PAYNE & DOLAN
INCORPORATED
A WALBEC GROUP COMPANY

September 29, 2022

Mr. Michael Conklin
Environmental Engineer
Air Quality Division—MEGLE
1504 West Washington Street
Marquette, Michigan 49855

RE: Violation Notice SRN: N2657
Payne and Dolan Control 28
September 23, 2022

Dear Mr. Conklin:

I am responding to your September 23, 2022 violation notice regarding results of our July 2022 stack test of the Control 28 Portable Asphalt Plant.

We completed the toxic air contaminant (TAC) tests on July 25, 26, 27, 28, and 29, 2022 following the testing plan approved by MEGLE. We agreed to test for TACs during an October 28, 2021 meeting (email summary from Lauren Magirl is attached), even though this was a permit relic no longer being written into asphalt plant air permits, and we had a verbal agreement with the former MDEQ permit writer, Mr. Dave Riddle, that the testing was not required due to extenuating circumstances.

The Michigan Department of Environmental Quality (MDEQ) no longer required TAC testing after June 1, 2012 –see the attached June 4, 2012 meeting notes between the Asphalt Pavement Association of Michigan, various Michigan asphalt producers, and members of the MDEQ Air Quality Division. Since we had already completed three TAC stack test on various Michigan plants, and since the remaining plants were portable and operating in more than one state and the permit language did not give a deadline for when the testing was to be completed, it was agreed that further testing would not be required.

Since Mr. Riddle had retired and since there was no written documentation of our agreement of no testing due to extenuating circumstances as outlined above, MEGLE insisted and we agreed to test one plant for TACs during the 2022 season, with the understanding that the TAC testing requirement would be removed from the remaining permits following the testing.

Test results from July showed very efficient combustion with CO levels below 100 ppm and mostly no detect for volatile petroleum components benzene, toluene, ethyl benzene, and xylene. However, lead, naphthalene, formaldehyde, and acrolein exceeded the permit limits, but were still below the default allowable limits outlined in the June 1, 2012 document "Eliminating the Mandatory Testing Requirement for Toxic Air Contaminants for Hot Mix Asphalt Plants in Michigan", which was prepared by the MDEQ and is enclosed. One TAC, manganese, was above the permit limit and the default limits, most likely because of local mine aggregate geology. However, there is no "bright line" standard limit for this compound and screening limits are on a "case by case" basis.

PO Box 781
N3 W23650 Badinger Rd
Waukesha, WI 53187
262-524-1700

www.payneanddolan.com

It appears that the permit limits may have been set unrealistically low. We intend to submit an application to modify the permit language to adjust the TAC limits and remove the testing requirement as agreed with MEGLE prior to testing.

Should you have any questions regarding this letter, please do not hesitate to contact me at 262-524-1849.

Sincerely,

James J. Mertes, CHMM, PH
Environmental Manager

cc MEGLE: Jenine Camilleri, Mary Ann Dolehanty, Anette Switzer, Christopher Ethridge, Brad Myott

Jim Mertes

From: Jim Mertes
Sent: Thursday, October 28, 2021 10:08 AM
To: Magirl, Lauren (EGLE); Zach Leitner; Tim Schmidt
Cc: Mitchell, Mark (EGLE); Lancaster, Edward (EGLE); Conklin, Michael (EGLE)
Subject: RE: Phone Call Follow-up for PAYNE & DOLAN, INC

Thanks for documenting our conversation today Lauren.

We will plan on testing either Control 28 **or** Control 25 for TACs during the 2022 construction season.

Just for your reference I plan to submit Permit to Install (PTI) applications for the following plants to eliminate the TAC testing requirement and modify the CO monitoring language:

N3512 Portable Asphalt Plant Control C21 (this plant has already be tested for TACs)
N6297 Portable Asphalt Plant Control C25
N3325 Portable Asphalt Plant Control C27
N2657 Portable Asphalt Plant Control C28 (already submitted)
N6922 Portable Asphalt Plant Control 29
N6643 Portable Asphalt Plant Control 33

I plan to send in termination requests for the following PTIs:

N6644 Portable Asphalt Plant Control C26
N5899 Portable Asphalt Plant Control C35

The applications/termination requests will be sent in one package within the next 15 business days.

Please contact me with any questions.

Thanks,

Jim

WALBEC GROUP

James Mertes
Environmental Manager
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From: Magirl, Lauren (EGLE) <MagirlL@michigan.gov>
Sent: Thursday, October 28, 2021 9:04 AM
To: Zach Leitner <ZLeitner@walbecgroup.com>; Tim Schmidt <TSchmidt@walbecgroup.com>; Jim Mertes <JMertes@walbecgroup.com>
Cc: Mitchell, Mark (EGLE) <MITCHELLM7@michigan.gov>; Lancaster, Edward (EGLE) <LANCASTERE1@michigan.gov>; Conklin, Michael (EGLE) <ConklinM1@michigan.gov>
Subject: Phone Call Follow-up for PAYNE & DOLAN, INC

Warning: External Email
Good Morning,

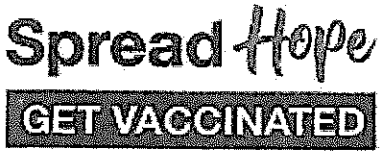
Following up on our phone call with morning, we discussed the following items:

- The company agreed to test for TACs from either C28 or C25. The following testing condition will be added to C28 and a similar condition will be added C25 (when an application is submitted). The intent of adding the condition is to require one of the plants to test for TACs and once a plant completes the test, the company can submit a PTI application to remove the required testing from the plant that wasn't tested. To make it clear, based on the phone call today - only one plant is required to be tested for TACs but it will be added to both locations.
  "Within 60 days after commencement of initial startup in Michigan but before relocating EU001 to any new geographical site or removal of EU001 from Michigan, whichever occurs first, the permittee shall verify and quantify emission rates of the toxic air contaminants (TACs) listed below from EU001, by testing at owner's expense, in accordance with Department requirements, in order to continue operation. No less than 60 days prior to testing, the permittee shall submit to the AQD Technical Programs Unit and District Office, a complete test plan which shall include an averaging time for each TAC and a provision for monitoring CO emissions. The AQD must approve the final plan prior to testing. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. TACs: acrolein, arsenic, benzene, ethylbenzene, formaldehyde, lead, manganese, naphthalene, nickel, toluene, and xylene. **(R 336.1225, R 336.2001, R 336.2003, R 336.2004)"**
- The company is going to submit PTI application for several of their portable plants to remove the required TACs test and a "upon the request of the District Supervisor" testing condition will be added as well as updating the CO condition to the updated template language.
- The company also stated they may void some of their PTIs as well.

If I miss stated anything, please let me know so we have the correct information in the files.

Thank you,

Lauren Magirl
Environmental Engineer – Permit Section
Air Quality Division
Michigan Department of Environment, Great Lakes, and Energy
517-582-5345 | magirll@Michigan.gov
Follow Us | **Michigan.gov/EGLE**



Save Michigan Lives.

Meeting Notes
Asphalt Paving Association of Michigan/Michigan Department of Environmental Quality Meeting
June 4, 2012

Meeting Attendees:

APAM / MDEQ Air Quality Division Meeting
Monday, June 4, 2012, 1:30 p.m.
APAM Office
2937 Atrium Drive
Okemos, Michigan 48864

Sign In Sheet

Name	Company	E-mail
John Bucsky	APAM	jbucsky@apa-mi.org
Jay Young	Central Asphalt	jyoung@centralasphalt.com
Mike Davis	Barrett Paving	mdavis@barrettpaving.com
Jim Mertes	Payne and Dolan,	jmertes@crmanagement.com
Jim Schenk	Gerken Materials	jschenk@gerkenpaving.com
Dan Larson	Rieth-Riley	DLarson@Rieth-Riley.com
John Vial	MDEQ	VialJ@michigan.gov
Scott Seaman	Edw. C Levy	sseaman@Sanjacinasphalt.com
Tom Gasloli	MDEQ-AQD	gasloli1@michigan.gov
Mark C. Mitchell	MDEQ - AQD	mitchellm2@michigan.gov
Daniel McGeen	MDEQ, AQD	mcgeend@michigan.gov
Sharon L. LeBlanc	MDEQ - AQD	LeBlancS@michigan.gov
Nathan Bouvy	MDEQ - AQD	BouvyN1@michigan.gov
Dave Riddle	MDEQ-AQD	RiddleD@michigan.gov
Andy Manoito	Superior Asphalt	Andy@superiorasphalt.com
Dave Yanochko	FTC&H	dayanochko@ftch.com

Agenda Item 1. – Welcome/Introductions

John Becsey of APAM expressed appreciation to all who participated in the meeting and stated that there was value to continuing dialogue between APAM members and AQD staff. He also stated that he would like to have regular meetings established between APAM and AQD staff. AQD agreed with John on both counts.

Agenda Item 2. – Asphalt Plant Air Quality Permit Template/Air Toxics Stack Testing Requirements

Mark Mitchell of the AQD summarized a paper entitled "Eliminating the Mandatory Testing Requirement for Toxic Air Contaminants for Hot Mix Asphalt Plants in Michigan" (Prepared by Michigan Department of Environmental Quality, Air Quality Division, June 1, 2012). Copies of the document were provided to meeting all attendees.

Following are some key points from the discussion:

- Mandatory testing for 13 toxic air contaminants (TACs) will no longer be required after June 1, 2012.
- Allowable limits for the TACs will still remain in the permit, but will not have a mandatory testing requirement listed.
- Sources which were required to test before June 1, 2012 will still be required to test unless there are extenuating circumstances. Source that are currently required to test after June 1, 2012, may submit a permit application to AQD requesting that the testing requirement be removed from their permit.
- Testing for certain TACs may be still required in certain situations, i.e. a TAC is close to the screening level or high levels of public concern.

John asked AQD if a there was a specific number in mind with regard to an ambient impact for a screening level at which testing would not be required. Mark replied that there was no "bright line" with regard to a number and that such decisions are primarily a case by case basis.

John stated that APAM was very appreciative of the removal of mandatory testing for the 13 TACs.

AQD was questioned as to whether it has considered the use of a general permit for HMA plants. Illinois has a general permit. Mark stated that to his knowledge AQD has not considered a general permit, but that AQD would evaluate the feasibility of creating such a general permit. He added that creating a general permit was a labor intensive effort that would take a minimum of several months. In addition the general permit would have to undergo a 30 day public comment period, and potential public hearing.

John Becscy inquired as to how many sources were required to test before June 1, 2012 that had not tested to date. John Vial of AQD replied that there were several situations where testing may have been delayed because of shortened production schedules or low production. John did not have the exact number but said that he would be able to provide an exact number by reviewing the raw data.

Mark also presented AQD's draft modified permit template for HMA plants. Following are some key points from that discussion:

- AQD is adding permit limits for PM-2.5 and PM-10.
- AQD is adding an opacity limit of 10% for new HMA plants.
- The formatting of the template is being updated.
- The applicable requirements on several of the conditions are being updated.

AQD was asked why a value of 10% opacity was chosen and Mark replied that per Operational Memorandum 13, it was a reasonable number based upon a correlation between the allowable PM limits and opacity.

John Becsey stated that APAM is looking at PM-2.5. The condensable portion of PM-2.5 could be substantial and Tom Gasloli of AQD encouraged APAM members to perform some engineering studies before negotiating permit limits for PM-2.5.

APAM questioned if testing is required for HCl for off spec oil? The AQD is eliminating the mandatory testing for HCl. The stack test data indicates that 13 out of 16 plants were using recycle used oil at the time of their testing and that they were substantially below the allowable HCl limits. The test report does not indicate the concentration of halogens, but it appears that even if the concentrations were quadrupled (1,000 ppm to 4,000 ppm) they would still be below the allowable HCl limit. AQD will do additional evaluation to determine if HCl testing will be necessary for halogen concentrations of 4000 ppm.

AQD was questioned if shingles are included in the definition of RAP (recycled asphalt product)? Dave Riddle of AQD indicated that shingles are the same as RAP from an emissions standpoint. Mark Mitchell indicated that AQD will investigate including shingles in the definition of RAP.

APAM questioned how the how AQD uses the data collected from odor testing. It was suggested that requiring odor testing my not result in resolution to odor issues and that a more effective means of addressing odors is through the use of an oxidizing agent such as Eco Sorb®. Dave Yanochko of FTC&H stated that AQD has the results of testing which was done with Eco Sorb® for the Woodlands plant in Grand Rapids.

AQD was questioned if mandatory testing be required for PM-2.5? Mark Mitchell replied no, but that it may be required in some individual cases.

APAM questioned what testing will be required in each permit? Mark Mitchell replied that if the plant is a new HMA plant, PM testing, per NSPS requirements will be

required. Additionally CO and NOx will often be required since these two pollutants have the potential for making the HMA plant a major source.

APAM commented that five years of recordkeeping is too onerous. Previously records were required only to be kept for a paving season. Mark Mitchell replied that the seasonal recordkeeping requirement was problematic if there were issues with the plant that happened near the end of the paving season.

Records calculation dates were discussed. The template requires calculations to be completed by the 15th of each month. Some sources have requested that this date be pushed back to the 30th day of the month. AQD has flexibility with regard to the calculation date however District Staff must be in agreement with the extension request.

It was pointed out that the allowable lead limit in the template is not consistent with the allowable limits in some recently issued permits. AQD will investigate the situation and revise the permit template as appropriate.

Agenda Item 3. – Asphalt Rubber Mixes/Permits

John Becsey indicated that the use of crumb rubber may increase the total cost to produce asphalt by 20% and as such HMA plant owners will not voluntarily use crumb rubber.

AQD stated that if any HMA plant wanted to process crumb rubber as a part of the mix, they should discuss with their District Inspector if doing so would be allowed under an exemption or if a permit modification would be required. Modified permits may include the requirement for testing for various pollutants including 1,3 butadiene, and styrene. Dave Yanochko indicated that there are several permits which already have the provision for processing crumb rubber in them.

In addition to crumb rubber, several different polomers are often used in various asphalt mixes. APAM questioned how use of these different polomers differs from the use of crumb rubber.

John Becsey indicated that grants are being provided by DEQ's Waste Management Division for the use of crumb rubber as a means to dispose of tires and that there are no provisions in the grants to perform any type of emission testing. APAM feels that if AQD is going to require testing, that the provision for testing should be included in the grant. AQD will follow up on this matter.

APAM indicated that MDOT has two pilot projects involving the use of crumb rubber slated for 2013. The projects are being bid this year and if testing is going to be required APAM has requested that its members be made aware of it soon so that they can include the costs in their bid amounts. AQD will follow up on this matter.

The use of warm mix asphalt plants is increasing in popularity. APAM questioned if the conversion to warm mix production requires a modification to existing permits? AQD again advised APMA to discuss with their District Inspector if such a switch would be allowed under an exemption or if a permit modification would be required. AQD agreed to investigate the matter further.

Agenda Item 4. – Future Meetings

A potential meeting date during the week of August 13th was suggested. John Bescey agreed to check with his membership about that week and Mark Mitchell will check with AQD staff about their availability.

Adjourn

The meeting ended at approximately 4:00 PM.

Eliminating the Mandatory Testing Requirement for Toxic Air Contaminants for Hot Mix Asphalt Plants in Michigan

Prepared by
Michigan Department of Environmental Quality
Air Quality Division
June 1, 2012

Report Prepared by:

John Vial, Sr. Environmental Engineer
Michigan Department of Environmental Quality
Air Quality Division

Jonathan Wagenknecht, Student Intern
Michigan Department of Environmental Quality
Air Quality Division

Table of Contents

1.0 Summary

The Michigan Department of Environmental Quality, Air Quality Division (AQD), has the responsibility for maintaining Michigan's air quality. One of the ways the AQD achieves this is through the permitting process. The permitting process estimates emissions from various industrial source types, sets emission limits for the pollutants, and assesses the effect on human health and the environment.

One of the source types permitted by the AQD are hot mix asphalt (HMA) plants. Traditionally the AQD has included emission limits for the federally regulated pollutants of particulate matter (PM), carbon monoxide (CO), sulfur dioxide (SO2), and oxides of nitrogen (NOx) in permits for HMA plants. The emission limits for these pollutants are typically expressed in terms of pounds per hour, tons per 12-month rolling time period, and pounds per ton of HMA paving material produced.

Since 2000, the AQD has also included emission limits for the thirteen other pollutants of concern listed below. These values are expressed in terms of pounds of pollutant per ton HMA paving material produced. The AQD has also included the requirement to perform emission testing to verify compliance with the emission limits for these thirteen pollutants.

The thirteen pollutants of concern are:

- Acrolein
- Arsenic
- Benzene
- Ethyl benzene
- Formaldehyde
- Hydrogen chloride
- Lead
- Manganese
- Napthalene
- Nickel
- Sulfuric acid mist
- Toluene
- Xylene

The AQD has reviewed the results of actual stack test data and concluded that the emission factors contained in the permit template are reasonable factors and provide an adequate compliance margin. Therefore, the AQD has determined there is sufficient technical justification for no longer including the mandatory testing requirements for these thirteen pollutants in permits issued after June 1, 2012.

2.0 Recommendations

Based upon the AQD's analysis of the data, the following recommendations are made:

- The test data indicates that there is sufficient justification for removing the testing requirements for the following thirteen pollutants:
  - Acrolein
  - Arsenic
  - Benzene
  - Ethyl benzene
  - Formaldehyde
  - Hydrogen chloride
  - Lead
  - Manganese
  - Napthalene
  - Nickel
  - Sulfuric acid mist
  - Toluene
  - Xylene

- If the testing requirements are removed, the AQD will continue to maintain the authority to require testing under General Condition 13.

- Although it is recommended to delete the testing requirements for the above pollutants, it is **not** recommended to remove the emission limits from permits.

- The allowable emission limits, which are contained in the permit template, are appropriate and do not need to be revised.

- It should be noted that there may be circumstances where the emission limits may need to be more stringent than the default values. Examples include unusual site and dispersion characteristics and/or the specific materials proposed to be processed.

- For some of the pollutants, there is a large compliance margin between the allowable emissions and the actual emissions. Without site specific test results, the default limit will be used to calculate facility-wide hazardous air pollutant (HAP) emissions. The permit engineer should verify that facility HAP limits will not be exceeded using the projected annual HMA production of the plant and the default emission limits.

- For those facilities that have the mandatory testing included in their active permit and have not completed the testing, the facility may submit a permit application requesting the permit conditions be revised. The AQD will not, however, eliminate the testing requirements for facilities that were required to complete their testing prior to June 1, 2012.

Attached to this report, as Appendix A, is a copy of the updated Asphalt Plant Permit Template with the mandatory testing requirements for the thirteen pollutants removed.

The AQD is also proposing the following additional changes to the Asphalt Plant Permit Template:

- The addition of PM10 and PM2.5 emission limits

- Updates to applicable requirements

- Formatting updates

3.0 Data Analysis

To begin this analysis, AQD started with a list of 154 asphalt plants identified as having "active permits." 26 of the 154 permits were Wayne County air permits and were not included in the accumulated data. Of the remaining 128 state permits, 27 required stack testing in order to demonstrate compliance with their limits for some or all of the thirteen pollutants of concern. Of the 27 plants required to test, only 17 have successfully completed their testing. The remaining 10 plants were either not built; are not currently in operation; are not required to have their testing completed yet; or have not yet done their required testing.

The 17 plants included in this analysis were assigned a generic plant number to allow for anonymity. Due to the timeframes for permit issuance and available test data, all plants were not required to test for all thirteen pollutants. For example, Plant 5 was only required to test for hydrogen chloride. The plants tested varied in type (i.e. dual drum, counter-flow, etc.). There were also several cases where non-detectable levels of different pollutants were recorded.

For each data set of test results, an average emission rate, maximum emission rate, low emission rate, and standard deviation were calculated. In many of the tests it appears that there was a single outlier identified. Although the specific reason for the high measured value was not verified, it is possible that the testing protocol or procedures may have introduced these errors. AQD testing staff agreed that these outlier values should be eliminated from the evaluation. As such, where applicable, a separate analysis was done and new statistics were calculated excluding the outlier. It should also be noted that when there were no detectable levels of a toxic air contaminant measured, the test value was not included in the analysis.

Following is a summary of the statistical information on a pollutant specific basis:

Table 1. Stack Sampling Data Summary

C28 2022 Result

Toxic Air Contaminant	High test value, lb/ton	Low test value, lb/ton	Average test value, lb/ton	Standard Deviation	Default Allowable Limit, lb/ton	
Acrolein	8.83E-4	4.00E-6	1.52E-4	0.00024	1.00E-3	5.4×10^{-4}
Arsenic	8.32E-7	5.25E-8	2.64E-7	2.68E-7	1.00E-6	7.2×10^{-7}
Benzene	8.94E-4	3.80E-5	3.61E-4	0.00024	1.00E-3	ND
Ethyl benzene	4.00E-4	5.46E-6	8.67E-5	0.00013	1.00E-3	ND
Formaldehyde	4.30E-5	2.00E-3	1.25E-3	0.0013	1.00E-2	36×10^{-3}
Hydrogen chloride	1.25E-3	2.40E-5	3.44E-4	0.00034	6.00E-3	—
Lead	3.50E-6	2.11E-9	1.36E-6	9.25E-7	1.50E-5	1.17×10^{-5}
Manganese	3.50E-5	1.18E-6	9.24E-6	1.04E-5	5.00E-5	9.1×10^{-5}
Napthalene	2.00E-4	6.20E-6	5.47E-5	5.95E-5	1.00E-3	7.6×10^{-4}
Nickel	3.39E-6	1.62E-7	1.54E-6	1.12E-6	1.00E-4	7.2×10^{-7}
Sulfuric acid mist	2.20E-3	4.00E-5	7.87E-4	7.40E-4	3.20E-3	
Toluene	1.63E-3	6.55E-7	2.70E-4	1.6E-4	6.00E-3	1.6×10^{-4}
Xylene	4.94E-4	1.33E-6	1.39E-4	1.60E-4	1.00E-3	ND

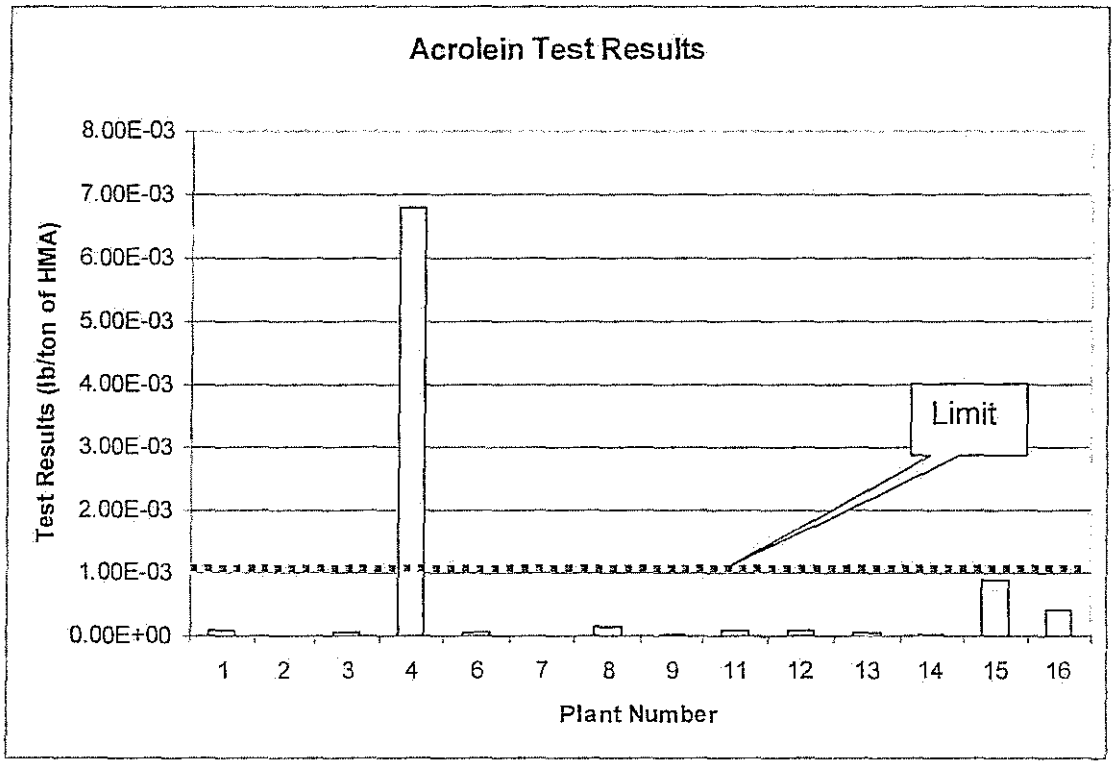
Acrolein

Allowable Limit = 1.00E-3 lb/ton HMA

Following are the stack test results for acrolein:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	9.4000E-05	dual drum	recycled used oil
2	1.3200E-05	double barrel drum	not specified in test report
3	7.1600E-05	counter-flow	recycled used oil
4	**6.8000E-03**	counter-flow	recycled used oil
6	6.7300E-05	parallel flow	natural gas
7	4.0000E-06	counter-flow	not specified in test report
8	1.4000E-04	counter-flow	recycled used oil
9	3.0000E-05	counter-flow	recycled used oil
11	1.0000E-04	counter-flow	recycled used oil
12	8.2000E-05	parallel flow	recycled used oil
13	6.0000E-05	parallel flow	recycled used oil
14	2.0200E-05	counter-flow	natural gas
15	8.8300E-04	parallel flow	recycled used oil
16	4.1000E-04	counter-flow	recycled used oil

Following is a graphical summary of the test data:

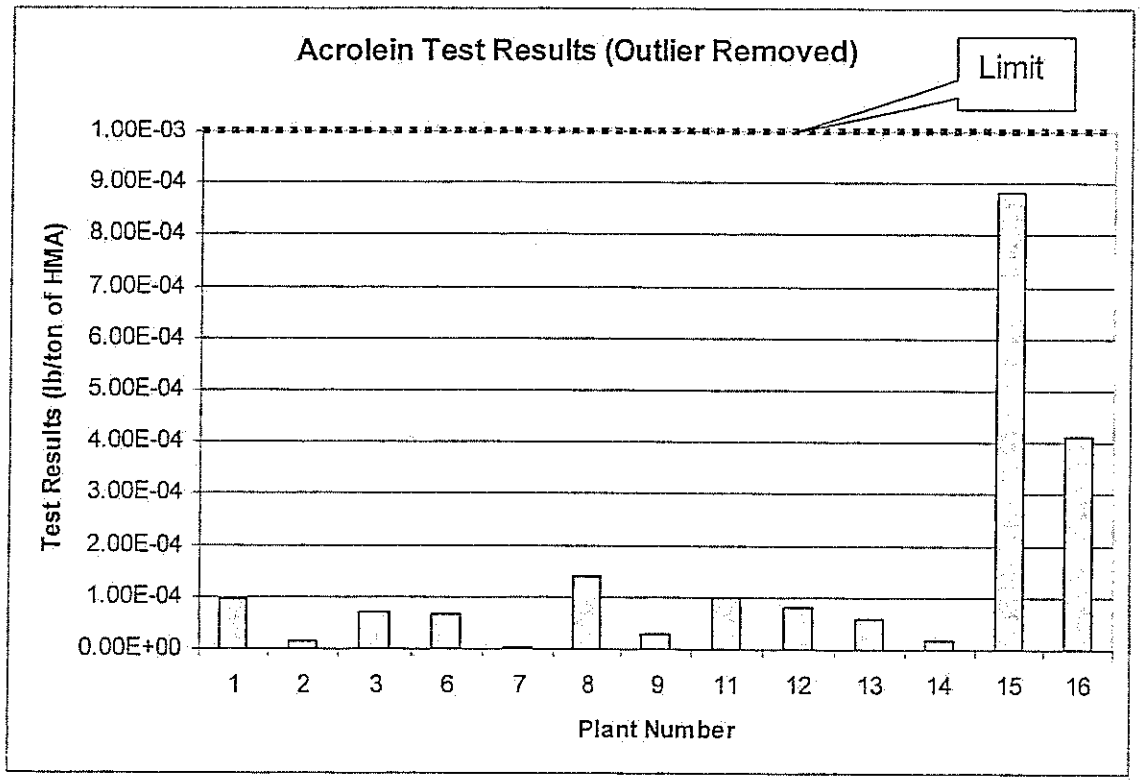


High Value:	6.8E-3 lb/ton
Low Value:	4E-6 lb/ton
Average Value:	6.27E-4 lb/ton
Standard Deviation:	0.00179

The current default allowable limit for acrolein is 0.001 lbs/ton.

Average test value percentage of default limit: 62.7%

An analysis of the data indicates that one test (No. 4) is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value: 8.83E-4 lb/ton
Low Value: 4.0E-6 lb/ton
Average Value: 1.52E-4 lb/ton
Standard Deviation: .00024

Average test value percentage of default limit: 15.2%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for acrolein. The data indicates that one test value is clearly out of range with the other test values, however, even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for acrolein.

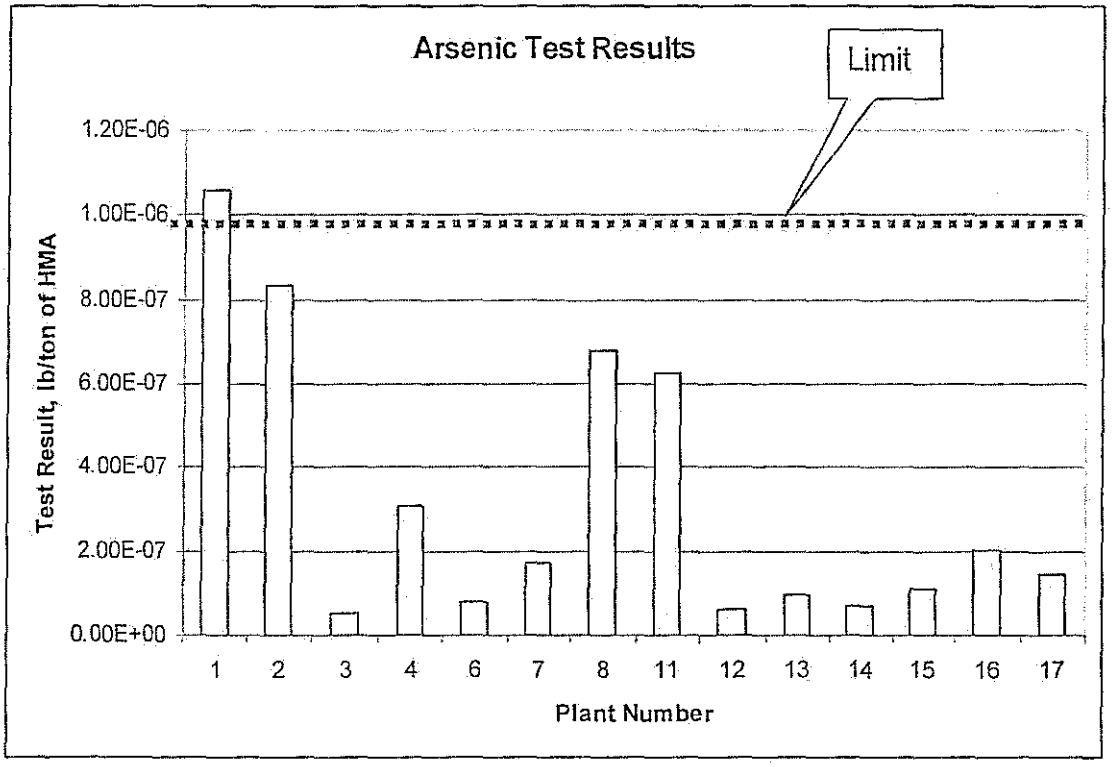
Arsenic

Allowable Limit = 1.00E-6 lb/ton HMA

Following are the stack test results for arsenic:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	**1.0600E-06**	Dual drum	recycled used oil
2	8.3200E-07	double barrel drum	not specified in test report
3	5.2500E-08	counter-flow	recycled used oil
4	3.1000E-07	counter-flow	recycled used oil
6	7.9700E-08	parallel flow	natural gas
7	1.7000E-07	counter-flow	not specified in test report
8	6.7800E-07	counter-flow	recycled used oil
11	6.2500E-07	counter-flow	recycled used oil
12	6.2900E-08	parallel flow	recycled used oil
13	9.6300E-08	parallel flow	recycled used oil
14	6.9200E-08	counter-flow	natural gas
15	1.1100E-07	parallel flow	recycled used oil
16	2.0100E-07	counter-flow	recycled used oil
17	1.4400E-07	counter-flow	recycled used oil

Following is a graphical analysis of the test data:

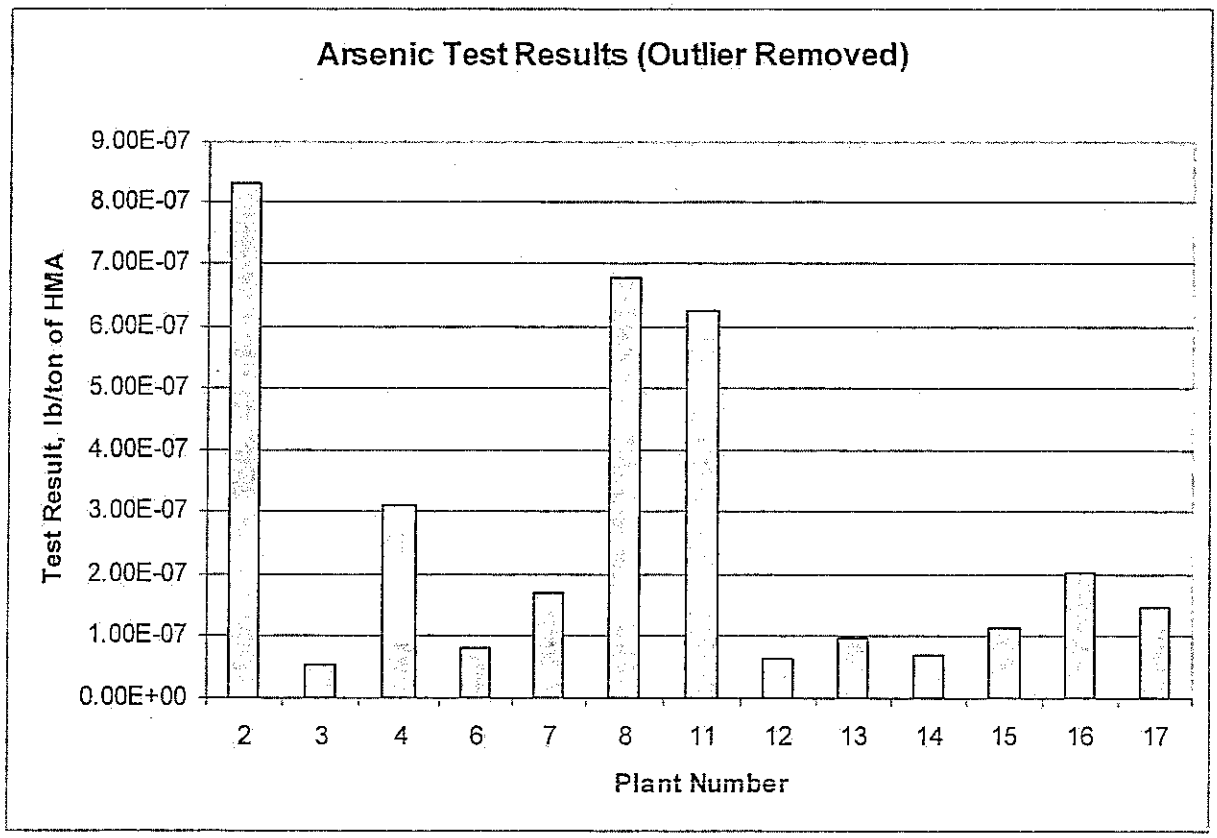


High Value: 1.06E-6 lb/ton
Low Value: 5.25E-8 lb/ton
Average Value: 3.21E-7 lb/ton
Standard Deviation: 3.34E-7

The current default allowable limit for arsenic is 0.000001 lbs/ton.

Average test value percentage of default limit: 32.1%

An analysis of the data indicates that one test (No. 1) is above the allowed limit. If this test data is excluded the data analysis indicates the following:



High Value: 8.32E-07 lb/ton
Low Value: 5.25E-8 lb/ton
Average Value: 2.64E-07lb/ton
Standard Deviation: 2.68E-07

Average test value percentage of default limit: 26.4%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for arsenic. The data indicates that one test value is clearly out of range with the other test values, however even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for arsenic.

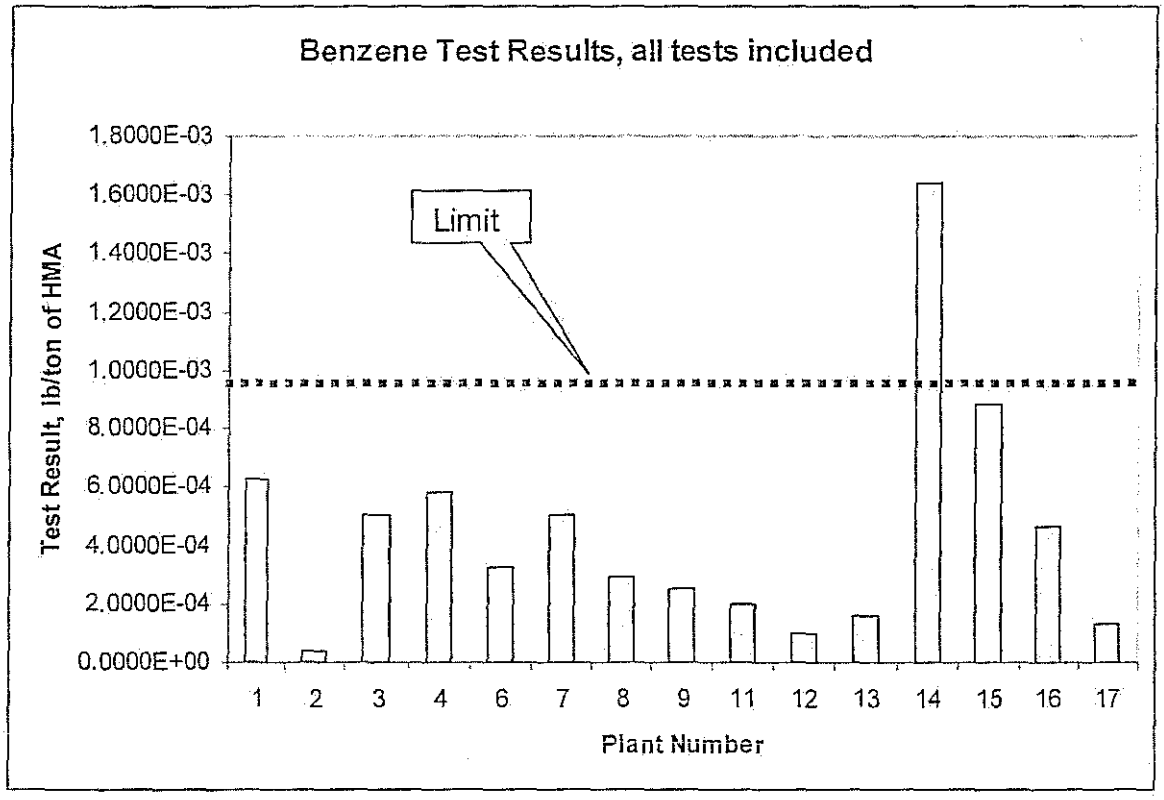
Benzene

Allowable Limit = 1.00E-3 lb/ton HMA

Following are the stack test results for benzene:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	6.3000E-04	dual drum	recycled used oil
2	3.8000E-05	Double barrel drum	not specified in test report
3	5.0100E-04	counter-flow	recycled used oil
4	5.8400E-04	counter-flow	recycled used oil
6	3.2700E-04	parallel flow	natural gas
7	5.0000E-04	counter-flow	not specified in test report
8	2.9000E-04	counter-flow	recycled used oil
9	2.5000E-04	counter-flow	recycled used oil
11	2.0000E-04	counter-flow	recycled used oil
12	1.0000E-04	parallel flow	recycled used oil
13	1.6000E-04	parallel flow	recycled used oil
14	1.6400E-03	counter-flow	natural gas
15	8.9000E-04	parallel flow	recycled used oil
16	4.6000E-04	counter-flow	recycled used oil
17	1.3100E-04	counter-flow	recycled used oil

Following is a graphical analysis of the data:

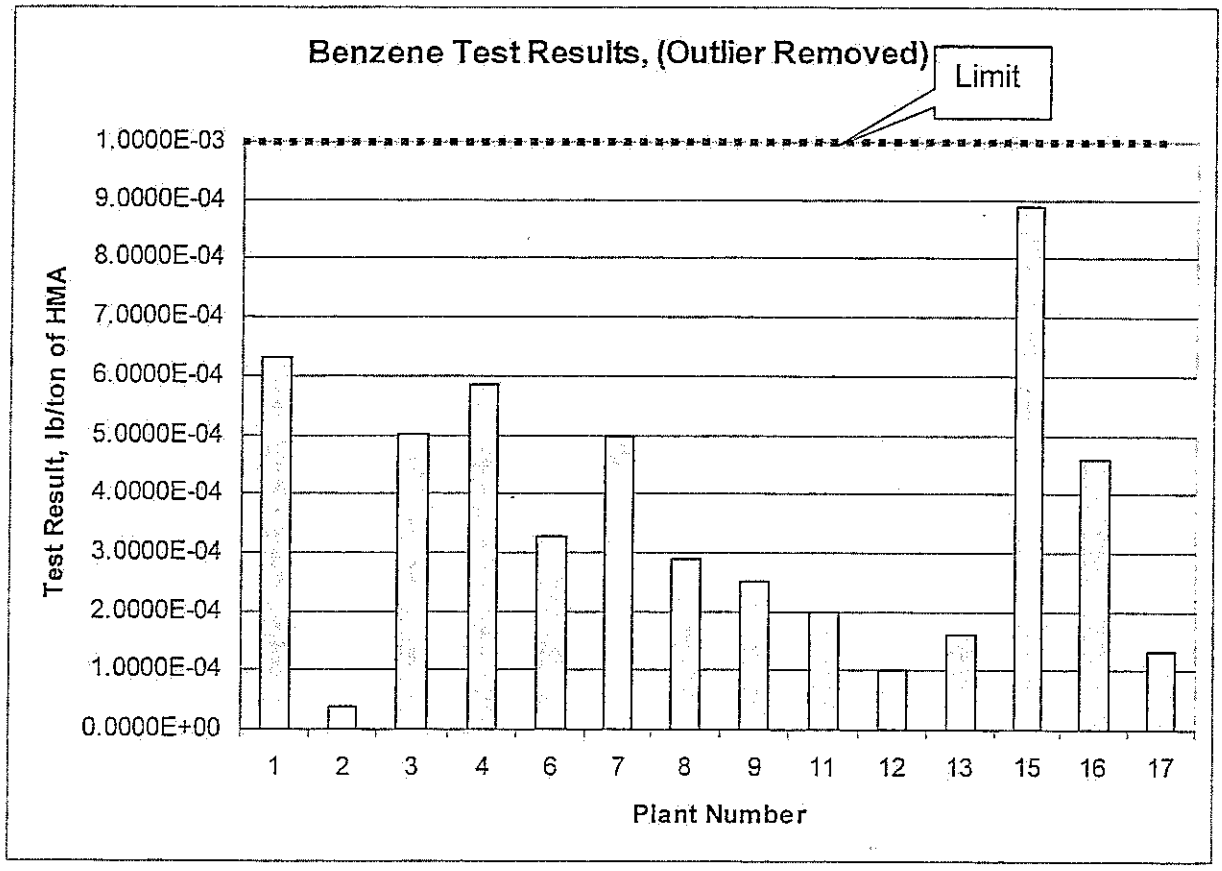


High Value: 1.64E-3 lb/ton
Low Value: 3.8E-5 lb/ton
Average Value: 4.7E-4 lb/ton
Standard Deviation: .0004

The current default limit for benzene is 0.001 lbs/ton.

Average test value percentage of default limit: 47%

An analysis of the data indicates that one test is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value: 8.9E-4 lb/ton
Low Value: 3.8E-5 lb/ton
Average Value: 3.61E-4 lb/ton
Standard Deviation: .00024

Average test value percentage of default limit: 36.1%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for benzene. The data indicates that one test value is clearly out of range with the other test values, however even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for benzene.

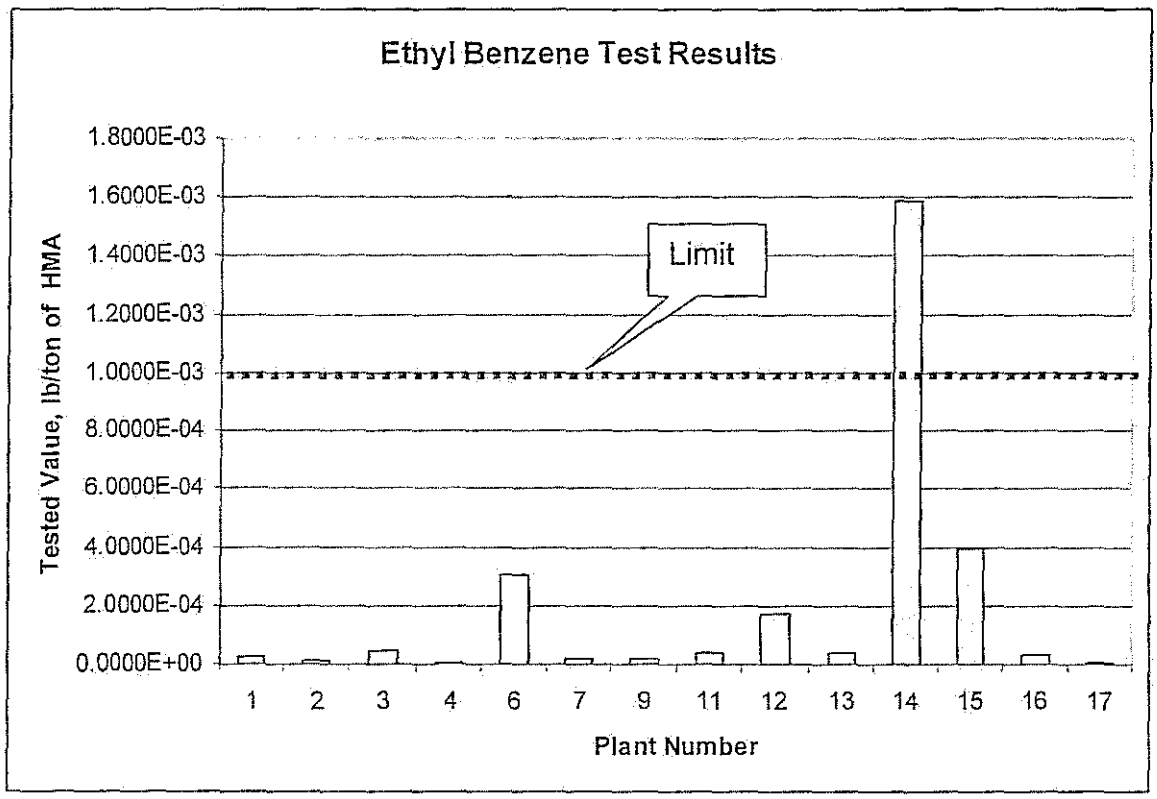
Ethylbenzene

Allowable Limit = 1.00E-3 lb/ton HMA

Following are the stack test results for ethylbenzene:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	2.8000E-05	dual drum	recycled used oil
2	1.2700E-05	double barrel drum	not specified in test report
3	4.9400E-05	counter-flow	recycled used oil
4	5.4600E-06	counter-flow	recycled used oil
6	3.0400E-04	parallel flow	natural gas
7	2.0000E-05	counter-flow	not specified in test report
8	non-detectable	counter-flow	recycled used oil
9	2.0000E-05	counter-flow	recycled used oil
11	4.0000E-05	counter-flow	recycled used oil
12	1.7000E-04	parallel flow	recycled used oil
13	4.0000E-05	parallel flow	recycled used oil
14	1.5900E-03	counter-flow	natural gas
15	4.0000E-04	parallel flow	recycled used oil
16	3.0000E-05	counter-flow	recycled used oil
17	6.9900E-06	counter-flow	recycled used oil

Following is a graphical analysis of the test data:

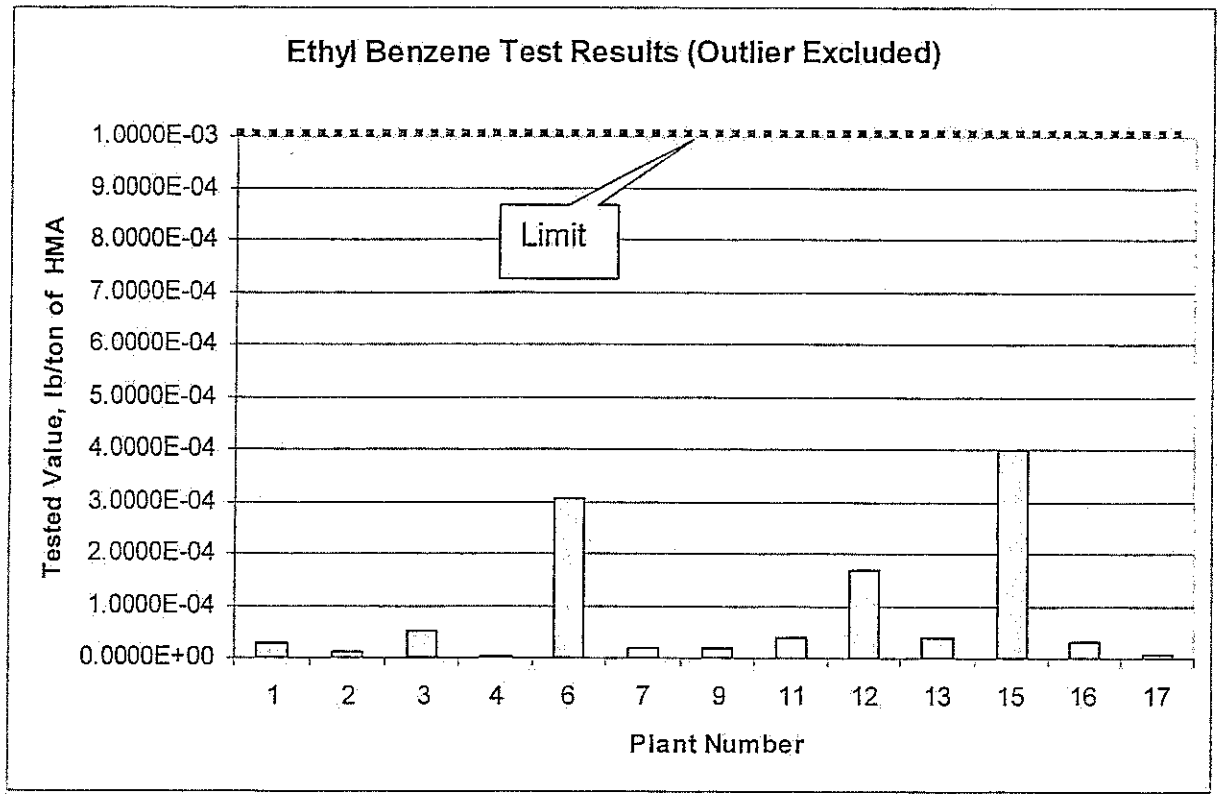


High Value: 1.59E-3 lb/ton
Low Value: 5.46E-6 lb/ton
Average Value: 1.94E-4 lb/ton
Standard Deviation: .00042

The current default limit for ethylbenzene is 0.001 lbs/ton.

Average test value percentage of default limit: 19.4%

An analysis of the data indicates that one test is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value: 4E-4 lb/ton
Low Value: 5.46E-6 lb/ton
Average Value: 8.67E-5 lb/ton
Standard Deviation: .00013

Average test value percentage of default limit: 8.67%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for ethylbenzene. The data indicates that one test value is clearly out of range with the other test values, however even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for ethylbenzene.

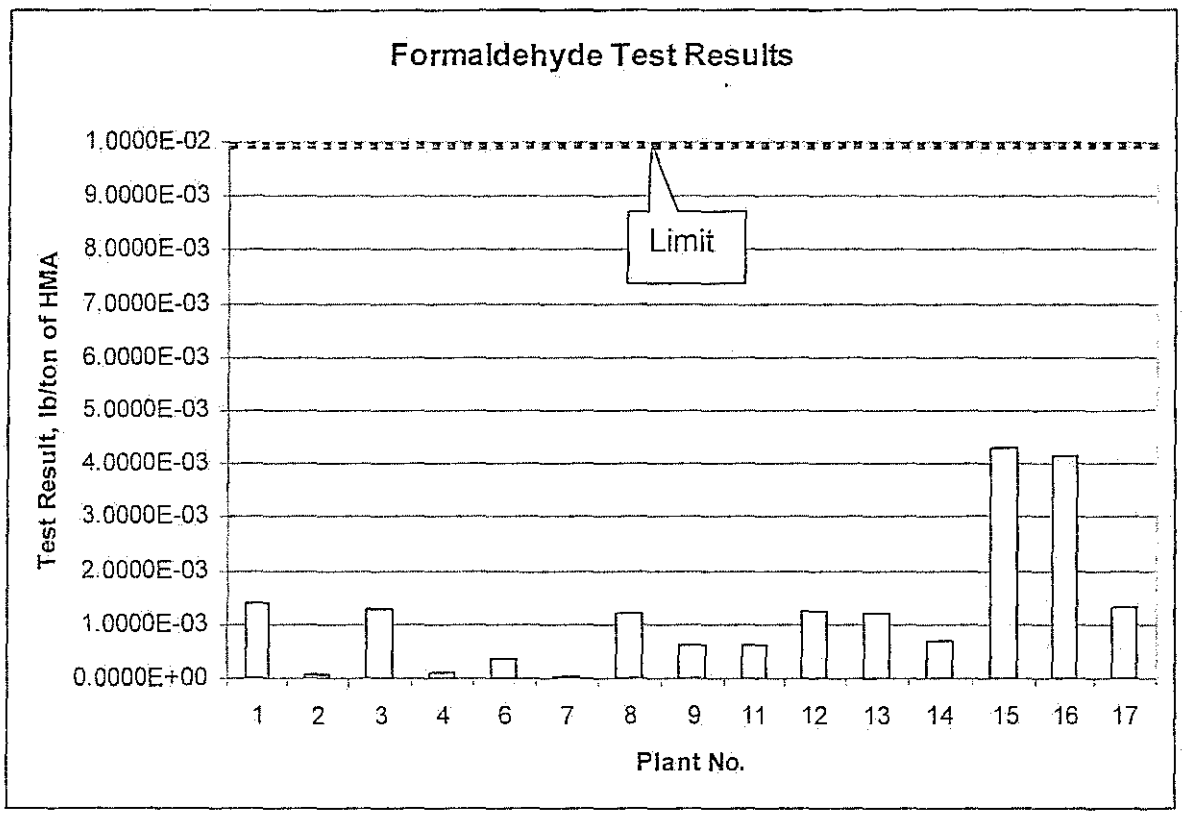
Formaldehyde

Allowable Limit = 1.00E-2 lb/ton HMA

Following are the stack test results for formaldehyde:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	1.3800E-03	dual drum	recycled used oil
2	7.4100E-05	double barrel drum	not specified in test report
3	1.3000E-03	counter-flow	recycled used oil
4	1.0000E-04	counter-flow	recycled used oil
6	3.8400E-04	parallel flow	natural gas
7	2.0000E-05	counter-flow	not specified in test report
8	1.2200E-03	counter-flow	recycled used oil
9	6.4000E-04	counter-flow	recycled used oil
11	6.4000E-04	counter-flow	recycled used oil
12	1.2600E-03	parallel flow	recycled used oil
13	1.2100E-03	parallel flow	recycled used oil
14	6.8900E-04	counter-flow	natural gas
15	4.3000E-03	parallel flow	recycled used oil
16	4.1600E-03	counter-flow	recycled used oil
17	1.3400E-03	counter-flow	recycled used oil

Following is a graphical analysis of the test data:



High Value: 4.3E-3 lb/ton
Low Value: 2E-5 lb/ton
Average Value: 1.25E-3 lb/ton
Standard Deviation: .0013

The current default limit for formaldehyde is 0.01 lbs/ton.

Average test value percentage of default limit: 12.5.%

Recommendation: Based upon an analysis of the test data and the fact that all tests done show results below the allowed limit, that there is justification for removing the requirement to test for formaldehyde.

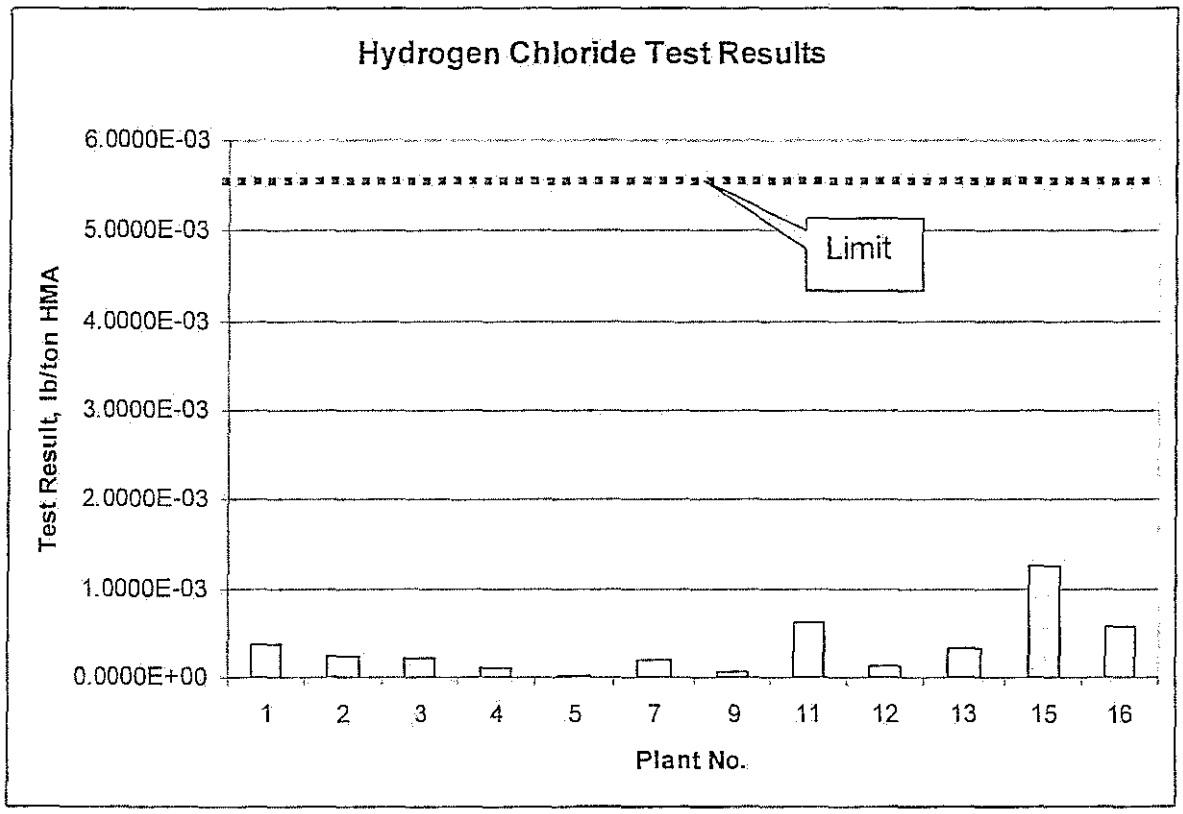
Hydrogen Chloride

Allowable Limit = 6.00E-3 lb/ton HMA

Following are the stack test results for hydrogen chloride:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	3.7000E-04	dual drum	recycled used oil
2	2.5000E-04	double barrel drum	not specified in test report
3	2.1400E-04	counter-flow	recycled used oil
4	9.9500E-05	counter-flow	recycled used oil
5	2.4000E-05	dual drum	not specified in test report
7	2.0000E-04	counter-flow	not specified in test report
9	6.0000E-05	counter-flow	recycled used oil
11	6.2000E-04	counter-flow	recycled used oil
12	1.3700E-04	parallel flow	recycled used oil
13	3.3000E-04	parallel flow	recycled used oil
15	1.2500E-03	parallel flow	recycled used oil
16	5.7000E-04	counter-flow	recycled used oil

Following is graphical analysis of the test data:



High Value:	1.25E-3 lb/ton
Low Value:	2.4E-5 lb/ton
Average Value:	3.44E-4 lb/ton
Standard Deviation:	0.00034

The current default limit for hydrogen chloride is 0.006 lbs/ton.
Average test value percentage of default limit: 5.73%

Recommendation: Based upon an analysis of the test data and the fact that all tests done show results below the allowed limit, that there is justification for removing the requirement to test for hydrogen chloride.

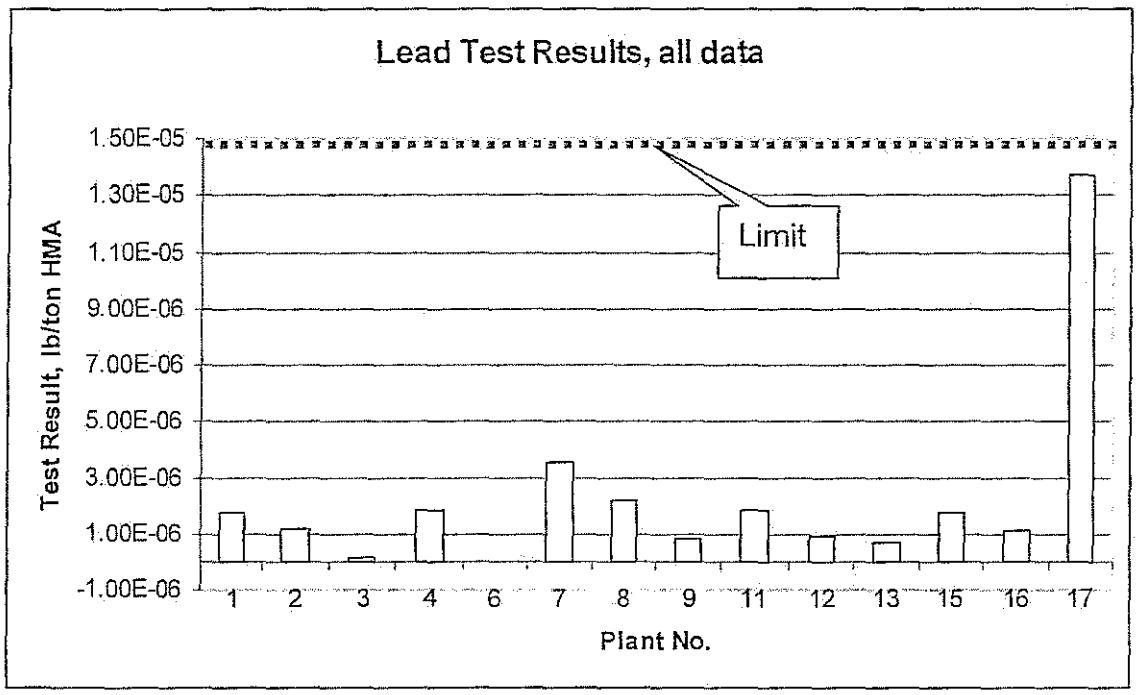
Lead

Allowable Limit = 1.50E-5 lb/ton HMA

Following are the stack test results for lead:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	1.7700E-06	dual drum	recycled used oil
2	1.1600E-06	double barrel drum	not specified in test report
3	1.5800E-07	counter-flow	recycled used oil
4	1.8000E-06	counter-flow	recycled used oil
6	2.1100E-09	parallel flow	natural gas
7	3.5000E-06	counter-flow	not specified in test report
8	2.2100E-06	counter-flow	recycled used oil
9	8.1900E-07	counter-flow	recycled used oil
11	1.8100E-06	counter-flow	recycled used oil
12	9.2300E-07	parallel flow	recycled used oil
13	7.1000E-07	parallel flow	recycled used oil
15	1.7300E-06	parallel flow	recycled used oil
16	1.1500E-06	counter-flow	recycled used oil
17	**1.3700E-05**	counter-flow	recycled used oil

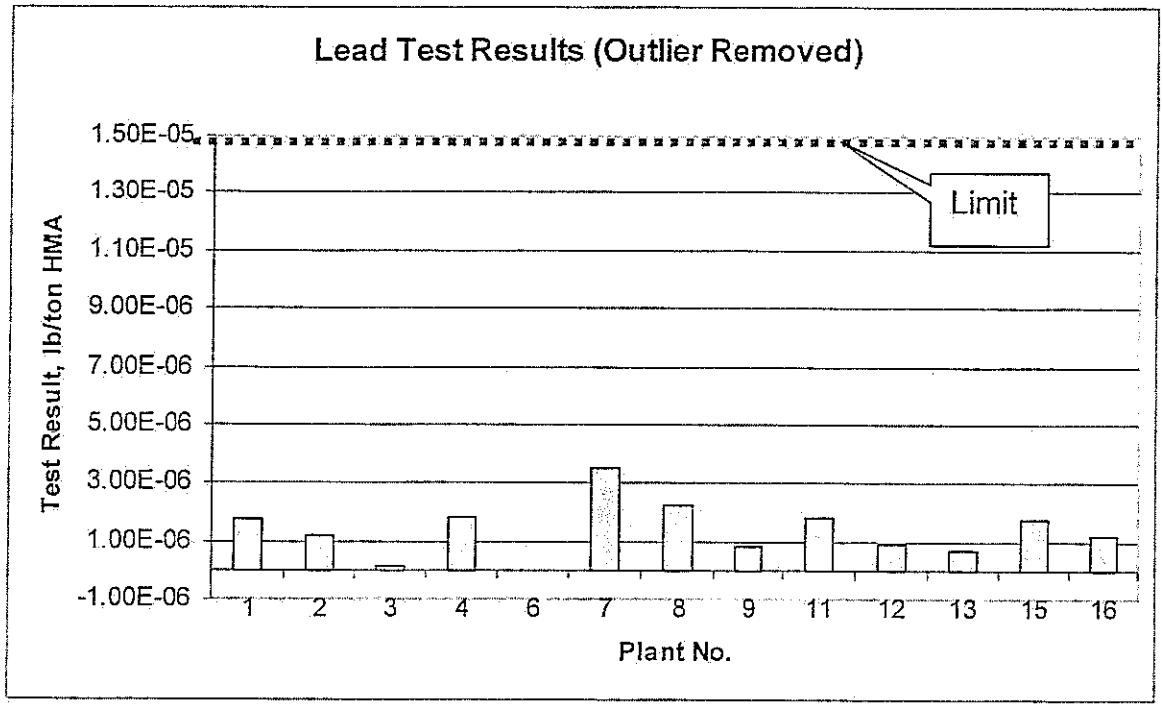
Following is a graphical analysis of the test data:



High Value:	1.37E-5 lb/ton
Low Value:	2.11E-9 lb/ton
Average Value:	2.25E-6 lb/ton
Standard Deviation:	3.41E-6

The current default limit for lead is 1.5E-5 lbs/ton.
Average test value percentage of default limit: 15%

An analysis of the data indicates that one test is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value:	3.50E-06 lb/ton
Low Value:	2.11E-09 lb/ton
Average Value:	1.36E-06 lb/ton
Standard Deviation:	9.25E-07

Average test value percentage of default limit: 9.1%

Recommendation: Based upon an analysis of the test data and the fact that all tests done show results below the allowed limit, that there is justification for removing the requirement to test for lead.

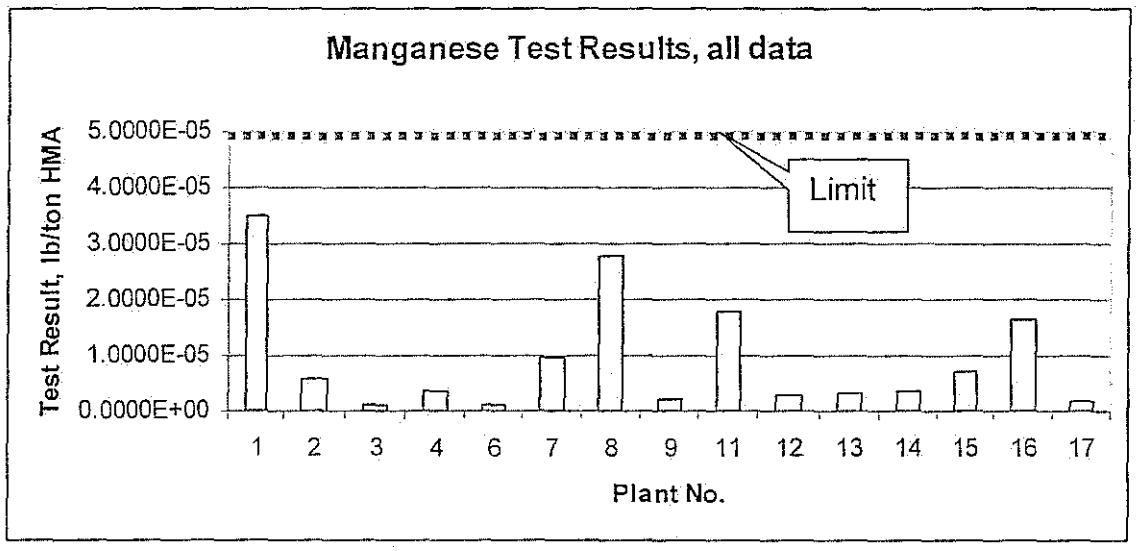
Manganese

Allowable Limit = 5.00E-5 lb/ton HMA

Following are the stack test results for manganese:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	3.5000E-05	dual drum	recycled used oil
2	5.8000E-06	double barrel drum	not specified in test report
3	1.1800E-06	counter-flow	recycled used oil
4	3.4000E-06	counter-flow	recycled used oil
6	1.1800E-06	parallel flow	natural gas
7	9.7000E-06	counter-flow	not specified in test report
8	2.7700E-05	counter-flow	recycled used oil
9	2.0000E-06	counter-flow	recycled used oil
11	1.7700E-05	counter-flow	recycled used oil
12	2.8800E-06	parallel flow	recycled used oil
13	3.1400E-06	parallel flow	recycled used oil
14	3.6400E-06	counter-flow	natural gas
15	7.0400E-06	parallel flow	recycled used oil
16	1.6500E-05	counter-flow	recycled used oil
17	1.7000E-06	counter-flow	recycled used oil

Following is a graphical analysis of the test data:



High Value: 3.5E-05 lb/ton
Low Value: 1.18E-06 lb/ton
Average Value: 9.24E-06 lb/ton
Standard Deviation: 1.04E-05

The current default limit for manganese is 5E-5 lbs/ton.

Average test value percentage of default limit: 19.92%
Recommendation: Based upon an analysis of the test data and the fact that all tests done show results below the allowed limit, that there is justification for removing the requirement to test for manganese.

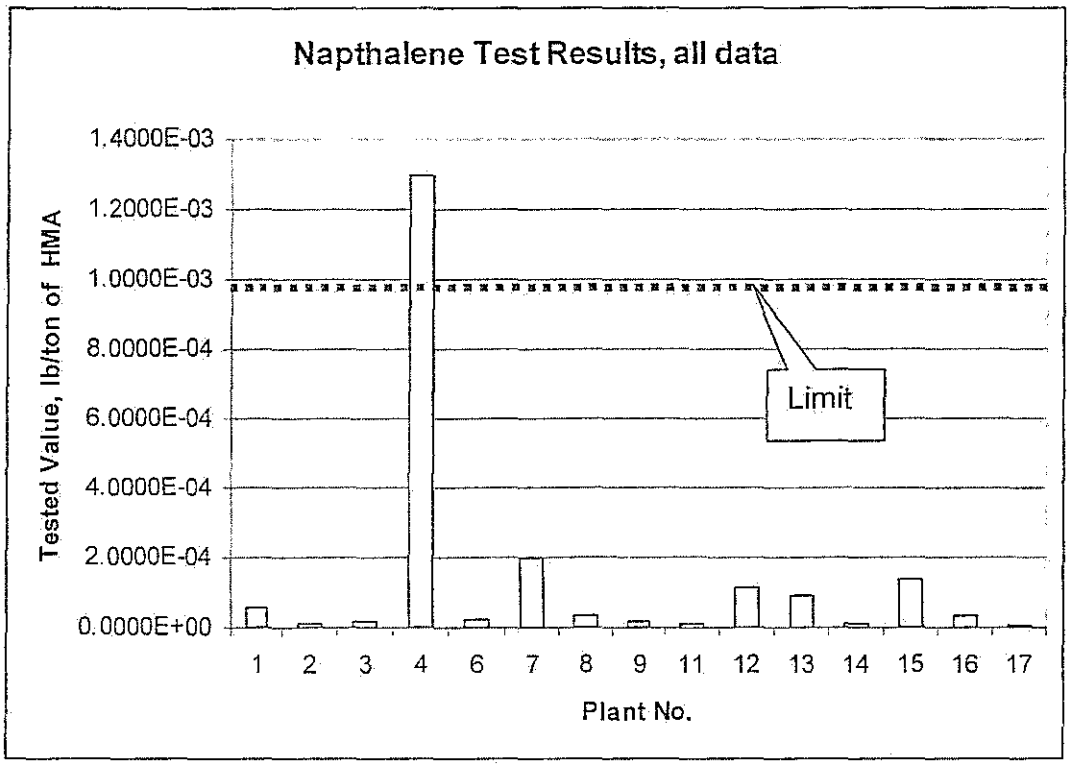
Naphthalene

Allowable Limit = 1.00E-3 lb/ton HMA

Following are the stack test results for naphthalene:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	5.6000E-05	dual drum	recycled used oil
2	9.0300E-06	double barrel drum	not specified in test report
3	1.5700E-05	counter-flow	recycled used oil
4	**1.3000E-03**	counter-flow	recycled used oil
6	2.5000E-05	parallel flow	natural gas
7	2.0000E-04	counter-flow	not specified in test report
8	3.7000E-05	counter-flow	recycled used oil
9	1.8000E-05	counter-flow	recycled used oil
11	1.0000E-05	counter-flow	recycled used oil
12	1.1600E-04	parallel flow	recycled used oil
13	8.9000E-05	parallel flow	recycled used oil
14	8.9400E-06	counter-flow	natural gas
15	1.3900E-04	parallel flow	recycled used oil
16	3.7000E-05	counter-flow	recycled used oil
17	6.2000E-06	counter-flow	recycled used oil

Following is a graphical analysis of the test data:

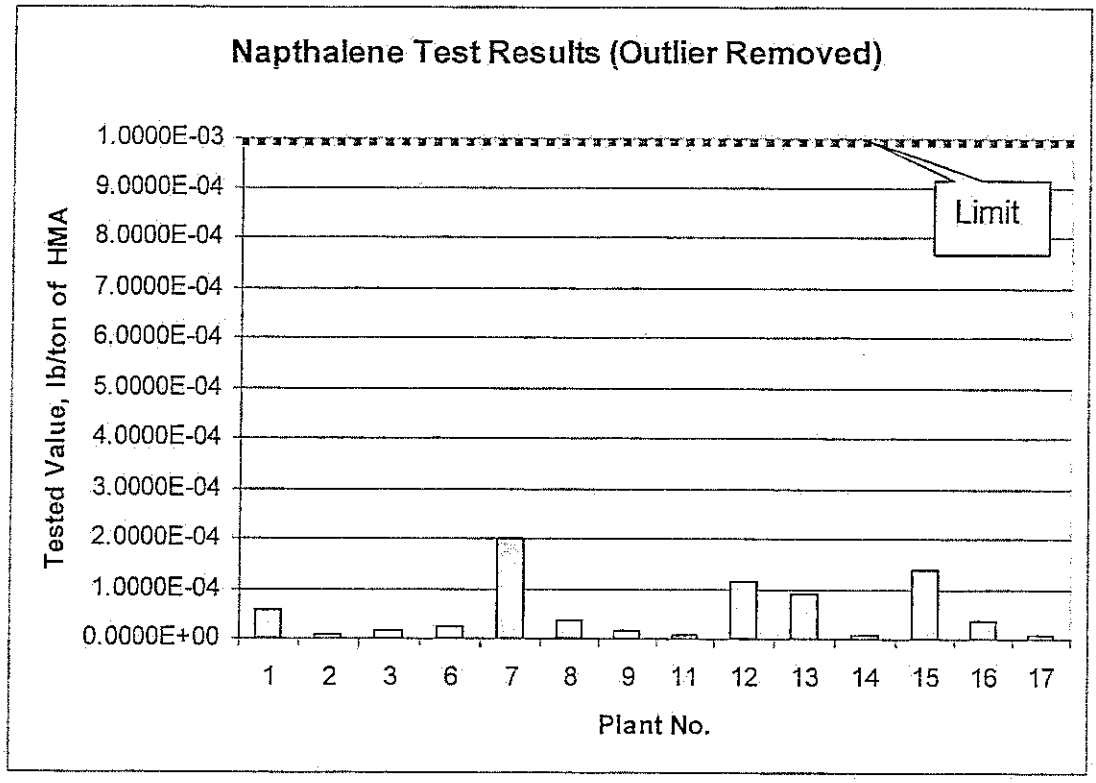


High Value:	1.3E-03 lb/ton
Low Value:	6.2E-06 lb/ton
Average Value:	1.38E-04 lb/ton
Standard Deviation:	0.0003

The current default limit for naphthalene is .001 lbs/ton.

Average test value percentage of default limit: 13.8%

An analysis of the data indicates that one test is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value:	2.0E-04 lb/ton
Low Value:	6.2E-06 lb/ton
Average Value:	5.47E-05 lb/ton
Standard Deviation:	5.95E-05

Average test value percentage of default limit: 5.5%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for naphthalene. The data indicates that one test value is clearly out of range with the other test values, however even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for napthalene.

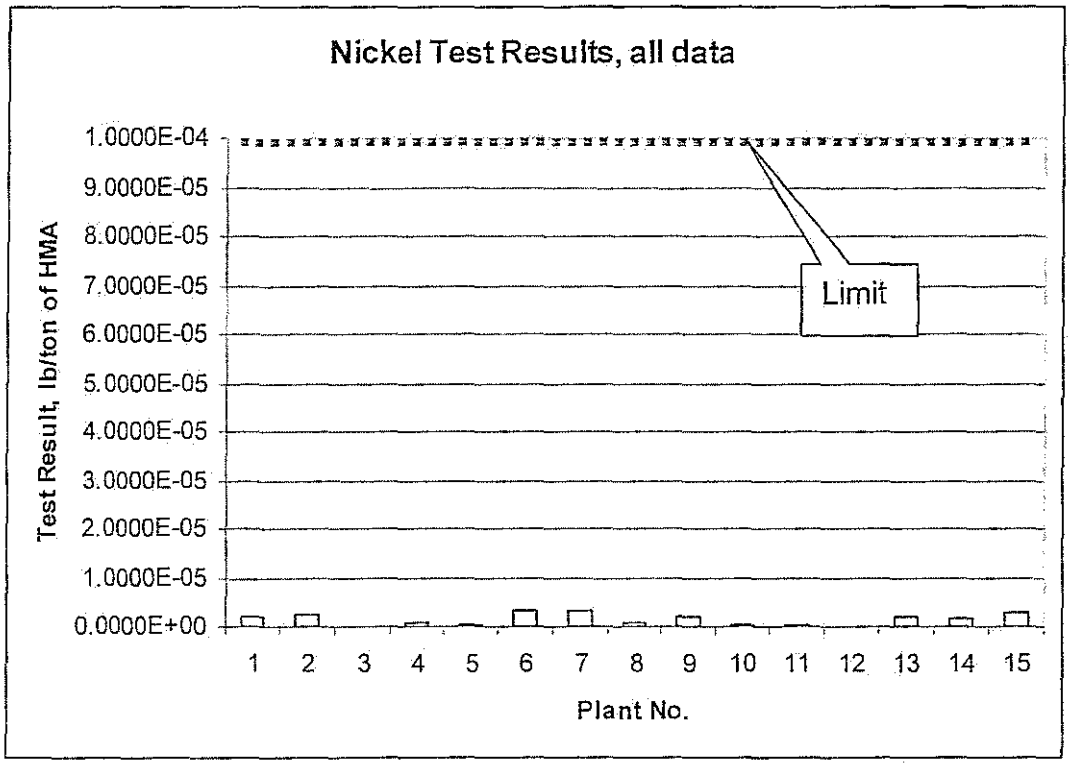
Nickel

Allowable Limit = 1.00E-4 lb/ton HMA

Following are the stack test results for nickel:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	2.0300E-06	dual drum	recycled used oil
2	2.3200E-06	double barrel drum	not specified in test report
3	1.6200E-07	counter-flow	recycled used oil
4	9.9000E-07	counter-flow	recycled used oil
6	2.6500E-07	parallel flow	natural gas
7	3.1000E-06	counter-flow	not specified in test report
8	3.3900E-06	counter-flow	recycled used oil
9	6.6300E-07	counter-flow	recycled used oil
11	2.2400E-06	counter-flow	recycled used oil
12	5.9300E-07	parallel flow	recycled used oil
13	5.2200E-07	parallel flow	recycled used oil
14	1.7000E-07	counter-flow	natural gas
15	2.0300E-06	parallel flow	recycled used oil
16	1.8000E-06	counter-flow	recycled used oil
17	2.8800E-06	counter-flow	recycled used oil

Following is a graphical analysis of the test data:



High Value:	3.39E-06lb/ton
Low Value:	1.62E-07 lb/ton
Average Value:	1.54E-06 lb/ton
Standard Deviation:	1.12E-06

The current default limit for nickel is 1E-4 lbs/ton.

Average test value percentage of default limit: 1.5%

Recommendation: Based upon an analysis of the test data and the fact that all tests done show results below the allowed limit, that there is justification for removing the requirement to test for nickel.

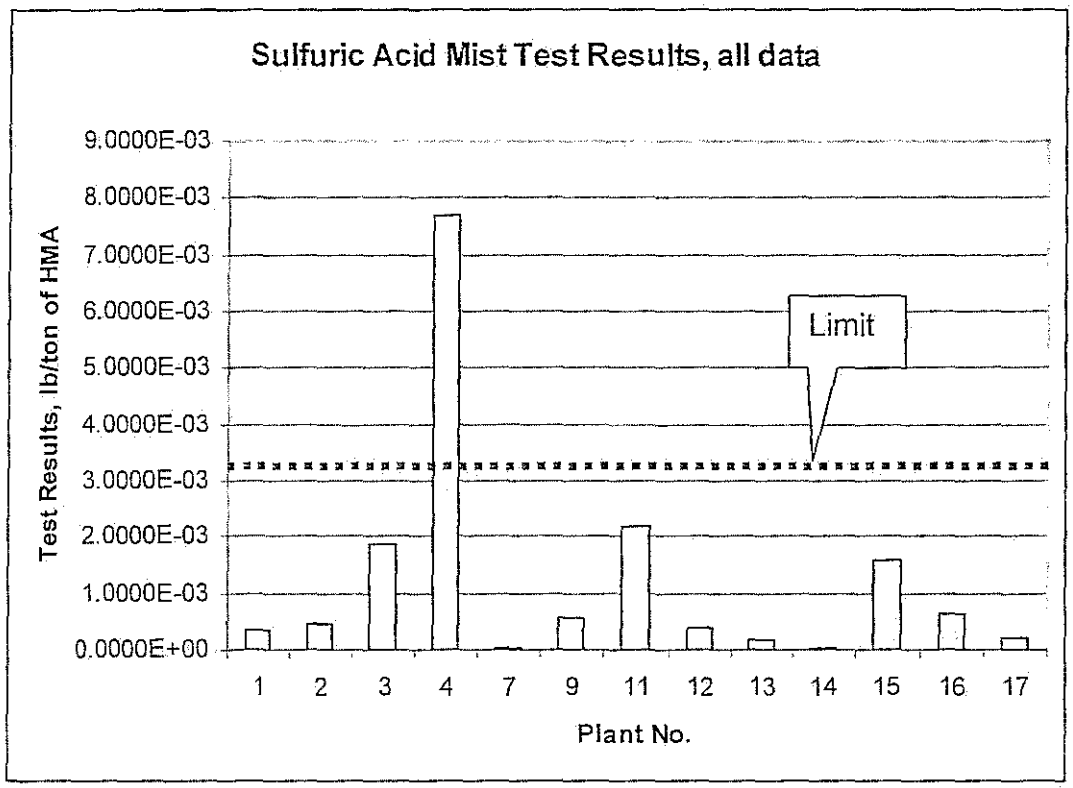
Sulfuric Acid Mist

Allowable Limit = 3.20E-3 lb/ton HMA

Following are the stack test results for sulfuric acid mist:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	3.6000E-04	dual drum	recycled used oil
2	4.6000E-04	double barrel drum	not specified in test report
3	1.8600E-03	counter-flow	recycled used oil
4	**7.7000E-03**	counter-flow	recycled used oil
7	4.0000E-05	counter-flow	not specified in test report
8	non-detectable	counter-flow	recycled used oil
9	5.6000E-04	counter-flow	recycled used oil
10	non-detectable	Dual drum	not specified in test report
11	2.2000E-03	counter-flow	recycled used oil
12	3.9000E-04	parallel flow	recycled used oil
13	1.6000E-04	parallel flow	recycled used oil
14	4.3400E-05	counter-flow	natural gas
15	1.6000E-03	parallel flow	recycled used oil
16	6.5000E-04	counter-flow	recycled used oil
17	2.1200E-04	counter-flow	recycled used oil

Following is a graphical analysis of the test data:

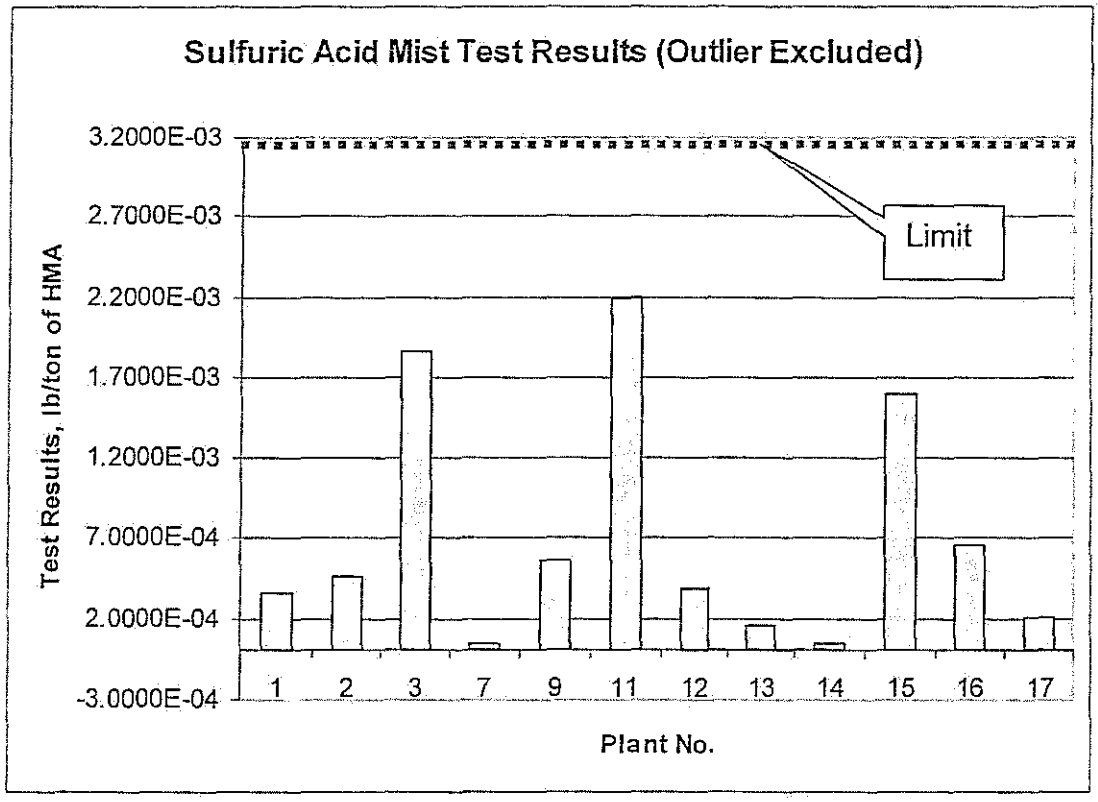


High Value:	7.7E-03 lb/ton
Low Value:	4E-05 lb/ton
Average Value:	1.25-03 b/ton
Standard Deviation:	0002

The current default limit for sulfuric acid mist is .0032 lbs/ton.

Average test value percentage of default limit: 39%

An analysis of the data indicates that one test is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value: 2.2E-3 lb/ton
Low Value: 4E-5 lb/ton
Average Value: 7.11E-4 lb/ton
Standard Deviation: .00074

Average test value percentage of default limit: 22.2%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for sulfuric acid mist. The data indicates that one test value is clearly out of range with the other test values, however even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for sulfuric acid mist.

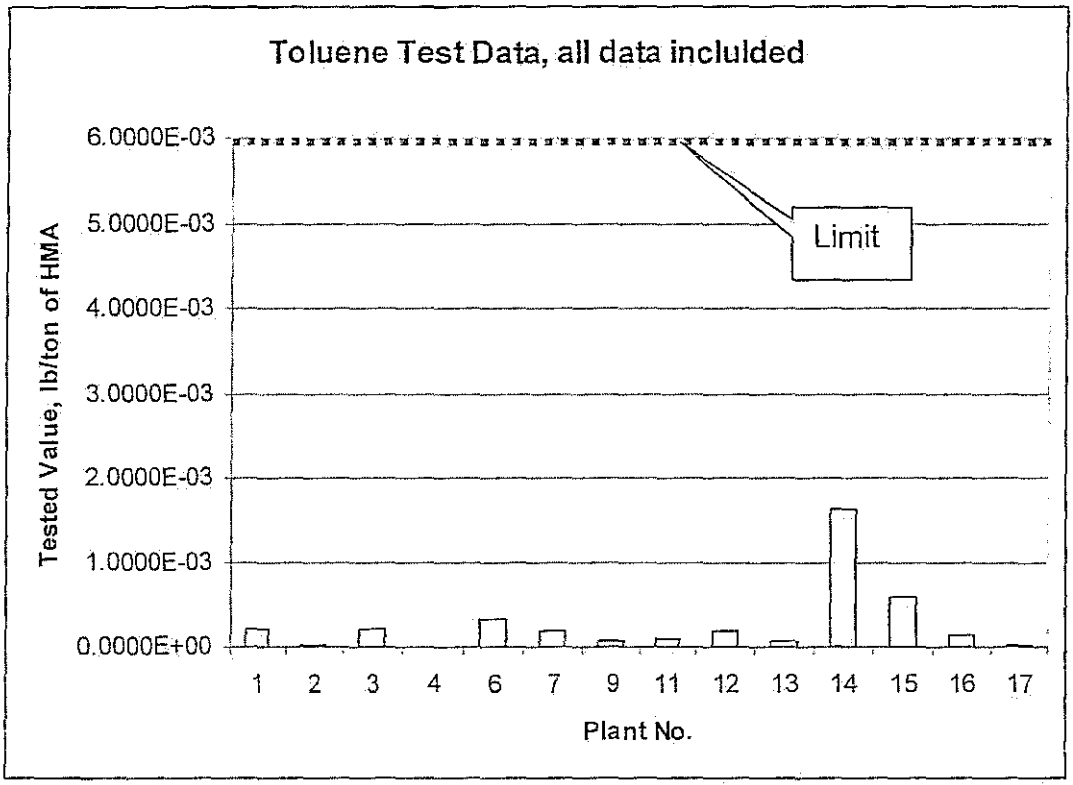
Toluene

Allowable Limit = 6.00E-3 lb/ton HMA

Following are the stack test results for toluene:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	2.1000E-04	dual drum	recycled used oil
2	2.5000E-05	double barrel drum	not specified in test report
3	2.1300E-04	counter-flow	recycled used oil
4	6.5500E-07	counter-flow	recycled used oil
6	3.2800E-04	parallel flow	natural gas
7	2.0000E-04	counter-flow	not specified in test report
8	non-detectable	counter-flow	recycled used oil
9	6.0000E-05	counter-flow	recycled used oil
11	9.0000E-05	counter-flow	recycled used oil
12	1.9000E-04	parallel flow	recycled used oil
13	8.0000E-05	parallel flow	recycled used oil
14	1.6300E-03	counter-flow	natural gas
15	5.8000E-04	parallel flow	recycled used oil
16	1.4000E-04	counter-flow	recycled used oil
17	3.4400E-05	counter-flow	recycled used oil

Following is a geographical analysis of the test data:



High Value:	1.63E-3 lb/ton
Low Value:	6.55E-7 lb/ton
Average Value:	2.7E-4 lb/ton
Standard Deviation:	0.016

The current default limit for toluene is 0.006 lbs/ton.

Average test value percentage of default limit: 4.5%

Recommendation: Based upon an analysis of the test data and the fact that all tests done show results below the allowed limit, that there is justification for removing the requirement to test for toluene.

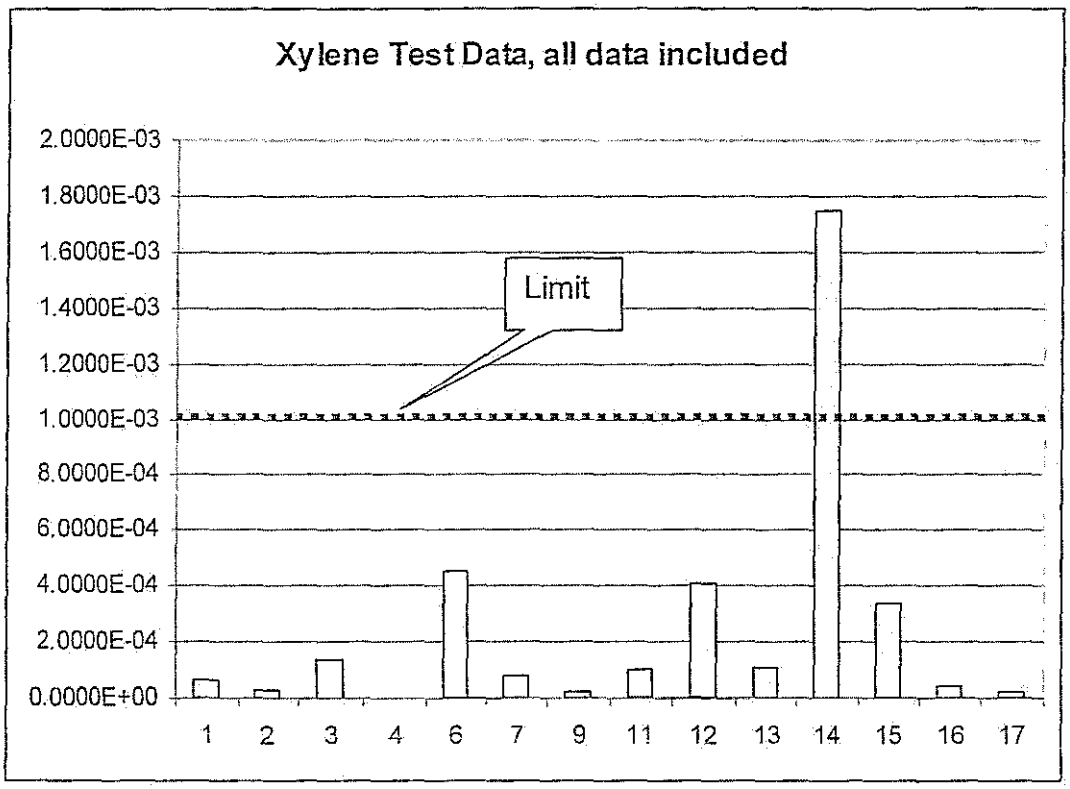
Xylene

Allowable Limit = 1.00E-3 lb/ton HMA

Following are the stack test results for xylene:

Plant No.	Tested Value (lb/ton HMA)	Plant Type	Fuel
1	6.8000E-05	dual drum	recycled used oil
2	2.9700E-05	double barrel drum	not specified in test report
3	1.3500E-04	counter-flow	recycled used oil
4	1.3300E-06	counter-flow	recycled used oil
6	4.4900E-04	parallel flow	natural gas
7	8.0000E-05	counter-flow	not specified in test report
8	non-detectable	counter-flow	recycled used oil
9	2.0000E-05	counter-flow	recycled used oil
11	1.0000E-04	counter-flow	recycled used oil
12	4.1000E-04	parallel flow	recycled used oil
13	1.1000E-04	parallel flow	recycled used oil
14	1.7500E-03	counter-flow	natural gas
15	3.4000E-04	parallel flow	recycled used oil
16	4.0000E-05	counter-flow	recycled used oil
17	2.3500E-05	counter-flow	recycled used oil

Following is a graphical analysis of that test data:

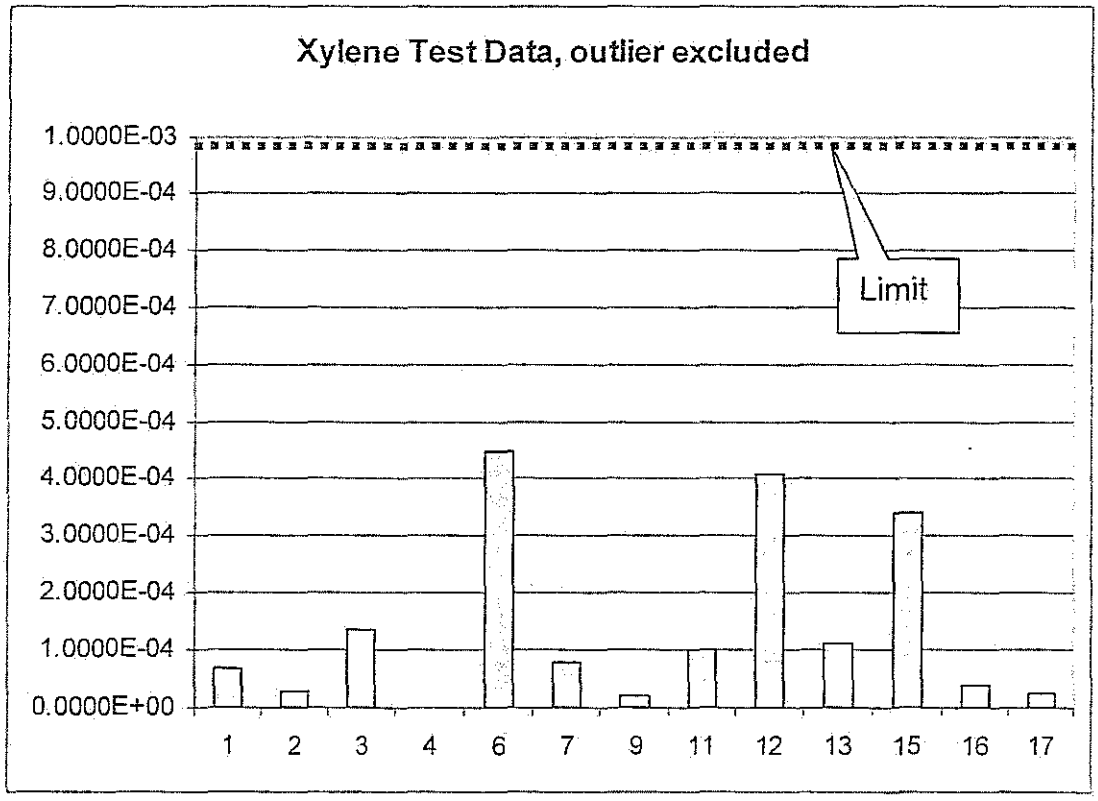


High Value:	1.75E-03 lb/ton
Low Value:	1.33E-06 lb/ton
Average Value:	2.54E-04 lb/ton
Standard Deviation:	0.00046

The current default limit for xylene is 0.001 lbs/ton.

Average test value percentage of default limit: 25.4%

An analysis of the data indicates that one test is substantially higher and out of range as compared to the rest of the test results. If this test data is excluded the data analysis indicates the following:



High Value:	4.49E-04 lb/ton
Low Value:	1.33E-06 lb/ton
Average Value:	1.39E-04 lb/ton
Standard Deviation:	0.00016

Average test value percentage of default limit: 13.9%

Recommendation: Based upon an analysis of the test data there is justification for removing the requirement to test for xylene. The data indicates that one test value is clearly out of range with the other test values, however even if this data is included with the other test data, the average tested value is still below the default permit allowable limit for xylene.