In. Hg: 29.51

Ambient Temperature, Deg. F: 73

Reference Thermometer Serial No 2890

Calibrated By: NRK

Reference Thermometer Serial No 2775

Thermocouple ID No.	Reference Point	Source	Reference Thermometer Temperature Degrees F	Thermocouple Potentiometer Temperature Degrees F	Temperature Difference Calculation Percent, %
2' Probe (1)					
200.020	1	Water Bath	62	62	0.00
	2	Water Bath	194	193	0.15
	3	Oil Bath	374	374	0.00
2' Probe (2)					
200.021	1	Water Bath	62	61	0.19
	2	Water Bath	194	193	0.15
	3	Oil Bath	374	373	0.12
2' Probe (3)					
200.036	1	Water Bath	62	62	0.00
	2	Water Bath	199	200	-0.15
	3	Oil Bath	375	374	0.12
2' Probe (4)					
200.037	1	Water Bath	62	62	0.00
	2	Water Bath	199	200	-0.15
	3	Oil Bath	375	374	0.12
2' Probe (5)					
200.063	1	Water Bath	62	62	0.00
	2	Water Bath	195	194	0.15
	3	Oil Bath	370	369	0.12
2' Probe (6)					
200.064	1	Water Bath	62	62	0.00
	2	Water Bath	195	194	0.15
	3	Oil Bath	370	370	0.00

Source = Type of calibration system used.

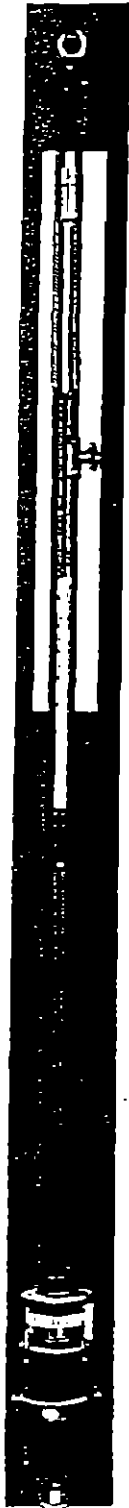
Temperature Difference Calculation:

(Ref. Temp. Deg. F + 460) - (Test Temp. Deg. F + 460)

X 100 = <1.5%

Ref. Temp. Deg. F + 460





453

NATIONAL WEATHER SERVICE TYPE MERCURIAL BAROMETERS

Usable up to 900 metres (3,000 feet)

The National Weather Service type barometer is PRINCO's highest grade mercurial barometer. It is used by weather services and airports the world over. The glass tube has a uniform inside diameter of 7 mm for constant capillary depression throughout the length of the scale. Scales are set at the factory by comparison with a barometer certified by the National Bureau of Standards, and read the local pressure without the necessity of correcting for capillary depression. The vernier can be smoothly and precisely set by means of a rack and pinion drive, controlled by a knurled adjusting knob. White plastic backgrounds on the mounting panel facilitate observation of the Fortin type cistern and mercury column. The vernier has a sighting edge, front and rear, to avoid parallax. A suspension bracket and an adjustable ring clamp for the cistern hold the barometer firmly in the vertical position on the mounting panel. A dual scale Celsius/Fahrenheit thermometer with a -25 to 50°C/-10 to 120°F range indicates the proper temperature to be used for temperature corrections. An instruction booklet with information for understanding and proper use of the barometer is supplied with each instrument. Complete correction tables for temperature and gravity are included.

This barometer is accurate to ± 0.3 mb, 0.2 mm, or 0.01 inch of mercury when carefully set and read, and after temperature and gravity corrections have been applied. For greatest accuracy a Certificate of Calibration may be obtained and the correction contained therein also applied. Each National Weather Service barometer has a serial number.

The rugged construction of the National Weather Service type barometer is such that it can be shipped safely by United Parcel Service or express. The kidskin bag, in the Fortin type reservoir, dampens mercury column oscillations during shipment. The lower part of the glass tube is narrowed down to minimize mercury weight, and is protected by foam cushions, thus offering added resistance to damage during shipment. The cistern may be opened in the field for cleaning of the cistern glass and cistern mercury. The barometer contains approximately 680 grams (1.5 pounds) of mercury total. It is shipped completely assembled, filled with mercury and ready to use. Mounting panel dimensions are 19 x 76 x 1072 mm (3/4 x 3 x 42 inches). The shipping weight is 5 kg (11 pounds) and box dimensions are 235 x 250 x 1197 mm (9 x 10 x 47 inches).

Catalog Number

→ 453
453BI
453MB

Scales

inch and millimetre
inch and millibar
millibar and millimetre

CALIBRATION AND TEST
WET TEST METER

DATE: 10-23-97

METER TYPE: AL-20

METER SERIAL NUM. : 11088

TEST ON FIVE FOOT BELL PROVER # 3785

OIL TEMP. 75.5 deg.

AIR TEMP. 75 deg.

METER TEMP. 75.5 deg.

TEST FLOW RATE	PERCENT OF PROOF
----------------	------------------

120 cfh	100.0 %
---------	---------

90 cfh	100.0 %
--------	---------

51 cfh	99.9 %
--------	--------

18 cfh	100.0 %
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TEST BY: HOWARD RAYFIELD

No. **F107**



CERTIFICATE OF ACCURACY



THIS IS TO CERTIFY that the 5 cft Bell Prover No. 3785 manufactured by the American Meter Company has been calibrated with either an immersion type cubic foot bottle or with a portable cubic foot standard and was found to be correct within 0.15%. The calibrating standard that was used has been certified and sealed by the National Bureau of Standards at Washington, D.C.

In accordance with the procedure outlined in National Bureau of Standards Handbook 117-1975, the prover was tested for leaks and adjusted so that the variation in pressure of the air within the bell did not exceed 1/10 inch water column when the bell descended its entire travel.

Air was used in the calibrating operation and the temperature of the air, sealant in the prover and sealant in the standard held constant.

Temperature of air 74.0 °F

Temperature of Sealant 74.5 °F

By M. J. Williams
Engineer

Date June 10, 1993

 **AMERICAN
METER COMPANY**

R E P O R T O F C A L I B R A T I O N
LIQUID-IN-GLASS-THERMOMETER

CALIBRATED BY EVER READY THERMOMETER CO. FOR:
TRIGON ENGINEERING

MARKED: ERTCO CAT 1002-3FC S/N-2890
RANGE: +30 TO +124 DEGREES F IN 0.2 DEGREE GRADUATIONS.

THERMOMETER READING	CORRECTION (ITS-90)**
32.00 F	0.00 F
40.00	-0.06
60.00	-0.06
100.00	0.00
120.00	-0.06

** ALL TEMPERATURES IN THIS REPORT ARE BASED ON THE INTERNATIONAL TEMPERATURE SCALE OF 1990 (ITS-90) PUBLISHED IN THE METROLOGIA 27, NO. 1, 3/10/90.

THIS THERMOMETER WAS CALIBRATED AGAINST A STANDARD CALIBRATED AT THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST) FORMERLY THE NATIONAL BUREAU OF STANDARDS (NBS) IN ACCORDANCE WITH ASTM METHOD E 77, AND NBS MONOGRAPH 174.

FOR A DISCUSSION OF ACCURACIES ATTAINABLE WITH SUCH THERMOMETERS SEE NBS MONOGRAPH 250-23.

IF NO SIGN IS GIVEN ON THE CORRECTION, THE TRUE TEMPERATURE IS HIGHER THAN THE INDICATED TEMPERATURE; IF THE SIGN GIVEN IS NEGATIVE, THE TRUE TEMPERATURE IS LOWER THAN THE INDICATED TEMPERATURE. TO USE THE CORRECTIONS PROPERLY, REFERENCE SHOULD BE MADE TO THE NOTES GIVEN BELOW.

THE THERMOMETER WAS TESTED IN A LARGE, CLOSED-TOP, ELECTRICALLY HEATED, LIQUID BATH, BEING "IMMERSED" 76MM. THE TEMPERATURE OF THE ROOM WAS ABOUT 25 DEGREES C (77 DEGREES F). IF THE THERMOMETER IS USED UNDER CONDITIONS WHICH WOULD CAUSE THE AVERAGE TEMPERATURE OF THE EMERGENT LIQUID COLUMN TO DIFFER MARKEDLY FROM THAT PREVAILING IN THE TEST, APPRECIABLE DIFFERENCES IN THE INDICATIONS OF THE THERMOMETER WOULD RESULT.

CONTINUED

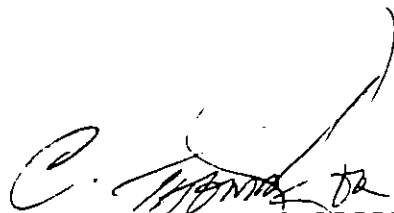
TEST NUMBER: 159395
DATE: 06/09/98
STANDARD SERIAL NO. 128239
NIST IDENTIFICATION NO. 88024

R E P O R T O F C A L I B R A T I O N

LIQUID-IN-GLASS-THERMOMETER

THE TABULATED CORRECTIONS APPLY PROVIDED THE ICE-POINT READING, TAKEN AFTER EXPOSURE FOR NOT LESS THAN 3 DAYS TO A TEMPERATURE OF ABOUT 20 DEGREES C (70 DEGREES F) IS 32.00 DEGREES F. IF THE ICE-POINT READING IS FOUND TO BE HIGHER (OR LOWER) THAN STATED, ALL OTHER READINGS WILL BE HIGHER (OR LOWER) TO THE SAME EXTENT. IF THE THERMOMETER IS USED AT A GIVEN TEMPERATURE SHORTLY AFTER BEING HEATED TO A HIGHER TEMPERATURE, AN ERROR OF 0.01 DEGREES OR LESS, FOR EACH 10 DEGREE DIFFERENCE BETWEEN THE TWO TEMPERATURES, MAY BE INTRODUCED. THE TABULATED CORRECTIONS APPLY IF THE THERMOMETER IS USED IN THE UPRIGHT POSITION; IF USED IN A HORIZONTAL POSITION, THE INDICATIONS MAY BE A FEW HUNDREDTHS OF A DEGREE HIGHER.

TEST NUMBER: 159395
DATE: 06/09/98
STANDARD SERIAL NO. 128239
NIST IDENTIFICATION NO. 88024



Charles Tang-Nian
QUALITY CONTROL MANAGER



Ever Ready Thermometer Co., Inc.

228 Lackawanna Avenue

West Paterson, NJ 07424

973-812-7474 FAX 973-812-7475 <http://www.ertco.com>

Thermometer Calibration Report

This is to certify that the instrument described below has been examined and tested in our calibration laboratory using accurately controlled constant temperature equipment; using NIST calibrated primary reference thermometers, in accordance with our ISO/EC Guide 65 Calibration Procedure 01, which is based in part on ASTM E-77-92, "Standard Test Method For Calibration And Verification Of Liquid In Glass Thermometers" and NIST Special Publication 250-23, "Liquid In Glass Thermometer Calibration Services". This calibration meets the requirements of ISO/EC Guide 25, ANSI/NCCL Z540-1-1994, the ISO 9000/QS 9000 Series OF Quality Standards, and MIL STD 883C (ISO 10012-1).

Customer Information

TRIGON ENGINEERING CONSULTANTS

100 HARRIS TECHNOLOGY BLVD.

CHARLOTTE, NC 28269

Attention:

Purchase Order:

Instrument Description

Serial Number: 2775 Inscription: ERTCO Date Completed: 11/11/1998 Immersion: 76 mm

Product Number: 612-3FC Scale Range: 0 TO 300 F Scale Divisions: 2 F

Results of Physical Examination

This instrument has been examined under a microscope for strains in the glass, if any, were judged to be minimal and of no detriment to the functionality of the instrument.

The capillary of this thermometer has been examined under magnification and no foreign material, moisture, or other evidence of contamination were discovered. No discernible capillary irregularities were noted.

It has been determined that the instrument is in good working order and is therefore suitable for calibration.

Calibration Results

Test Temperature	Reading Of This Instrument	Correction	Emergent Column Temperature	Standard Uncertainty
32.0 F	32.6 F	-0.6 F	NA	.02
100.0 F	101.6 F	-1.6 F	NA	.08
200.0 F	201.4 F	-1.4 F	NA	.08
300.0 F	301.0 F	-1.0 F	NA	.14

The above readings were made under magnification and resolved to the nearest 0.01 F. The uncertainties of our calibration system are as follows: From -121 to -49F, +/- .24F; From -40 to <32F, +/- .12F; At 32F, +/- .02F; From >32F to 212F, +/- .08F; From >212 to 392F, +/- .14F; From >392 to 572F, +/- .26F; From >572 to 752F, +/- .8F. The estimated uncertainties quoted above were determined in accordance with the guidelines given in NIST Publication IR 5341 and take into account the type of thermometer tested, the precision with which its reading can be resolved, and the degree of confidence one can have in its indications under similar conditions of usage.

For further discussion of accuracies attainable with such thermometers, see NIST Special Publication 250-23 and NIST Publication IR 5341.

Laboratory Environmental Conditions: Temperature 23C +/- 2C (73F +/- 2F). Relative Humidity - Between 30% and 60%. All temperatures in this report are based on the International Temperature Scale of 1990 (ITS-90).

IMPORTANT NOTE: The readings and corrections noted above apply for the condition of immersion indicated provided that the ice point reading, taken after exposure for not fewer than three days to a temperature of about 22 Degrees Celcius (73F), is 0.00C (32F). If the ice point reading is found to be higher (or lower) than stated, all other readings will be higher (lower) by the same amount.

The calibration performed and documented by this report of test is a full scale calibration and no limitations of use are imposed on this instrument.

Traceability Information

The NIST Primary Reference Thermometers and Transfer Standards used in this test are given below:

Test Point 32: F NIST Reference Thermometer Standard 128239 Transfer Standard Serial # 172

Test Point 100: F NIST Reference Thermometer Standard 128239 Transfer Standard Serial # 172

Test Point 200: F NIST Reference Thermometer Standard 128239 Transfer Standard Serial # 174

Test Point 300: F NIST Reference Thermometer Standard 48511 Transfer Standard Serial # 174

This Calibration is directly traceable to NIST.

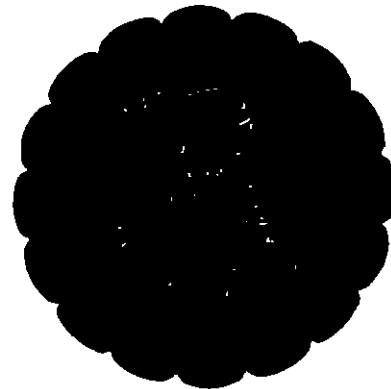
If additional information regarding this calibration is required, please contact this laboratory.



Clifton Thomas

Quality Control Manager

Batch Number: 160753





Scott Specialty Gases

1750 EAST CLUB BLVD, DURHAM, NC 27704

RATA CLASS

Dual-Analyzed Calibration Standard

Phone: 919-220-0803

Fax: 919-220-0808

CERTIFICATE OF ACCURACY: EPA Protocol Gas

Assay Laboratory

SCOTT SPECIALTY GASES
1750 EAST CLUB BLVD
DURHAM, NC 27704

P.O. No.: JOE KONZELMANN
Project No.: 12-34964-001

Customer

TRIGON ENGINEERING
6200 HARRIS TECH BLVD
CHARLOTTE NC 28269

ANALYTICAL INFORMATION

This certification was performed according to EPA Traceability Protocol For Assay & Certification of Gaseous Calibration Standards; Procedure #G1; September, 1997.

Cylinder Number: BAL4019 Certification Date: 7/09/99 Exp. Date: 7/08/2002
Cylinder Pressure***: 2000 PSIG

COMPONENT	CERTIFIED CONCENTRATION (Moles)	ANALYTICAL ACCURACY**	TRACEABILITY
PROPANE	30.4 PPM	+/- 1%	Direct NIST and NMI
NITROGEN	BALANCE		

*** Do not use when cylinder pressure is below 150 psig.

** Analytical accuracy is based on the requirements of EPA Protocol procedure G1, September 1997.

Product certified as +/- 1% analytical accuracy is directly traceable to NIST or NMI standards.

REFERENCE STANDARD

TYPE/SRM NO.	EXPIRATION DATE	CYLINDER NUMBER	CONCENTRATION	COMPONENT
NTRM 1668	12/11/00	ALM032005	95.50 PPM	PROPANE

INSTRUMENTATION

INSTRUMENT/MODEL/SERIAL#	DATE LAST CALIBRATED	ANALYTICAL PRINCIPLE
VARIAN/3400/16804-C3H8	06/24/99	GC / TCD

ANALYZER READINGS

(Z = Zero Gas R = Reference Gas T = Test Gas r = Correlation Coefficient)

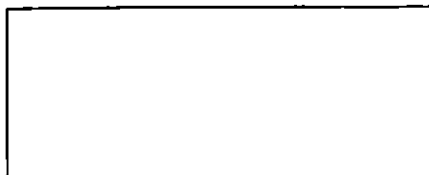
First Triad Analysis

Second Triad Analysis

Calibration Curve

PROPANE

Date: 07/08/99	Response Unit: ACR	
Z1 = 0.0000	R1 = 99559.	T1 = 317051
R2 = 995595	Z2 = 0.0000	T2 = 31732.
Z3 = 0.0000	T3 = 31732.	R3 = 99503.
Avg. Concentration:	30.40	PPM



Concentration = A + Bx + Cx ² + Dx ³ + Ex ⁴	
r = 0.999990	
Constants:	A = 0.000000
B = 1.000000	C = 0.000000
D = 0.000000	E = 0.000000

APPROVED BY:

L TAYLOR

NATIONAL SPECIALTY GASES
630 UNITED DRIVE
DURHAM, NC
27713

(919)544-3772

CERTIFICATE OF ANALYSIS - EPA PROTOCOL MIXTURES

REFERENCE #:	88-61746	CYLINDER #:	11.16733	CYL. PRESSURE:	2000 PSIG	P.O. #:	2061079
EXT. DATE:	2/16/02	LAST ANALYSIS DATE:	2/16/99	CUSTOMER:	NATIONAL WELDERS: CHALOTTE, NC		
MET: (190) ANALYZED ACCORDING TO EPA TRACEABILITY PROTOCOL FOR ASSAY AND CERTIFICATION OF GASEOUS CALIBRATION STANDARDS-SEPTEMBER 1997 (Q1 THIS STANDARD SHOULD NOT BE USED WHEN ITS GAS PRESSURE IS BELOW 1.0 MEGAPASCALS (150 PSIG)).							

COMPONENT:		PROPANE
STANDARD		
SERIAL #:	1667B	
CYL. #:	CAL. 11023	
CONC:	49.6 PPM	
INSTRUMENT: ROSEMOUNT TIC		
MODEL #:	400A	
SERIAL #:	2000335	
LAST CAL:	1/26/99	
MEAN CONC:	51.1 PPM	+/- 0.41 PPM
REPLICATE DATA		
DATE:	2/16/99	
51.1	PPM	
51.1	PPM	
51.2	PPM	

BALANCE GAS: NITROGEN

REPLICATE DATA		REPLICATE DATA		REPLICATE DATA	
DATE:	2/16/99				
Z	0	R	49.6	C	51.1
R	49.6	Z	0	C	51.1
Z	0	C	51.2	R	49.6

ANALYST: *[Signature]* Z=ZERO C=CANDIDATE R=REFERENCE
 APPROVED BY: *[Signature]*
 THIS REPORT STATED ACCURATELY THE RESULTS OF THE INVESTIGATION MADE UPON THE MATERIAL SUBMITTED TO THE ANALYTICAL LABORATORY. EVERY EFFORT HAS BEEN MADE TO OBTAIN AN OBJECTIVE AND UNBIASED RESULT. THE INFORMATION REPORTED, HOWEVER, IN CONNECTION WITH THIS REPORT, NATIONAL SPECIALTY GASES DOES NOT WARRANT OR GUARANTEE THE ACCURACY OF THE INFORMATION REPORTED. THE INFORMATION REPORTED, HOWEVER, IN ASSAYED AT: NATIONAL SPECIALTY GASES, 630 UNITED DRIVE, DURHAM, NC 27713. (919)544-3772