

DoD Type I Data Package

Prepared for:

Weston Solutions Inc.
2705 Bee Cave Road
Suite 100
Austin TX 78746

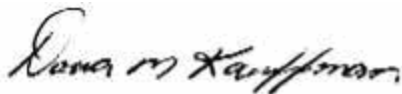
Project: Camp Ravenna, OH
Groundwater Samples
Collected on 11/04/16-11/07/16

SDG# RVN01

GROUP	SAMPLE NUMBERS
1731524	8689742-8689746

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:



Date: 12/07/2016

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Katherine Klinefelter at (717) 556-7256.

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**Sample Reference List for SDG Number RVN01
with a Data Package Type of I-DOD****20446 - Weston Solutions Inc.**

Project: Camp Ravenna, OH

Lab Sample Number	Client Sample ID	Collection Date	Date Received
8689742	L12mw-244-110416-gw	11/04/2016 14:22	11/09/2016 09:30
8689743	L12mw-244-110416-gw MS	11/04/2016 14:22	11/09/2016 09:30
8689744	L12mw-244-110416-gw MSD	11/04/2016 14:22	11/09/2016 09:30
8689745	L12mw-187-110716-gw	11/07/2016 12:20	11/09/2016 09:30
8689746	L12mw-501-110416-gw	11/04/2016 14:32	11/09/2016 09:30

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

10342 Hydrazines in Water

An aliquot of the sample is derivatized and directly analyzed by HPLC/MS/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8315A modified, December 1996.

Analysis Reports / Field Chain of Custody

ANALYTICAL RESULTS

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

Weston Solutions Inc.
2705 Bee Cave Road
Suite 100
Austin TX 78746

Report Date: December 05, 2016

Project: Camp Ravenna, OH

Submittal Date: 11/09/2016

Group Number: 1731524

SDG: RVN01

PO Number: 0092958

State of Sample Origin: OH

Client Sample Description

	Lancaster Labs (LL) #
L12mw-244-110416-gw Grab Groundwater	8689742
L12mw-244-110416-gw MS Grab Groundwater	8689743
L12mw-244-110416-gw MSD Grab Groundwater	8689744
L12mw-187-110716-gw Grab Groundwater	8689745
L12mw-501-110416-gw Grab Groundwater	8689746

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To	Cardno GS	Attn: Travis Withers
Electronic Copy To	Cardno GS	Attn: Heather Miner
Electronic Copy To	Cardno GS	Attn: Katie Hendrickson
Electronic Copy To	Weston Solutions Inc.	Attn: Lori Groesbeck

Respectfully Submitted,



Katherine A. Klinefelter
Principal Specialist

(717) 556-7256

Project Name: Camp Ravenna, OH
LL Group #: 1731524

General Comments:

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

See the Laboratory Sample Analysis Record section of the Analysis Report for the method references.

All QC met criteria unless otherwise noted in an Analysis Specific Comment below. Refer to the QC Summary for specific values and acceptance criteria.

Project specific QC samples are included in this data set

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

Surrogate recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in an Analysis Specific Comment below.

The samples were received at the appropriate temperature and in accordance with the chain of custody unless otherwise noted.

Analysis Specific Comments:

No additional comments are necessary.

Sample Description: L12mw-244-110416-gw Grab Groundwater
Camp Ravenna, OH

LL Sample # WW 8689742
LL Group # 1731524
Account # 20446

Project Name: Camp Ravenna, OH

Collected: 11/04/2016 14:22 by KK Weston Solutions Inc.
2705 Bee Cave Road
Submitted: 11/09/2016 09:30 Suite 100
Reported: 12/05/2016 10:38 Austin TX 78746

RVN11 SDG#: RVN01-01BKG

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
	Misc. Organics	SW-846 8315A modified	ug/l	ug/l	ug/l	ug/l	
10342	Hydrazine	302-01-2	N.D.	0.060	0.20	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10342	Hydrazine in Water	SW-846 8315A modified	1	16316002	11/15/2016 16:40	Timothy J Trees	1

*=This limit was used in the evaluation of the final result

Sample Description: L12mw-244-110416-gw MS Grab Groundwater
Camp Ravenna, OH

LL Sample # WW 8689743
LL Group # 1731524
Account # 20446

Project Name: Camp Ravenna, OH

Collected: 11/04/2016 14:22 by KK Weston Solutions Inc.
2705 Bee Cave Road
Submitted: 11/09/2016 09:30 Suite 100
Reported: 12/05/2016 10:38 Austin TX 78746

RVN11 SDG#: RVN01-01MS

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
	Misc. Organics	SW-846 8315A modified	ug/l	ug/l	ug/l	ug/l	
10342	Hydrazine	302-01-2	6.5	0.060	0.20	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10342	Hydrazine in Water	SW-846 8315A modified	1	16316002	11/15/2016 16:58	Timothy J Trees	1

*=This limit was used in the evaluation of the final result

Sample Description: L12mw-244-110416-gw MSD Grab Groundwater
Camp Ravenna, OH

LL Sample # WW 8689744
LL Group # 1731524
Account # 20446

Project Name: Camp Ravenna, OH

Collected: 11/04/2016 14:22 by KK Weston Solutions Inc.
2705 Bee Cave Road
Submitted: 11/09/2016 09:30 Suite 100
Reported: 12/05/2016 10:38 Austin TX 78746

RVN11 SDG#: RVN01-01MSD

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
	Misc. Organics	SW-846 8315A modified	ug/l	ug/l	ug/l	ug/l	
10342	Hydrazine	302-01-2	6.6	0.060	0.20	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10342	Hydrazine in Water	SW-846 8315A modified	1	16316002	11/15/2016 17:15	Timothy J Trees	1

*=This limit was used in the evaluation of the final result

Sample Description: L12mw-187-110716-gw Grab Groundwater
Camp Ravenna, OH

LL Sample # WW 8689745
LL Group # 1731524
Account # 20446

Project Name: Camp Ravenna, OH

Collected: 11/07/2016 12:20 by KK Weston Solutions Inc.
2705 Bee Cave Road
Submitted: 11/09/2016 09:30 Suite 100
Reported: 12/05/2016 10:38 Austin TX 78746

RVN12 SDG#: RVN01-02

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
Misc. Organics							
	SW-846 8315A modified		ug/l	ug/l	ug/l	ug/l	
10342	Hydrazine	302-01-2	N.D.	0.060	0.20	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10342	Hydrazine in Water	SW-846 8315A modified	1	16316002	11/15/2016 17:33	Timothy J Trees	1

*=This limit was used in the evaluation of the final result

Sample Description: L12mw-501-110416-gw Grab Groundwater
Camp Ravenna, OH

LL Sample # WW 8689746
LL Group # 1731524
Account # 20446

Project Name: Camp Ravenna, OH

Collected: 11/04/2016 14:32 by KK Weston Solutions Inc.
2705 Bee Cave Road
Submitted: 11/09/2016 09:30 Suite 100
Reported: 12/05/2016 10:38 Austin TX 78746

RVN13 SDG#: RVN01-03

CAT No.	Analysis Name	CAS Number	Result	Detection Limit*	Limit of Detection	Limit of Quantitation	DF
	Misc. Organics	SW-846 8315A	ug/l	ug/l	ug/l	ug/l	
		modified					
10342	Hydrazine	302-01-2	N.D.	0.060	0.20	0.20	1

Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10342	Hydrazine in Water	SW-846 8315A modified	1	16316002	11/15/2016 17:50	Timothy J Trees	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: Weston Solutions Inc.
Reported: 12/05/2016 10:38

Group Number: 1731524

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result	DL**	LOD	LOQ
	ug/l	ug/l	ug/l	ug/l
Batch number: 16316002	Sample number(s): 8689742-8689746			
Hydrazine	N.D.	0.060	0.20	0.20

LCS/LCSD

Analysis Name	LCS Spike Added	LCS Conc	LCSD Spike Added	LCSD Conc	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l					
Batch number: 16316002	Sample number(s): 8689742-8689746								
Hydrazine	6.00	6.37			106		83-130		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc	MS Spike Added	MS Conc	MSD Spike Added	MSD Conc	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
	ug/l	ug/l	ug/l	ug/l	ug/l					
Batch number: 16316002	Sample number(s): 8689742-8689746 UNSPK: 8689742									
Hydrazine	N.D.	6.00	6.53	6.00	6.55	109	109	83-130	0	25

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

(3) The surrogate spike amount was less than the LOD.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Environmental Analysis Request/Chain of Custody



Lancaster Laboratories
Environmental

For Eurofins Lancaster Laboratories Environmental use only

Acct. # 20446 Group # 1731524 Sample # 8689742-46

COC # 513572

Client Information				Matrix				Analysis Requested												For Lab Use Only			
Client: <u>Ms Heather Miner Cardio Tec</u>		Acct. #:		<input type="checkbox"/> Tissue <input type="checkbox"/> Ground <input type="checkbox"/> Surface <input type="checkbox"/> Potable <input type="checkbox"/> NPDES <input type="checkbox"/> Water <input type="checkbox"/> Other:	Total # of Containers	Preservation Codes												FSC:	SCR#:				
Project Name/ID: <u>RVAAP</u>		PWSID #:																FSC: <u>196941</u>					
Project Manager: <u>Ravenna, OH</u>		P.O. #:																Preservation Codes H=HCl T=Thiosulfate N=HNO ₃ B=NaOH S=H ₂ SO ₄ O=Other					
Sampler: <u>Kim Kroenke</u>		Quote #:																Remarks					
State where samples were collected: <u>OH</u>		For Compliance: Yes <input type="checkbox"/> No <input type="checkbox"/>																					
Sample Identification		Collected		Grab	Composite	Soil	Water	Other:	Total # of Containers														
Date	Time																						
<u>L12mw-244-110416-gw</u>	<u>11/04/16</u>	<u>1422</u>	<u>G</u>				<u>X</u>		<u>1</u>	<u>X</u>													
<u>L12mw-187-110716-gw</u>	<u>11/07/16</u>	<u>1220</u>	<u>G</u>				<u>X</u>		<u>1</u>	<u>X</u>													
<u>L12mw-244MS-110416-gw</u>	<u>11/04/16</u>	<u>1422</u>	<u>G</u>				<u>X</u>		<u>1</u>	<u>X</u>													
<u>L12mw-244MSD-110416-gw</u>	<u>11/04/16</u>	<u>1422</u>	<u>G</u>				<u>X</u>		<u>1</u>	<u>X</u>													
<u>L12mw-501-110416-gw</u>	<u>11/04/16</u>	<u>1432</u>	<u>G</u>				<u>X</u>		<u>1</u>	<u>X</u>													

Turnaround Time (TAT) Requested (please circle) Standard Rush (Rush TAT is subject to laboratory approval and surcharge.) Date results are needed: _____ E-mail address: _____	Relinquished by <u>S. DeBruin</u>	Date <u>10/28/16</u>	Time <u>14:30</u>	Received by	Date	Time
	Relinquished by <u>Smiley Kleebe</u>	Date <u>11/9/16</u>	Time	Received by <u>FedEx</u>	Date <u>11/9/16</u>	Time
	Relinquished by	Date	Time	Received by	Date	Time
	Relinquished by	Date	Time	Received by	Date	Time
	Relinquished by	Date	Time	Received by <u>[Signature]</u>	Date <u>11-9-16</u>	Time <u>9:30</u>

Data Package Options (circle if required) Type I (EPA Level 3 Equivalent/non-CLP) Type VI (Raw Data Only) Type III (Reduced non-CLP) NJ DKQP TX TRRP-13 NYSDEC Category A or B MA MCP CT RCP			EDD Required? Yes No If yes, format: _____		Relinquished by Commercial Carrier: UPS _____ FedEx _____ Other _____	
			Site-Specific QC (MS/MSD/Dup)? Yes No (If yes, indicate QC sample and submit triplicate sample volume.)		Temperature upon receipt <u>0.5</u> °C	

Client: ATC

Delivery and Receipt Information

Delivery Method:	<u>Fed Ex</u>	Arrival Timestamp:	<u>11/09/2016 9:30</u>
Number of Packages:	<u>1</u>	Number of Projects:	<u>1</u>
State/Province of Origin:	<u>OH</u>		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace \geq 6mm:	N/A
Samples Chilled:	Yes	Total Trip Blank Qty:	0
Paperwork Enclosed:	Yes	Air Quality Samples Present:	No
Samples Intact:	Yes		
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	Yes		

Unpacked by Joseph Huber (7831) at 12:02 on 11/09/2016

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp) All Temperatures in °C.*

<u>Cooler #</u>	<u>Thermometer ID</u>	<u>Corrected Temp</u>	<u>Therm. Type</u>	<u>Ice Type</u>	<u>Ice Present?</u>	<u>Ice Container</u>	<u>Elevated Temp?</u>
1	DT121	0.5	DT	Wet	Y	Loose	N

Container Quantity Discrepancy Details

<u>Sample ID on COC</u>	<u>Container Qty. Received</u>	<u>Container Qty. on COC</u>	<u>Comments</u>
All Samples	2	1	

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Laboratory Data Qualifiers:

- B - Analyte detected in the blank
- C - Result confirmed by reanalysis
- E - Concentration exceeds the calibration range
- J (or G, I, X) - estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
- P - Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
- U - Analyte was not detected at the value indicated
- V - Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference...
- W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Hydrazines by LC/MS/MS Data

Case Narrative/Conformance Summary

Hydrazines by LC/MS/MS

Case Narrative/Conformance Summary

CLIENT: Weston Solutions Inc.
SDG: RVN01

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
8689742	L12mw-244-110416-gw	X		1	Unspiked
8689743	L12mw-244-110416-gw MS	X		1	Matrix Spike
8689744	L12mw-244-110416-gw MSD	X		1	Matrix Spike Duplicate
8689745	L12mw-187-110716-gw	X		1	
8689746	L12mw-501-110416-gw	X		1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit

Case Narrative/Conformance Summary

CLIENT: Weston Solutions Inc.
SDG: RVN01

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

Case Narrative/Conformance Summary

CLIENT: Weston Solutions Inc.
SDG: RVN01

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
8689742	L12mw-244-110416-gw	X		1	Unspiked
8689743	L12mw-244-110416-gw MS	X		1	Matrix Spike
8689744	L12mw-244-110416-gw MSD	X		1	Matrix Spike Duplicate
8689745	L12mw-187-110716-gw	X		1	
8689746	L12mw-501-110416-gw	X		1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.
See QC Reference List for Associated Batch QC Samples

SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

HOLDING TIME:

All holding times were met.

PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

CALIBRATION/STANDARDIZATION:

All criteria were met.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specification.

SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected

Case Narrative/Conformance Summary

CLIENT: Weston Solutions Inc.
SDG: RVN01

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

QC Summary

Hydrazines by LC/MS/MS

**Quality Control Reference List
Specialty Services Group**

**CLIENT: Weston Solutions Inc.
SDG: RVN01**

Fraction: Hydrazines by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
Hydrazine in Water	16316002	BLK	11/15/2016 16:05:00
		LCS	11/15/2016 16:23:00
		8689742 UNSPK	11/15/2016 16:40:00
		8689743 MS	11/15/2016 16:58:00
		8689744 MSD	11/15/2016 17:15:00
		8689745	11/15/2016 17:33:00
		8689746	11/15/2016 17:50:00

Fraction: Hydrazines by LC/MS/MS

16316002 / BLK Analyte	Analysis Date	Blank Results	Units	DL	LOD	LOQ
Hydrazine	11/15/16	N.D.	ug/l	0.060	0.20	0.20

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

UNSPK: 8689742 MS: 8689743 MSD: 8689744 Analyte	Batch: 16316002 (Sample number(s): 8689742-8689746)								
	Spike Added ug/l	Unspiked Conc ug/l	MS Conc ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	%Rec Limits	%RPD	%RPD Limits
Hydrazine	6.00	N.D.	6.53	6.55	109	109	83-130	0	25

Comments:

(2) The unspiked sample result is greater than four times the spike added.

* = Out of Specification

Results are being reported on an as received basis.

SDG: RVN01
Matrix: LIQUID

Specialty Services Group

Fraction: Hydrazines by LC/MS/MS

LCS: LCS	Batch: 16316002 (Sample number(s): 8689742-8689746)							
	Spike Added ug/l	LCS Conc ug/l	LCSD Conc ug/l	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Analyte								
Hydrazine	6.00	6.37	NA	106	NA	83-130	NA	NA

Raw Data

Hydrazines by LC/MS/MS

Fraction: Hydrazines by LC/MS/MS

10342: Hydrazine in Water Analyte Name	Default DL	Default LOD	Default LOQ	Units
Hydrazine	.06	.2	0.20	ug/l

Quantify Compound Summary Report MassLynx 4.1

Eurofins Lancaster Laboratories Environmental

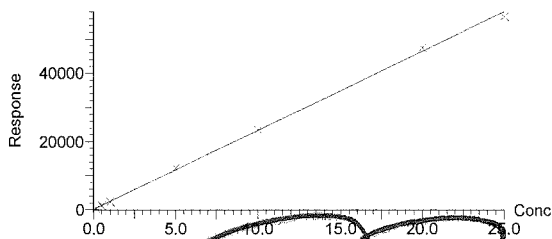
Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Method: C:\Projects\Hydrazine.PRO\MethDB\HYD_PrimaryArea.mdb 21 Nov 2016 11:39:29
 Calibration: 21 Nov 2016 11:59:05

Compound name: Hydrazine

ID	Type	Std. C...	RT	Area	Detection ...	ng/mL	%Dev	Calc C...	Dil Fac...
1	Blank 2356	Analyte	11.66	139.893	bb	0.00	0.00	0.00	1.0
2	MDL / SYS Hyd3166 0.20DA	QC	0.050	248.087	MM	0.05	-2.3	0.05	1.0
3	STD 1 Hyd3166 0.20DA	Standa...	0.100	429.430	MM	0.13	27.1	0.13	1.0
4	STD 2 Hyd3166 0.20DA	Standa...	0.200	513.411	MM	0.16	-18.3	0.16	1.0
5	STD 3 Hyd3166 0.20 DA	Standa...	0.500	1186.189	bb	0.45	-9.2	0.45	1.0
6	STD 4 Hyd3166 0.20 DA	Standa...	1.000	2350.648	bb	0.96	-4.3	0.96	1.0
7	STD 5 Hyd3166 0.20 DA	Standa...	5.000	11227.317	MM	5.22	4.4	5.22	1.0
8	STD 6 Hyd3166 0.20 DA	Standa...	10.000	23434.031	MM	10.06	0.6	10.06	1.0
9	STD 7 Hyd3166 0.20 DA	Standa...	20.000	47511.684	MM	20.45	2.3	20.45	1.0
10	STD 8 Hyd3166 0.20 DA	Standa...	25.000	56572.617	bb	24.37	-2.5	24.37	1.0
11	ICV Hyd3166 0.20 DA	QC	6.000	14197.398	bb	6.07	1.2	6.07	1.0
12	ICB Hyd3166 0.20 DA	Blank	11.71	613.246	MM	0.21		0.21	1.0
13	MDL Hyd3166 0.20 DA	QC	0.050	531.154	MM	0.17	242.1	0.17	1.0
14	Blank 16316002 0.20 DA	Blank	11.73	361.953	MM	0.10		0.10	1.0
15	LCS 16316002 0.20 DA	QC	6.000	14896.695	bb	6.37	6.2	6.37	1.0
16	8689742 16316002 0.20 DA	Analyte	11.72	424.523	MM	0.13		0.13	1.0
17	8689743 MS 16316002 0....	QC	6.000	15255.572	MM	6.53	8.8	6.53	1.0
18	8689744 MSD 16316002 0...	QC	6.000	15303.716	MM	6.55	9.1	6.55	1.0
19	8689745 16316002 0.20 DA	Analyte	11.76	436.717	MM	0.13		0.13	1.0
20	8689746 16316002 0.20 DA	Analyte	11.68	293.977	MM	0.07		0.07	1.0
21	STD 4 Hyd3166 0.20 DA	Recov...	1.000	2568.634	MM	1.05	5.1	1.05	1.0
22	CCB	Blank	11.75	280.002	MM	0.06		0.06	1.0
23	Blank 16319 IDOC001 0.2...	Blank	11.76	223.831	MM	0.04		0.04	1.0
24	IDOC A 16319 IDOC001 0...	QC	0.200	640.653	bb	0.22	9.2	0.22	1.0
25	IDOC B 16319 IDOC001 0...	QC	0.200	658.071	MM	0.23	12.9	0.23	1.0
26	IDOC C 16319 IDOC001 0...	QC	0.200	630.735	MM	0.21	7.0	0.21	1.0
27	IDOC D 16319 IDOC001 0...	QC	0.200	571.815	MM	0.19	-5.7	0.19	1.0
28	STD 4 Hyd3166 0.20 DA	Recov...	1.000	2503.027	MM	1.02	2.2	1.02	1.0
29	CCB	Blank	11.76	146.511	MM	0.00		0.00	1.0

Compound name: Hydrazine
 Correlation coefficient: $r = 0.999514$, $r^2 = 0.999029$
 Calibration curve: $2316.28 * x + 134.939$
 Response type: External Std, Area
 Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



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Analysts/Date NOV 21 2016

Verifier/Date NOV 30 2016

Tim J. Trees
 Principal Chemist

Michael Smith
 Senior Specialist

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

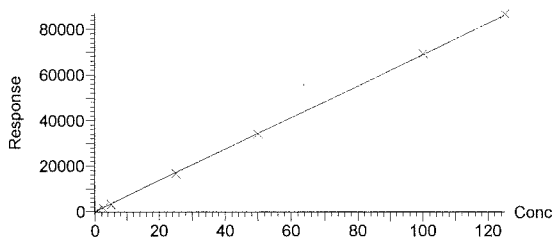
Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Compound name: Mono-methylhydrazine

ID	Type	Std. C...	RT	Area	Detection ...	ng/mL	%Dev	Calc C...	Dil Fac...
1	Blank 2356	Analyte			MM-				
2	MDL / SYS Hyd3166 0.20DA	QC	2.69	216.342	bb	0.38	51.1	0.38	1.0
3	STD 1 Hyd3166 0.20DA	Standa...	0.500	399.890	MM	0.64	28.9	0.64	1.0
4	STD 2 Hyd3166 0.20DA	Standa...	1.000	552.785	MM	0.87	-13.3	0.87	1.0
5	STD 3 Hyd3166 0.20 DA	Standa...	2.500	1611.305	MM	2.40	-3.8	2.40	1.0
6	STD 4 Hyd3166 0.20 DA	Standa...	5.000	3056.038	MM	4.50	-9.9	4.50	1.0
7	STD 5 Hyd3166 0.20 DA	Standa...	25.000	16719.418	MM	24.36	-2.6	24.36	1.0
8	STD 6 Hyd3166 0.20 DA	Standa...	50.000	34129.055	MM	49.66	-0.7	49.66	1.0
9	STD 7 Hyd3166 0.20 DA	Standa...	100.000	69270.180	MM	100.72	0.7	100.72	1.0
10	STD 8 Hyd3166 0.20 DA	Standa...	125.000	86560.602	MM	125.84	0.7	125.84	1.0
11	ICV Hyd3166 0.20 DA	QC	30.000	20301.117	MM	29.56	-1.5	29.56	1.0
12	ICB Hyd3166 0.20 DA	Blank	2.80	161.145	MM	0.30		0.30	1.0
13	MDL Hyd3166 0.20 DA	QC	0.250	198.508	MM	0.35	40.8	0.35	1.0
14	Blank 16316002 0.20 DA	Blank			MM-				1.0
15	LCS 16316002 0.20 DA	QC	30.000	20607.666	MM	30.01	0.0	30.01	1.0
16	8689742 16316002 0.20 DA	Analyte							1.0
17	8689743 MS 16316002 0....	QC	30.000	19959.408	MM	29.07	-3.1	29.07	1.0
18	8689744 MSD 16316002 0...	QC	30.000	19965.539	MM	29.08	-3.1	29.08	1.0
19	8689745 16316002 0.20 DA	Analyte			MM-				1.0
20	8689746 16316002 0.20 DA	Analyte			MM-				1.0
21	STD 4 Hyd3166 0.20 DA	Recov...	5.000	3065.760	MM	4.52	-9.6	4.52	1.0
22	CCB	Blank			MM-				1.0
23	Blank 16319 IDOC001 0.2...	Blank			MM-				1.0
24	IDOC A 16319 IDOC001 0...	QC	1.000	594.569	MM	0.93	-7.3	0.93	1.0
25	IDOC B 16319 IDOC001 0...	QC	1.000	640.573	MM	0.99	-0.6	0.99	1.0
26	IDOC C 16319 IDOC001 0...	QC	1.000	633.238	MM	0.98	-1.6	0.98	1.0
27	IDOC D 16319 IDOC001 0...	QC	1.000	517.661	MM	0.82	-18.4	0.82	1.0
28	STD 4 Hyd3166 0.20 DA	Recov...	5.000	3151.056	MM	4.64	-7.2	4.64	1.0
29	CCB	Blank			MM-				1.0

Compound name: Mono-methylhydrazine
 Correlation coefficient: $r = 0.999757$, $r^2 = 0.999513$
 Calibration curve: $688.183 * x + -43.6726$
 Response type: External Std, Area
 Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Analysts/Date _____ Verifier/Date _____

Quantify Compound Summary Report MassLynx 4.1

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Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Compound name: 1,1-Dimethylhydrazine

ID	Type	Std. C...	RT	Area	Detection ...	ng/mL	%Dev	Calc C...	Dil Fac...
1	Blank 2356	Analyte			MM-				
2	MDL / SYS Hyd3166 0.20DA	QC	0.250	5.69	314.715	MM	0.37	49.2	0.37
3	STD 1 Hyd3166 0.20DA	Standa...	0.500	5.71	555.348	bb	0.61	22.0	0.61
4	STD 2 Hyd3166 0.20DA	Standa...	1.000	5.72	837.380	bb	0.89	-11.3	0.89
5	STD 3 Hyd3166 0.20 DA	Standa...	2.500	5.70	2453.982	MM	2.48	-0.9	2.48
6	STD 4 Hyd3166 0.20 DA	Standa...	5.000	5.71	4761.132	MM	4.75	-5.0	4.75
7	STD 5 Hyd3166 0.20 DA	Standa...	25.000	5.75	24338.295	MM	24.02	-3.9	24.02
8	STD 6 Hyd3166 0.20 DA	Standa...	50.000	5.77	49230.355	MM	48.52	-3.0	48.52
9	STD 7 Hyd3166 0.20 DA	Standa...	100.000	5.78	100868.359	MM	99.34	-0.7	99.34
10	STD 8 Hyd3166 0.20 DA	Standa...	125.000	5.81	130385.094	MM	128.40	2.7	128.40
11	ICV Hyd3166 0.20 DA	QC	30.000	5.82	31371.730	MM	30.94	3.1	30.94
12	ICB Hyd3166 0.20 DA	Blank				MM-			
13	MDL Hyd3166 0.20 DA	QC	0.250	5.86	353.107	MM	0.41	64.3	0.41
14	Blank 16316002 0.20 DA	Blank				MM-			
15	LCS 16316002 0.20 DA	QC	30.000	5.80	33429.566	MM	32.97	9.9	32.97
16	8689742 16316002 0.20 DA	Analyte				MM-			
17	8689743 MS 16316002 0....	QC	30.000	5.80	30333.314	MM	29.92	-0.3	29.92
18	8689744 MSD 16316002 0...	QC	30.000	5.80	31620.195	MM	31.19	4.0	31.19
19	8689745 16316002 0.20 DA	Analyte							
20	8689746 16316002 0.20 DA	Analyte							
21	STD 4 Hyd3166 0.20 DA	Recov...	5.000	5.82	4604.191	MM	4.59	-8.1	4.59
22	CCB	Blank				MM-			
23	Blank 16319 IDOC001 0.2...	Blank				MM-			
24	IDOC A 16319 IDOC001 0...	QC	1.000	5.75	960.711	MM	1.01	0.9	1.01
25	IDOC B 16319 IDOC001 0...	QC	1.000	5.82	860.226	MM	0.91	-9.0	0.91
26	IDOC C 16319 IDOC001 0...	QC	1.000	5.81	919.969	MM	0.97	-3.1	0.97
27	IDOC D 16319 IDOC001 0...	QC	1.000	5.79	883.171	MM	0.93	-6.8	0.93
28	STD 4 Hyd3166 0.20 DA	Recov...	5.000	5.84	4597.550	MM	4.59	-8.2	4.59
29	CCB	Blank				bd	0.07		0.07

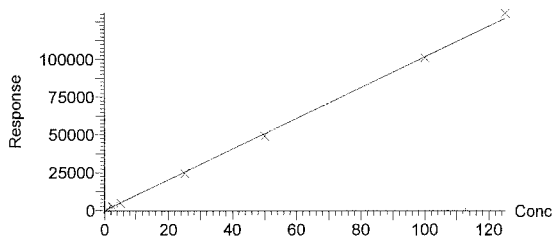
Compound name: 1,1-Dimethylhydrazine

Correlation coefficient: $r = 0.999608$, $r^2 = 0.999217$

Calibration curve: $1016 * x + -64.2179$

Response type: External Std, Area

Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Analysts/Date

Verifier/Date

NOV 21 2016

Tim J. Trees
Principal Chemist

Quantify Sample Summary Report MassLynx 4.1

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Method: C:\Projects\Hydrazine.PRO\MethDB\HYD_PrimaryArea.mdb 21 Nov 2016 11:39:29

Calibration: 21 Nov 2016 11:59:05

Name: HYD_3206_001, Date: 15-Nov-2016, Time: 12:18:54, ID: Blank 2356, Description: Blank

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.66	139.893	bb	0.0		0.00	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22			MM-				1.0

Name: HYD_3206_002, Date: 15-Nov-2016, Time: 12:36:22, ID: MDL / SYS Hyd3166 0.20DA, Description: MDL / SYS

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.66	248.087	MM	0.0	-2.3	0.05	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.69	216.342	bb	0.4	51.1	0.38	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.69	314.715	MM	0.4	49.2	0.37	1.0

Name: HYD_3206_003, Date: 15-Nov-2016, Time: 12:53:50, ID: STD 1 Hyd3166 0.20DA, Description: STD 1

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.70	429.430	MM	0.1	27.1	0.13	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.69	399.890	MM	0.6	28.9	0.64	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.71	555.348	bb	0.6	22.0	0.61	1.0

Name: HYD_3206_004, Date: 15-Nov-2016, Time: 13:11:18, ID: STD 2 Hyd3166 0.20DA, Description: STD 2

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	513.411	MM	0.2	-18.3	0.16	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.66	552.785	MM	0.9	-13.3	0.87	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.72	837.380	bb	0.9	-11.3	0.89	1.0


Name: HYD_3206_005, Date: 15-Nov-2016, Time: 13:28:46, ID: STD 3 Hyd3166 0.20 DA, Description: STD 3

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	1186.189	bb	0.5	-9.2	0.45	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.67	1611.305	MM	2.4	-3.8	2.40	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.70	2453.982	MM	2.5	-0.9	2.48	1.0

Name: HYD_3206_006, Date: 15-Nov-2016, Time: 13:46:14, ID: STD 4 Hyd3166 0.20 DA, Description: STD 4

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	2350.648	bb	1.0	-4.3	0.96	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.65	3056.038	MM	4.5	-9.9	4.50	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.71	4761.132	MM	4.7	-5.0	4.75	1.0

Analysts/Date 

Verifier/Date 

NOV 21 2016

NOV 30 2016

Tim J. Trees
Principal Chemist

Michele J. Smilo
Senior Specialist

Quantify Sample Summary Report **MassLynx 4.1**

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Name: HYD_3206_007, Date: 15-Nov-2016, Time: 14:03:42, ID: STD 5 Hyd3166 0.20 DA, Description: STD 5

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...	
1	1 Hydrazine	209.07>106.22	11.68	12227.317	MM	5.2	4.4	5.22	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.68	16719.418	MM	24.4	-2.6	24.36	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.75	24338.295	MM	24.0	-3.9	24.02	1.0

Name: HYD_3206_008, Date: 15-Nov-2016, Time: 14:21:10, ID: STD 6 Hyd3166 0.20 DA, Description: STD 6

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...	
1	1 Hydrazine	209.07>106.22	11.68	23434.031	MM	10.1	0.6	10.06	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.69	34129.055	MM	49.7	-0.7	49.66	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.77	49230.355	MM	48.5	-3.0	48.52	1.0

Name: HYD_3206_009, Date: 15-Nov-2016, Time: 14:38:38, ID: STD 7 Hyd3166 0.20 DA, Description: STD 7

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...	
1	1 Hydrazine	209.07>106.22	11.68	47511.684	MM	20.5	2.3	20.45	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.69	69270.180	MM	100.7	0.7	100.72	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.78	100868.359	MM	99.3	-0.7	99.34	1.0

Name: HYD_3206_010, Date: 15-Nov-2016, Time: 14:56:05, ID: STD 8 Hyd3166 0.20 DA, Description: STD 8

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...	
1	1 Hydrazine	209.07>106.22	11.68	56572.617	bb	24.4	-2.5	24.37	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	86560.602	MM	125.8	0.7	125.84	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.81	130385.094	MM	128.4	2.7	128.40	1.0

Name: HYD_3206_011, Date: 15-Nov-2016, Time: 15:13:33, ID: ICV Hyd3166 0.20 DA, Description: ICV

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...	
1	1 Hydrazine	209.07>106.22	11.68	14197.398	bb	6.1	1.2	6.07	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	20301.117	MM	29.6	-1.5	29.56	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.82	31371.730	MM	30.9	3.1	30.94	1.0

Name: HYD_3206_012, Date: 15-Nov-2016, Time: 15:31:01, ID: ICB Hyd3166 0.20 DA, Description: ICB

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.71	613.246	MM	0.2	0.21	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.80	161.145	MM	0.3	0.30	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22		MM-				1.0

Name: HYD_3206_013, Date: 15-Nov-2016, Time: 15:48:29, ID: MDL Hyd3166 0.20 DA, Description: MDL / SYS

#	Name	Trace	RT	Area Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...	
1	1 Hydrazine	209.07>106.22	11.69	531.154	MM	0.2	242.1	0.17	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.73	198.508	MM	0.4	40.8	0.35	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.86	353.107	MM	0.4	64.3	0.41	1.0

Analysts/Date _____ Verifier/Date _____

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Name: HYD_3206_014, Date: 15-Nov-2016, Time: 16:05:57, ID: Blank 16316002 0.20 DA, Description: Blank 16316002

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.73	361.953	MM	0.1		0.10	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22			MM-				1.0

Name: HYD_3206_015, Date: 15-Nov-2016, Time: 16:23:25, ID: LCS 16316002 0.20 DA, Description: LCS 16316002

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	14896.695	bb	6.4	6.2	6.37	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	20607.666	MM	30.0	0.0	30.01	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.80	33429.566	MM	33.0	9.9	32.97	1.0

Name: HYD_3206_016, Date: 15-Nov-2016, Time: 16:40:52, ID: 8689742 16316002 0.20 DA, Description: 8689742 BKG

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.72	424.523	MM	0.1		0.13	1.0
2	2 Mono-methylhydrazine	135.15>104.14							1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22			MM-				1.0

Name: HYD_3206_017, Date: 15-Nov-2016, Time: 16:58:20, ID: 8689743 MS 16316002 0.20 DA, Description: 8689743 MS

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	15255.572	MM	6.5	8.8	6.53	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	19959.408	MM	29.1	-3.1	29.07	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.80	30333.314	MM	29.9	-0.3	29.92	1.0

Name: HYD_3206_018, Date: 15-Nov-2016, Time: 17:15:48, ID: 8689744 MSD 16316002 0.20 DA, Description: 8689744 MSD

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	15303.716	MM	6.5	9.1	6.55	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.70	19965.539	MM	29.1	-3.1	29.08	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.80	31620.195	MM	31.2	4.0	31.19	1.0

Name: HYD_3206_019, Date: 15-Nov-2016, Time: 17:33:16, ID: 8689745 16316002 0.20 DA, Description: 8689745

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.76	436.717	MM	0.1		0.13	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22							1.0

Name: HYD_3206_020, Date: 15-Nov-2016, Time: 17:50:44, ID: 8689746 16316002 0.20 DA, Description: 8689746

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	293.977	MM	0.1		0.07	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22							1.0

Analysts/Date _____ Verifier/Date _____

Quantify Sample Summary Report **MassLynx 4.1**

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Name: HYD_3206_021, Date: 15-Nov-2016, Time: 18:08:11, ID: STD 4 Hyd3166 0.20 DA, Description: CCV STD 4

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	2568.634	MM	1.1	5.1	1.05	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.70	3065.760	MM	4.5	-9.6	4.52	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.82	4604.191	MM	4.6	-8.1	4.59	1.0

Name: HYD_3206_022, Date: 15-Nov-2016, Time: 18:25:39, ID: CCB, Description: CCB

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.75	280.002	MM	0.1		0.06	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22			MM-				1.0

Name: HYD_3206_023, Date: 15-Nov-2016, Time: 18:43:07, ID: Blank 16319 IDOC001 0.20 DA, Description: Blank 16319IDOC001

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.76	223.831	MM	0.0		0.04	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22			MM-				1.0

Name: HYD_3206_024, Date: 15-Nov-2016, Time: 19:00:35, ID: IDOC A 16319 IDOC001 0.20 DA, Description: IDOC A 16319IDOC001

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.72	640.653	bb	0.2	9.2	0.22	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.70	594.569	MM	0.9	-7.3	0.93	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.75	960.711	MM	1.0	0.9	1.01	1.0

Name: HYD_3206_025, Date: 15-Nov-2016, Time: 19:18:03, ID: IDOC B 16319 IDOC001 0.20 DA, Description: IDOC B 16319IDOC001

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	658.071	MM	0.2	12.9	0.23	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.73	640.573	MM	1.0	-0.6	0.99	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.82	860.226	MM	0.9	-9.0	0.91	1.0

Name: HYD_3206_026, Date: 15-Nov-2016, Time: 19:35:31, ID: IDOC C 16319 IDOC001 0.20 DA, Description: IDOC C 16319IDOC001

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	630.735	MM	0.2	7.0	0.21	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	633.238	MM	1.0	-1.6	0.98	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.81	919.969	MM	1.0	-3.1	0.97	1.0

Analysts/Date _____ Verifier/Date _____

Quantify Sample Summary Report **MassLynx 4.1**

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

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Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Name: HYD_3206_027, Date: 15-Nov-2016, Time: 19:52:58, ID: IDOC D 16319 IDOC001 0.20 DA, Description: IDOC D 16319IDOC001

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	571.815	MM	0.2	-5.7	0.19	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	517.661	MM	0.8	-18.4	0.82	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.79	883.171	MM	0.9	-6.8	0.93	1.0

Name: HYD_3206_028, Date: 15-Nov-2016, Time: 20:10:26, ID: STD 4 Hyd3166 0.20 DA, Description: CCV STD 4

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.70	2503.027	MM	1.0	2.2	1.02	1.0
2	2 Mono-methylhydrazine	135.15>104.14	2.71	3151.056	MM	4.6	-7.2	4.64	1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.84	4597.550	MM	4.6	-8.2	4.59	1.0

Name: HYD_3206_029, Date: 15-Nov-2016, Time: 20:27:53, ID: CCB, Description: CCB

#	Name	Trace	RT	Area	Dete...	ng/mL	%Dev	Calc Conc. (ng/...	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.76	146.511	MM	0.0		0.00	1.0
2	2 Mono-methylhydrazine	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydrazine	149.10>106.22	5.71	7.938	bd	0.1		0.07	1.0

Michelle J. Smith

NOV 30 2016

Analysts/Date



NOV 21 2016

**Tim J. Trees
Principal Chemist**

Verifier/Date

**Michelle J. Smith
Senior Specialist**

Quantify Calibration Report MassLynx 4.1

Eurofins Lancaster Laboratories Environmental

Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

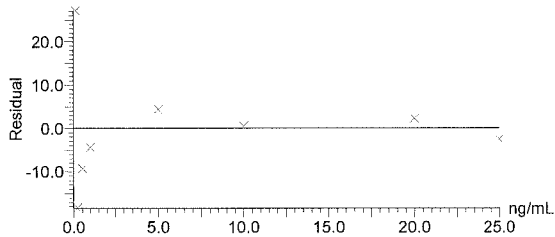
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Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

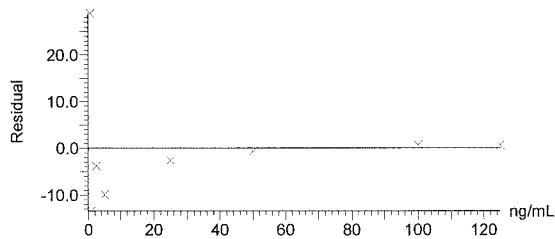
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Calibration: 21 Nov 2016 11:59:05

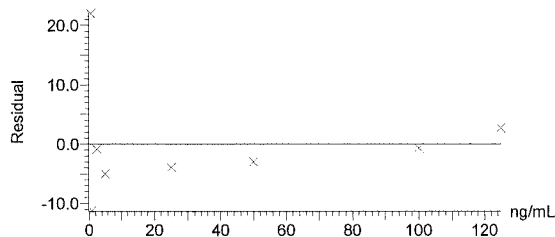
Compound name: Hydrazine
Correlation coefficient: $r = 0.999514$, $r^2 = 0.999029$
Calibration curve: $2316.28 * x + 134.939$
Response type: External Std, Area
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: Mono-methylhydrazine
Correlation coefficient: $r = 0.999757$, $r^2 = 0.999513$
Calibration curve: $688.183 * x - 43.6726$
Response type: External Std, Area
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: 1,1-Dimethylhydrazine
Correlation coefficient: $r = 0.999608$, $r^2 = 0.999217$
Calibration curve: $1016 * x - 64.2179$
Response type: External Std, Area
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Analysts/Date NOV 21 2016

Tim J. Trees
Principal Chemist

Verifier/Date NOV 30 2016

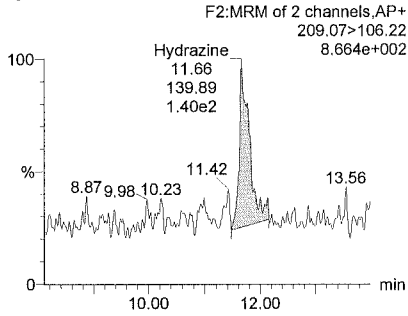
Michelle J. Smith
Senior Specialist

Eurofins Lancaster Laboratories Environmental
 Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

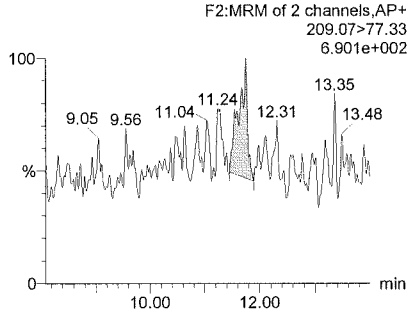
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Lab: , Name: HYD_3206_001, ID: Blank 2356, Date: 15-Nov-2016, Time: 12:18:54, Task:

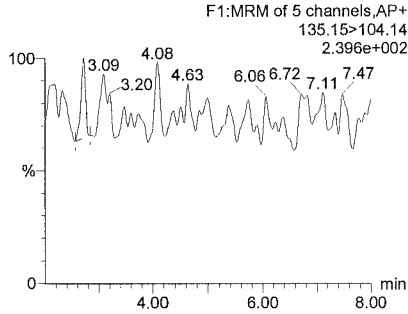
Hydrazine



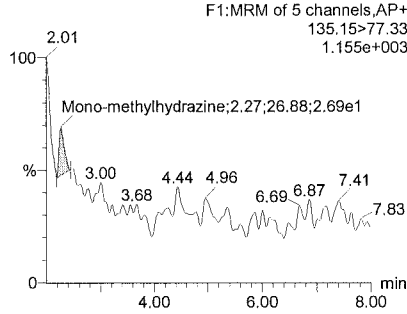
Hydrazine



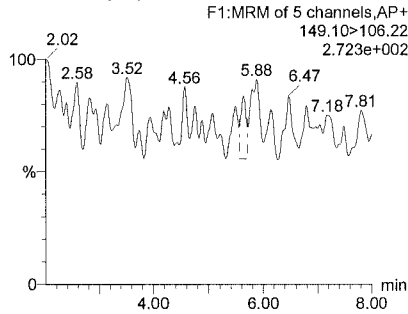
Mono-methylhydrazine



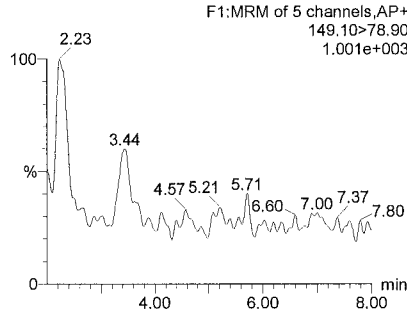
Mono-methylhydrazine



1,1-Dimethylhydrazine

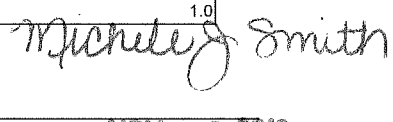


1,1-Dimethylhydrazine



#	Name	Trace	RT	Area Detect...	ng/mL	%Dev	ng/mL Dil Fac...
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2	2 Mono-methylhydra...	135.15>104.14		MM-			1.0
3	3 1,1-Dimethylhydra...	149.10>106.22		MM-			1.0

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NOV 21 2016

NOV 30 2016

Tim J. Trees
 Principal Chemist

Michele J. Smith
 Senior Specialist

Eurofins Lancaster Laboratories Environmental

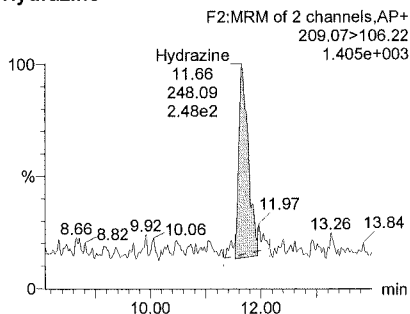
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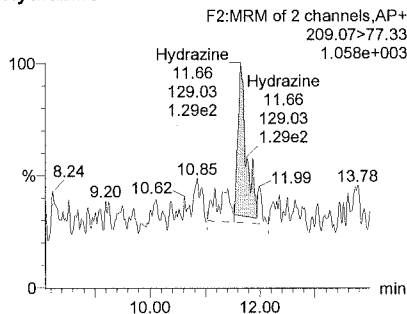
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Lab: , Name: HYD_3206_002, ID: MDL / SYS Hyd3166 0.20DA, Date: 15-Nov-2016, Time: 12:36:22, Task:

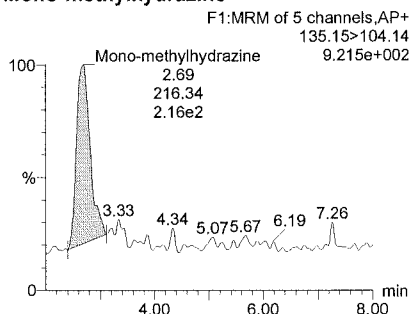
Hydrazine



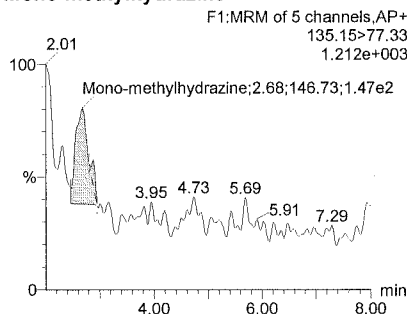
Hydrazine



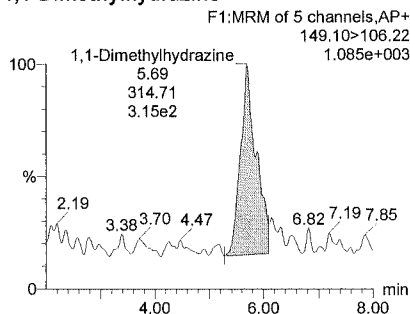
Mono-methylhydrazine



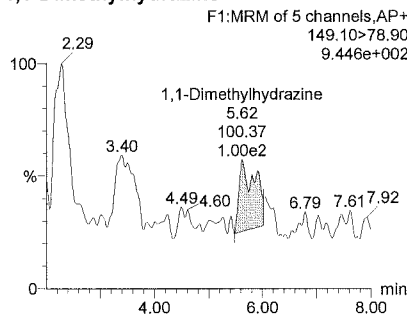
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area Detecti...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.66	248.087	MM	0.0	-2.3 0.05 1.0
2	2 Mono-methylhydra...	135.15>104.14	2.69	216.342	bb	0.4	51.1 0.38 1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.69	314.715	MM	0.4	49.2 0.37 1.0

Analysts/Date _____ Verifier/Date _____

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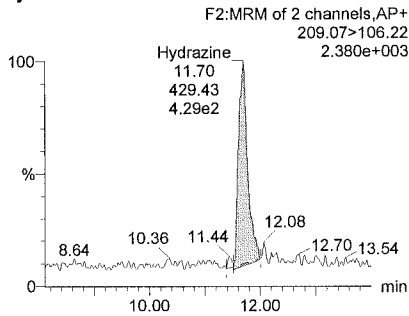
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

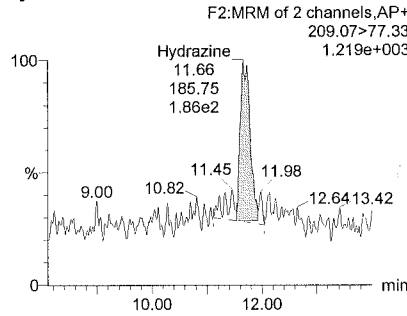
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Lab: , Name: HYD_3206_003, ID: STD 1 Hyd3166 0.20DA, Date: 15-Nov-2016, Time: 12:53:50, Task:

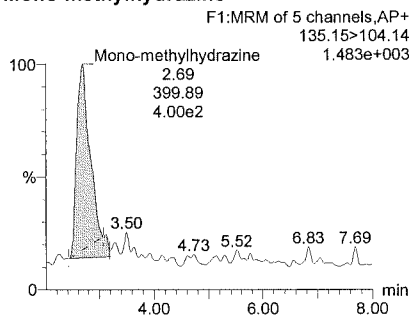
Hydrazine



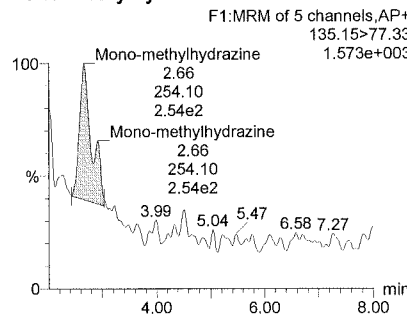
Hydrazine



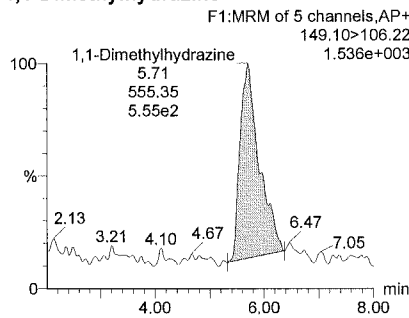
Mono-methylhydrazine



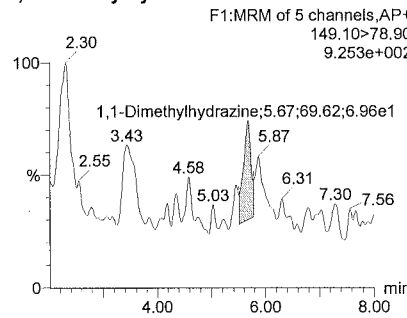
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.70	429.430	MM	0.1	27.1	0.13	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.69	399.890	MM	0.6	28.9	0.64	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.71	555.348	bb	0.6	22.0	0.61	1.0

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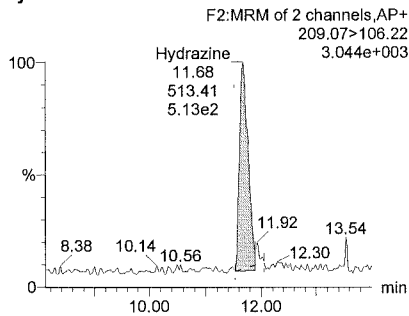
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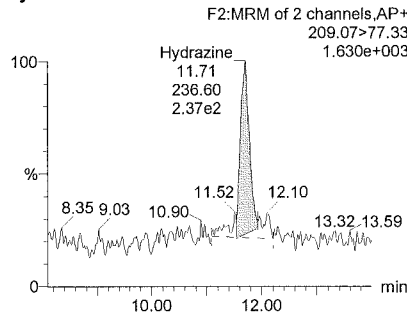
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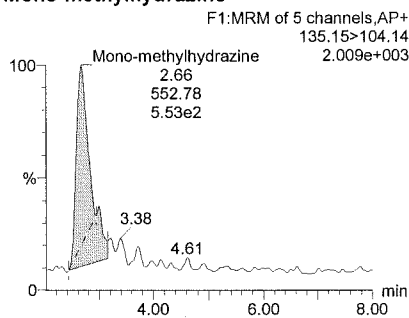
Hydrazine



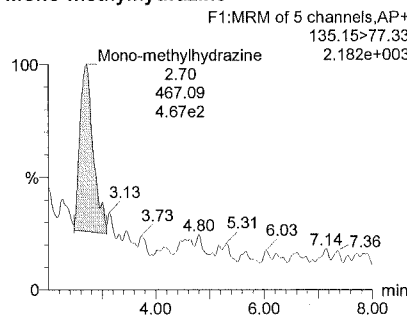
Hydrazine



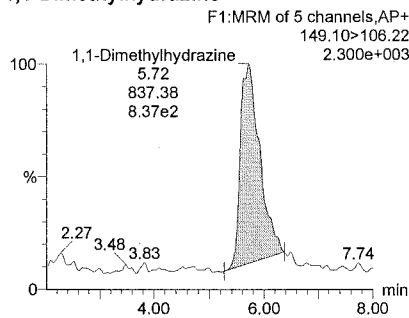
Mono-methylhydrazine



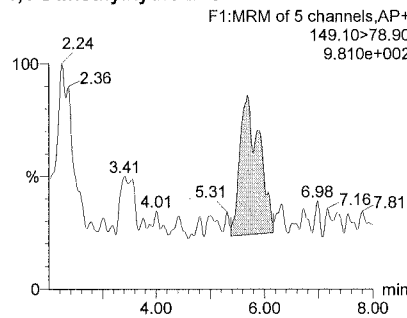
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detect...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	513.411	MM	0.2	-18.3	0.16	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.66	552.785	MM	0.9	-13.3	0.87	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.72	837.380	bb	0.9	-11.3	0.89	1.0

Analysts/Date _____ Verifier/Date _____

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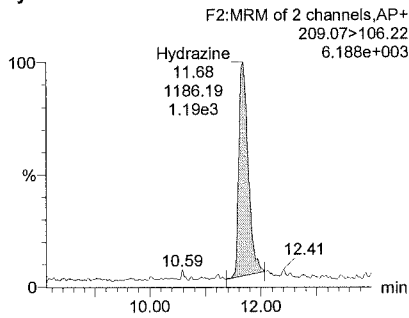
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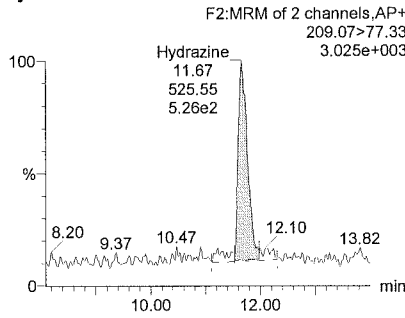
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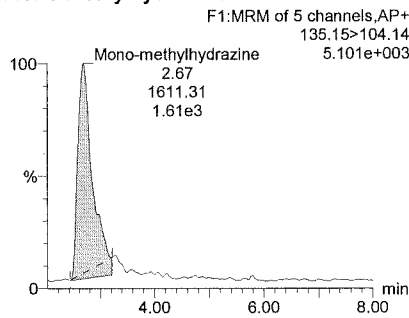
Hydrazine



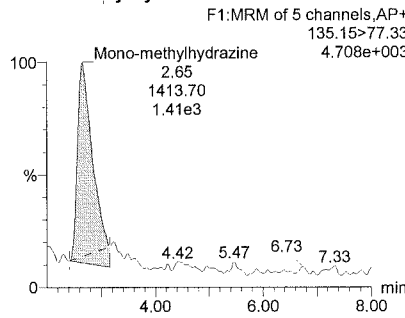
Hydrazine



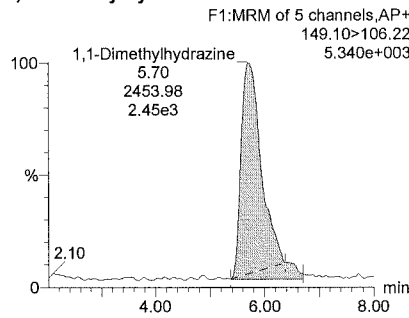
Mono-methylhydrazine



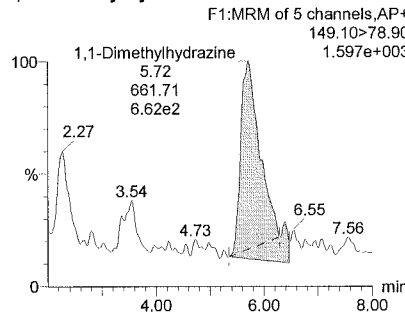
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine

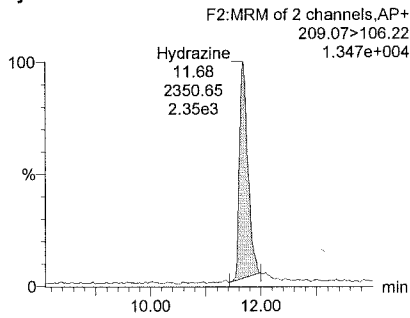


#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	1186.189	bb	0.5	-9.2	0.45	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.67	1611.305	MM	2.4	-3.8	2.40	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.70	2453.982	MM	2.5	-0.9	2.48	1.0

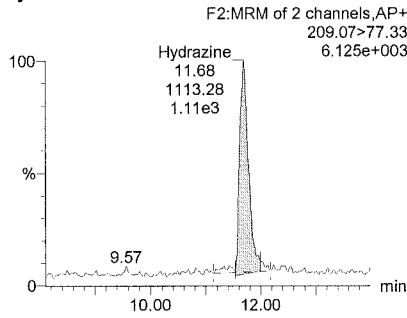
Analysts/Date _____ Verifier/Date _____

Lab: , Name: HYD_3206_006, ID: STD 4 Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 13:46:14, Task:

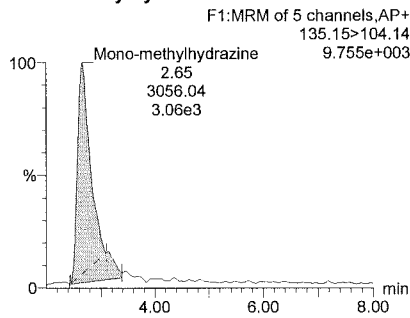
Hydrazine



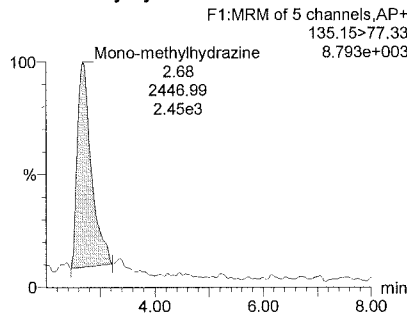
Hydrazine



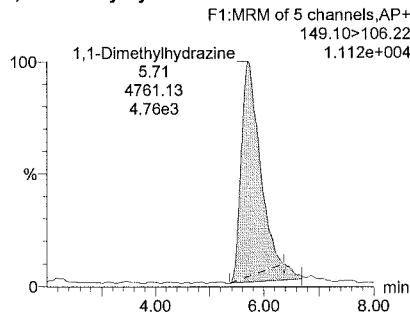
Mono-methylhydrazine



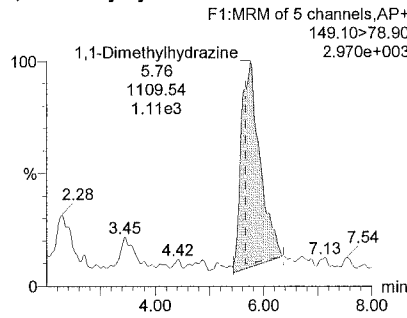
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	2350.648	bb	1.0	-4.3	0.96	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.65	3056.038	MM	4.5	-9.9	4.50	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.71	4761.132	MM	4.7	-5.0	4.75	1.0

Analysts/Date _____ Verifier/Date _____

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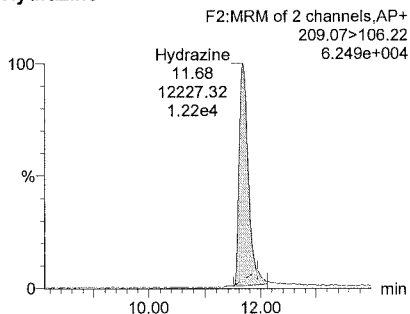
Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

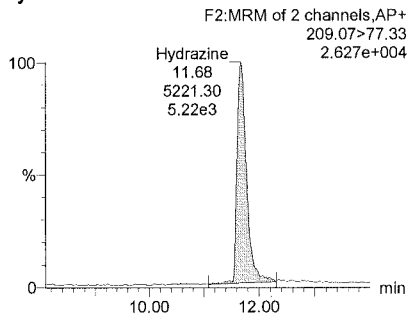
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_007, ID: STD 5 Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 14:03:42, Task:

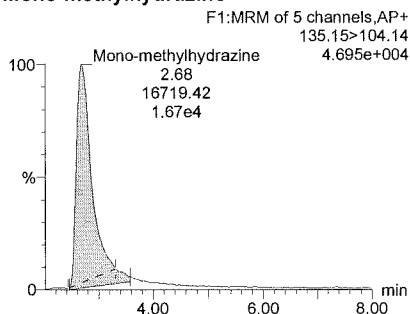
Hydrazine



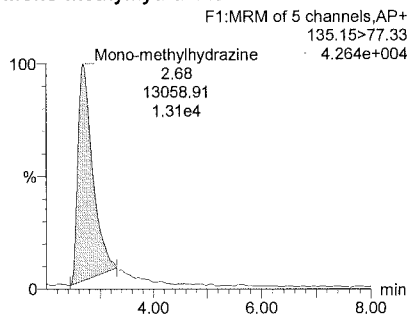
Hydrazine



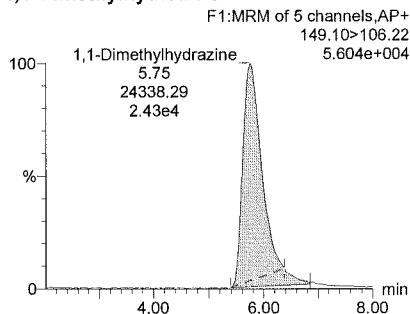
Mono-methylhydrazine



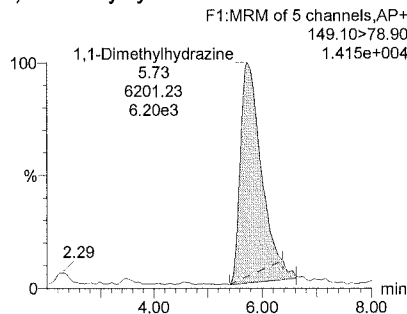
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



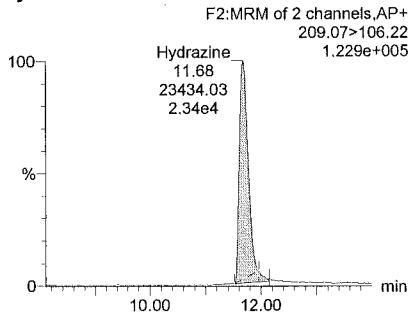
#	Name	Trace	RT	Area Detecti...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	12227.317	MM 5.2	4.4	5.22 1.0
2	2 Mono-methylhydra...	135.15>104.14	2.68	16719.418	MM 24.4	-2.6	24.36 1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.75	24338.295	MM 24.0	-3.9	24.02 1.0

Analysts/Date _____ Verifier/Date _____

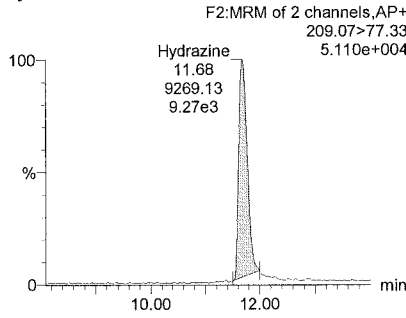
Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_008, ID: STD 6 Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 14:21:10, Task:

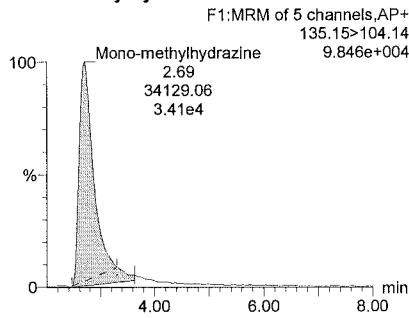
Hydrazine



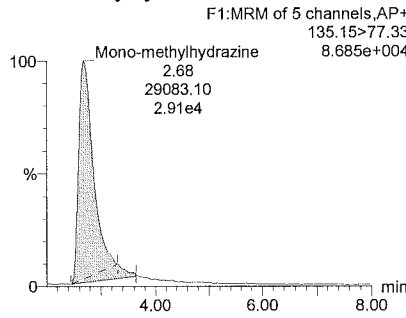
Hydrazine



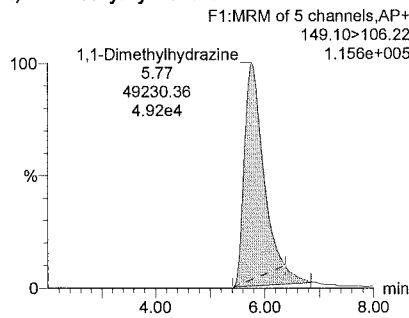
Mono-methylhydrazine



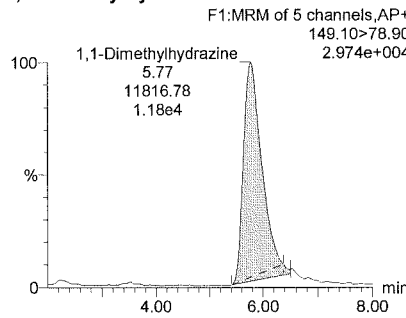
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	23434.031	MM	10.1	0.6	10.06	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.69	34129.055	MM	49.7	-0.7	49.66	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.77	49230.355	MM	48.5	-3.0	48.52	1.0

Analysts/Date _____ Verifier/Date _____

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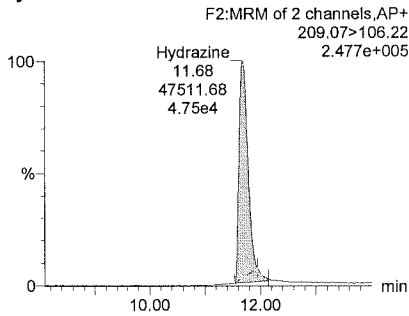
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

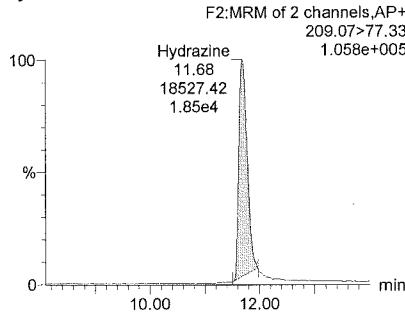
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_009, ID: STD 7 Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 14:38:38, Task:

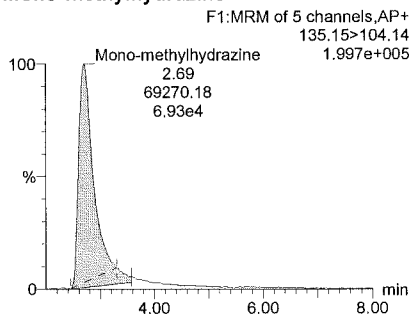
Hydrazine



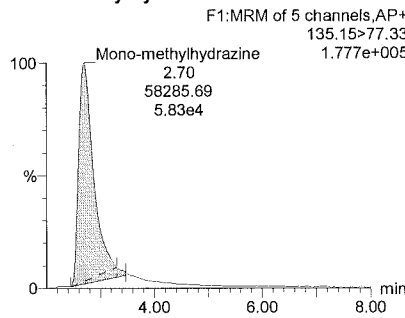
Hydrazine



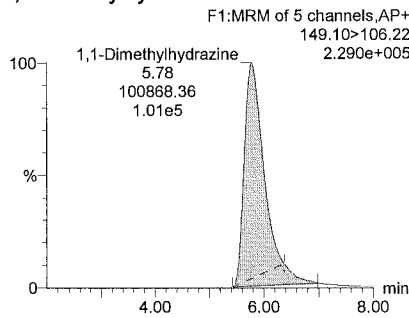
Mono-methylhydrazine



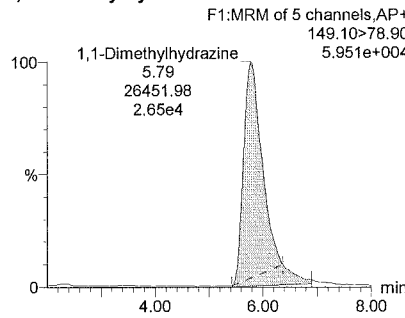
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	47511.684	MM	20.5	2.3	20.45	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.69	69270.180	MM	100.7	0.7	100.72	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.78	100868.359	MM	99.3	-0.7	99.34	1.0

Analysts/Date _____ Verifier/Date _____

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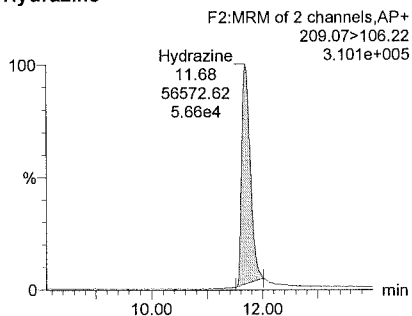
Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

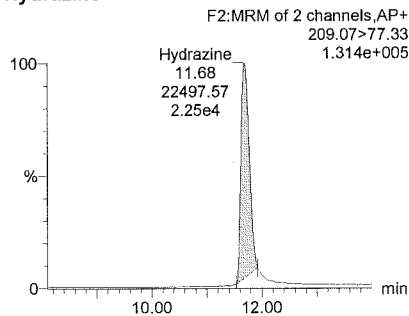
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_010, ID: STD 8 Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 14:56:05, Task:

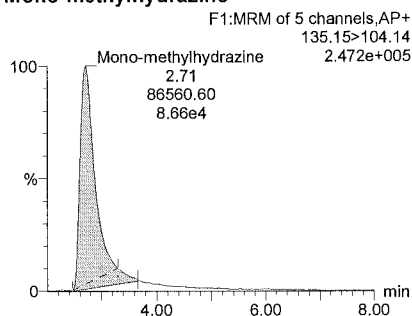
Hydrazine



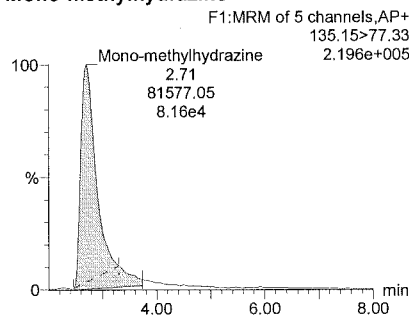
Hydrazine



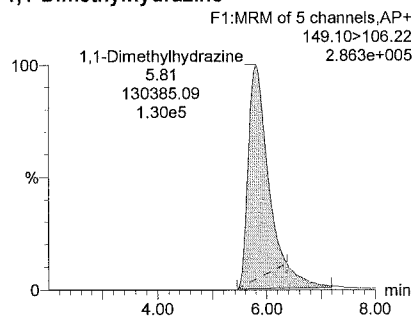
Mono-methylhydrazine



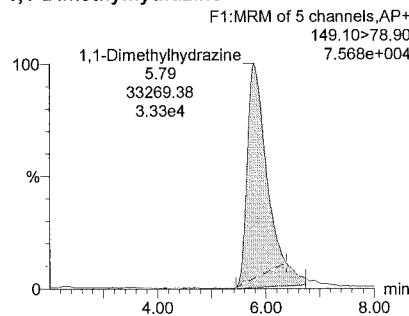
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



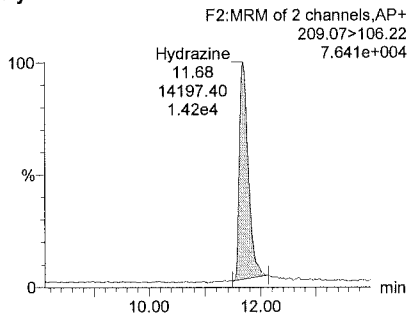
#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	56572.617	bb	24.4	-2.5	24.37	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.71	86560.602	MM	125.8	0.7	125.84	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.81	130385.094	MM	128.4	2.7	128.40	1.0

Analysts/Date _____ Verifier/Date _____

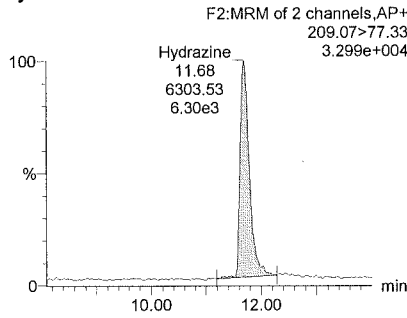
Eurofins Lancaster Laboratories Environmental
 Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_011, ID: ICV Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 15:13:33, Task:

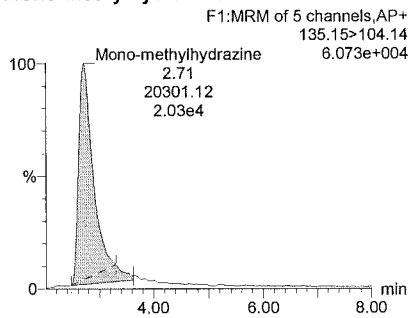
Hydrazine



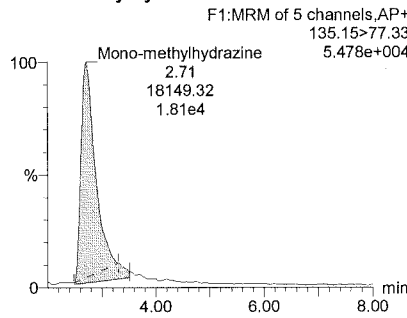
Hydrazine



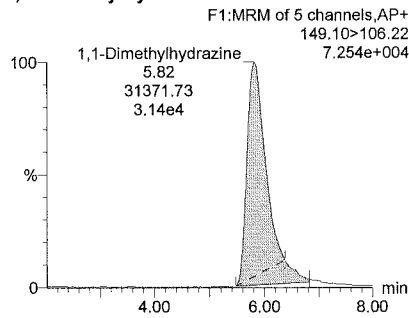
Mono-methylhydrazine



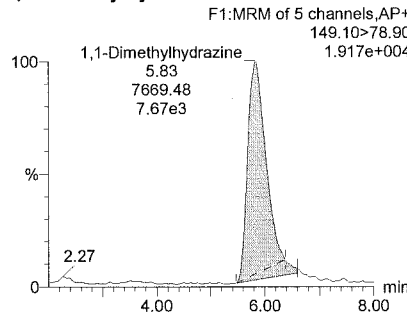
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



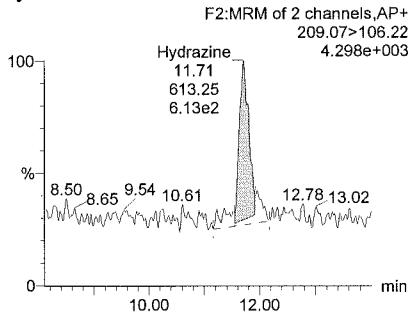
#	Name	Trace	RT	Area	Detect...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	14197.398	bb	6.1	1.2	6.07	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.71	20301.117	MM	29.6	-1.5	29.56	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.82	31371.730	MM	30.9	3.1	30.94	1.0

Analysts/Date _____ Verifier/Date _____

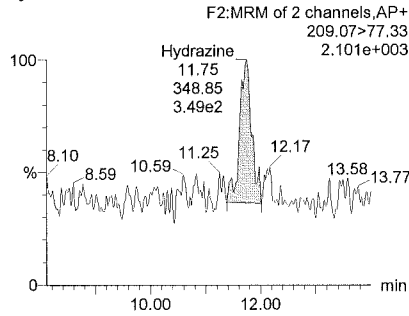
Eurofins Lancaster Laboratories Environmental
 Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_012, ID: ICB Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 15:31:01, Task:

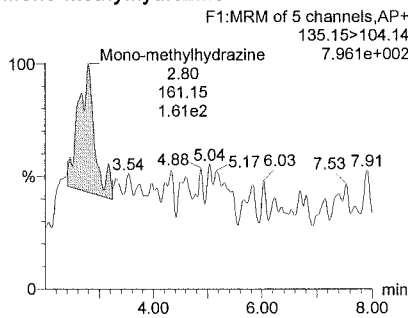
Hydrazine



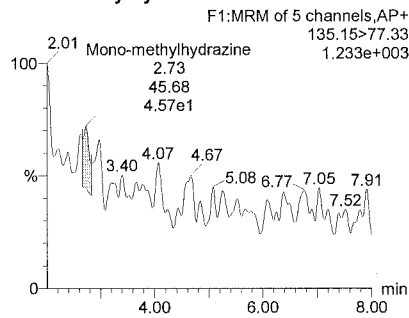
Hydrazine



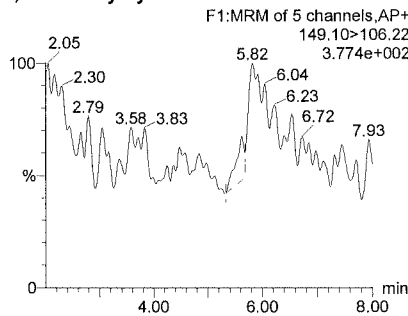
Mono-methylhydrazine



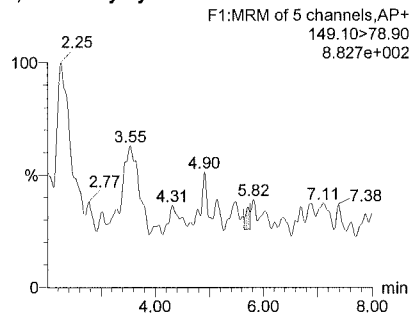
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area Detecti...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.71	613.246 MM	0.2		0.21 1.0
2	2 Mono-methylhydra...	135.15>104.14	2.80	161.145 MM	0.3		0.30 1.0
3	3 1,1-Dimethylhydra...	149.10>106.22		MM-			1.0

Analysts/Date _____ Verifier/Date _____

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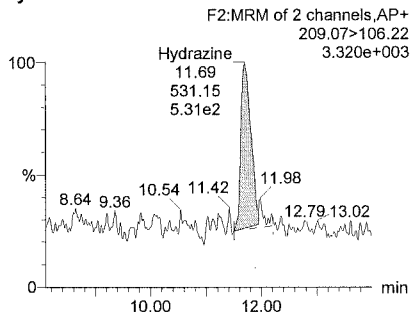
Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

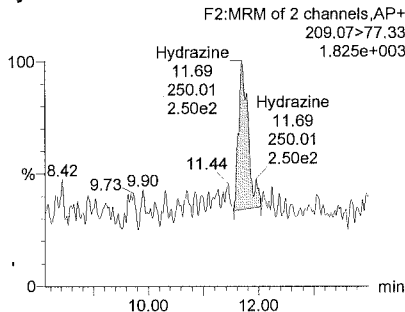
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_013, ID: MDL Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 15:48:29, Task:

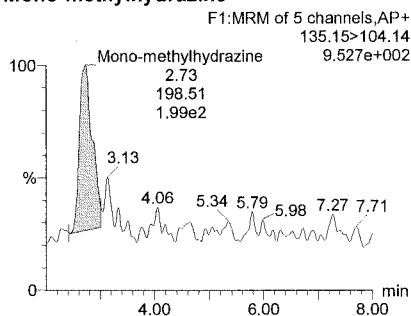
Hydrazine



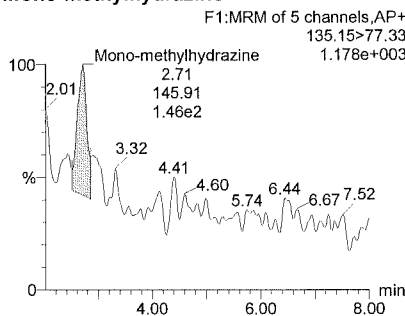
Hydrazine



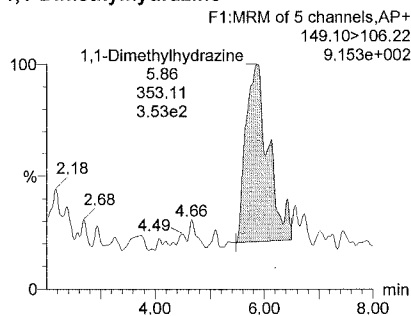
Mono-methylhydrazine



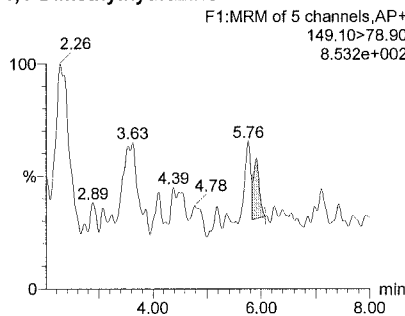
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL - Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	531.154	MM	0.2	242.1	0.17 1.0
2	2 Mono-methylhydra...	135.15>104.14	2.73	198.508	MM	0.4	40.8	0.35 1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.86	353.107	MM	0.4	64.3	0.41 1.0

Analysts/Date _____ Verifier/Date _____

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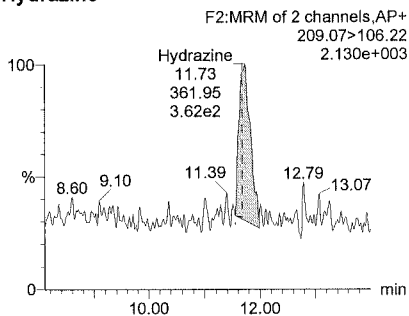
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

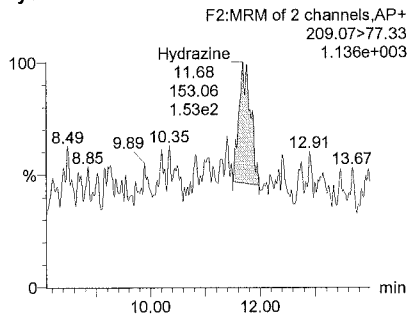
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_014, ID: Blank 16316002 0.20 DA, Date: 15-Nov-2016, Time: 16:05:57, Task:

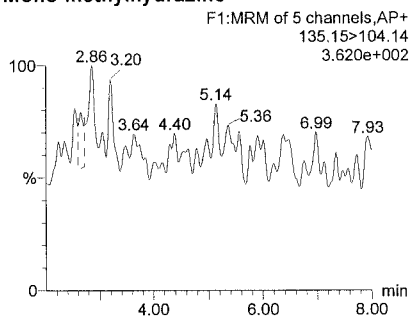
Hydrazine



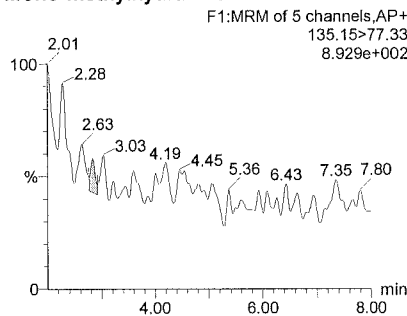
Hydrazine



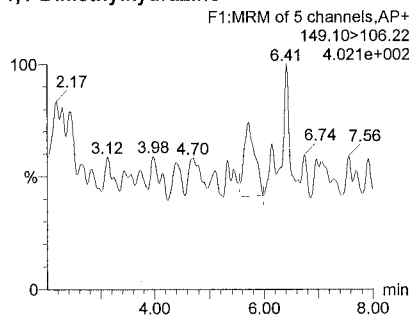
Mono-methylhydrazine



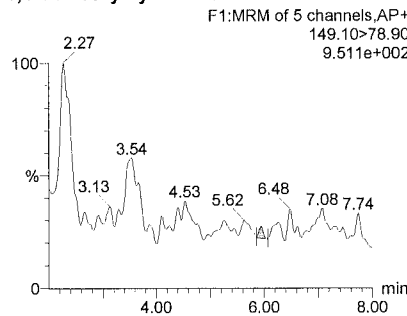
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detect...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.73	361.953	MM	0.1		0.10	1.0
2	2 Mono-methylhydra...	135.15>104.14			MM-				1.0
3	3 1,1-Dimethylhydra...	149.10>106.22			MM-				1.0

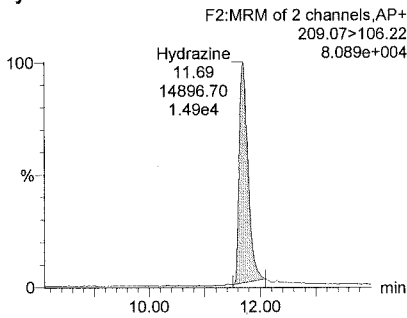
81 F.P. Area of peak
 2 Area of MDL Standard
 7/133
 11/30/16

Analysts/Date _____ Verifier/Date _____

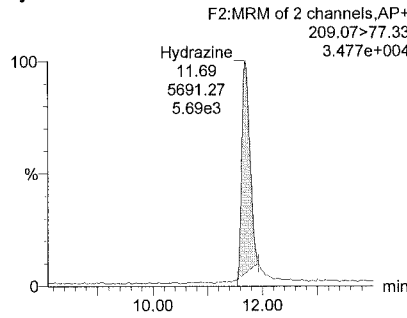
Eurofins Lancaster Laboratories Environmental
 Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_015, ID: LCS 16316002 0.20 DA, Date: 15-Nov-2016, Time: 16:23:25, Task:

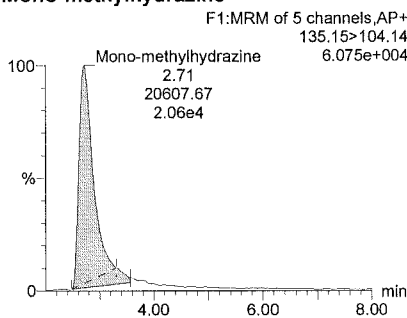
Hydrazine



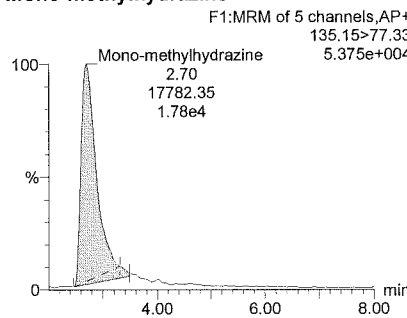
Hydrazine



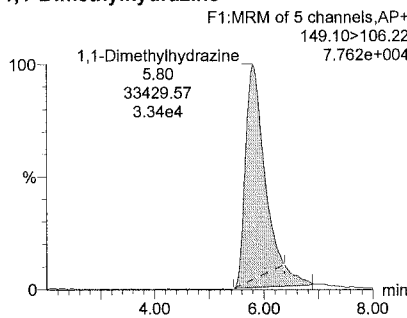
Mono-methylhydrazine



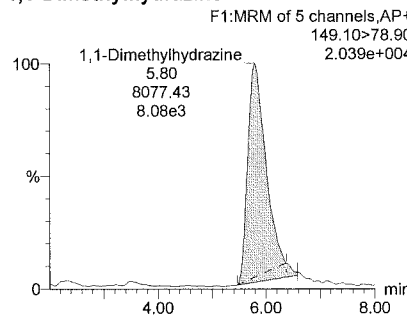
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



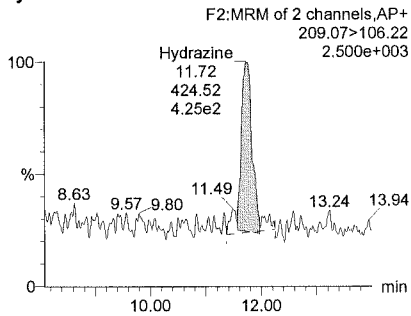
#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	14896.695	bb	6.4	6.2	6.37	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.71	20607.666	MM	30.0	0.0	30.01	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.80	33429.566	MM	33.0	9.9	32.97	1.0

Analysts/Date _____ Verifier/Date _____

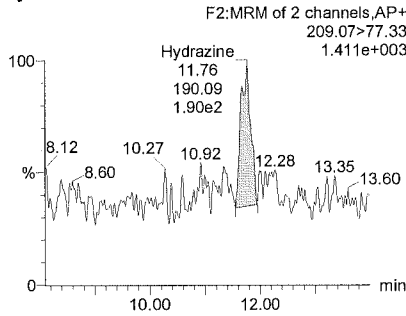
Eurofins Lancaster Laboratories Environmental
 Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld
 Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time
 Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_016, ID: 8689742 16316002 0.20 DA, Date: 15-Nov-2016, Time: 16:40:52, Task:

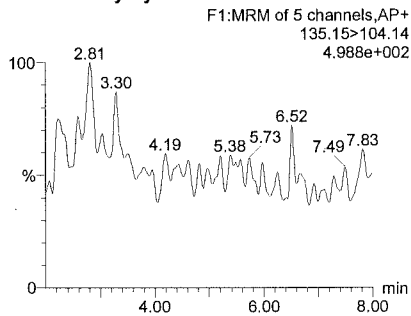
Hydrazine



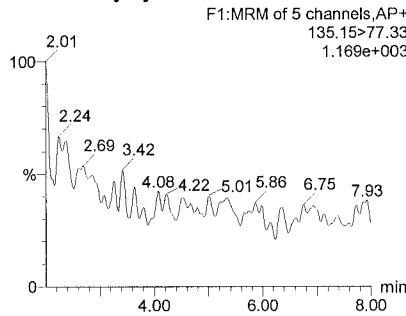
Hydrazine



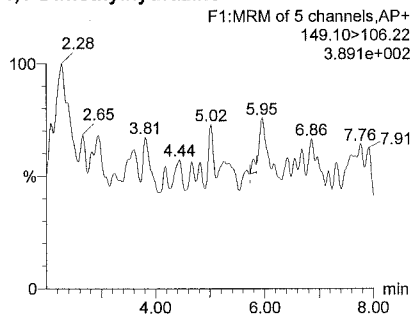
Mono-methylhydrazine



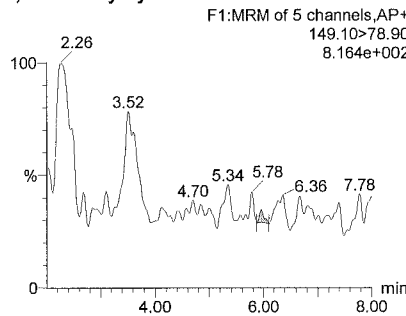
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detect...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.72	424.523	MM	0.1		0.13
2	2 Mono-methylhydra...	135.15>104.14						1.0
3	3 1,1-Dimethylhydra...	149.10>106.22			MM-			1.0

E.P. (8)
 Area of Peak < Area of
 MDL Standard
 T1135
 113016

Analysts/Date _____ Verifier/Date _____

Eurofins Lancaster Laboratories Environmental

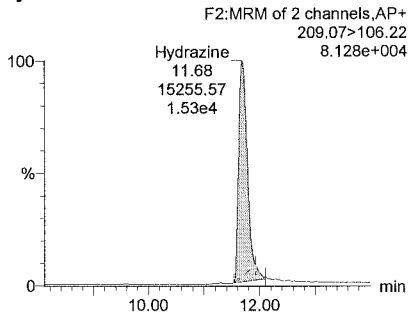
Dataset: C:\Projects\Hydrazine.PRO\Data\3206\hyd_3206_01.qld

Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

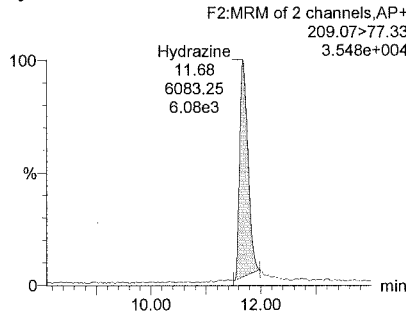
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_017, ID: 8689743 MS 16316002 0.20 DA, Date: 15-Nov-2016, Time: 16:58:20, Task:

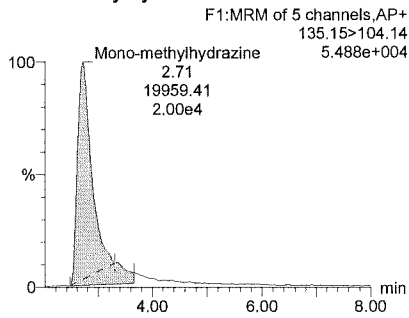
Hydrazine



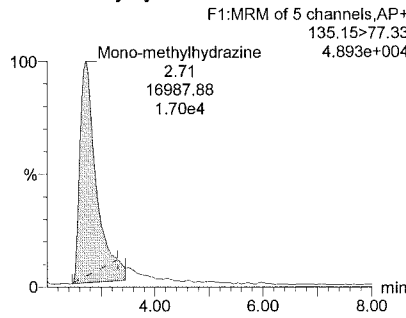
Hydrazine



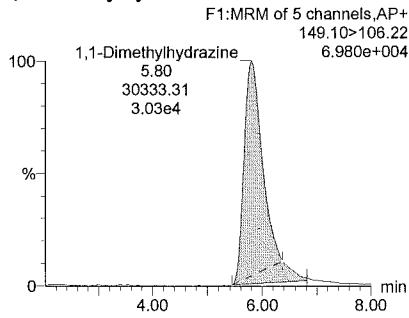
Mono-methylhydrazine



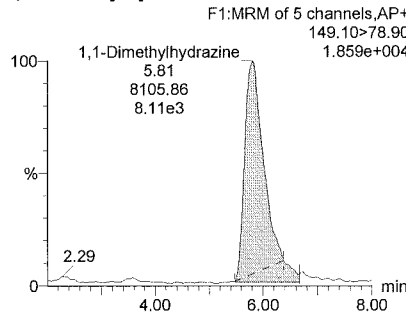
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	Hydrazine	209.07>106.22	11.68	15255.572	MM	6.5	8.8	6.53	1.0
2	Mono-methylhydra...	135.15>104.14	2.71	19959.408	MM	29.1	-3.1	29.07	1.0
3	1,1-Dimethylhydra...	149.10>106.22	5.80	30333.314	MM	29.9	-0.3	29.92	1.0

Analysts/Date _____ Verifier/Date _____

Eurofins Lancaster Laboratories Environmental

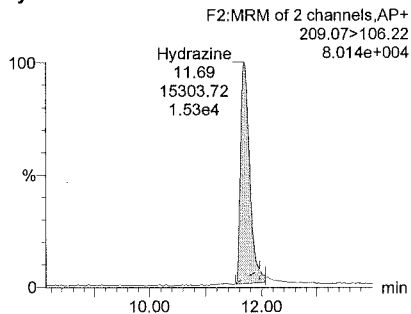
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

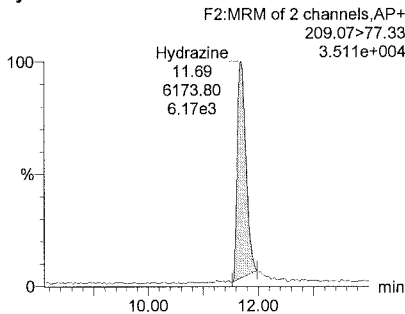
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_018, ID: 8689744 MSD 16316002 0.20 DA, Date: 15-Nov-2016, Time: 17:15:48, Task:

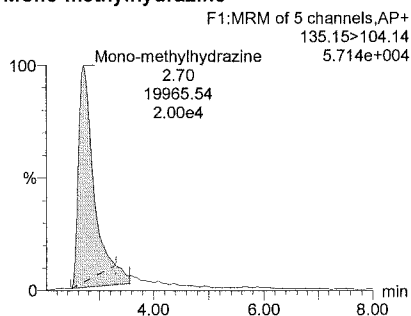
Hydrazine



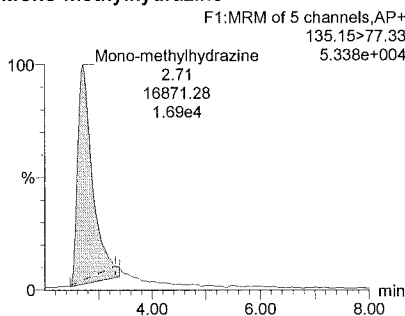
Hydrazine



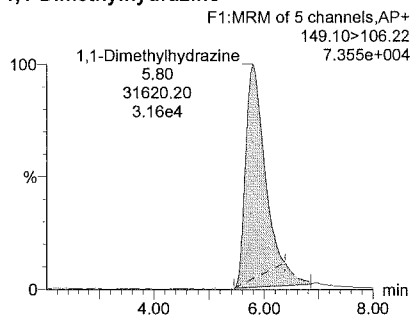
Mono-methylhydrazine



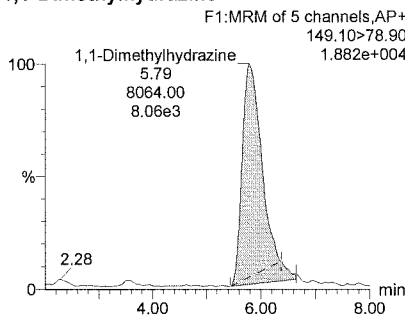
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area Detecti...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	15303.716	MM	6.5	9.1 6.55 1.0
2	2 Mono-methylhydra...	135.15>104.14	2.70	19965.539	MM	29.1	-3.1 29.08 1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.80	31620.195	MM	31.2	4.0 31.19 1.0

Analysts/Date _____ Verifier/Date _____

Eurofins Lancaster Laboratories Environmental

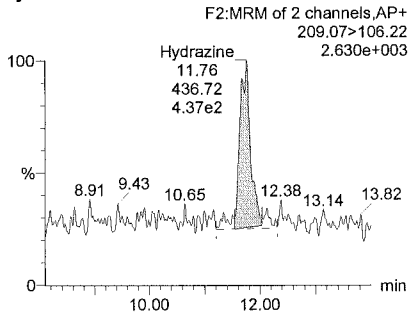
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

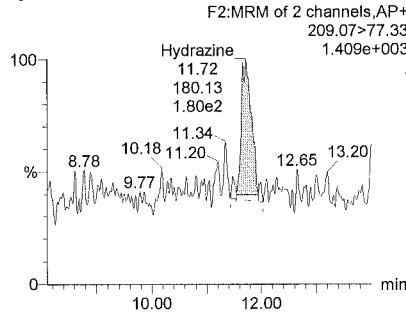
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_019, ID: 8689745 16316002 0.20 DA, Date: 15-Nov-2016, Time: 17:33:16, Task:

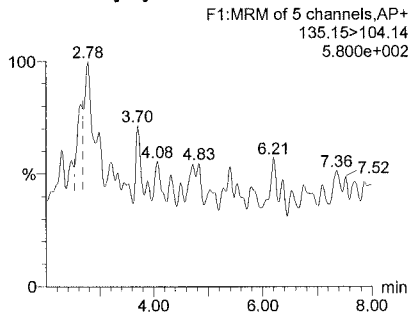
Hydrazine



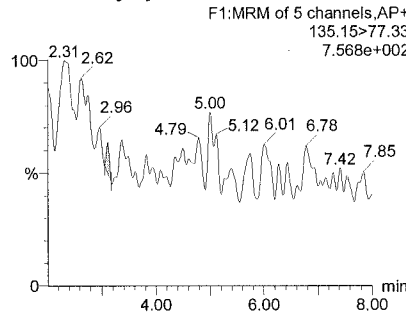
Hydrazine



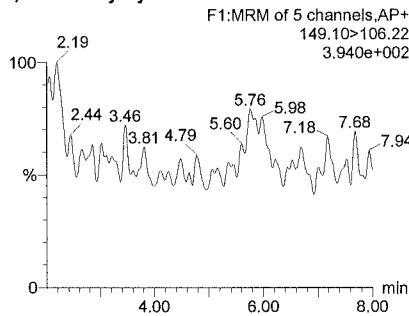
Mono-methylhydrazine



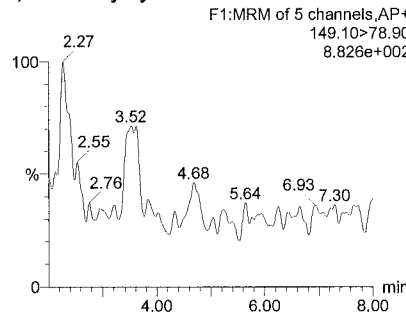
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area Detectl...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.76	436.717	MM	0.1	0.13 1.0
2	2 Mono-methylhydra...	135.15>104.14			MM-		1.0
3	3 1,1-Dimethylhydra...	149.10>106.22					1.0

F.P. Area of peak < area of MDC STD

*TVB
113016*

Analysts/Date _____ Verifier/Date _____

Eurofins Lancaster Laboratories Environmental

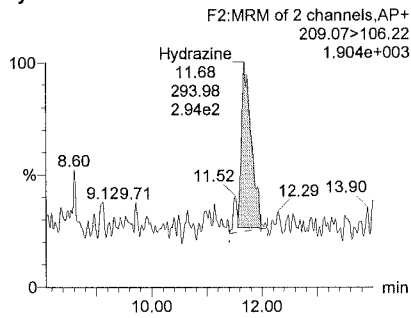
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

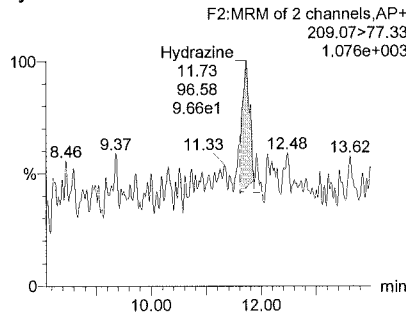
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_020, ID: 8689746 16316002 0.20 DA, Date: 15-Nov-2016, Time: 17:50:44, Task:

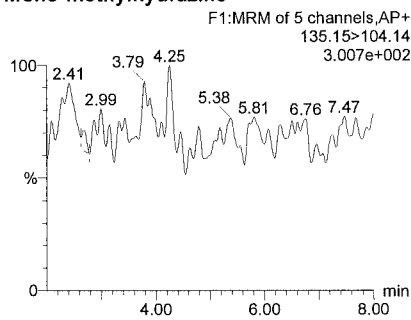
Hydrazine



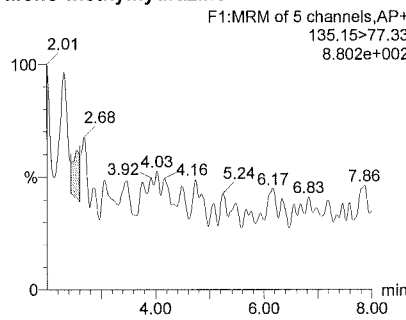
Hydrazine



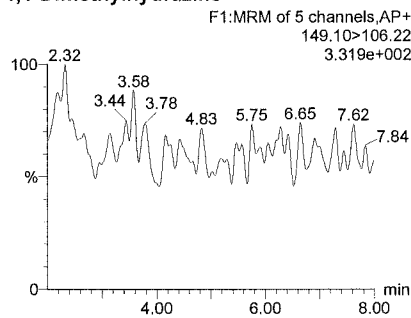
Mono-methylhydrazine



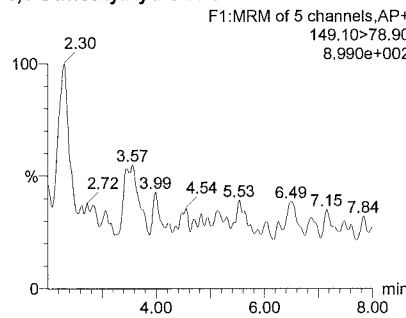
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area Detecti...	ng/mL	%Dev	ng/mL Dil Fac...
1	1 Hydrazine	209.07>106.22	11.68	293.977	MM	0.1	0.07 1.0
2	2 Mono-methylhydra...	135.15>104.14			MM-		1.0
3	3 1,1-Dimethylhydra...	149.10>106.22					1.0

*F.P. Area of peak <
area of MDL STD
7/13/16
11/30/16*

Analysts/Date _____ Verifier/Date _____

Eurofins Lancaster Laboratories Environmental

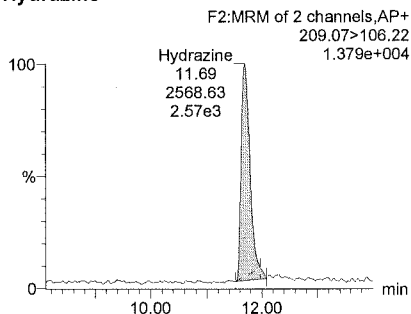
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Last Altered: Monday, November 21, 2016 12:03:09 Eastern Standard Time

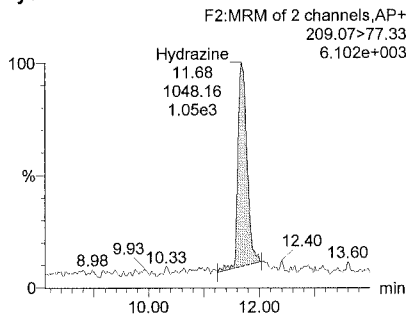
Printed: Monday, November 21, 2016 12:16:41 Eastern Standard Time

Lab: , Name: HYD_3206_021, ID: STD 4 Hyd3166 0.20 DA, Date: 15-Nov-2016, Time: 18:08:11, Task:

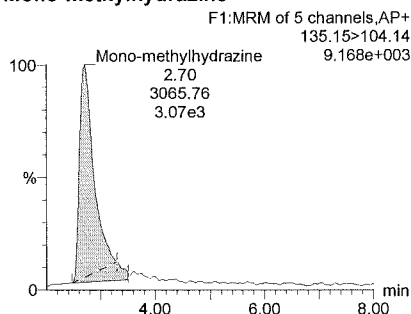
Hydrazine



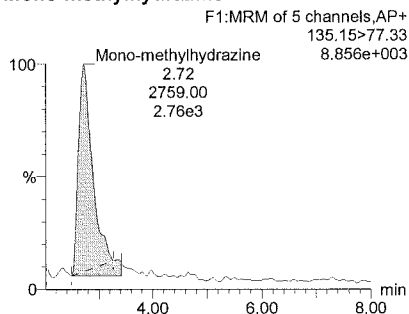
Hydrazine



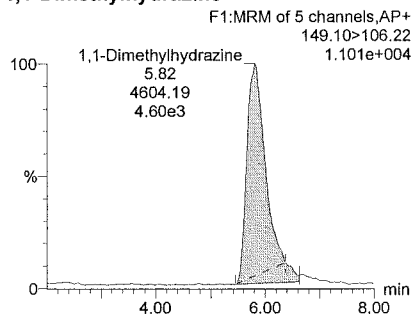
Mono-methylhydrazine



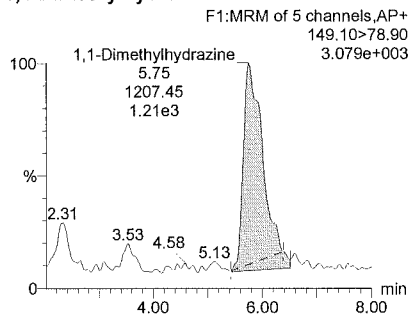
Mono-methylhydrazine



1,1-Dimethylhydrazine



1,1-Dimethylhydrazine



#	Name	Trace	RT	Area	Detecti...	ng/mL	%Dev	ng/mL	Dil Fac...
1	1 Hydrazine	209.07>106.22	11.69	2568.634	MM	1.1	5.1	1.05	1.0
2	2 Mono-methylhydra...	135.15>104.14	2.70	3065.760	MM	4.5	-9.6	4.52	1.0
3	3 1,1-Dimethylhydra...	149.10>106.22	5.82	4604.191	MM	4.6	-8.1	4.59	1.0

Analysts/Date _____ Verifier/Date _____

Preparation Logs

Hydrazines by LC/MS/MS

Organic Extraction Batchlog

Assigned to: 8886 Alex Barton

Reviewed by: MP1158

Start Date: 11-14-16

Start time: 0400

16316002

Tech 1: TJ503

Tech 2: _____

Dept: 37 Prep Analysis: 00000

Hydrazines in Water

QC	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
8889743MS	RVN11	0.80			SSWS 316	0.010	1.0	5	7	145A	
8889744MSD	RVN11	0.80			SSWS 316	0.010	1.0	5	7	145A	
BLANKA	BLK316002	0.80					1.0	5	7		
LCSA	OPR316002	0.80			SS WS 316	0.010	1.0	5	7		

Solvent Used	Lot No.
1% Benzaldehyde	2336
0.20M Acetic Acid	383 111416374

Sample #	Sample Code	Amt (mL)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	List	Due Date	Prio
1	8889742BKG	RVN11	0.80		1.0	5	7	145A		10342	15584	11/23/2016	N
2	8889745	RVN12	0.80		1.0	5	7	145A		10342	15584	11/23/2016	N
3	8889746	RVN13	0.80		1.0	5	7	145A		10342	15584	11/23/2016	N

⑧ 0.010 mL of SS WS 316 spikes solution to 1.0 mL of sample/diluent. 0.80 mL of spiked sample to 1.0 mL with DA (0.20 mL) TJSN 11/16/16

Pipet SP1000-1 TJSN 11/17/16

Bench#	Bench#	Bench#
Rack ID:	Work Station	Micro Temp
Internal Standard	Balance #	100?

R-VAP ID	C	R-VAP ID	C	R-VAP ID	C	R-VAP ID	C	M-vap	C
S-bath ID	2	S-bath ID	2	S-bath ID	2	S-bath ID	2		