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

FILE COPY

CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY: Faye Cunningham 2/10/11

Type I Data Package for Olin Corporation

SDG# OLN22

Project: Olin Wilmington, MA Superfund Site/6107090016
Soil Samples
Collected on 09/02/09

GROUP	SAMPLE NUMBERS
1160616	5769175-5769180

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Prepared by Jacqueline Tellenbaum
Reviewed by Dorothy M Love
Date 12/9/09

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Sample Reference List for SDG Number OLN22 with a Data Package Type of I

12670 - Olin Corporation

Project: Olin Wilmington, MA Superfund Site/6107090016

Lab Sample Number	Lab Sample Code	Client Sample Description
5769175	O465D	OC-SB-465-8.0/10-DUP Grab Soil
5769176	O4658	OC-SB-465-8.0/10-XXX Grab Soil
5769177	O4658	OC-SB-465-8.0/10-XMS Grab Soil
5769178	O4658	OC-SB-465-8.0/10-MSD Grab Soil
5769179	O4688	OC-SB-468-8.0/10-XXX Grab Soil
5769180	O4713	OC-SB-471-3.0/5.0-XXX Grab Soil

Acct# 12670
Grp# 1160616
Sample# 5769175-80

Lancaster - Soil

Client:	Olin Corporation	Client Project #:	6107090016
Address:	3855 North Ocoee St. Suite 200	Work Site ID:	Wilmington, MA
	Cleveland, TN 37312	Reports Sent To:	Steve Morrow
Phone:	423-336-4511	Fax:	423-336-1466
Email	SGMorrow@olin.com	Email Rpt:	

Requested Turnaround Time (SPECIFY): Standard ____ Rush ____ (Lab Approval Required)

Regulatory Programs: MADEP MCP ____ Superfund ____

Report Requirements Level IV Package ____ Level II Package ____

EDD Requirements: MACTEC EQUIS EZ EDD ____

INVOICE INFO — Shaded Areas for office use only.

Company Name: Olin Corp

Company Contact: ERG Accounts Payable

Address: Same as Client

Phone: Email

Job # ____ Quote # ____

Lab SDG # ____ PO # ____

MACTEC

Sample ID	Date/Time Collected	Fraction (1)	QC Code (2)	Sample Matrix (3)	Composite (C) or Grab (G)	Total # of Containers	Cr+6 (3060A / 7199)	Cr+6 (7199)	DMF (Mod 8033 - GC/NPD)	DMF (Mod 8033 - GC/NPD)	Opex / Kempore (8000B - HPLC)	Perchlorate (6850)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Comments (Special Instructions)
							G	P	G	V	V	V	AG	AV	<--Preservative Type (4) / <--Bottle Type (5)
OC-SB-459-0.0/1.0-XXX	9/3/2009 11:10:00	T	FS	SO	G	1							X		Category 1

Special Instructions For Lab

Notes:

1.) Fraction: T = Total, D = Dissolved, S = SPLP, C = TCLP, N = Not Applicable

2.) QC Codes: FS = Field Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike, MSD = Matrix Spike Duplicate, PE = Performance Evaluation Sample, FB = Field Blank

3.) Sample Matrix: GW = Groundwater, SW = Surface Water, DW = Drinking Water SO = Soil, SD = Sediment, BW = Blank Water, NAL = Non-Aqueous Liquid, PR = Product, O = Oil

4.) Preservation Type: HA = Hydrochloric Acid, NI = Nitric Acid, SA = Sulfuric Acid, SH = Sodium Hydroxide, Zn = Zinc Acetate, ME = Methanol, DI = DI Water

5.) Bottle Type: G = Glass, P = Plastic, V = 40mL VOA Glass Vial, AG = Amber Glass, AV = 40mL VOA Amber Glass Vial,

MADEP Requirement: Cooler? (Y) / N; Samples Iced? (Y) / N; Temp @ receipt: 6.9-10.9 Deg C; Preservation / pH checked? Y / N (N/A); By: RLR; Date: 9/8/09

Relinquished: [signature] Date: 09/03/09 Time: 1700 Received: ____ Date: __/__/__ Time: ____

Relinquished: ____ Date: __/__/__ Time: ____ Received: [signature] Date: 9/4/09 Time: 0905

Acct# 12670
Grp# 11600616
Sample# 5769175-80

Lancaster-Soil

MACTEC

Sample ID	Date/Time Collected	Fraction (1)	QC Code (2)	Sample Matrix (3)	Composite (C) or Grab (G)	Total # of Containers	Cr+6 (3060A / 7199)	Cr+6 (7199)	DMF (Mod 8033 - GC/NPD)	DMF (Mod 8033 - GC/NPD)	Opex / Kempore (8000B - HPLC)	Perchlorate (6850)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Comments (Special Instructions)
							G	P	G	V	V	V	AG	Zn AV	<--Preservative Type (4) <--Bottle Type (5)
OC-SB-459-26/28-XXX	9/3/2009 12:25:00	T	FS	SO	G	1							X		Category 3
OC-SB-459-6.0/8.0-DUP	9/3/2009 11:30:00	T	FD	SO	G	1							X		Category 2
OC-SB-459-6.0/8.0-MSD	9/3/2009 11:30:00	T	MSD	SO	G	1							X		Category 2 Same Jar as the MS
OC-SB-459-6.0/8.0-XMS	9/3/2009 11:30:00	T	MS	SO	G	1							X		Category 2
OC-SB-459-6.0/8.0-XXX	9/3/2009 11:30:00	T	FS	SO	G	1							X		Category 2
OC-SB-465-0.0/1.0-XXX	9/2/2009 7:35:00 AM	T	FS	SO	G	1							X		Category 1
OC-SB-465-16/18-XXX	9/2/2009 8:25:00 AM	T	FS	SO	G	1							X		Category 3

Special Instructions For Lab

Notes:

1.) Fraction: T = Total, D = Dissolved, S = SPLP, C = TCLP, N = Not Applicable

2.) QC Codes: FS = Field Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike, MSD = Matrix Spike Duplicate, PE = Performance Evaluation Sample, FB = Field Blank

3.) Sample Matrix: GW = Groundwater, SW = Surface Water, DW = Drinking Water SO = Soil, SD = Sediment, BW = Blank Water, NAL = Non-Aqueous Liquid, PR = Product, O = Oil

4.) Preservation Type: HA = Hydrochloric Acid, NI = Nitric Acid, SA = Sulfuric Acid, SH = Sodium Hydroxide, Zn = Zinc Acetate, ME = Methanol, DI = DI Water

5.) Bottle Type: G = Glass, P = Plastic, V = 40mL VOA Glass Vial, AG = Amber Glass, AV = 40mL VOA Amber Glass Vial.

Relinquished: [signature] Date: 09/03/09 Time: 1700 Received: _____ Date: __/__/__ Time: _____

Relinquished: _____ Date: __/__/__ Time: _____ Received: Kristi Zeff Date: 9/4/09 Time: 0905

Cooler ? Y / N MADEP Requirement Samples Iced Y N

Temp @ receipt: 6.9-10.9 Deg C

Preservation / pH checked? Y / N N/A

By: RLK Date: 9/8/09

Acct# 12670
Grp# 1160616
Sample# 5769175-80

Lancaster-Soil

MACTEC

Sample ID	Date/Time Collected	Fraction (1)	QC Code (2)	Sample Matrix (3)	Composite (C) or Grab (G)	Total # of Containers	Cr+6 (3060A / 7199)	Cr+6 (7199)	DMF (Mod 8033 - GC/NPD)	DMF (Mod 8033 - GC/NPD)	Opex / Kempore (8000B - HPLC)	Perchlorate (6850)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Comments (Special Instructions)
							G	P	G	V	V	V	AG	AV	<--Preservative Type (4) / <--Bottle Type (5)
OC-SB-465-8.0/10-DUP	9/2/2009 7:45:00 AM	T	FD	SO	G	1							X		Category 2
OC-SB-465-8.0/10-MSD	9/2/2009 7:45:00 AM	T	MSD	SO	G	1							X		Category 2 Same Jar as the MS
OC-SB-465-8.0/10-XMS	9/2/2009 7:45:00 AM	T	MS	SO	G	1							X		Category 2
OC-SB-465-8.0/10-XXX	9/2/2009 7:45:00 AM	T	FS	SO	G	1							X		Category 2
OC-SB-468-0.0/1.0-XXX	9/2/2009 10:05:00	T	FS	SO	G	1							X		Category 1
OC-SB-468-31/33-XXX	9/2/2009 11:00:00	T	FS	SO	G	1							X		Category 3
OC-SB-468-8.0/10-XXX	9/2/2009 10:10:00	T	FS	SO	G	1							X		Category 2

Special Instructions For Lab

Notes:

1.) Fraction: T = Total, D = Dissolved, S = SPLP, C = TCLP, N = Not Applicable

2.) QC Codes: FS = Field Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike, MSD = Matrix Spike Duplicate, PE = Performance Evaluation Sample, FB = Field Blank

3.) Sample Matrix: GW = Groundwater, SW = Surface Water, DW = Drinking Water SO = Soil, SD = Sediment, BW = Blank Water, NAL = Non-Aqueous Liquid, PR = Product, O = Oil

4.) Preservation Type: HA = Hydrochloric Acid, NI = Nitric Acid, SA = Sulfuric Acid, SH = Sodium Hydroxide, Zn = Zinc Acetate, ME = Methanol, DI = DI Water

5.) Bottle Type: G = Glass, P = Plastic, V = 40mL VOA Glass Vial, AG = Amber Glass, AV = 40mL VOA Amber Glass Vial,

Cooler? Y N | MADEP Requirement Samples Iced Y N
Temp @ receipt: 6.9-10.9 Deg C
Preservation / pH checked? Y / N (NA)
By: RLK Date: 9/8/09

Relinquished: [signature] Date: 09/03/09 Time: 1700 Received: _____ Date: __/__/__ Time: _____
Relinquished: _____ Date: __/__/__ Time: _____ Received: [signature] Date: 9/4/09 Time: 0905

Acct # 12670
Grp # 1160616
Sample # 5769175-80

Lacaster-Soil

MACTEC

Sample ID	Date/Time Collected	Fraction (1)	QC Code (2)	Sample Matrix (3)	Composite (C) or Grab (G)	Total # of Containers	Cr+6 (3060A / 7199)	Cr+6 (7199)	DMF (Mod 8033 - GC/NPD)	DMF (Mod 8033 - GC/NPD)	Opex / Kempore (8000B - HPLC)	Perchlorate (6850)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Comments (Special Instructions)
							G	P	G	V	V	V	AG	Zn AV	<--Preservative Type (4) <--Bottle Type (5)
OC-SB-471-0.0/1.0-XXX	9/2/2009 1:15:00 PM	T	FS	SO	G	1							X		Category 1
OC-SB-471-26/28-XXX	9/2/2009 2:30:00 PM	T	FS	SO	G	1							X		Category 3
OC-SB-471-3.0/5.0-XXX	9/2/2009 1:30:00 PM	T	FS	SO	G	1							X		Category 2

Special Instructions For Lab

Notes:

1.) Fraction: T = Total, D = Dissolved, S = SPLP, C = TCLP, N = Not Applicable

2.) QC Codes: FS = Field Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike, MSD = Matrix Spike Duplicate, PE = Performance Evaluation Sample, FB = Field Blank

3.) Sample Matrix: GW = Groundwater, SW = Surface Water, DW = Drinking Water SO = Soil, SD = Sediment, BW = Blank Water, NAL = Non-Aqueous Liquid, PR = Product, O = Oil

4.) Preservation Type: HA = Hydrochloric Acid, NI = Nitric Acid, SA = Sulfuric Acid, SH = Sodium Hydroxide, Zn = Zinc Acetate, ME = Methanol, DI = DI Water

5.) Bottle Type: G = Glass, P = Plastic, V = 40mL VOA Glass Vial, AG = Amber Glass, AV = 40mL VOA Amber Glass Vial,

Relinquished: [signature] Date: 09/03/09 Time: 1700 Received: _____ Date: __/__/__ Time: _____

Relinquished: _____ Date: __/__/__ Time: _____ Received: Kristin Zeigler Date: 9/4/09 Time: 0905

Cooler Y / N	MADEP Requirement
	Samples Iced Y / N
Temp @ receipt: 6.9-10.9 Deg C	
Preservation / pH checked? Y / N (NA)	
By: RLL	Date: 9/8/09

Olin Wilmington OU1 Soil Sampling Categories

There will be three categories of samples submitted to the laboratories during the soil sampling program based primarily on the depth of soil locations. These categories will be indentified in notes provided with the chain of custody submitted with samples. The following categories are included:

Category 1

Soil boring samples 0'-1': request that all samples are analyzed and reported in the normal project turnaround time (TAT).

Category 2

Soil boring samples from the 1'-10' interval: All samples are analyzed. Rush TAT is requested on a subset of analyses as indicated below:

VOCs: rush 7-day TAT
SVOCs: NDMA, and phthalic anhydride: normal 30-day TAT
DMF: normal 21-day TAT
Hydrazine: rush 7 day TAT
Metals: normal 30-day TAT (except mercury)
Mercury: 10 day TAT
Hexavalent Chromium: 10 day TAT
Formaldehyde/acetaldehyde: normal TAT
Anions: normal TAT
Ammonia: normal TAT

Category 3

Soil boring samples from >10 ft: Sample are held with analysis pending. For a subset of analyses the samples will be extracted and held by the lab pending instructions from MACTEC-Olin.

VOCs: hold pending results of Category 2
SVOCs: extract and hold pending results of Category 2
NDMA: extract and hold pending results of Category 2
DMF: extract and hold pending results of Category 2
Hydrazine: hold pending results of Category 2
Metals: hold pending results of Category 2
Mercury: hold pending results of Category 2
Hexavalent Chromium: hold pending results of Category 2
Phthalic anhydride: extract and hold pending results of Category 2
Formaldehyde/acetaldehyde: run normal TAT
Anions: run normal TAT
Ammonia: run normal TAT

For rush TAT samples the laboratory will provide preliminary results with a narrative and sample results summary report. The lab will also provide data on a preliminary data EDD. Final result and supporting data packages will be provided in the normal TAT for the project.

OLN22. 0004

Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Olin Corporation

Date of Receipt: 9-4-09

Time of Receipt: 0905

Source Code: 50-1

Unpacker Emp. No.: 2123

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	03106	6.9-10.9	ST	WI	Y	B	TB frozen
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

High temp - called Nicole

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
Kristin Zugh	9-4-09	1050	Unpacking / to Storage
Kristin Zugh	9-4-09	1303	Place in Storage or (Entry)
			Entry
			Entry

OLN22 8897

2174.04

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10346 Hydrazines in Soil

The soil is extracted with a buffer solution of known pH. An aliquot of the supernatant is derivatized and directly analyzed by HPLC/MS/MS.

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

00111 Moisture
00118 Moisture
00121 Moisture Duplicate

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

Lancaster Laboratories

ANALYTICAL RESULTS

Prepared for:

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

423-336-4000

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

September 14, 2009

SAMPLE GROUP

The sample group for this submittal is 1160616. Samples arrived at the laboratory on Friday, September 04, 2009. The PO# for this group is REWI0012 and the release number is ERRE9813.

Client Description	Lancaster Labs Number
OC-SB-465-8.0/10-DUP Grab Soil	5769175
OC-SB-465-8.0/10-XXX Grab Soil	5769176
OC-SB-465-8.0/10-XMS Grab Soil	5769177
OC-SB-465-8.0/10-MSD Grab Soil	5769178
OC-SB-468-8.0/10-XXX Grab Soil	5769179
OC-SB-471-3.0/5.0-XXX Grab Soil	5769180

METHODOLOGY

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

ELECTRONIC COPY TO	Olin Corporation	Attn: Steve Morrow
ELECTRONIC COPY TO	MACTEC	Attn: Kelly Chatterton
ELECTRONIC COPY TO	MACTEC	Attn: Chris Ricardi
1 COPY TO	Data Package Group	

OLN22 0089

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Lancaster Laboratories

Questions? Contact your Client Services Representative
Nicole L Maljovec at (717) 656-2300

Respectfully Submitted,

Charles J. Neslund
Manager

OLN22 8819

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5769175

Group No. 1160616
MA

OC-SB-465-8.0/10-DUP Grab Soil
Wilmington MA Superfund Site

Collected: 09/02/2009 07:45

Account Number: 12670

Submitted: 09/04/2009 09:05
Reported: 09/14/2009 at 13:44
Discard: 09/29/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

O465D SDG#: OLN22-01FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		**ng/g**	**ng/g**	**ng/g**	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.	2.3	5.7	1
10346	Hydrazine	302-01-2	200	0.57	2.3	1
10346	Methylhydrazine	60-34-4	N.D.	2.3	5.7	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.5	0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

The temperature bottle was received frozen. The temperature of the sample bottle (s) upon receipt at the lab was 6.9 - 10.9 C using an IR thermometer.

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
10346	Hydrazines in Soil	SW-846 8315A modified	1	0925310610812	09/10/2009 23:38	Jia Wang	1
00111	Moisture	SM20 2540 G	1	09252820001A	09/09/2009 15:25	Scott W Freisher	1

OLN22-0011

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5769176

Group No. 1160616
MA

OC-SB-465-8.0/10-XXX Grab Soil
Wilmington MA Superfund Site

Collected: 09/02/2009 07:45

Account Number: 12670

Submitted: 09/04/2009 09:05
Reported: 09/14/2009 at 13:44
Discard: 09/29/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

O4658 SDG#: OLN22-02BKG

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		**ng/g**	**ng/g**	**ng/g**	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.	2.3	5.6	1
10346	Hydrazine	302-01-2	210	0.56	2.3	1
10346	Methylhydrazine	60-34-4	N.D.	2.3	5.6	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00111	Moisture	n.a.	11.5	0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

The temperature bottle was received frozen. The temperature of the sample bottle (s) upon receipt at the lab was 6.9 - 10.9 C using an IR thermometer.

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
10346	Hydrazines in Soil	SW-846 8315A modified	1	0925310610812	09/10/2009 23:57	Jia Wang	1
00111	Moisture	SM20 2540 G	1	09252820001B	09/09/2009 15:25	Scott W Freisher	1

OLN22 0B12

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

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5769177

Group No. 1160616
MA

OC-SB-465-8.0/10-XMS Grab Soil
Wilmington MA Superfund Site

Collected: 09/02/2009 07:45

Account Number: 12670

Submitted: 09/04/2009 09:05
Reported: 09/14/2009 at 13:44
Discard: 09/29/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

04658 SDG#: OLN22-02MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		**ng/g**	**ng/g**	**ng/g**	
10346	1,1-Dimethylhydrazine	57-14-7	600	2.3	5.6	1
10346	Hydrazine	302-01-2	280	0.56	2.3	1
10346	Methylhydrazine	60-34-4	350	2.3	5.6	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00118	Moisture	n.a.	11.5	0.50	0.50	1

General Sample Comments

The temperature bottle was received frozen. The temperature of the sample bottle (s) upon receipt at the lab was 6.9 - 10.9 C using an IR thermometer.

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
10346	Hydrazines in Soil	SW-846 8315A modified	1	0925310610812	09/11/2009 00:15	Jia Wang	1
00118	Moisture	SM20 2540 G	1	09252820001B	09/09/2009 15:25	Scott W Freisher	1

OLN22 0013

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5769178

Group No. 1160616
MA

OC-SB-465-8.0/10-MSD Grab Soil
Wilmington MA Superfund Site

Collected: 09/02/2009 07:45

Account Number: 12670

Submitted: 09/04/2009 09:05
Reported: 09/14/2009 at 13:44
Discard: 09/29/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

04658 SDG#: OLN22-02MSD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		**ng/g**	**ng/g**	**ng/g**	
10346	1,1-Dimethylhydrazine	57-14-7	590	2.3	5.6	1
10346	Hydrazine	302-01-2	320	0.56	2.3	1
10346	Methylhydrazine	60-34-4	330	2.3	5.6	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00118	Moisture	n.a.	11.5	0.50	0.50	1
00121	Moisture Duplicate	n.a.	11.6	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

The temperature bottle was received frozen. The temperature of the sample bottle (s) upon receipt at the lab was 6.9 - 10.9 C using an IR thermometer.

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
10346	Hydrazines in Soil	SW-846 8315A modified	1	0925310610812	09/11/2009 00:34	Jia Wang	1
00118	Moisture	SM20 2540 G	1	09252820001B	09/09/2009 15:25	Scott W Freisher	1
00121	Moisture Duplicate	SM20 2540 G	1	09252820001B	09/09/2009 15:25	Scott W Freisher	1

OLN22 8814

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5769179

Group No. 1160616
MA

OC-SB-468-8.0/10-XXX Grab Soil
Wilmington MA Superfund Site

Collected: 09/02/2009 10:10

Account Number: 12670

Submitted: 09/04/2009 09:05
Reported: 09/14/2009 at 13:44
Discard: 09/29/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

O4688 SDG#: OLN22-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		**ng/g**	**ng/g**	**ng/g**	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.	2.3	5.7	1
10346	Hydrazine	302-01-2	280	0.57	2.3	1
10346	Methylhydrazine	60-34-4	N.D.	2.3	5.7	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00111	Moisture	n.a.	12.8	0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

The temperature bottle was received frozen. The temperature of the sample bottle (s) upon receipt at the lab was 6.9 - 10.9 C using an IR thermometer.

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
10346	Hydrazines in Soil	SW-846 8315A modified	1	0925310610812	09/11/2009 03:04	Jia Wang	1
00111	Moisture	SM20 2540 G	1	09252820001B	09/09/2009 15:25	Scott W Freisher	1

OLN22 0015.

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

Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5769180

Group No. 1160616
MA

OC-SB-471-3.0/5.0-XXX Grab Soil
Wilmington MA Superfund Site

Collected: 09/02/2009 13:30

Account Number: 12670

Submitted: 09/04/2009 09:05
Reported: 09/14/2009 at 13:44
Discard: 09/29/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

O4713 SDG#: OLN22-04

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Method Detection Limit*	Dry Limit of Quantitation	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		**ng/g**		**ng/g**	**ng/g**	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.		2.7	6.7	1
10346	Hydrazine	302-01-2	2.3	J	0.67	2.7	1
10346	Methylhydrazine	60-34-4	N.D.		2.7	6.7	1
Wet Chemistry	**SM20 2540 G**		**%**		**%**	**%**	
00111	Moisture	n.a.	24.9		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

The temperature bottle was received frozen. The temperature of the sample bottle (s) upon receipt at the lab was 6.9 - 10.9 C using an IR thermometer.

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
10346	Hydrazines in Soil	SW-846 8315A modified	1	0925310610812	09/11/2009 03:23	Jia Wang	1
00111	Moisture	SM20 2540 G	1	09252820001B	09/09/2009 15:25	Scott W Freisher	1

OLN22 0016

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

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717-656-2300 Fax: 717-656-2681

Miscellaneous Organics Data

OLM22 8817

Case Narrative Conformance/Nonconformance Summary

Lancaster Laboratories
Where quality is a science.

CASE NARRATIVE

Client: Olin Corporation
SDG#: OLN21

LANCASTER LABORATORIES
MISCELLANEOUS ORGANICS DATA

SAMPLE NUMBER(S)

LL #'s	Sample Code	Matrix Soil	Matrix Water	Comments
5769171	O459D	X		
5769172	O4596	X		Unspiked
5769173MS	O4596	X		Matrix Spike
5769174MSD	O4596	X		Matrix Spike Dup

LABORATORY SUBMITTED QC:

Blank2	Sep 10	X	Method Blank
LCS2	Sep 10	X	Lab Control Sample
LCSD2	Sep 10	X	Lab Control Sample Dup

SAMPLE PREPARATION:

Samples were derivatized with benzaldehyde prior to analysis.

ANALYSIS:

No problems were encountered during the analysis of these samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC was within specifications.

Case Narrative (continued)
SDG: OLN22

DATA INTERPRETATION:

A method blank form could not be generated. None of the reported compounds were detected in the method blank.

Abbreviation Key

NC = Not calculated
NF = Not found

Case Narrative Reviewed and Approved by:

Dorothy M Shove for Date: 10/9/09

Dana M. Kauffman
Manager, Data Deliverables

OLN22 852B

QC Summary

Lancaster Laboratories

Determination of Hydrazine, Monomethylhydrazine and 1,1-Dimethylhydrazine in Soil Samples

Matrix Spike Recovery

Instrument No.: TQU01408
MS File Name: 10Sep2009-19
MSD File Name: 10Sep2009-20
Batch No.: 0925310610812
MS Injected: 9/11/2009
MS Injected: 9/11/2009
Workbook: TQU01408-10Sep2009-3
MS ID: 5769177MS
MSD ID: 5769178MSD
Dilution Factor: 1

Compound	Specified Spike Level	BKG	MS Found	MSD Found	MS Recovery	MSD Recovery	Recovery Range	RPD	RPD MAX
	(ng/g)	(ng/g)	(ng/g)	(ng/g)	(%)	(%)	(%)	(%)	(%)
Hydrazine	125	186.68	243.60	284.26	46	78	11-102	15	30
1,1-Dimethylhydrazine	625	0	530.52	525.51	85	84	10-92	1	30
Monomethylhydrazine	625	0	312.20	288.12	50	46	10-116	8	30

Comments:

Analyst: JW 1543 9/11/2009

Reviewed by: [illegible] 9/11/09

Lancaster Laboratories

Determination of Hydrazine, Monomethylhydrazine and 1,1-Dimethylhydrazine in Soil Samples

Laboratory Control Sample Recovery

Instrument No.: TQU01408
LCS File Name: 10Sep2009-21
LCSD File Name: 10Sep2009-22
Batch No.: 0925310610812
LCS Injected: 9/11/2009
LCSD Injected: 9/11/2009
Workbook: TQU01408-10Sep2009-3
LCS ID: LCS1
LCSD ID: LCSD1
Dilution Factor: 1

Compound	Spike Level	LCS Found	LCSD Found	LCS Recovery	LCSD Recovery	Recovery Range	RPD	RPD MAX
	(ng/g)	(ng/g)	(ng/g)	(%)	(%)	(%)	(%)	(%)
Hydrazine	125	104.29	98.38	83	79	70-130	6	30
1,1-Dimethylhydrazine	625	623.24	618.97	100	99	70-130	1	30
Monomethylhydrazine	625	611.92	621.62	98	99	70-130	2	30

Comments:

Analyst: JW 1543 9/11/2009

Reviewed by: 9/11/09

Sample Data

Lancaster Laboratories
Quan Summary Report

Workbook Name: TQU01408-10Sep2009-3
Current Workbook Path: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Instrument No. TQU01408
Analyst JW01543

Component Name	Sample ID	Sample Type	Integration Type	Response	Calc Amt	Units	Calc Amt	Units
1,1-Dimethylhydrazine	Conditioner1	Unknown	Method Settings	18	0.137	ng/mL		
1,1-Dimethylhydrazine	Conditioner2	Unknown	Method Settings	19	0.137	ng/mL		
1,1-Dimethylhydrazine	MDL	Unknown	Method Settings	6640	0.344	ng/mL		
1,1-Dimethylhydrazine	Conditioner3	Unknown	Method Settings	612	0.155	ng/mL		
1,1-Dimethylhydrazine	Conditioner4	Unknown	Method Settings	58	0.138	ng/mL		
1,1-Dimethylhydrazine	Conditioner5	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	Blank1	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5769175FD	Unknown	Method Settings	139	0.141	ng/mL	1.41	ng/g
1,1-Dimethylhydrazine	5769176BKG	Unknown	Method Settings	49	0.138	ng/mL	1.38	ng/g
1,1-Dimethylhydrazine	5769177MS	Unknown	Method Settings	1692242	53.052	ng/mL	530.52	ng/g
1,1-Dimethylhydrazine	5769178MSD	Unknown	Method Settings	1676230	52.551	ng/mL	525.51	ng/g
1,1-Dimethylhydrazine	LCS1	Unknown	Method Settings	1988756	62.324	ng/mL	623.24	ng/g
1,1-Dimethylhydrazine	LCSD1	Unknown	Method Settings	1975112	61.897	ng/mL	618.97	ng/g
1,1-Dimethylhydrazine	ICV	Unknown	Method Settings	2343538	73.418	ng/mL		
1,1-Dimethylhydrazine	Spike Check	Unknown	Method Settings	2304481	72.197	ng/mL		
1,1-Dimethylhydrazine	Conditioner6	Unknown	Method Settings	337	0.147	ng/mL		
1,1-Dimethylhydrazine	Conditioner7	Unknown	Method Settings	79	0.139	ng/mL		
1,1-Dimethylhydrazine	5769179	Unknown	Method Settings	47	0.138	ng/mL	1.38	ng/g
1,1-Dimethylhydrazine	5769180	Unknown	Method Settings	29	0.137	ng/mL	1.37	ng/g
1,1-Dimethylhydrazine	5770779	Unknown	Method Settings	63	0.138	ng/mL	1.38	ng/g
1,1-Dimethylhydrazine	5770780	Unknown	Method Settings	40	0.137	ng/mL	1.37	ng/g
1,1-Dimethylhydrazine	5770781	Unknown	Method Settings	46	0.138	ng/mL	1.38	ng/g
1,1-Dimethylhydrazine	Conditioner8	Unknown	Method Settings	45	0.138	ng/mL		
1,1-Dimethylhydrazine	Conditioner9	Unknown	Method Settings	11	0.137	ng/mL		
1,1-Dimethylhydrazine	Blank2	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5769171FD	Unknown	Method Settings	89	0.139	ng/mL	1.39	ng/g
1,1-Dimethylhydrazine	5769172BKG	Unknown	Method Settings	63	0.138	ng/mL	1.38	ng/g
1,1-Dimethylhydrazine	5769173MS	Unknown	Method Settings	1315409	41.269	ng/mL	412.69	ng/g
1,1-Dimethylhydrazine	5769174MSD	Unknown	Method Settings	1460823	45.816	ng/mL	458.16	ng/g
1,1-Dimethylhydrazine	LCS2	Unknown	Method Settings	2136290	66.937	ng/mL	669.37	ng/g
1,1-Dimethylhydrazine	LCSD2	Unknown	Method Settings	2193936	68.740	ng/mL	687.40	ng/g
1,1-Dimethylhydrazine	Conditioner10	Unknown	Method Settings	228	0.143	ng/mL		
1,1-Dimethylhydrazine	Conditioner11	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	5772546	Unknown	Method Settings	138	0.141	ng/mL	1.41	ng/g
1,1-Dimethylhydrazine	5772547	Unknown	Method Settings	207	0.143	ng/mL	1.43	ng/g
1,1-Dimethylhydrazine	5772548	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5772550	Unknown	Method Settings	38	0.137	ng/mL	1.37	ng/g

Analyst: JW 1543 9/11/2009
9/11/09

Lancaster Laboratories
Quan Summary Report

Workbook Name: TQU01408-10Sep2009-3
Current Workbook Path: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Instrument No. TQU01408
Analyst JW01543

Component Name	Sample ID	Sample Type	Integration Type	Response	Calc Amt	Units	Calc Amt	Units
Hydrazine	Conditioner1	Unknown	Method Settings	NF	NC	ng/mL		
Hydrazine	Conditioner2	Unknown	Method Settings	34	-0.001	ng/mL		
Hydrazine	MDL	Unknown	Method Settings	8471	0.063	ng/mL		
Hydrazine	Conditioner3	Unknown	Method Settings	3438	0.025	ng/mL		
Hydrazine	Conditioner4	Unknown	Method Settings	308	0.001	ng/mL		
Hydrazine	Conditioner5	Unknown	Method Settings	124	-0.001	ng/mL		
Hydrazine	Blank1	Unknown	Method Settings	3491	0.025	ng/mL	0.25	ng/g
Hydrazine	5769175FD	Unknown	Method Settings	2254937	17.282	ng/mL	172.82	ng/g
Hydrazine	5769176BKG	Unknown	Method Settings	2435731	18.668	ng/mL	186.68	ng/g
Hydrazine	5769177MS	Unknown	Method Settings	3178316	24.360	ng/mL	243.60	ng/g
Hydrazine	5769178MSD	Unknown	Method Settings	3708721	28.426	ng/mL	284.26	ng/g
Hydrazine	LCS1	Unknown	Method Settings	1360841	10.429	ng/mL	104.29	ng/g
Hydrazine	LCSD1	Unknown	Method Settings	1283764	9.838	ng/mL	98.38	ng/g
Hydrazine	ICV	Unknown	Method Settings	1584757	12.145	ng/mL		
Hydrazine	Spike Check	Unknown	Method Settings	1469617	11.263	ng/mL		
Hydrazine	Conditioner6	Unknown	Method Settings	1980	0.013	ng/mL		
Hydrazine	Conditioner7	Unknown	Method Settings	498	0.002	ng/mL		
Hydrazine	5769179	Unknown	Method Settings	3202043	24.542	ng/mL	245.42	ng/g
Hydrazine	5769180	Unknown	Method Settings	22249	0.169	ng/mL	1.69	ng/g
Hydrazine	5770779	Unknown	Method Settings	6535	0.048	ng/mL	0.48	ng/g
Hydrazine	5770780	Unknown	Method Settings	37741	0.288	ng/mL	2.88	ng/g
Hydrazine	5770781	Unknown	Method Settings	8189	0.061	ng/mL	0.61	ng/g
Hydrazine	Conditioner8	Unknown	Method Settings	633	0.003	ng/mL		
Hydrazine	Conditioner9	Unknown	Method Settings	236	0.000	ng/mL		
Hydrazine	Blank2	Unknown	Method Settings	4200	0.030	ng/mL	0.30	ng/g
Hydrazine	5769171FD	Unknown	Method Settings	85556	0.654	ng/mL	6.54	ng/g
Hydrazine	5769172BKG	Unknown	Method Settings	98748	0.755	ng/mL	7.55	ng/g
Hydrazine	5769173MS	Unknown	Method Settings	332913	2.550	ng/mL	25.50	ng/g
Hydrazine	5769174MSD	Unknown	Method Settings	343002	2.627	ng/mL	26.27	ng/g
Hydrazine	LCS2	Unknown	Method Settings	1360308	10.425	ng/mL	104.25	ng/g
Hydrazine	LCSD2	Unknown	Method Settings	1345354	10.310	ng/mL	103.10	ng/g
Hydrazine	Conditioner10	Unknown	Method Settings	1402	0.009	ng/mL		
Hydrazine	Conditioner11	Unknown	Method Settings	335	0.001	ng/mL		
Hydrazine	5772546	Unknown	Method Settings	4276	0.031	ng/mL	0.31	ng/g
Hydrazine	5772547	Unknown	Method Settings	14679	0.111	ng/mL	1.11	ng/g
Hydrazine	5772548	Unknown	Method Settings	4109	0.030	ng/mL	0.30	ng/g
Hydrazine	5772550	Unknown	Method Settings	7819	0.058	ng/mL	0.58	ng/g

Analyst : JW 1543 9/11/2009
9/11/09

Lancaster Laboratories
Quan Summary Report

Workbook Name: TQU01408-10Sep2009-3
Current Workbook Path: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Instrument No. TQU01408
Analyst JW01543

Component Name	Sample ID	Sample Type	Integration Type	Response	Calc Amt	Units	Calc Amt	Units
Monomethylhydrazine	Conditioner1	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner2	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	MDL	Unknown	Method Settings	7880	0.406	ng/mL		
Monomethylhydrazine	Conditioner3	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner4	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner5	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Blank1	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769175FD	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769176BKG	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769177MS	Unknown	Method Settings	994013	31.220	ng/mL	312.20	ng/g
Monomethylhydrazine	5769178MSD	Unknown	Method Settings	916937	28.812	ng/mL	288.12	ng/g
Monomethylhydrazine	LCS1	Unknown	Method Settings	1953160	61.192	ng/mL	611.92	ng/g
Monomethylhydrazine	LCSD1	Unknown	Method Settings	1984204	62.162	ng/mL	621.62	ng/g
Monomethylhydrazine	ICV	Unknown	Method Settings	2340916	73.309	ng/mL		
Monomethylhydrazine	Spike Check	Unknown	Method Settings	2327216	72.880	ng/mL		
Monomethylhydrazine	Conditioner6	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner7	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	5769179	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769180	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5770779	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5770780	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5770781	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	Conditioner8	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner9	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Blank2	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769171FD	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769172BKG	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5769173MS	Unknown	Method Settings	391192	12.383	ng/mL	123.83	ng/g
Monomethylhydrazine	5769174MSD	Unknown	Method Settings	427657	13.523	ng/mL	135.23	ng/g
Monomethylhydrazine	LCS2	Unknown	Method Settings	2140237	67.038	ng/mL	670.38	ng/g
Monomethylhydrazine	LCSD2	Unknown	Method Settings	2244180	70.286	ng/mL	702.86	ng/g
Monomethylhydrazine	Conditioner10	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner11	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	5772546	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5772547	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5772548	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5772550	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g

Analyst : JW 1543 9/11/2009
9/11/09

Lancaster Laboratories

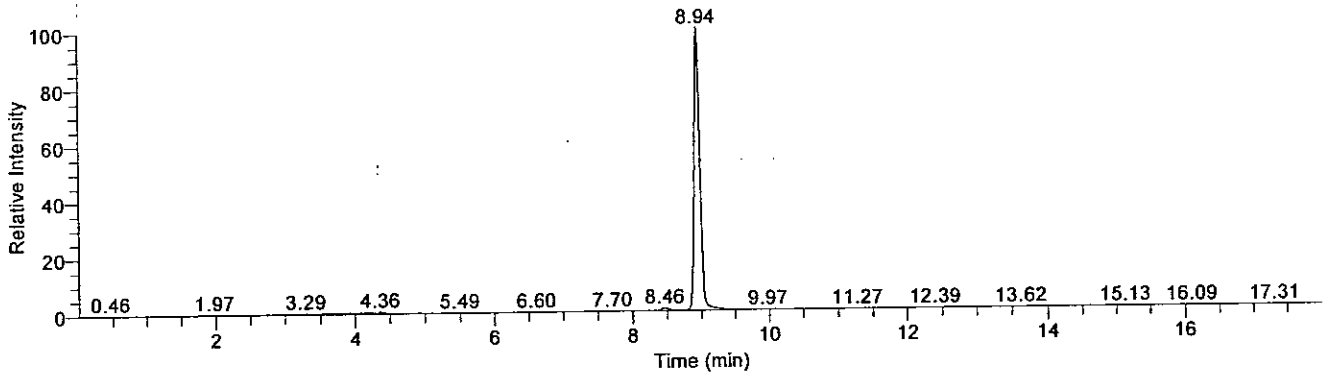
Printed: Friday, September 11, 2009, 10:25:06

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-17.raw
Sample ID:	5769175FD
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Thursday, September 10, 2009 11:38:17 PM
Vial:	E:17
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-17 - TIC RT: 0.00 - 17.99 NL: 4.02E5

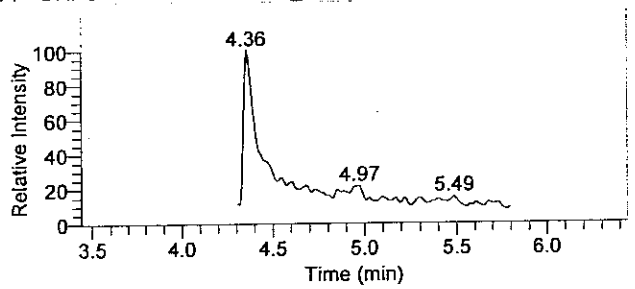


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:17, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-17, Comments: Soil prep, ID: 5769175FD

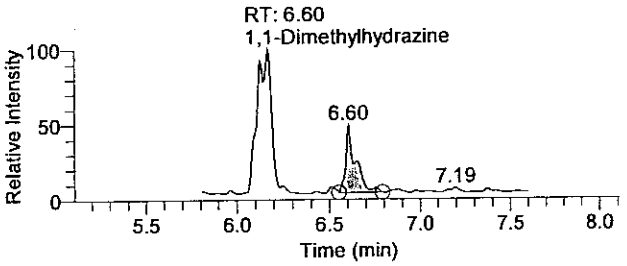
Monomethylhydrazine

10Sep2009-17 - TIC RT: 3.44 - 6.44 NL: 2.94E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



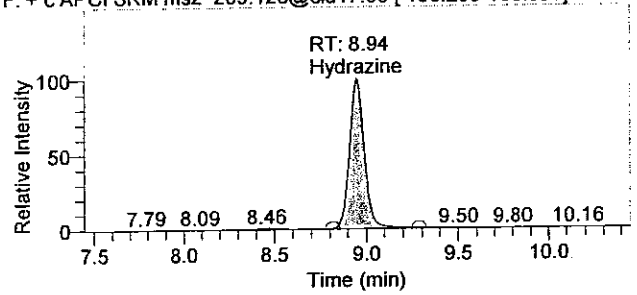
1,1-Dimethylhydrazine

10Sep2009-17 - TIC RT: 5.10 - 8.10 NL: 8.19E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-17 - TIC RT: 7.44 - 10.44 NL: 4.02E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 0820

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5769175FD	Method Settings	Hydrazine	8.94	2254937	17.282	ng/mL
5769175FD	Method Settings	1,1-Dimethylhydrazine	6.60	139	0.141	ng/mL
5769175FD	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst: JW 1543 9/11/2009
9/11 9/11/09

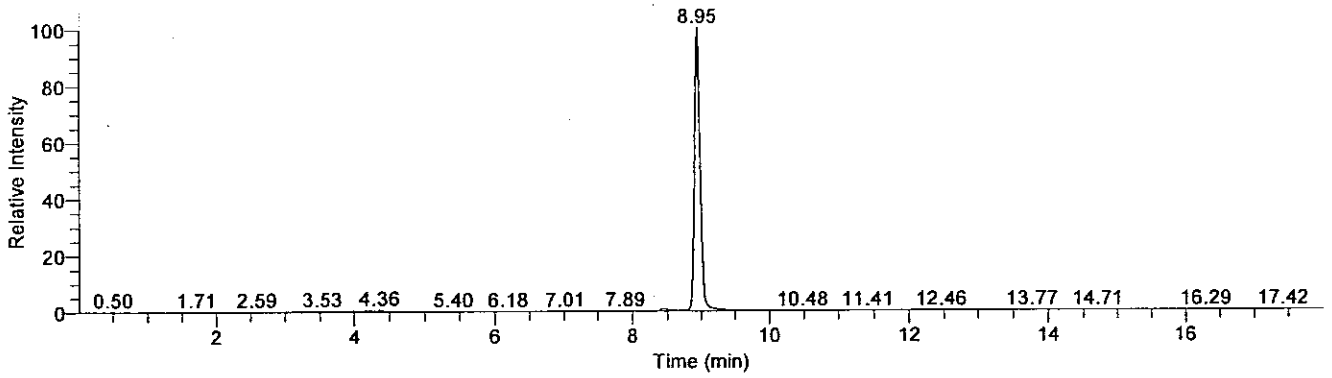
01N22 8829

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-18.raw
Sample ID:	5769176BKG
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Thursday, September 10, 2009 11:57:03 PM
Vial:	E:18
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-18 - TIC RT: 0.00 - 17.99 NL: 4.28E5

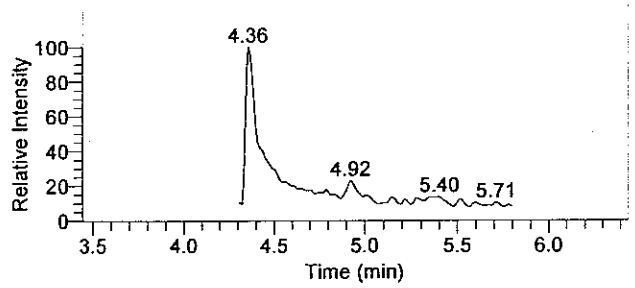


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:18, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-18, Comments: Soil prep, ID: 5769176BKG

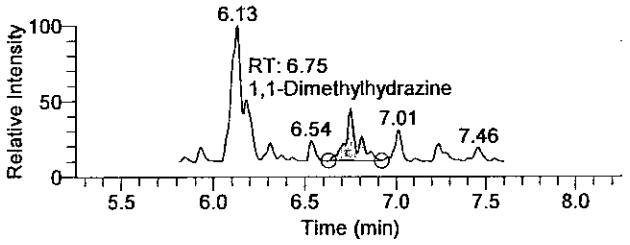
Monomethylhydrazine

10Sep2009-18 - TIC RT: 3.44 - 6.44 NL: 3.19E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



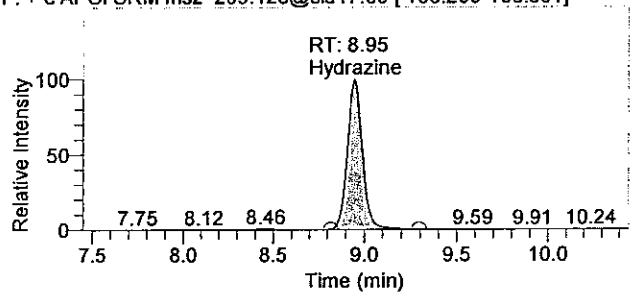
1,1-Dimethylhydrazine

10Sep2009-18 - TIC RT: 5.25 - 8.25 NL: 3.19E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-18 - TIC RT: 7.45 - 10.45 NL: 4.28E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



GLN22 9839

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5769176BKG	Method Settings	Hydrazine	8.95	2435731	18.668	ng/mL
5769176BKG	Method Settings	1,1-Dimethylhydrazine	6.75	49	0.138	ng/mL
5769176BKG	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst : JW 1543 9/11/2009
9/11/09

OLN22 8831

There is no signature data to report.

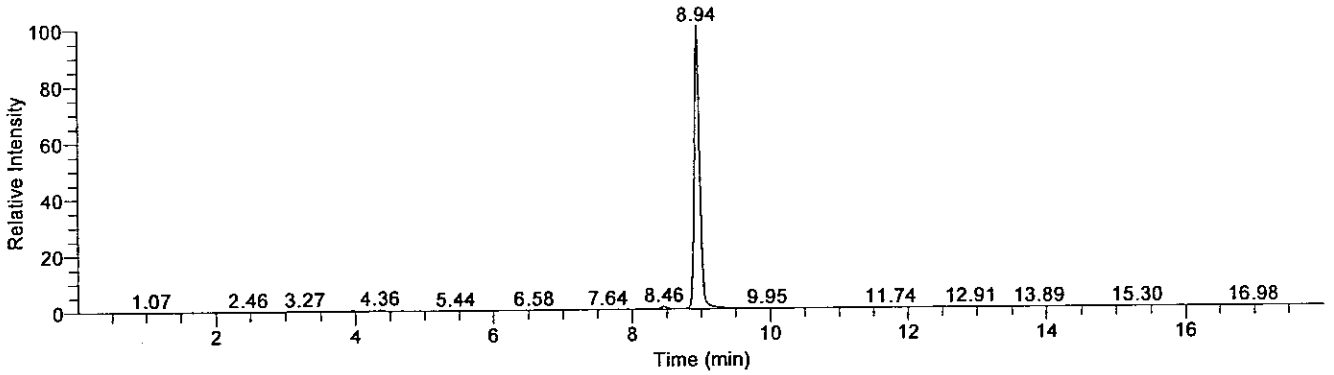
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-28.raw
Sample ID:	5769179
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 3:04:23 AM
Vial:	E:25
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-28 - TIC RT: 0.00 - 18.00 NL: 5.72E5

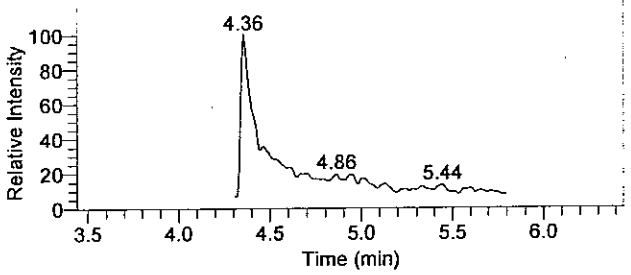


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:25, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-28, Comments: Soil prep, ID: 5769179

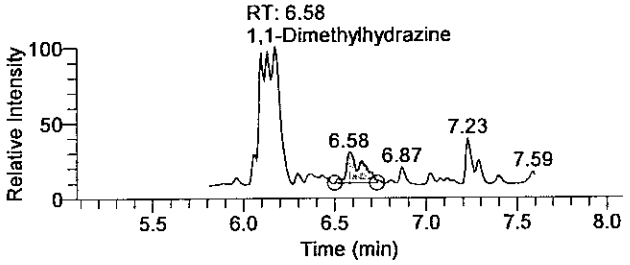
Monomethylhydrazine

10Sep2009-28 - TIC RT: 3.44 - 6.44 NL: 3.24E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



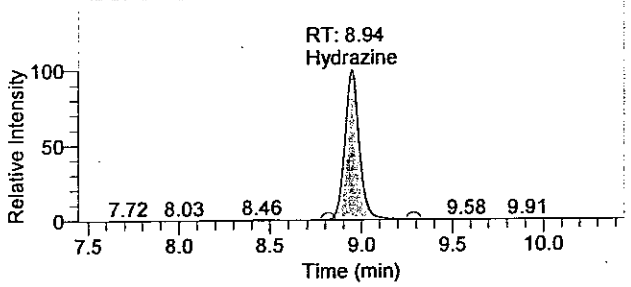
1,1-Dimethylhydrazine

10Sep2009-28 - TIC RT: 5.08 - 8.08 NL: 3.76E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-28 - TIC RT: 7.44 - 10.44 NL: 5.72E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



GLN22 0032

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5769179	Method Settings	Hydrazine	8.94	3202043	24.542	ng/mL
5769179	Method Settings	1,1-Dimethylhydrazine	6.58	47	0.138	ng/mL
5769179	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst: JW 1543 9/11/2009
[illegible] 9/11/09

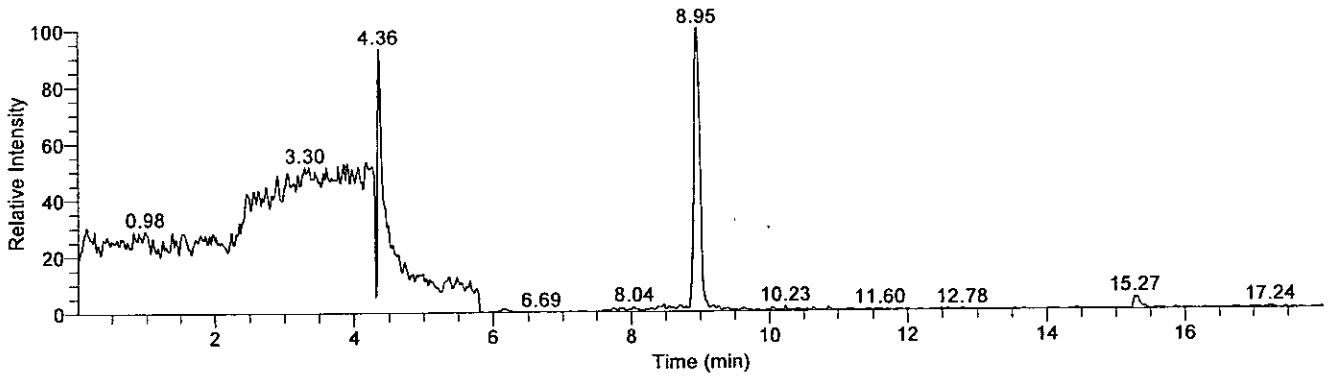
OLN22 8933

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-29.raw
Sample ID:	5769180
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 3:23:10 AM
Vial:	E:26
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-29 - TIC RT: 0.00 - 18.00 NL: 3.63E3

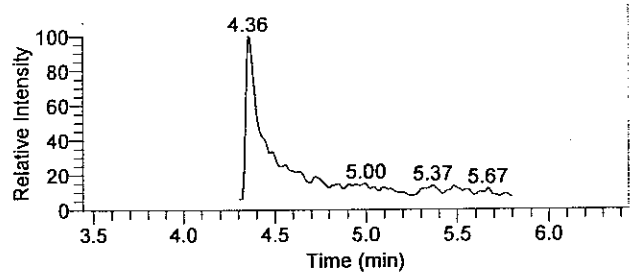


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:26, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-29, Comments: Soil prep, ID: 5769180

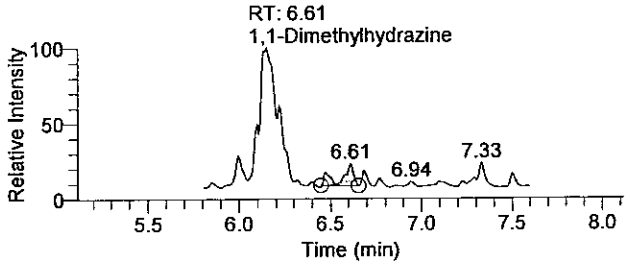
Monomethylhydrazine

10Sep2009-29 - TIC RT: 3.44 - 6.44 NL: 3.38E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



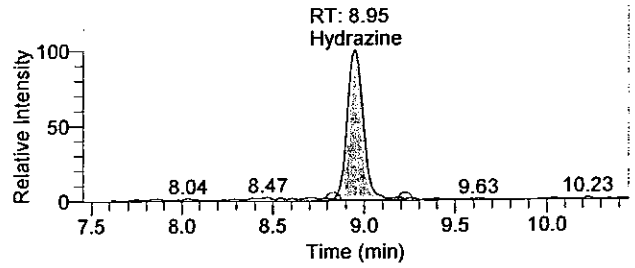
1,1-Dimethylhydrazine

10Sep2009-29 - TIC RT: 5.11 - 8.11 NL: 4.40E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-29 - TIC RT: 7.45 - 10.45 NL: 3.63E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 0034

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5769180	Method Settings	Hydrazine	8.95	22249	0.169	ng/mL
5769180	Method Settings	1,1-Dimethylhydrazine	6.61	29	0.137	ng/mL
5769180	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst: JW 1543 9/11/2009

9/11/09

OLN22 BB39

There is no signature data to report.

Standards Data

OLR22 8836

Lancaster Laboratories

Workbook Name: TQU01408-10Sep2009-3
Instrument No. TQU01408
Analyst JW01543

Sequence Table

Sample ID	File Name	Sample Type	Path	Position	Inj Vol	Batch No.
Conditioner1	10Sep2009-1	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Conditioner2	10Sep2009-2	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
MDL	10Sep2009-3	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:7	10.00	N/A
Cal1	10Sep2009-4	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:8	10.00	N/A
Cal2	10Sep2009-5	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:9	10.00	N/A
Cal3	10Sep2009-6	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:10	10.00	N/A
Cal4	10Sep2009-7	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:11	10.00	N/A
Cal5	10Sep2009-8	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:12	10.00	N/A
Cal6	10Sep2009-9	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:13	10.00	N/A
Cal7	10Sep2009-10	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:14	10.00	N/A
Cal8	10Sep2009-11	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:15	10.00	N/A
Conditioner3	10Sep2009-12	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Cal3asQC1a	10Sep2009-13	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:10	10.00	N/A
Conditioner4	10Sep2009-14	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Conditioner5	10Sep2009-15	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Blank1	10Sep2009-16	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:16	10.00	0925310610812
5769175FD	10Sep2009-17	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:17	10.00	0925310610812
5769176BKG	10Sep2009-18	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:18	10.00	0925310610812
5769177MS	10Sep2009-19	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:19	10.00	0925310610812
5769178MSD	10Sep2009-20	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:20	10.00	0925310610812
LCS1	10Sep2009-21	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:21	10.00	0925310610812
LCSD1	10Sep2009-22	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:22	10.00	0925310610812
ICV	10Sep2009-23	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:23	10.00	N/A
Cal4asQC2a	10Sep2009-24	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:11	10.00	N/A
Spike Check	10Sep2009-25	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:24	10.00	N/A
Conditioner6	10Sep2009-26	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Conditioner7	10Sep2009-27	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
5769179	10Sep2009-28	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:25	10.00	0925310610812
5769180	10Sep2009-29	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:26	10.00	0925310610812
5770779	10Sep2009-30	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:27	10.00	0925310610812
5770780	10Sep2009-31	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:28	10.00	0925310610812
5770781	10Sep2009-32	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:29	10.00	0925310610812
Cal5asQC3a	10Sep2009-33	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:12	10.00	N/A

There is no signature data to report.

Lancaster Laboratories

Sample ID	File Name	Sample Type	Path	Position	Inj Vol	Batch No.
Conditioner8	10Sep2009-34	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Conditioner9	10Sep2009-35	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Blank2	10Sep2009-36	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:30	10.00	0925310610813
5769171FD	10Sep2009-37	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:31	10.00	0925310610813
5769172BKG	10Sep2009-38	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:32	10.00	0925310610813
5769173MS	10Sep2009-39	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:33	10.00	0925310610813
5769174MSD	10Sep2009-40	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:34	10.00	0925310610813
LCS2	10Sep2009-41	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:35	10.00	0925310610813
LCSD2	10Sep2009-42	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:36	10.00	0925310610813
Conditioner10	10Sep2009-44	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
Cal3asQC1b	10Sep2009-43	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:10	10.00	N/A
Conditioner11	10Sep2009-45	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:1	10.00	N/A
5772546	10Sep2009-46	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:37	10.00	0925310610813
5772547	10Sep2009-47	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:38	10.00	0925310610813
5772548	10Sep2009-48	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:39	10.00	0925310610813
5772550	10Sep2009-49	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:40	10.00	0925310610813
Cal4asQC2b	10Sep2009-50	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles	E:11	10.00	N/A

Analyst: JW 1543 9/11/2009

9/11/09

There is no signature data to report.

Lancaster Laboratories

Component Calibration and Continuing Calibration Verification (CCV) Report

Workbook Name:	TQU01408-10Sep2009-3
Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Instrument No.	TQU01408
Analyst	JW01543

Identification

Component Name:	1,1-Dimethylhydrazine
Detector Type:	MS
Filter:	+ c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]
1st Trace Type:	TIC
Operator:	None
2nd Trace Type:	N/A
Mass Range 1 (m/z):	N/A
Mass Range 2 (m/z):	N/A
Base Peak(BP):	N/A
Mass Range(MR):	N/A

Retention Time

Expected RT (min):	6.64000
Window (sec):	20.00000
View Width (min):	3.00000
RT Reference:	No
Adjust Expected RT:	No
Adjust Using:	N/A

Detection Options

Peak Detection Algorithm:	Genesis
Smoothing Points:	1

Genesis Peak Integration

S/N Threshold:	1.00
Valley Detection:	Disabled
Expected Peak Width (sec):	N/A
Genesis Constrain Peak Width:	No
Genesis Peak Height (%):	N/A
Genesis Tailing Factor:	N/A

Genesis Peak Detection

Genesis Identify By:	Nearest RT
Genesis Minimum Peak Height (S/N):	3.00
Genesis Ion Ratio Confirmation:	No
Genesis Window %:	N/A
Genesis Qualifier Ion Coelution (min):	N/A

Genesis Advanced Detection Options

Baseline (Global)

Baseline Noise Tolerance (%):	10.0
Minimum Number of Scans in Baseline:	16
Baseline Noise Rejection Factor:	2.0

Calibration

Component Type:	Target Compound

Internal Standard

ISTD Amount:	N/A
ISTD Units:	N/A

Target Compounds

Concentration of Calibration Standards

Level	Amount
1	0.500 ng/mL
2	1.000 ng/mL
3	2.500 ng/mL
4	5.000 ng/mL
5	12.500 ng/mL
6	25.000 ng/mL
7	50.000 ng/mL
8	125.000 ng/mL

Concentration of CCV Standards

Level	Amount
CCV1	2.500 ng/mL
CCV2	5.000 ng/mL
CCV3	12.500 ng/mL

OLN22 6839

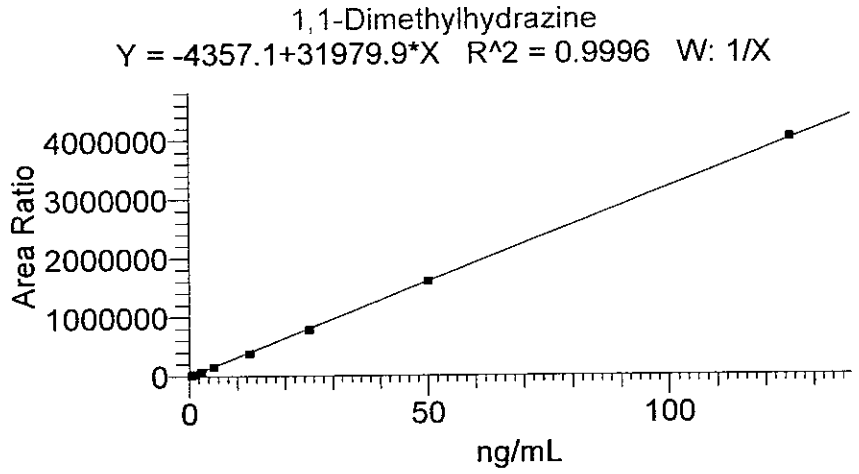
There is no signature data to report.

Lancaster Laboratories

ISTD:	
Weighting:	1/X
Origin:	IgnoreOrigin
Response:	Area
Calibration Curve:	Linear
Target Units:	ng/mL
Number of Cal. Levels:	8
Number of QC Levels:	3

Options

Calibration By: External Standard



Sample ID	Sample Type	Level	Exclude	Integration Type	Response	Specified Conc	Units	Calc Amt	% Diff
Cal1	Standard	1	N/A	Method Settings	13677	0.500	ng/mL	0.564	12.79
Cal2	Standard	2	N/A	Method Settings	28523	1.000	ng/mL	1.028	2.82
Cal3	Standard	3	N/A	Method Settings	71234	2.500	ng/mL	2.364	-5.45
Cal4	Standard	4	N/A	Method Settings	147261	5.000	ng/mL	4.741	-5.18
Cal5	Standard	5	N/A	Method Settings	378540	12.500	ng/mL	11.973	-4.22
Cal6	Standard	6	N/A	Method Settings	777656	25.000	ng/mL	24.453	-2.19
Cal7	Standard	7	N/A	Method Settings	1603389	50.000	ng/mL	50.274	0.55
Cal8	Standard	8	N/A	Method Settings	4028402	125.000	ng/mL	126.103	0.88
Cal3asQC1a	QC	CCV1	N/A	Method Settings	77854	2.500	ng/mL	2.571	2.83
Cal4asQC2a	QC	CCV2	N/A	Method Settings	161008	5.000	ng/mL	5.171	3.42
Cal5asQC3a	QC	CCV3	N/A	Method Settings	371248	12.500	ng/mL	11.745	-6.04
Cal3asQC1b	QC	CCV1	N/A	Method Settings	68122	2.500	ng/mL	2.266	-9.34
Cal4asQC2b	QC	CCV2	N/A	Method Settings	161117	5.000	ng/mL	5.174	3.49

Analyst: JW 1543 9/11/2009
[illegible]/112 9/11/09

OLN22 8849

There is no signature data to report.

Lancaster Laboratories

Component Calibration and Continuing Calibration Verification (CCV) Report

Workbook Name:	TQU01408-10Sep2009-3
Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Instrument No.	TQU01408
Analyst	JW01543

Identification

Component Name:	Hydrazine
Detector Type:	MS
Filter:	+ c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]
1st Trace Type:	TIC
Operator:	None
2nd Trace Type:	N/A
Mass Range 1 (m/z):	N/A
Mass Range 2 (m/z):	N/A
Base Peak(BP):	N/A
Mass Range(MR):	N/A

Retention Time

Expected RT (min):	8.95000
Window (sec):	20.00000
View Width (min):	3.00000
RT Reference:	No
Adjust Expected RT:	No
Adjust Using:	N/A

Detection Options

Peak Detection Algorithm:	Genesis
Smoothing Points:	1

Genesis Peak Integration

S/N Threshold:	1.00
Valley Detection:	Disabled
Expected Peak Width (sec):	N/A
Genesis Constrain Peak Width:	No
Genesis Peak Height (%):	N/A
Genesis Tailing Factor:	N/A

Genesis Peak Detection

Genesis Identify By:	Nearest RT
Genesis Minimum Peak Height (S/N):	3.00
Genesis Ion Ratio Confirmation:	No
Genesis Window %:	N/A
Genesis Qualifier Ion Coelution (min):	N/A

Genesis Advanced Detection Options

Baseline (Global)

Baseline Noise Tolerance (%):	10.0
Minimum Number of Scans in Baseline:	16
Baseline Noise Rejection Factor:	2.0

Calibration

Component Type:	Target Compound

Internal Standard

ISTD Amount:	N/A
ISTD Units:	N/A

Target Compounds

Concentration of Calibration Standards

Level	Amount
1	0.100 ng/mL
2	0.200 ng/mL
3	0.500 ng/mL
4	1.000 ng/mL
5	2.500 ng/mL
6	5.000 ng/mL
7	10.000 ng/mL
8	25.000 ng/mL

Concentration of CCV Standards

Level	Amount
CCV1	0.500 ng/mL
CCV2	1.000 ng/mL
CCV3	2.500 ng/mL

OLN22 8841

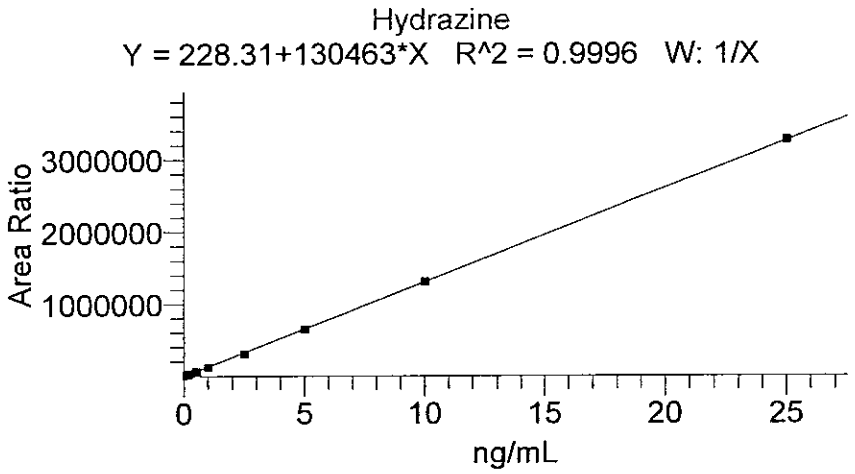
There is no signature data to report.

Lancaster Laboratories

ISTD:	
Weighting:	1/X
Origin:	IgnoreOrigin
Response:	Area
Calibration Curve:	Linear
Target Units:	ng/mL
Number of Cal. Levels:	8
Number of QC Levels:	3

Options

Calibration By: External Standard



Sample ID	Sample Type	Level	Exclude	Integration Type	Response	Specified Conc	Units	Calc Amt	% Diff
Cal1	Standard	1	N/A	Method Settings	15120	0.100	ng/mL	0.114	14.14
Cal2	Standard	2	N/A	Method Settings	26987	0.200	ng/mL	0.205	2.55
Cal3	Standard	3	N/A	Method Settings	59953	0.500	ng/mL	0.458	-8.44
Cal4	Standard	4	N/A	Method Settings	124436	1.000	ng/mL	0.952	-4.80
Cal5	Standard	5	N/A	Method Settings	311178	2.500	ng/mL	2.383	-4.66
Cal6	Standard	6	N/A	Method Settings	652953	5.000	ng/mL	5.003	0.06
Cal7	Standard	7	N/A	Method Settings	1313640	10.000	ng/mL	10.067	0.67
Cal8	Standard	8	N/A	Method Settings	3277070	25.000	ng/mL	25.117	0.47
Cal3asQC1a	QC	CCV1	N/A	Method Settings	65003	0.500	ng/mL	0.496	-0.70
Cal4asQC2a	QC	CCV2	N/A	Method Settings	135875	1.000	ng/mL	1.040	3.97
Cal5asQC3a	QC	CCV3	N/A	Method Settings	344666	2.500	ng/mL	2.640	5.60
Cal3asQC1b	QC	CCV1	N/A	Method Settings	66329	0.500	ng/mL	0.507	1.33
Cal4asQC2b	QC	CCV2	N/A	Method Settings	131140	1.000	ng/mL	1.003	0.34

Analyst: JiV 1543 9/11/2009
SJ/112 9/11/09

OLN22 8842

There is no signature data to report.

Lancaster Laboratories

Component Calibration and Continuing Calibration Verification (CCV) Report

Workbook Name:	TQU01408-10Sep2009-3
Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Instrument No.	TQU01408
Analyst	JW01543

Identification

Component Name:	Monomethylhydrazine
Detector Type:	MS
Filter:	+ c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]
1st Trace Type:	TIC
Operator:	None
2nd Trace Type:	N/A
Mass Range 1 (m/z):	N/A
Mass Range 2 (m/z):	N/A
Base Peak(BP):	N/A
Mass Range(MR):	N/A

Retention Time

Expected RT (min):	4.94000
Window (sec):	20.00000
View Width (min):	3.00000
RT Reference:	No
Adjust Expected RT:	No
Adjust Using:	N/A

Detection Options

Peak Detection Algorithm:	Genesis
Smoothing Points:	1

Genesis Peak Integration

S/N Threshold:	1.00
Valley Detection:	Disabled
Expected Peak Width (sec):	N/A
Genesis Constrain Peak Width:	No
Genesis Peak Height (%):	N/A
Genesis Tailing Factor:	N/A

Genesis Peak Detection

Genesis Identify By:	Nearest RT
Genesis Minimum Peak Height (S/N):	3.00
Genesis Ion Ratio Confirmation:	No
Genesis Window %:	N/A
Genesis Qualifier Ion Coelution (min):	N/A

Genesis Advanced Detection Options

Baseline (Global)

Baseline Noise Tolerance (%):	10.0
Minimum Number of Scans in Baseline:	16
Baseline Noise Rejection Factor:	2.0

Calibration

Component Type:	Target Compound

Internal Standard

ISTD Amount:	N/A
ISTD Units:	N/A

Target Compounds

Concentration of Calibration Standards

Level	Amount
1	0.500 ng/mL
2	1.000 ng/mL
3	2.500 ng/mL
4	5.000 ng/mL
5	12.500 ng/mL
6	25.000 ng/mL
7	50.000 ng/mL
8	125.000 ng/mL

Concentration of CCV Standards

Level	Amount
CCV1	2.500 ng/mL
CCV2	5.000 ng/mL
CCV3	12.500 ng/mL

01M22 B043

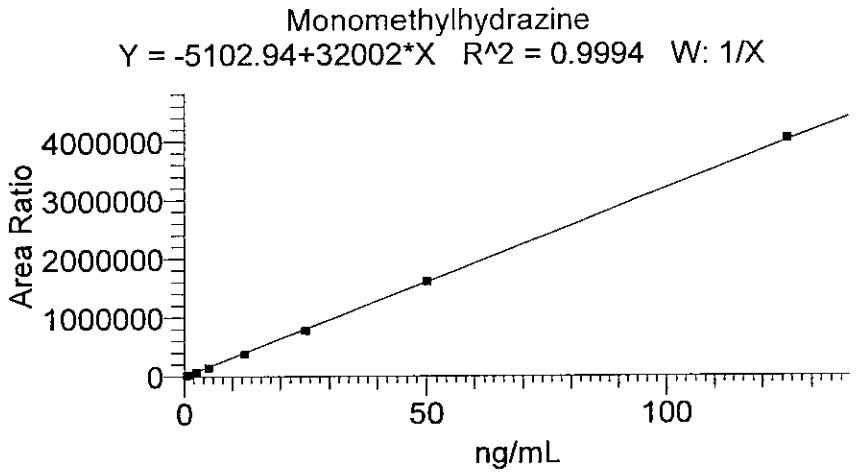
There is no signature data to report.

Lancaster Laboratories

ISTD:	
Weighting:	1/X
Origin:	IgnoreOrigin
Response:	Area
Calibration Curve:	Linear
Target Units:	ng/mL
Number of Cal. Levels:	8
Number of QC Levels:	3

Options

Calibration By: External Standard



Sample ID	Sample Type	Level	Exclude	Integration Type	Response	Specified Conc	Units	Calc Amt	% Diff
Cal1	Standard	1	N/A	Method Settings	13776	0.500	ng/mL	0.590	17.99
Cal2	Standard	2	N/A	Method Settings	27466	1.000	ng/mL	1.018	1.77
Cal3	Standard	3	N/A	Method Settings	69806	2.500	ng/mL	2.341	-6.37
Cal4	Standard	4	N/A	Method Settings	142905	5.000	ng/mL	4.625	-7.50
Cal5	Standard	5	N/A	Method Settings	373444	12.500	ng/mL	11.829	-5.37
Cal6	Standard	6	N/A	Method Settings	775008	25.000	ng/mL	24.377	-2.49
Cal7	Standard	7	N/A	Method Settings	1610871	50.000	ng/mL	50.496	0.99
Cal8	Standard	8	N/A	Method Settings	4034344	125.000	ng/mL	126.225	0.98
Cal3asQC1a	QC	CCV1	N/A	Method Settings	77187	2.500	ng/mL	2.571	2.86
Cal4asQC2a	QC	CCV2	N/A	Method Settings	165181	5.000	ng/mL	5.321	6.42
Cal5asQC3a	QC	CCV3	N/A	Method Settings	421613	12.500	ng/mL	13.334	6.67
Cal3asQC1b	QC	CCV1	N/A	Method Settings	78414	2.500	ng/mL	2.610	4.39
Cal4asQC2b	QC	CCV2	N/A	Method Settings	165085	5.000	ng/mL	5.318	6.36

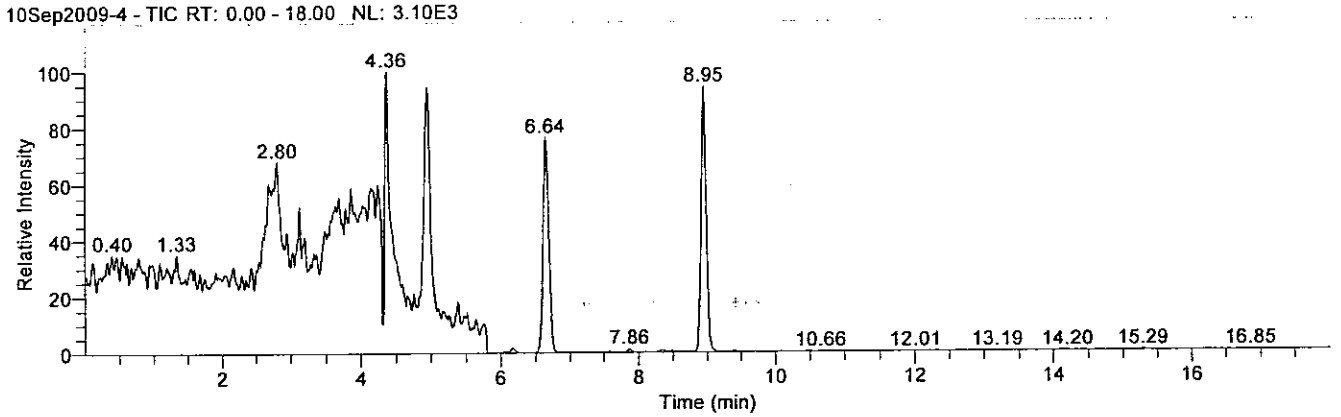
Analyst : JW 1543 8/11/2009
9/11/09

OLN22 8844

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-4.raw
Sample ID:	Cal1
Sample Type:	Standard
Level:	1
Acquisition Date:	Thursday, September 10, 2009 7:34:41 PM
Vial:	E:8
Dilution Factor:	1.00000

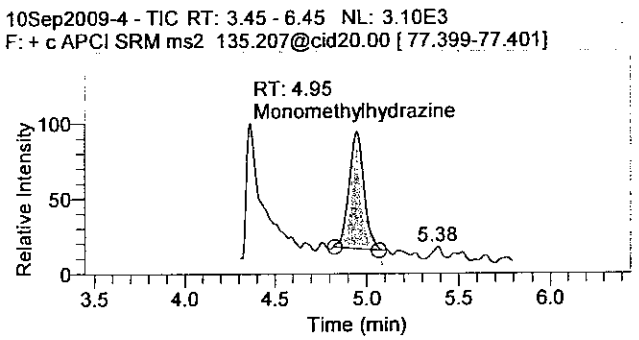
Sample Chromatogram



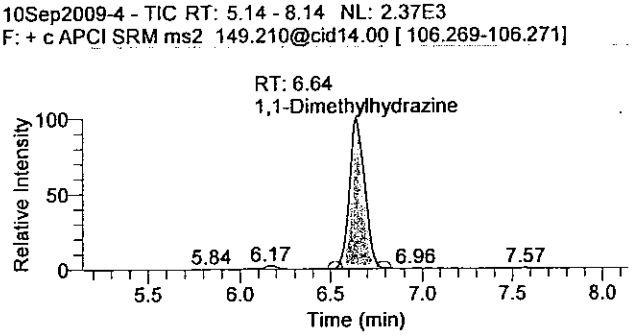
Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:8, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-4, Comments: , ID: Cal1

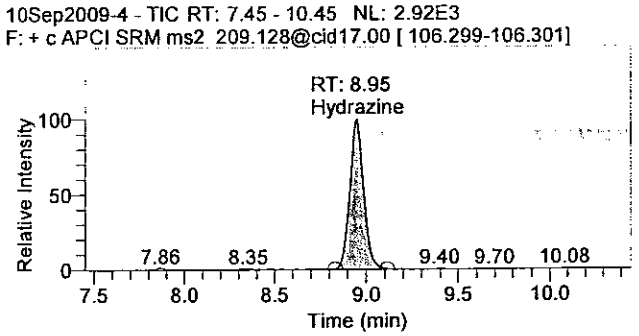
Monomethylhydrazine



1,1-Dimethylhydrazine



Hydrazine



OLM22 8645

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal1	Method Settings	Hydrazine	8.95	15120	0.114	ng/mL
Cal1	Method Settings	1,1-Dimethylhydrazine	6.64	13677	0.564	ng/mL
Cal1	Method Settings	Monomethylhydrazine	4.95	13776	0.590	ng/mL

Analyst : JW 1543 9/11/2009
9/11/09

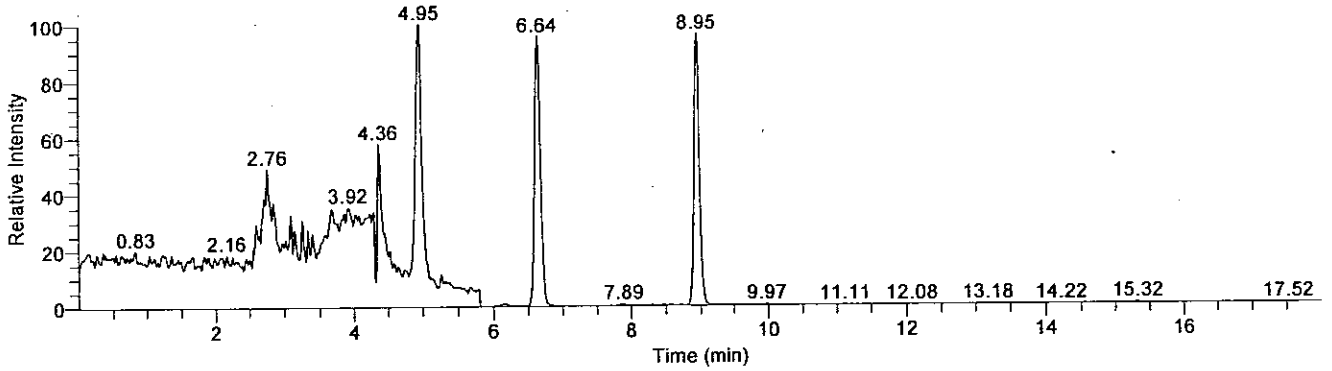
OLN22 B#46

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-5.raw
Sample ID:	Cal2
Sample Type:	Standard
Level:	2
Acquisition Date:	Thursday, September 10, 2009 7:53:25 PM
Vial:	E:9
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-5 - TIC RT: 0.00 - 18.00 NL: 5.13E3

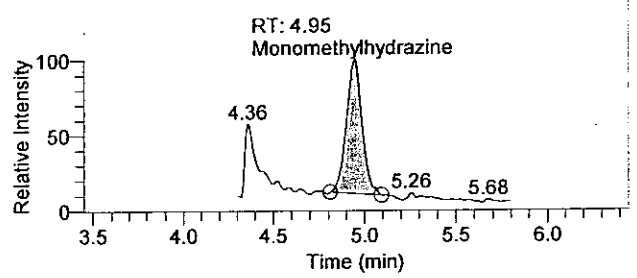


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:9, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-5, Comments: , ID: Cal2

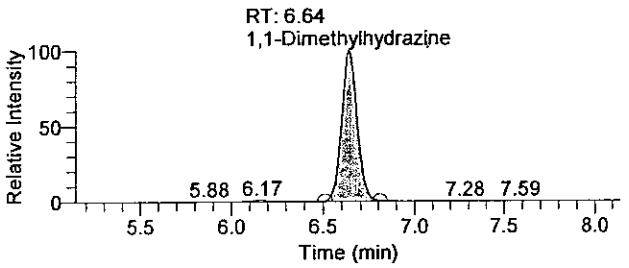
Monomethylhydrazine

10Sep2009-5 - TIC RT: 3.45 - 6.45 NL: 5.13E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



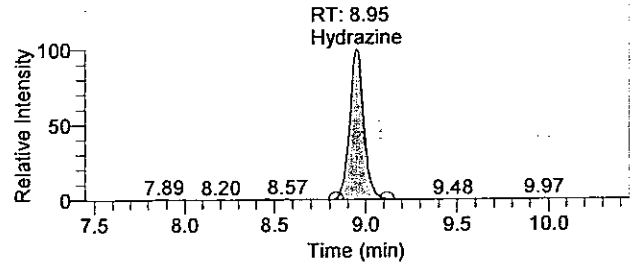
1,1-Dimethylhydrazine

10Sep2009-5 - TIC RT: 5.14 - 8.14 NL: 4.89E3
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-5 - TIC RT: 7.45 - 10.45 NL: 4.92E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 8847

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal2	Method Settings	Hydrazine	8.95	26987	0.205	ng/mL
Cal2	Method Settings	1,1-Dimethylhydrazine	6.64	28523	1.028	ng/mL
Cal2	Method Settings	Monomethylhydrazine	4.95	27466	1.018	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

OLN22 8848

There is no signature data to report.

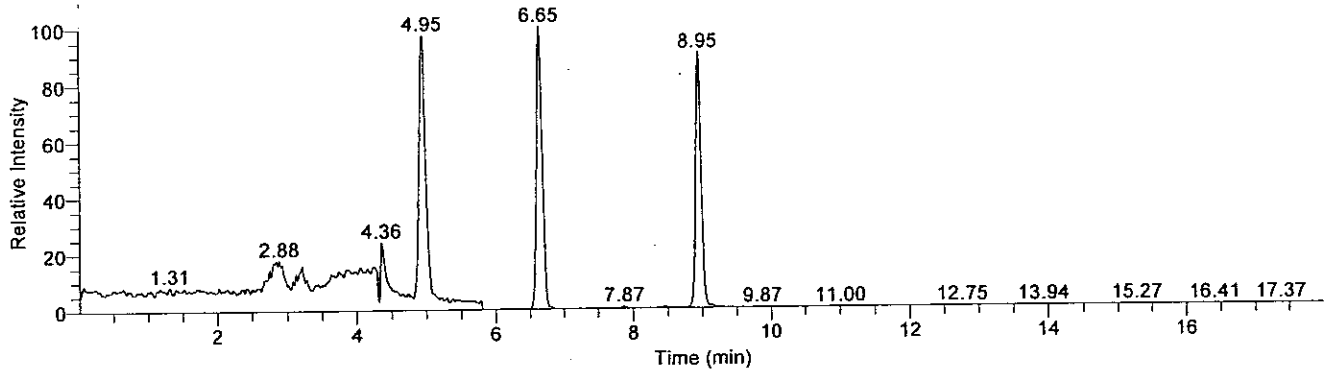
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-6.raw
Sample ID:	Cal3
Sample Type:	Standard
Level:	3
Acquisition Date:	Thursday, September 10, 2009 8:12:11 PM
Vial:	E:10
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-6 - TIC RT: 0.00 - 17.99 NL: 1.20E4

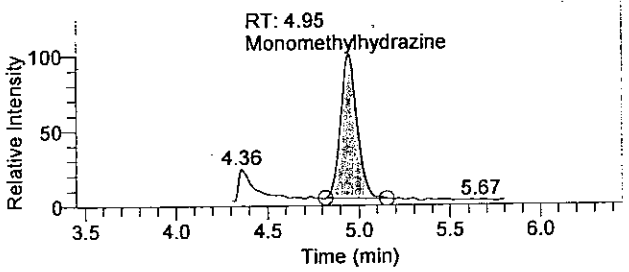


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:10, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-6, Comments: , ID: Cal3

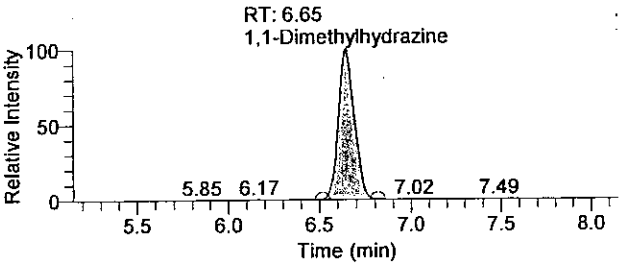
Monomethylhydrazine

10Sep2009-6 - TIC RT: 3.45 - 6.45 NL: 1.17E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



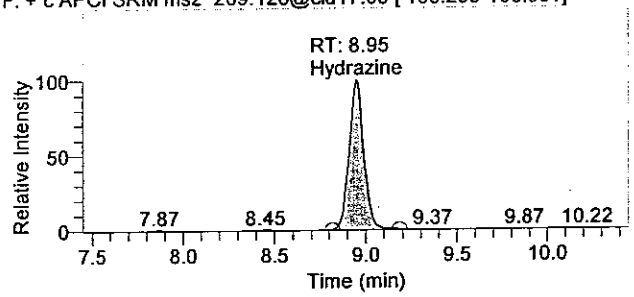
1,1-Dimethylhydrazine

10Sep2009-6 - TIC RT: 5.15 - 8.15 NL: 1.20E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-6 - TIC RT: 7.45 - 10.45 NL: 1.08E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



05R22 8849

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal3	Method Settings	Hydrazine	8.95	59953	0.458	ng/mL
Cal3	Method Settings	1,1-Dimethylhydrazine	6.65	71234	2.364	ng/mL
Cal3	Method Settings	Monomethylhydrazine	4.95	69806	2.341	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

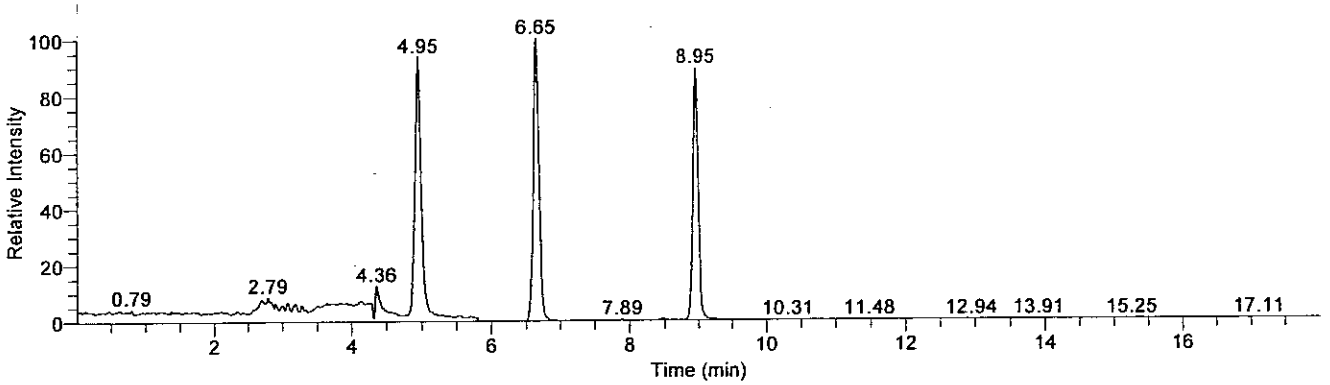
OLR22 0859

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-7.raw
Sample ID:	Cal4
Sample Type:	Standard
Level:	4
Acquisition Date:	Thursday, September 10, 2009 8:30:55 PM
Vial:	E:11
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-7 - TIC RT: 0.00 - 17.99 NL: 2.54E4

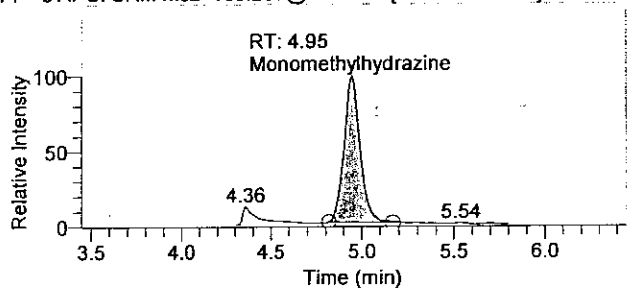


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:11, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-7, Comments: , ID: Cal4

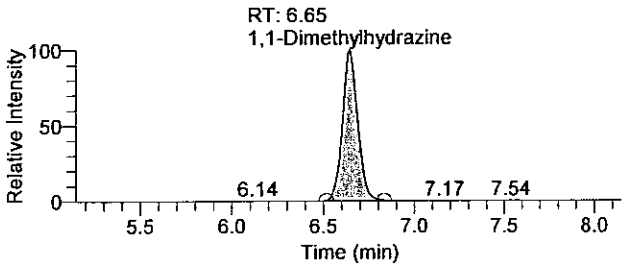
Monomethylhydrazine

10Sep2009-7 - TIC RT: 3.45 - 6.45 NL: 2.37E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



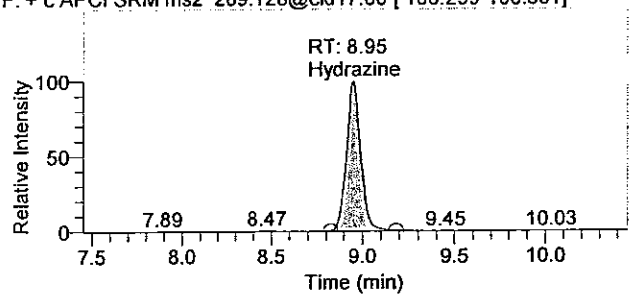
1,1-Dimethylhydrazine

10Sep2009-7 - TIC RT: 5.15 - 8.15 NL: 2.54E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-7 - TIC RT: 7.45 - 10.45 NL: 2.27E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 8851

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal4	Method Settings	Hydrazine	8.95	124436	0.952	ng/mL
Cal4	Method Settings	1,1-Dimethylhydrazine	6.65	147261	4.741	ng/mL
Cal4	Method Settings	Monomethylhydrazine	4.95	142905	4.625	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

OLK22 0052

There is no signature data to report.

Lancaster Laboratories

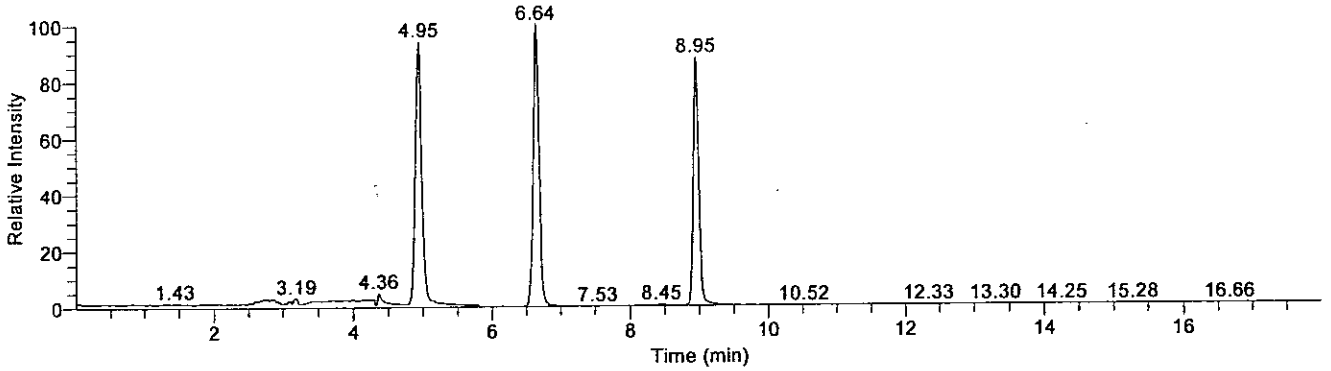
Printed: Friday, September 11, 2009, 10:25:04

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-8.raw
Sample ID:	Cal5
Sample Type:	Standard
Level:	5
Acquisition Date:	Thursday, September 10, 2009 8:49:42 PM
Vial:	E:12
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-8 - TIC RT: 0.00 - 18.00 NL: 6.37E4

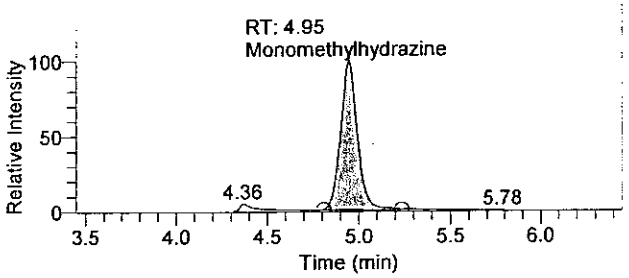


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:12, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-8, Comments: , ID: Cal5

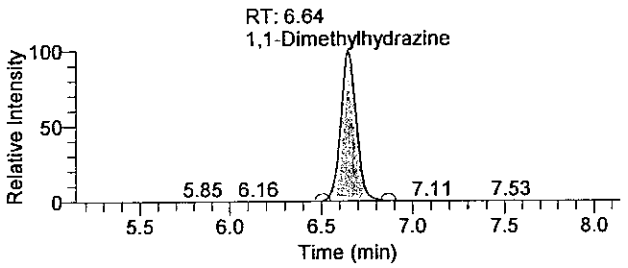
Monomethylhydrazine

10Sep2009-8 - TIC RT: 3.45 - 6.45 NL: 5.98E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



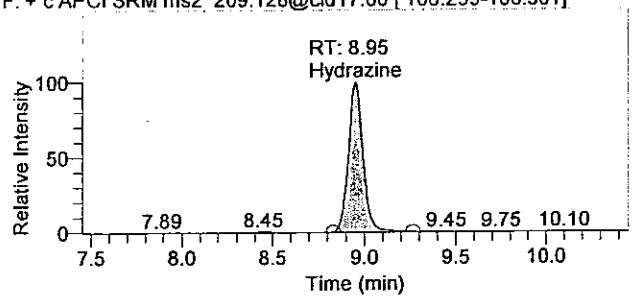
1,1-Dimethylhydrazine

10Sep2009-8 - TIC RT: 5.14 - 8.14 NL: 6.37E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-8 - TIC RT: 7.45 - 10.45 NL: 5.60E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 8853

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal5	Method Settings	Hydrazine	8.95	311178	2.383	ng/mL
Cal5	Method Settings	1,1-Dimethylhydrazine	6.64	378540	11.973	ng/mL
Cal5	Method Settings	Monomethylhydrazine	4.95	373444	11.829	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

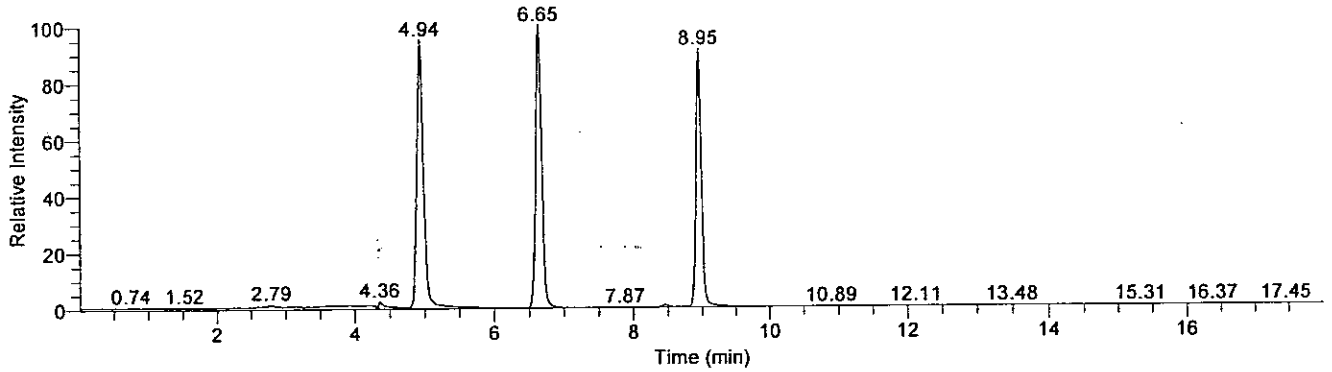
OLN22 0054

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-9.raw
Sample ID:	Cal6
Sample Type:	Standard
Level:	6
Acquisition Date:	Thursday, September 10, 2009 9:08:26 PM
Vial:	E:13
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-9 - TIC RT: 0.01 - 17.99 NL: 1.29E5

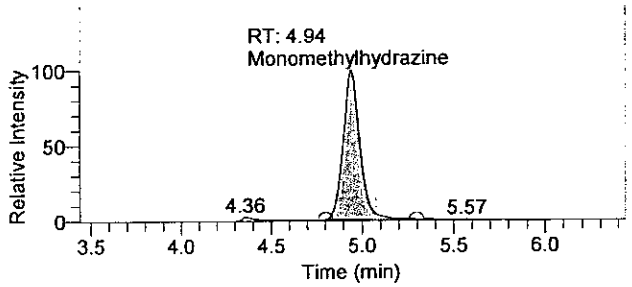


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:13, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-9, Comments: , ID: Cal6

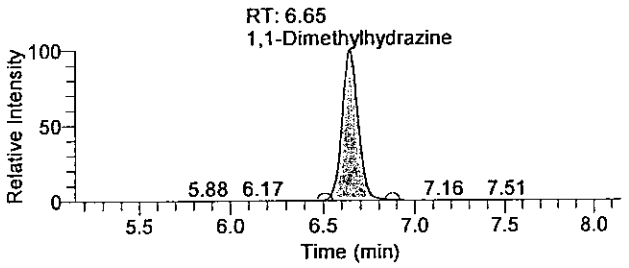
Monomethylhydrazine

10Sep2009-9 - TIC RT: 3.44 - 6.44 NL: 1.22E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



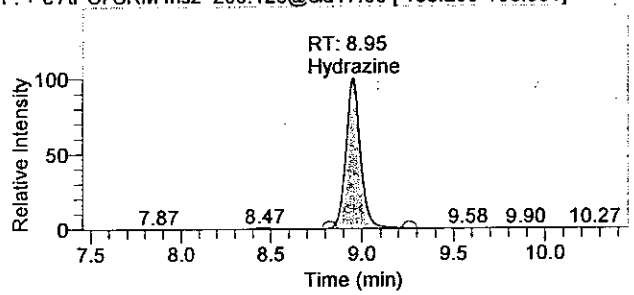
1,1-Dimethylhydrazine

10Sep2009-9 - TIC RT: 5.15 - 8.15 NL: 1.29E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-9 - TIC RT: 7.45 - 10.45 NL: 1.17E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 0855

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal6	Method Settings	Hydrazine	8.95	652953	5.003	ng/mL
Cal6	Method Settings	1,1-Dimethylhydrazine	6.65	777656	24.453	ng/mL
Cal6	Method Settings	Monomethylhydrazine	4.94	775008	24.377	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

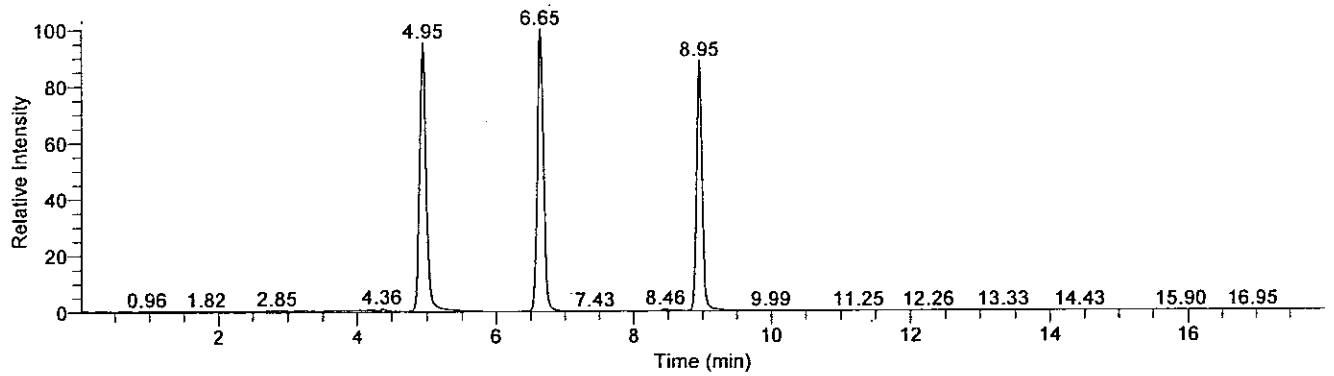
OLN22 0896

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-10.raw
Sample ID:	Cal7
Sample Type:	Standard
Level:	7
Acquisition Date:	Thursday, September 10, 2009 9:27:10 PM
Vial:	E:14
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-10 - TIC RT: 0.00 - 17.99 NL: 2.61E5

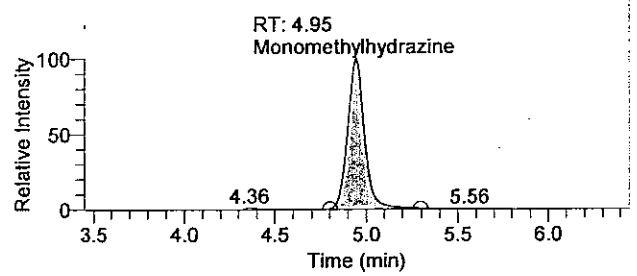


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:14, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-10, Comments: , ID: Cal7

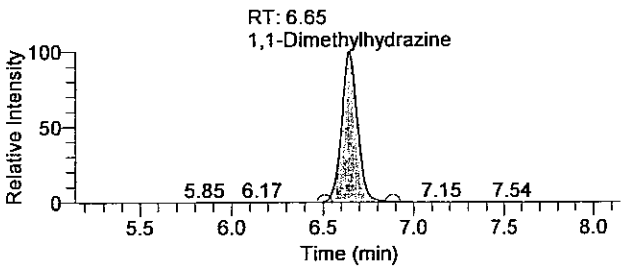
Monomethylhydrazine

10Sep2009-10 - TIC RT: 3.45 - 6.45 NL: 2.49E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



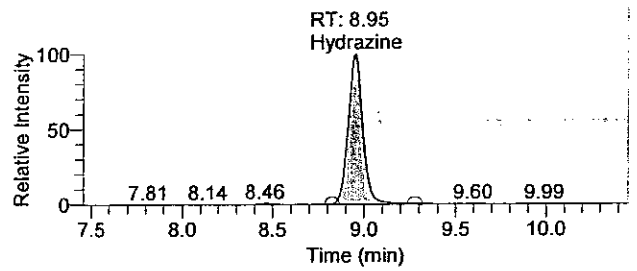
1,1-Dimethylhydrazine

10Sep2009-10 - TIC RT: 5.15 - 8.15 NL: 2.61E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-10 - TIC RT: 7.45 - 10.45 NL: 2.31E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 8857

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal7	Method Settings	Hydrazine	8.95	1313640	10.067	ng/mL
Cal7	Method Settings	1,1-Dimethylhydrazine	6.65	1603389	50.274	ng/mL
Cal7	Method Settings	Monomethylhydrazine	4.95	1610871	50.496	ng/mL

Analyst: JW 1543 9/11/2009

9/11/09

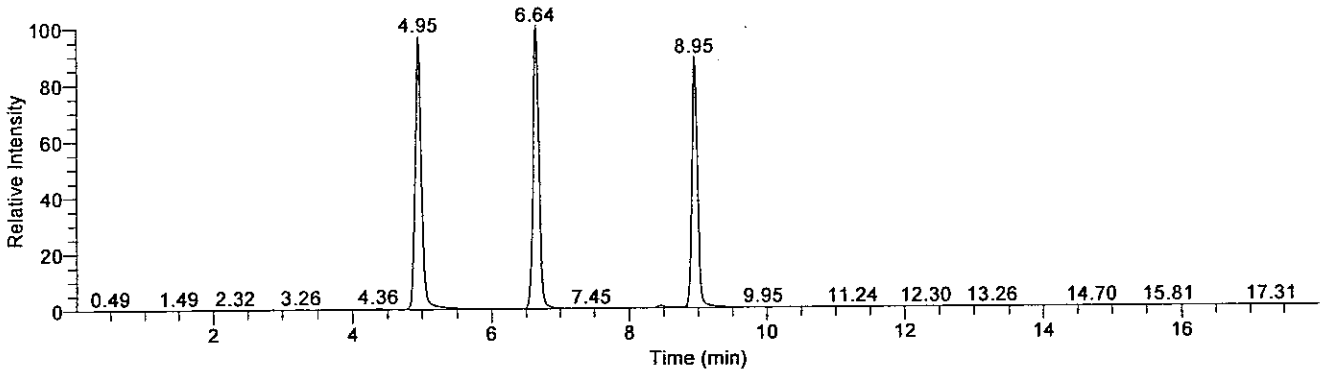
OLN22 8858

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-11.raw
Sample ID:	Cal8
Sample Type:	Standard
Level:	8
Acquisition Date:	Thursday, September 10, 2009 9:45:56 PM
Vial:	E:15
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-11 - TIC RT: 0.00 - 17.99 NL: 6.55E5

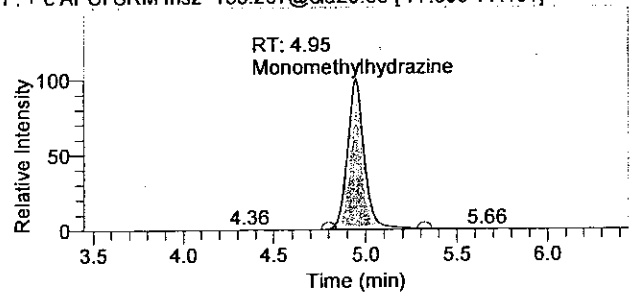


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:15, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-11, Comments: , ID: Cal8

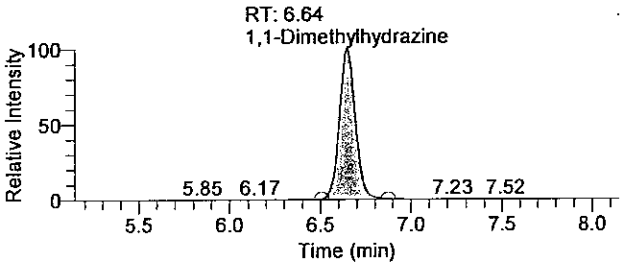
Monomethylhydrazine

10Sep2009-11 - TIC RT: 3.45 - 6.45 NL: 6.34E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



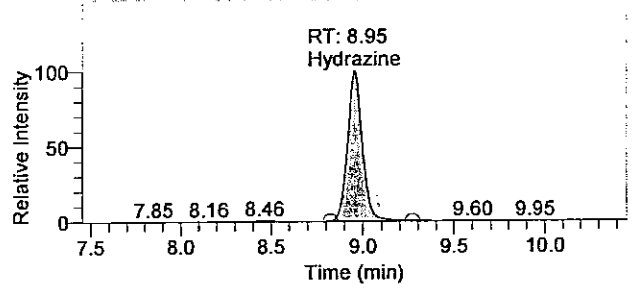
1,1-Dimethylhydrazine

10Sep2009-11 - TIC RT: 5.14 - 8.14 NL: 6.55E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-11 - TIC RT: 7.45 - 10.45 NL: 5.79E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



0LN22 6859

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal8	Method Settings	Hydrazine	8.95	3277070	25.117	ng/mL
Cal8	Method Settings	1,1-Dimethylhydrazine	6.64	4028402	126.103	ng/mL
Cal8	Method Settings	Monomethylhydrazine	4.95	4034344	126.225	ng/mL

Analyst : JW 1543 9/11/2009
[illegible] 9/11/09

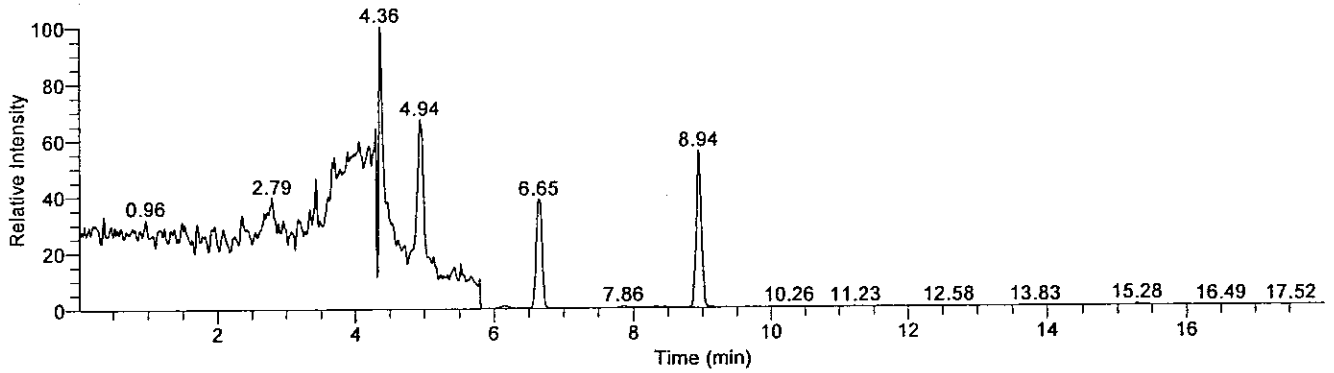
01N22 8868

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-3.raw
Sample ID:	MDL
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Thursday, September 10, 2009 7:15:59 PM
Vial:	E:7
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-3 - TIC RT: 0.00 - 18.00 NL: 3.01E3

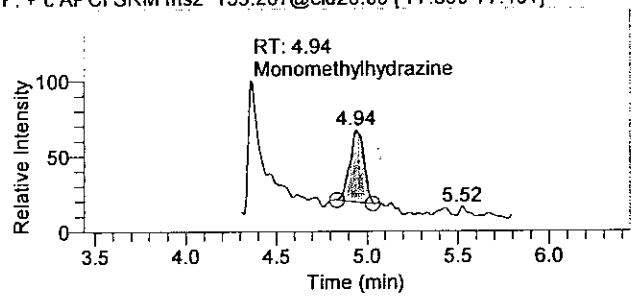


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:7, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-3, Comments: , ID: MDL

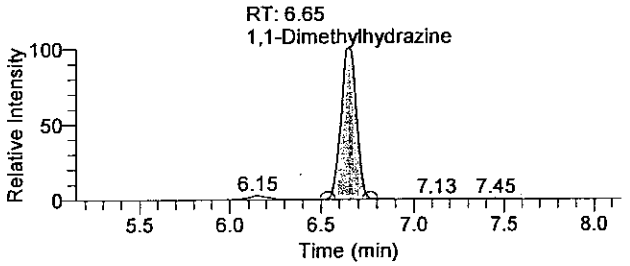
Monomethylhydrazine

10Sep2009-3 - TIC RT: 3.44 - 6.44 NL: 3.01E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



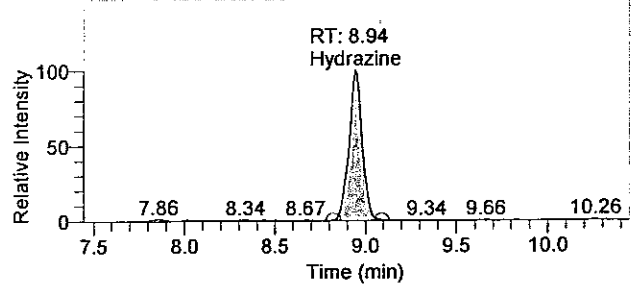
1,1-Dimethylhydrazine

10Sep2009-3 - TIC RT: 5.15 - 8.15 NL: 1.16E3
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-3 - TIC RT: 7.44 - 10.44 NL: 1.68E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLR22 8861

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
MDL	Method Settings	Hydrazine	8.94	8471	0.063	ng/mL
MDL	Method Settings	1,1-Dimethylhydrazine	6.65	6640	0.344	ng/mL
MDL	Method Settings	Monomethylhydrazine	4.94	7880	0.406	ng/mL

Analyst: JW 1543 9/11/2009

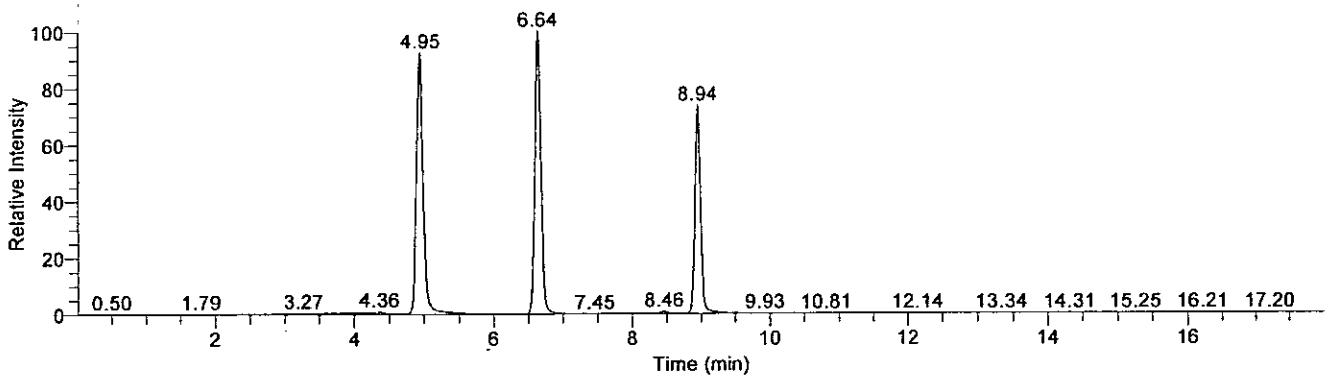
OLN22 8862

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-23.raw
Sample ID:	ICV
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 1:30:44 AM
Vial:	E:23
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-23 - TIC RT: 0.00 - 17.99 NL: 3.83E5

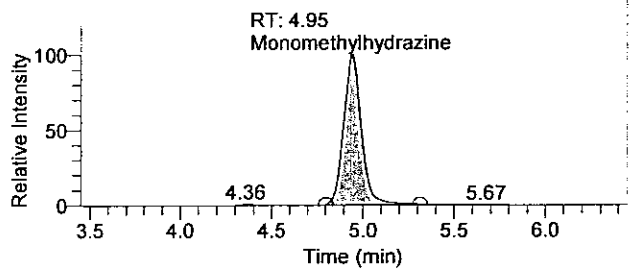


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:23, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-23, Comments: , ID: ICV

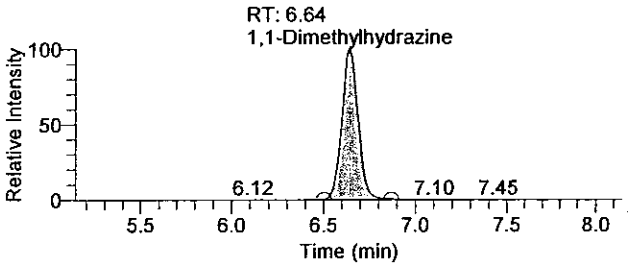
Monomethylhydrazine

10Sep2009-23 - TIC RT: 3.45 - 6.45 NL: 3.54E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



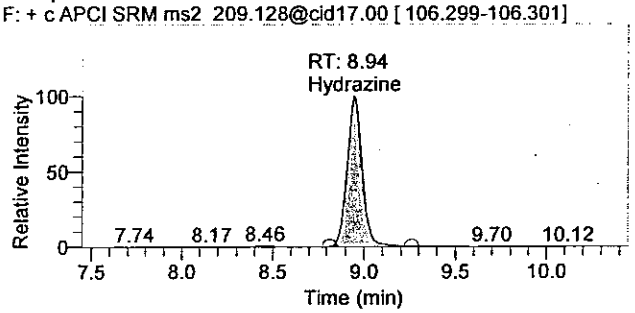
1,1-Dimethylhydrazine

10Sep2009-23 - TIC RT: 5.14 - 8.14 NL: 3.83E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-23 - TIC RT: 7.44 - 10.44 NL: 2.81E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLM22 8863

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
ICV	Method Settings	Hydrazine	8.94	1584757	12.145	ng/mL
ICV	Method Settings	1,1-Dimethylhydrazine	6.64	2343538	73.418	ng/mL
ICV	Method Settings	Monomethylhydrazine	4.95	2340916	73.309	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

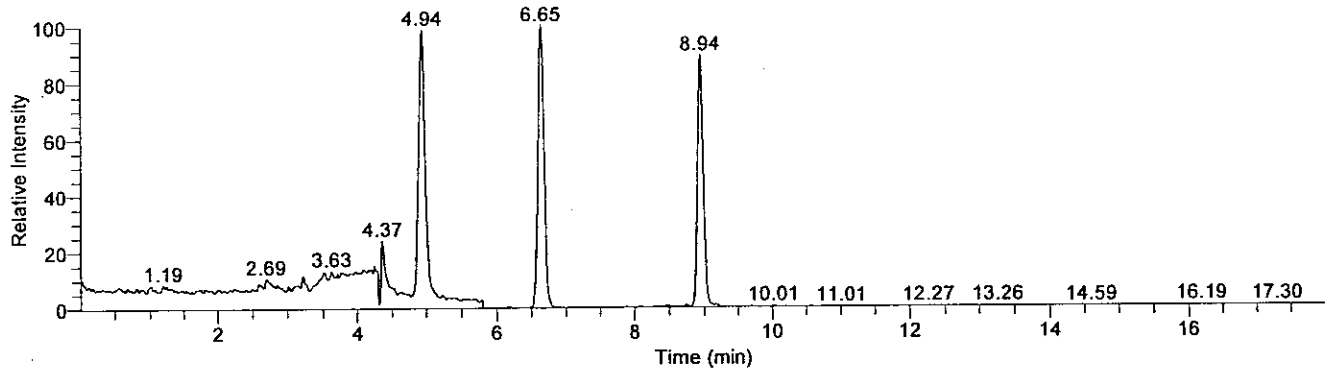
OLN22 8864

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-13.raw
Sample ID:	Cal3asQC1a
Sample Type:	QC
Level:	CCV1
Acquisition Date:	Thursday, September 10, 2009 10:23:21 PM
Vial:	E:10
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-13 - TIC RT: 0.00 - 17.99 NL: 1.29E4

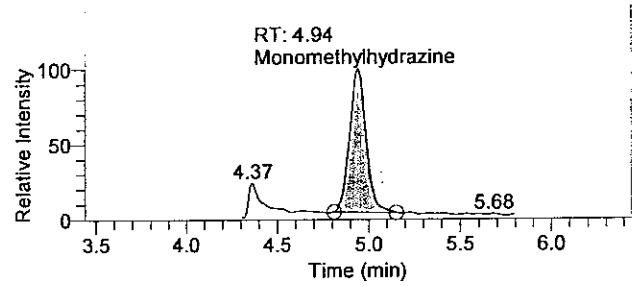


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:10, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-13, Comments: , ID: Cal3asQC1a

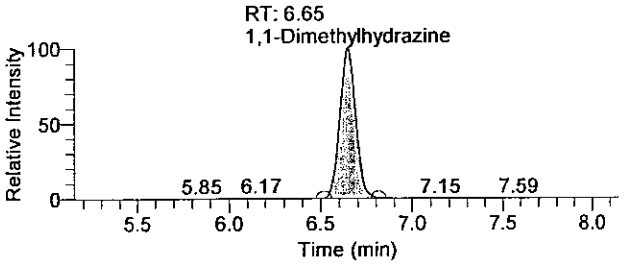
Monomethylhydrazine

10Sep2009-13 - TIC RT: 3.44 - 6.44 NL: 1.27E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



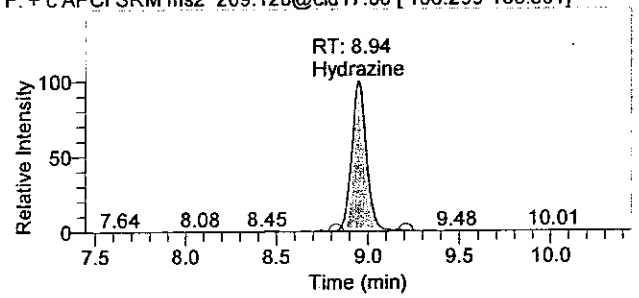
1,1-Dimethylhydrazine

10Sep2009-13 - TIC RT: 5.15 - 8.15 NL: 1.29E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-13 - TIC RT: 7.44 - 10.44 NL: 1.15E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



01N22 0065

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal3asQC1a	Method Settings	Hydrazine	8.94	65003	0.496	ng/mL
Cal3asQC1a	Method Settings	1,1-Dimethylhydrazine	6.65	77854	2.571	ng/mL
Cal3asQC1a	Method Settings	Monomethylhydrazine	4.94	77187	2.571	ng/mL

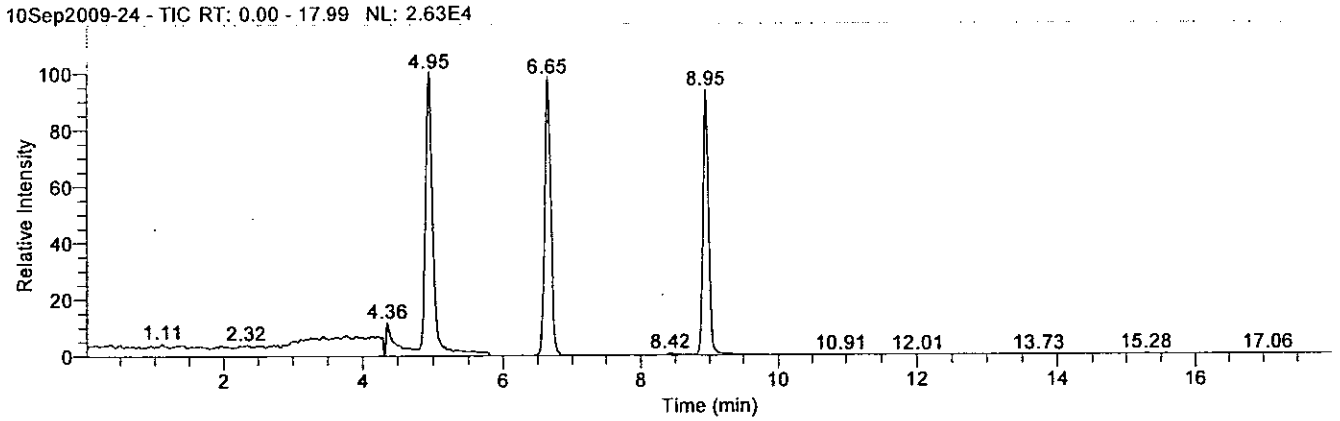
Analyst: JW 1543 9/11/2009
9/11/09

OLN22 0866

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-24.raw
Sample ID:	Cal4asQC2a
Sample Type:	QC
Level:	CCV2
Acquisition Date:	Friday, September 11, 2009 1:49:28 AM
Vial:	E:11
Dilution Factor:	1.00000

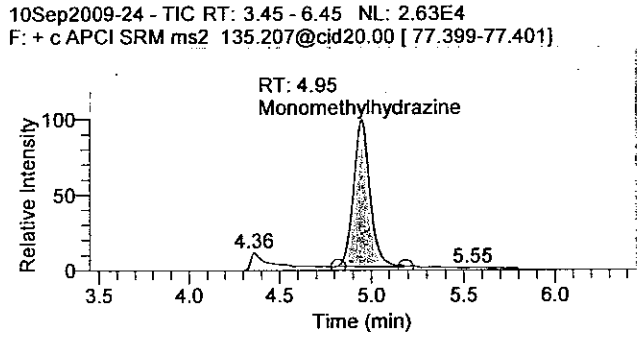
Sample Chromatogram



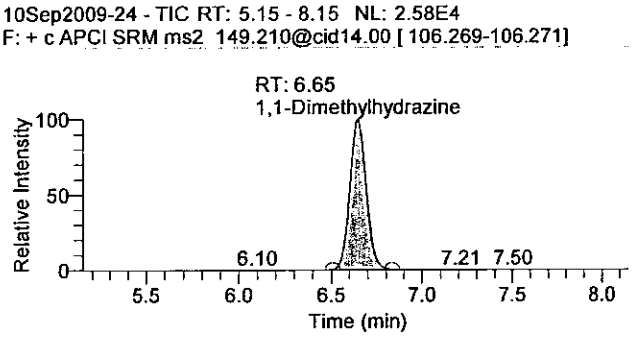
Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:11, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-24, Comments: , ID: Cal4asQC2a

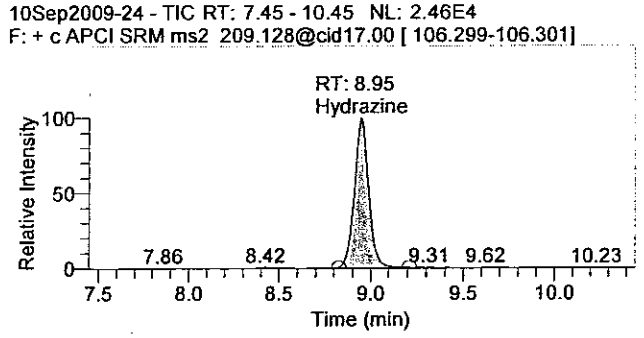
Monomethylhydrazine



1,1-Dimethylhydrazine



Hydrazine



OLN22: 8867

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal4asQC2a	Method Settings	Hydrazine	8.95	135875	1.040	ng/mL
Cal4asQC2a	Method Settings	1,1-Dimethylhydrazine	6.65	161008	5.171	ng/mL
Cal4asQC2a	Method Settings	Monomethylhydrazine	4.95	165181	5.321	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

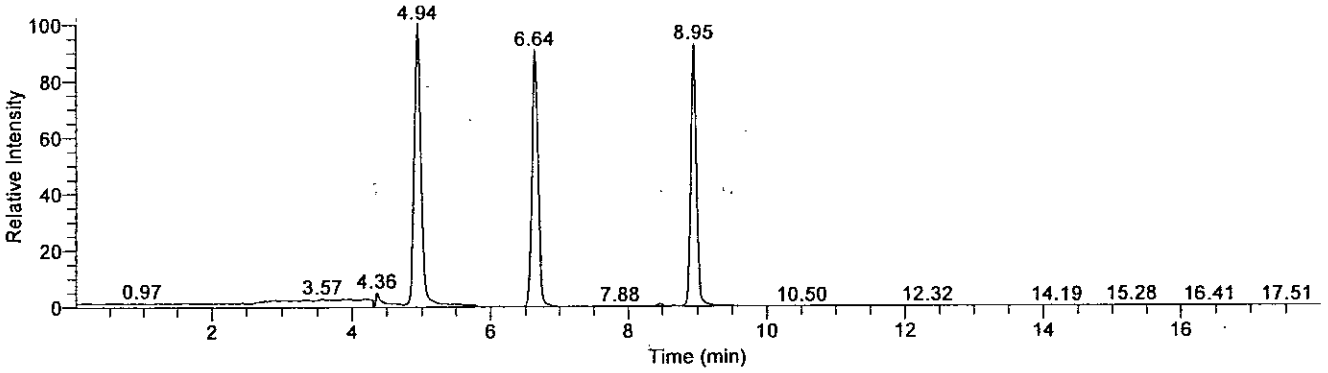
OLN22 8868

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	10Sep2009-33.raw
Sample ID:	Cal5asQC3a
Sample Type:	QC
Level:	CCV3
Acquisition Date:	Friday, September 11, 2009 4:38:10 AM
Vial:	E:12
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-33 - TIC RT: 0.00 - 17.99 NL: 6.59E4

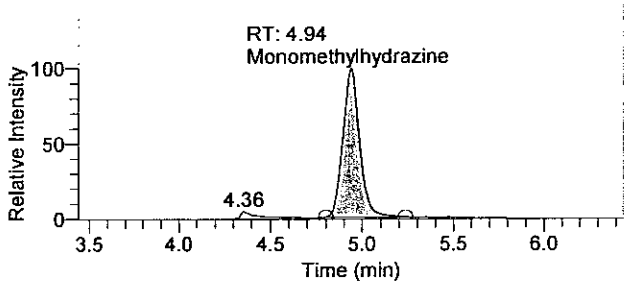


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:12, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-33, Comments: , ID: Cal5asQC3a

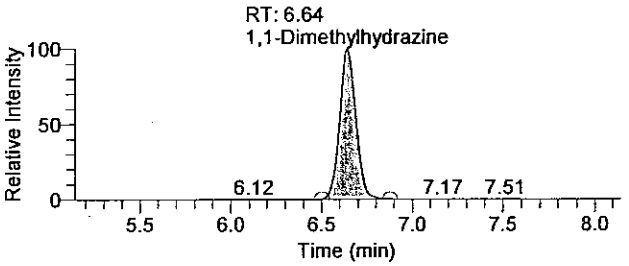
Monomethylhydrazine

10Sep2009-33 - TIC RT: 3.44 - 6.44 NL: 6.59E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



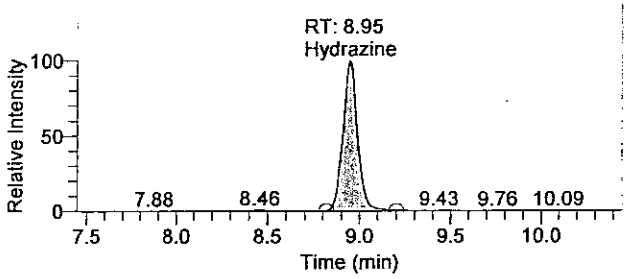
1,1-Dimethylhydrazine

10Sep2009-33 - TIC RT: 5.14 - 8.14 NL: 5.97E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-33 - TIC RT: 7.45 - 10.45 NL: 6.12E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



GLN22 8869

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal5asQC3a	Method Settings	Hydrazine	8.95	344666	2.640	ng/mL
Cal5asQC3a	Method Settings	1,1-Dimethylhydrazine	6.64	371248	11.745	ng/mL
Cal5asQC3a	Method Settings	Monomethylhydrazine	4.94	421613	13.334	ng/mL

Analyst: JW 1543 9/11/2009
[illegible]/02 9/11/09

OLN22 8878

There is no signature data to report.

Raw QC Data

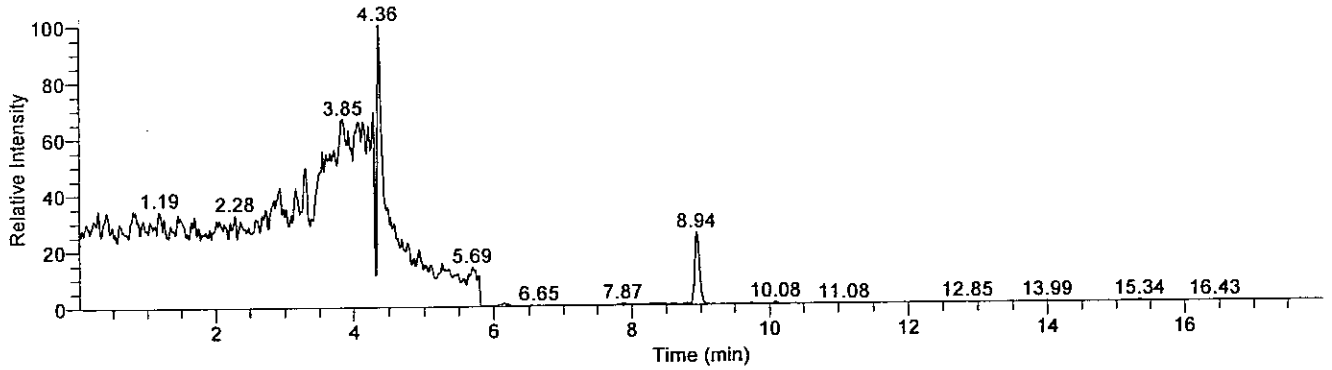
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-16.raw
Sample ID:	Blank1
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Thursday, September 10, 2009 11:19:33 PM
Vial:	E:16
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-16 - TIC RT: 0.00 - 17.99 NL: 2.82E3

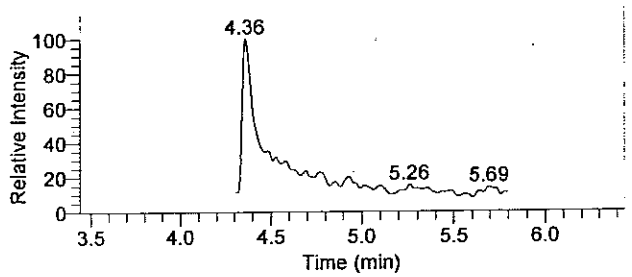


Compound Graphics

Date: 10-Sep-2009, Instrument: Quantum, Vial: E:16, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-16, Comments: Soil prep, ID: Blank1

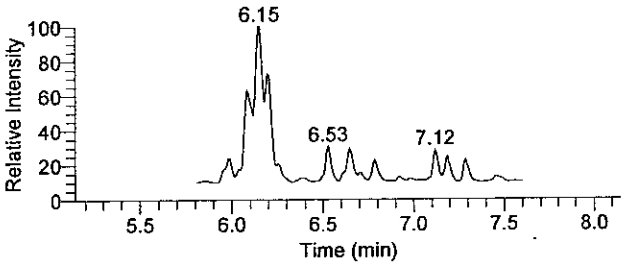
Monomethylhydrazine

10Sep2009-16 - TIC RT: 3.44 - 6.44 NL: 2.82E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



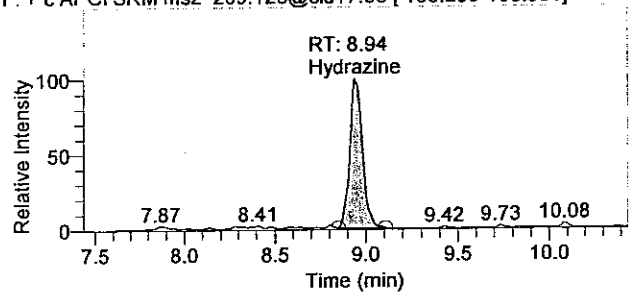
1,1-Dimethylhydrazine

10Sep2009-16 - TIC RT: 5.14 - 8.14 NL: 3.17E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-16 - TIC RT: 7.44 - 10.44 NL: 7.25E2
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22 5872

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Blank1	Method Settings	Hydrazine	8.94	3491	0.025	ng/mL
Blank1	Method Settings	1,1-Dimethylhydrazine	N/A	NF	NC	ng/mL
Blank1	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst: JW 1543 9/11/2009

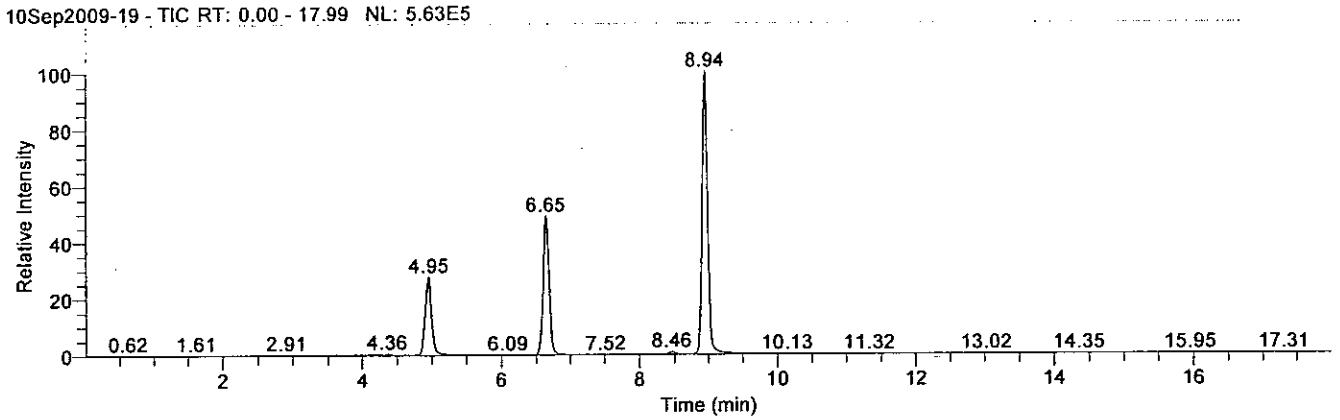
9/11/09

01N22 0873

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-19.raw
Sample ID:	5769177MS
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 12:15:47 AM
Vial:	E:19
Dilution Factor:	1.00000

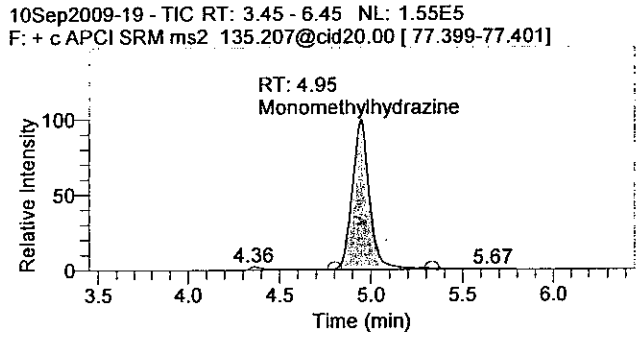
Sample Chromatogram



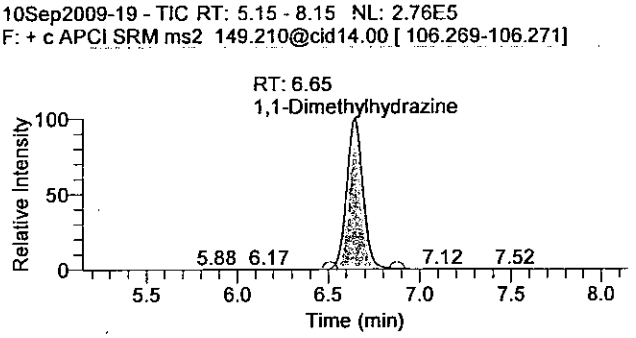
Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:19, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-19, Comments: Soil prep, ID: 5769177MS

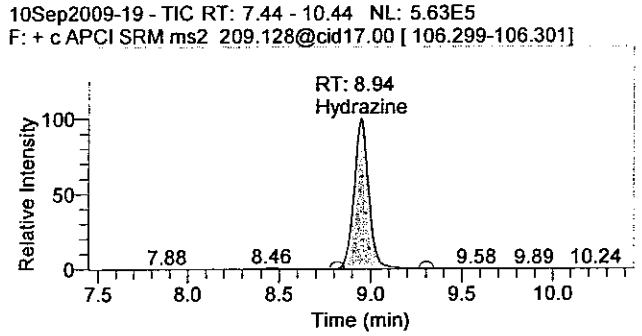
Monomethylhydrazine



1,1-Dimethylhydrazine



Hydrazine



OLN22: 8874

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5769177MS	Method Settings	Hydrazine	8.94	3178316	24.360	ng/mL
5769177MS	Method Settings	1,1-Dimethylhydrazine	6.65	1692242	53.052	ng/mL
5769177MS	Method Settings	Monomethylhydrazine	4.95	994013	31.220	ng/mL

Analyst : JW 1543 9/11/2009
9/11/09

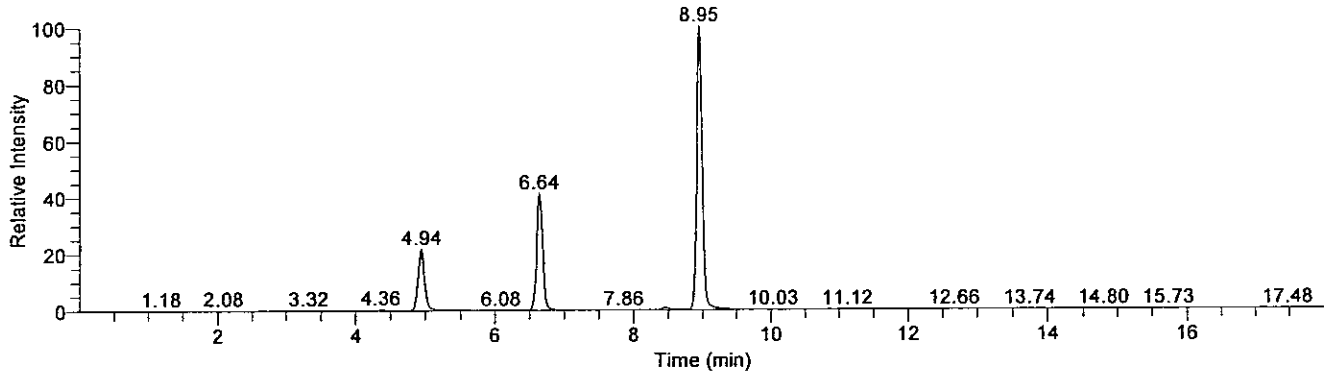
OLN22 0075

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-20.raw
Sample ID:	5769178MSD
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 12:34:32 AM
Vial:	E:20
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-20 - TIC RT: 0.00 - 18.00 NL: 6.62E5

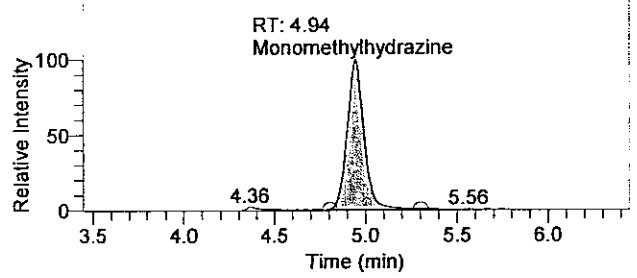


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:20, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-20, Comments: Soil prep, ID: 5769178MSD

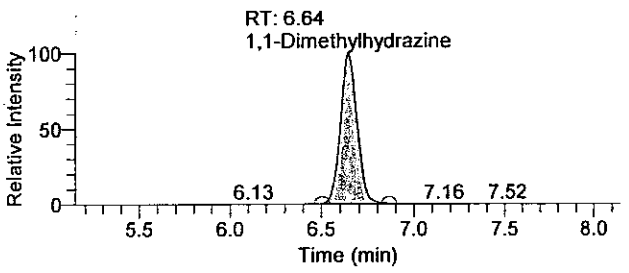
Monomethylhydrazine

10Sep2009-20 - TIC RT: 3.44 - 6.44 NL: 1.44E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



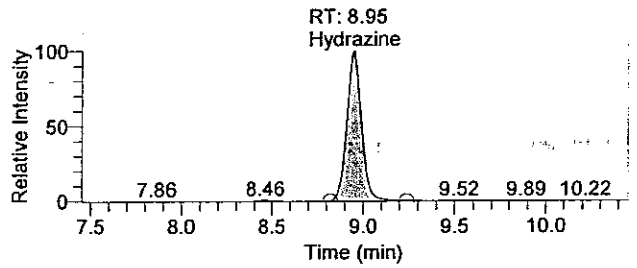
1,1-Dimethylhydrazine

10Sep2009-20 - TIC RT: 5.14 - 8.14 NL: 2.73E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-20 - TIC RT: 7.45 - 10.45 NL: 6.62E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5769178MSD	Method Settings	Hydrazine	8.95	3708721	28.426	ng/mL
5769178MSD	Method Settings	1,1-Dimethylhydrazine	6.64	1676230	52.551	ng/mL
5769178MSD	Method Settings	Monomethylhydrazine	4.94	916937	28.812	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

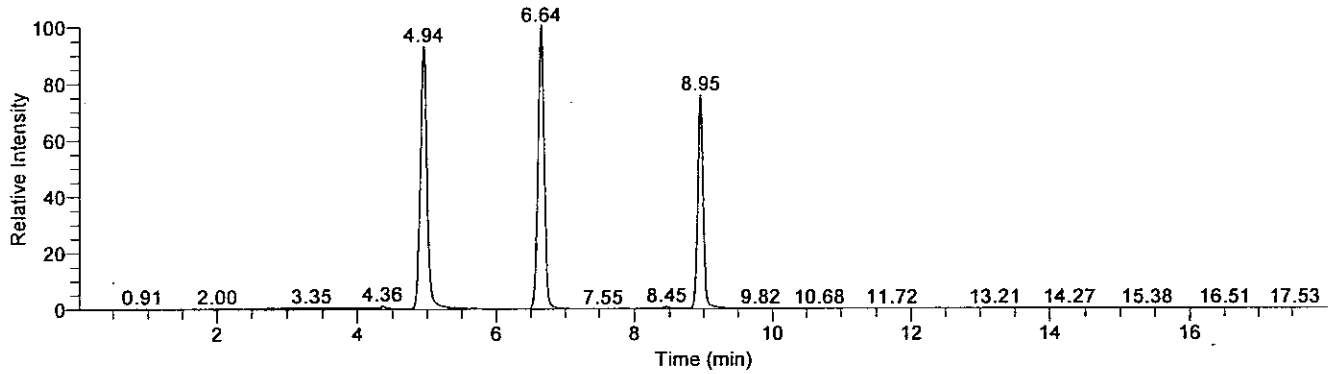
OLN22 8877

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-21.raw
Sample ID:	LCS1
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 12:53:18 AM
Vial:	E:21
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-21 - TIC RT: 0.00 - 17.99 NL: 3.19E5

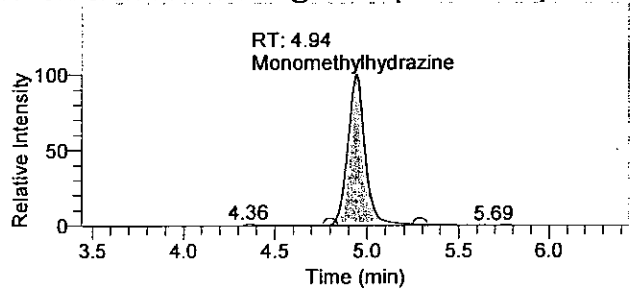


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:21, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-21, Comments: Soil prep, ID: LCS1

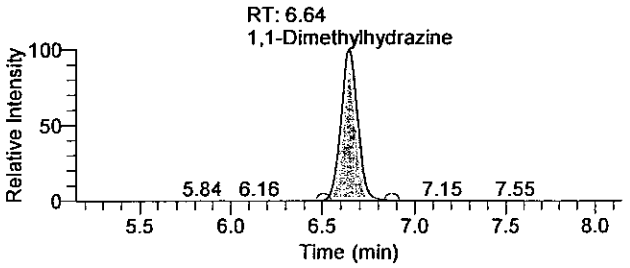
Monomethylhydrazine

10Sep2009-21 - TIC RT: 3.44 - 6.44 NL: 2.97E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



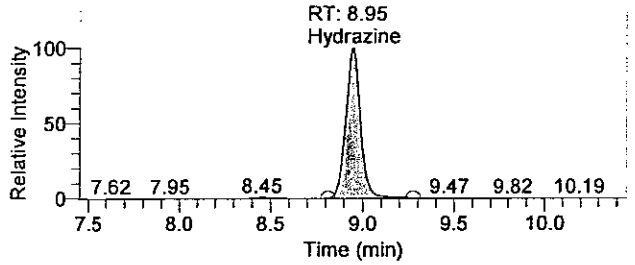
1,1-Dimethylhydrazine

10Sep2009-21 - TIC RT: 5.14 - 8.14 NL: 3.19E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-21 - TIC RT: 7.45 - 10.45 NL: 2.41E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



GLH22 9878

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
LCS1	Method Settings	Hydrazine	8.95	1360841	10.429	ng/mL
LCS1	Method Settings	1,1-Dimethylhydrazine	6.64	1988756	62.324	ng/mL
LCS1	Method Settings	Monomethylhydrazine	4.94	1953160	61.192	ng/mL

Analyst: JW 1543 9/11/2009
9/11/09

OLN22 8879

There is no signature data to report.

Lancaster Laboratories

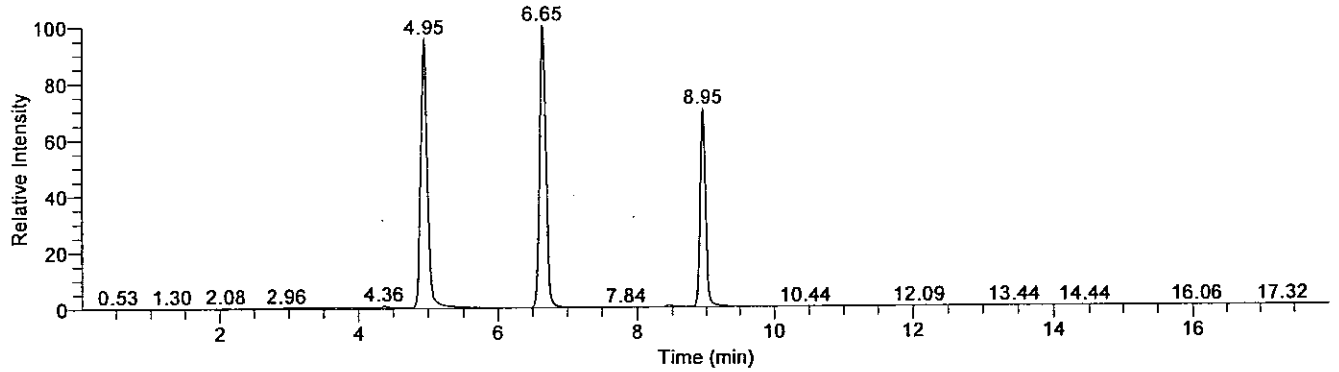
Printed: Friday, September 11, 2009, 10:25:07

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3
Workbook Name:	TQU01408-10Sep2009-3
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0925310610812
Data File:	10Sep2009-22.raw
Sample ID:	LCSD1
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Friday, September 11, 2009 1:11:58 AM
Vial:	E:22
Dilution Factor:	1.00000

Sample Chromatogram

10Sep2009-22 - TIC RT: 0.00 - 17.99 NL: 3.22E5

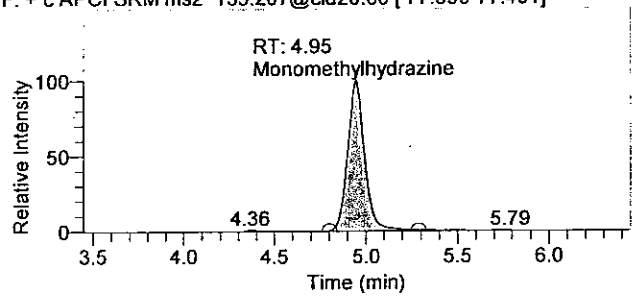


Compound Graphics

Date: 11-Sep-2009, Instrument: Quantum, Vial: E:22, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-10Sep2009-3\Rawfiles\10Sep2009-22, Comments: Soil prep, ID: LCSD1

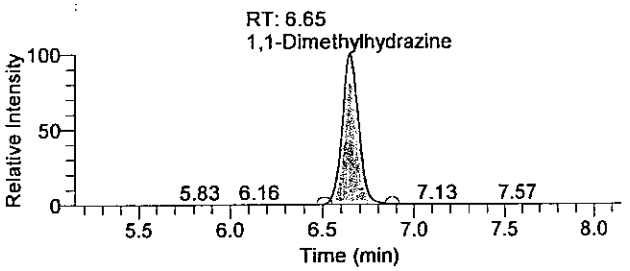
Monomethylhydrazine

10Sep2009-22 - TIC RT: 3.45 - 6.45 NL: 3.08E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



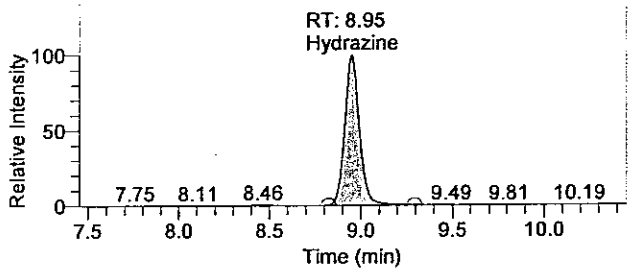
1,1-Dimethylhydrazine

10Sep2009-22 - TIC RT: 5.15 - 8.15 NL: 3.22E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

10Sep2009-22 - TIC RT: 7.45 - 10.45 NL: 2.26E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN22: 8808

There is no signature data to report.

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
LCSD1	Method Settings	Hydrazine	8.95	1283764	9.838	ng/mL
LCSD1	Method Settings	1,1-Dimethylhydrazine	6.65	1975112	61.897	ng/mL
LCSD1	Method Settings	Monomethylhydrazine	4.95	1984204	62.162	ng/mL

Analyst: JW 1543 9/11/2009
[illegible] 9/11/09

OLN22 8881

There is no signature data to report.

Sample Preparation

OLN22 0882

Lancaster Laboratories
2425 New Holland Pike • Lancaster, PA 17601

SOP Analysis # 10346, Rev. 01, eff. 2/10/2009
Title: Determination of Hydrazine, Monomethylhydrazine and 1,1-Dimethylhdrazine in Soil Samples by LC/MS/MS
From: Notebook 106108, pg. 11
Date: 9/10/2009

1. Pipette calibration

Pipette: Rainin, 10-100 uL, S/N G0798427I

Volume (uL)	Balance Reading (mg)
50	49.58

Pipette: Rainin, 1-10 uL, S/N I0731749I

Volume (uL)	Balance Reading (mg)
10	9.73

Pipette: Eppendorf Reference, 10-100 uL, S/N 4037-1

Volume (uL)	Balance Reading (mg)
40	39.31

Pipette: Eppendorf Research, 100-1000uL, S/N 2778567

Volume (uL)	Balance Reading (g)
500	0.49484

Pipette: Eppendorf Research, 100-1000uL, S/N 1467845

Volume (uL)	Balance Reading (g)
1000	0.99215

Pipette: Rainin, 1-10 mL, S/N C0822978A

Volume (mL)	Balance Reading (g)	Balance Reading (g)
10	~~0.49484~~ ② See photo 1 ③ recorded in the wrong place	10.05684

All the pipettes passed calibration check.

2. Weigh Ottawa sand and soil samples into extraction vials

Batch # 09253 10610812

Blank 1	0.99829
LCS 1	1.00179
LCSD 1	0.99999
576P175 FD	0.99779
576P176 BKG	1.00049
576P177 MS	0.99979
576P178 MSD	0.99999
576P179	1.00069
576P180	0.99839

OLM22 0863

4056.01 J.W.y 9/11/2009

9/10/2008

From: Notebook 106108: pg. 12

2. Cont'd

5770779 0.9979 g
5770780 0.9976 g
5770781 1.0017 g

3. Weigh Ottawa sand and soil samples into extraction vials

Batch # 08255 106108B13

Blank 2 1.0029 g
LCS 2 1.0009 g
LCSD 2 0.9994 g
5769171 FD 0.9999 g
5769172 ~~MS~~ 3) Jw photo? BKG 1.0028 g
5769173 MS 1.0007 g
5769174 MSD 1.0024 g
5772546 1.0017 g
5772547 1.0037 g
5772548 0.9986 g
5772550 1.0004 g

4. There are two batches that will be prepared today.

5. Prepare 1M hexylamine soln 106108-13-1

0.264 mL hexylamine → 2 ~~to~~ mL volumetric flask. Brought to volume with methanol. mixed well. 3) Jw photo?

6. Prepare 1% (v/v) benzaldehyde soln

200.0 mL of benzaldehyde + 20 mL methanol measured with graduated cylinder → glass vial. mixed well

7. Prepare 2nd source monomethylhydrazine stock soln

Monomethylhydrazine 9.07 mg → 10 mL volumetric flask. Brought to volume with methanol. mixed well

Conc. 907 mg/mL

OLN22 ~~0004~~

4056.01 Jawing 8/11/2008

106108 13

9/10/2007

From: Notebook 106108 pg. 13

8. Prepare 2nd source LCS spiking sol'n 106108-14-1
Added 2nd source
hydrazine stock sol'n 100582-58-1: 68.3 mL
monomethylhydrazine stock sol'n: 68.9 mL
1,1-dimethylhydrazine stock sol'n 100582-43-4: 77.2 mL
into 10 mL volumetric flask. Brought to volume with methanol, mixed well.
In this sol'n hydrazine 1.25 mg/mL
Monomethylhydrazine and 1,1-dimethylhydrazine 1.25 mg/mL

9. Added 100.0 mL of LCS spiking sol'n into QC samples (LCS1, LCSD1, ~~MSI~~ MS and MSD) in Batch # 0F253106108 12. (1) 9/10/2007

10. Added 10.0 mL of extraction fluid into all samples in Batch # 0F253106108 12

11. Added 100.0 mL of LCS spiking sol'n into QC samples (LCS2, LCS2, MS and MSD) in Batch # 0F253106108 13.

12. Added 10.0 mL of extraction fluid into all samples in Batch # 0F253106108 13.

13. Placed all samples in Batch # 0F253106108 12 and Batch # 0F253106108 13 at the shaker and agitated at 300 rpm for 10 min.
Centrifuged all samples in the above two batches at 2950 rpm for 10 min.

OLN22 8885

4056.01 [illegible] 9/11/2007

9/10/2008

From: Notebook 106108, pg 14

14. Derivatization of MDL and calibration standards with benzaldehyde

1M hexylamine sol'n 106108-13-1	Standards	Benzaldehyde sol'n
10.0 mL	1.0 mL	0.5 mL

15. Derivatization of TVC and 2nd source LCS spiking sol'n

1M hexylamine sol'n	0.2M acetate buffer	Spiking sol'n	Benzaldehyde sol'n
106108-13-1	100562-54-5	③ Jw photo? ~~106108~~- 10.0 mL	
10.0 mL	1.0 mL	106108-5-2	0.5 mL
↓	↓	106108-14-1	↓

16. Derivatization of all the samples in Batch # 0J253 106108 12

Supernant of extract	5M acetate buffer	Benzaldehyde sol'n
1.0 mL	400 mL	0.5 mL

100562-14-3 ~~100562-54-4~~ ② Jw photo?

17. Derivatization of all the samples in Batch # 0J253 106108 13

Supernant of extract	5M acetate buffer 100562-14-3	Benzaldehyde sol'n
1.0 mL	400 mL	0.5 mL

To make each derivative sol'n, added the corresponding sol'n according to the table above into ~~glass~~ ③ Jw photo? glass vials, mixed well. Placed the glass vials in a sample shaker with heated water bath (40°C) for 1hr. Filtered the sol'n into auto sampler vials

18. Run workbook: TRVC1408-10 Sep 2008-3
under: C:\X Calibur\Hydrazine Analysis\Sep 2008
Samples: All the samples prepared today
Two batches of soil samples were prepared today

GEN22 0006

9/10/2009
From Notebook 106108 pg 15

19. Reagents + Equipment
LC pump: Thermo Electron Corporation, Accela, S/N 83181
LC autosampler: Thermo Electron Corporation, Accela, S/N 82612
Mass Spectrometer: Thermo Scientific, TSQ Quantum Access, S/N TQU 01408
HPLC column: Thermo Scientific, Hypersil Gold, 3um, Part No. 25003-052130, L/N 9154, S/N 0381365T
Sample shaker with heated water bath: Lancaster Labs Asset# 15722
Thermometer: cal. Due 7/2010, NB 103345/17, cal. Range 18.05 °C to 50.00 °C
Centrifuge: Beckman, GS-6, Lancaster Labs Asset # 6529, qual. Due 6/2010
Orbit Shaker: No Asset #, LAB-LINE, Maxium 400 rpm, from Dept. 09
Ottawa sand: L/N 503010-AA, Baked 4/28/2009, Exp. 4/28/2010
Syringe: 3mL, SUN-SRI Cat. No. 400 044, L/N 00077198
Acrodisc CR syringe filter: PALL, with 0.45um PTFE membrane, L/N 21722067
Methanol: Fisher Scientific, Optima, L/N 090571, exp. 4/8/2014
Benzaldehyde: Aldrich, ≥ 99.5%, Batch #. 99696DJ, exp. 6/1/2013
Balance: 6424, cal. Due 11/~~06~~ 09, qual. Due 7/2010 (weighing monomethylhydrazine)
Balance: 5554, cal. Due 11/09, qual. Due 3/2010 (for pipette calibration and weigh Ottawa sand and soil samples)
MDL and calibration standards: 100562-55-1 to 100562-55-9, see notebook: 100562, pg. 55
2nd source hydrazine stock solution 100562-58-1: 180.4 ug/mL, see notebook 100562, pg. 58
2nd source 1,1-dimethylhydrazine stock solution 100562-43-4: 810 ug/mL, see notebook 100562, pg. 43
2nd source monomethylhydrazine neat material: Chem Service, 99.1%, L/N 414-156B, exp. 01/12
2nd source ICV spiking solution: 106108-5-2, see notebook 106108, pg. 5. In this solution, hydrazine 1.25 ug/mL, monomethylhydrazine and 1,1-dimethylhydrazine 6.25 ug/mL
2nd source LCS spiking solution is prepared daily. In this solution, hydrazine 1.25 ug/mL, monomethylhydrazine and 1,1-dimethylhydrazine 6.25 ug/mL
Hexylamine: Acros Organics, Cat. No. 204720050, L/N A0249212, re-eval. 8/24/2010

Moisture Data

OLN22 8888

Lancaster Laboratories

CLIENT: Olin Corporation
SDG: OLN22

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
5769175	O465DFD
5769176	O4658BKG
5769177	O4658MS
5769178	O4658MSD
5769179	O4688
5769180	O4713

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 09252820001A	Sample number(s): 5769175				
Moisture	100		99-101		
Batch number: 09252820001B	Sample number(s): 5769176-5769180				
Moisture	100		99-101		
Moisture	100		99-101		
Moisture Duplicate	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 09252820001A	Sample number(s): 5769175			
Moisture	12.2	12.5	3	15
Batch number: 09252820001B	Sample number(s): 5769176-5769180			
Moisture	11.5	11.6	1	15
Moisture Duplicate	11.5	11.6	1	15
Moisture	11.5	11.6	1	15

* - Outside of specification
(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 09252820001

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
LCS 89.5% Std.			1.1126	5.0262	1.6440	89.43	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769175FD	A	00111	1.1313	9.8616	9.7621	12.48	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
P769172BKGFD	A	00111	1.1153	9.7680	9.6913	12.20	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
P769172DUPFD	A	00111	1.1165	9.0237	9.0104	12.52	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769176BKG	B	00111	1.1371	7.9678	8.1887	11.50	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769177MS	B	00118				11.50	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769178MSD	B	00118				11.50	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769178MSD	B	00121	1.0913	7.7582	7.9467	11.64	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769179	B	00111	1.0996	8.5747	8.5731	12.84	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)
5769180	B	00111	1.0709	7.9143	7.0147	24.90	9/ 9/09 (1201/SWF)	9/10/09 (0236/CW)