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FILE COPY

CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY: [illegible] 2-16-11

Type I Data Package for Olin Corporation

SDG# OLN19

Project: Olin Wilmington, MA Superfund Site/6107090016
Soil Samples
Collected on 08/28/09

GROUP	SAMPLE NUMBERS
1159828	5764220-5764223

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

Prepared by Jacqueline Fillenbaum

Reviewed by Dorothy M Love

Date 9/29/09

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Sample Reference List for SDG Number OLN19 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
5764220	O451D	OC-SB-451-2.5/4.5-DUP Grab Soil
5764221	O4512	OC-SB-451-2.5/4.5-XXX Grab Soil
5764222	O4512	OC-SB-451-2.5/4.5-XMS Grab Soil
5764223	O4512	OC-SB-451-2.5/4.5-MSD Grab Soil

Shipped 8/28/09 Friday

Acct # 12670
Grp # 1159828
Sample # 5764220-23

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:	

INVOICE INFO — Shaded Areas for office use only

Company Name: Olin Corp
Company Contact: ERG Accounts Payable
Address: Same as Client
Phone: Email

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 ____

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) G	Cr+6 (7199) P	DMF (Mod 8033 - GC/NPD) G	DMF (Mod 8033 - GC/NPD) V	Dpex / Kempore (8000B - HPLC) V	Perchlorate (6850) V	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS) AG	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS) Zn AV	Comments (Special Instructions)
													<--Preservative Type (4)		
													<--Bottle Type (5)		
OC-SB-451-0.0/1.0-XXX	8/28/2009 11:20:00	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,

Cooler ? Y / N | MADEP Requirement: Samples Iced? Y / N
Temp @ receipt: 4.3 Deg C
Preservation / pH checked? Y / N
By: ____ Date: ____

Relinquished: [signature] Date: 8/28/09 Time: 1515 Received: ____ Date: __/__/__ Time: ____
Relinquished: ____ Date: __/__/__ Time: ____ Received: [signature] Date: 8/29/09 Time: 10:20

Acct# ~~12607~~ 12670 ③ KMZ 8-29-09

Lancaster - Soil

Grp# 1159828

Sample# 5764220-23

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-451-18/20-XXX	8/28/2009 12:50:00	T	FS	SO	G	1							X		Category 3
OC-SB-451-2.5/4.5-DUP	8/28/2009 11:40:00	T	FD	SO	G	1							X		Category 2
OC-SB-451-2.5/4.5-MSD	8/28/2009 11:40:00	T	MS	SO	G	1							X		Category 2
OC-SB-451-2.5/4.5-XMS	8/28/2009 11:40:00	T	MS	SO	G	1							X		Category 2
OC-SB-451-2.5/4.5-XXX	8/28/2009 11:40:00	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: 4.3 Deg C
	Preservation / pH checked? Y / N
	By: _____ Date: _____

Relinquished: [signature] Date: 8/28/09 Time: 1515 Received: _____ Date: __/__/__ Time: _

Relinquished: _____ Date: __/__/__ Time: ____ Received: Katie Hartlage Date: 8/29/09 Time: 10:20

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.

01N19 2004

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Environmental Sample Administration Receipt Documentation Log

Client/Project: Mactec

Date of Receipt: 8/29/09

Time of Receipt: 10:20

Source Code: 50-1

Unpacker Emp. No.: 2114

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	0429951	4.3	TB	WI	Y	B	
2							
3							
4							
5							
6							

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

Paperwork Discrepancy/Unpacking Problems:

~~OC-515-451 2.5/4.5 did not rec.~~ Sample was received KMZ 8-29-09

only 1 jar received for MS/MSD samples. KMZ 8-29-09

Sample Administration Internal Chain of Custody			
Name	Date	Time	Reason for Transfer
Katie Yaultore	8/29/09	11:25	Unpacking / to storage
Kristin Zeigh	8-29-09	1212	Place in Storage or (Entry)
			Entry
			Entry

2174.04

Supplemental Instructions to Laboratory
Soil Samples
Olin Chemical Superfund Site

LABORATORY: Lancaster Laboratories

Lab Group No.	MACTEC Field Sample ID	Lab Sample ID	Sample Date	Sample Category on the COC	Analyte/ Method	Action Item/Comments
1159828	OC-SB-451-18/20-XXX	TBD	08/28/09	Category 3	Hydrazines	Cancel Previously Requested Hydrazine Analysis on COC

Tige Cunningham

Sample Manager
MACTEC Engineering & Consulting, Inc.

9-8-09
Date

P:\6107080016 - Olin Wilmington CSS 2009\3.0 Field and Site Characterization\3.6 Databases\Prelim EDDs\
OU19-01 thru 02 Hydrazine.xls, Analysis Pending Samples

Lancaster Laboratories

Method Summary/Reference for SDG# OLN19_I

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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 04, 2009

SAMPLE GROUP

The sample group for this submittal is 1159828. Samples arrived at the laboratory on Saturday, August 29, 2009. The PO# for this group is REWI0012 and the release number is ERRE9813.

Client Description	Lancaster Labs Number
OC-SB-451-2.5/4.5-DUP Grab Soil	5764220
OC-SB-451-2.5/4.5-XXX Grab Soil	5764221
OC-SB-451-2.5/4.5-XMS Grab Soil	5764222
OC-SB-451-2.5/4.5-MSD Grab Soil	5764223

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	

OLM15 0003

Lancaster Laboratories, Inc.
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Lancaster Laboratories

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

Respectfully Submitted,

Dorothy M. Love

Dorothy M. Love
Group Leader

OLN19 8883

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 5764220

Group No. 1159828
MA

OC-SB-451-2.5/4.5-DUP Grab Soil
Wilmington MA Superfund Site

Collected: 08/28/2009 11:40

Account Number: 12670

Submitted: 08/29/2009 10:20
Reported: 09/04/2009 at 11:03
Discard: 09/19/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

0451D SDG#: OLN19-01FD

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.	2.1	5.2	1
10346	Hydrazine	302-01-2	2.9	0.52	2.1	1
10346	Methylhydrazine	60-34-4	N.D.	2.1	5.2	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.4	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

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	0924510056295	09/02/2009 19:32	Jia Wang	1
00111	Moisture	SM20 2540 G	1	09243820001B	08/31/2009 11:58	William C Schwebel	1

OLN19 0810

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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 5764221

Group No. 1159828
MA

OC-SB-451-2.5/4.5-XXX Grab Soil
Wilmington MA Superfund Site

Collected: 08/28/2009 11:40

Account Number: 12670

Submitted: 08/29/2009 10:20
Reported: 09/04/2009 at 11:03
Discard: 09/19/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

04512 SDG#: OLN19-02BKG

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.	2.1	5.2	1
10346	Hydrazine	302-01-2	2.3	0.52	2.1	1
10346	Methylhydrazine	60-34-4	N.D.	2.1	5.2	1
Wet Chemistry	**SM20 2540 G**		**%**	**%**	**%**	
00111	Moisture	n.a.	4.6	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

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	0924510056295	09/02/2009 19:51	Jia Wang	1
00111	Moisture	SM20 2540 G	1	09243820001B	08/31/2009 11:58	William C Schwebel	1

OLN19 8911

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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 5764222

Group No. 1159828
MA

OC-SB-451-2.5/4.5-XMS Grab Soil
Wilmington MA Superfund Site

Collected: 08/28/2009 11:40

Account Number: 12670

Submitted: 08/29/2009 10:20
Reported: 09/04/2009 at 11:03
Discard: 09/19/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

04512 SDG#: OLN19-02MS

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	300	2.1	5.2	1
10346	Hydrazine	302-01-2	26	0.52	2.1	1
10346	Methylhydrazine	60-34-4	140	2.1	5.2	1
Wet Chemistry	**SM20 2540 G**		%	%	%	
00118	Moisture	n.a.	4.6	0.50	0.50	1

General Sample Comments

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

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10346	Hydrazines in Soil	SW-846 8315A modified	1	0924510056295	09/02/2009 20:09	Jia Wang	1
00118	Moisture	SM20 2540 G	1	09243820001B	08/31/2009 11:58	William C Schwebel	1

OLN19-02IZ

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

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Analysis Report

Lancaster Laboratories

Lancaster Laboratories Sample No. SW 5764223

Group No. 1159828
MA

OC-SB-451-2.5/4.5-MSD Grab Soil
Wilmington MA Superfund Site

Collected: 08/28/2009 11:40

Account Number: 12670

Submitted: 08/29/2009 10:20
Reported: 09/04/2009 at 11:03
Discard: 09/19/2009

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

04512 SDG#: OLN19-02MSD

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	330	2.1	5.2	1
10346	Hydrazine	302-01-2	26	0.52	2.1	1
10346	Methylhydrazine	60-34-4	150	2.1	5.2	1
Wet Chemistry	**SM20 2540 G**		%	%	%	
00118	Moisture	n.a.	4.6	0.50	0.50	1
00121	Moisture Duplicate	n.a.	4.5	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

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	0924510056295	09/02/2009 20:28	Jia Wang	1
00118	Moisture	SM20 2540 G	1	09243820001B	08/31/2009 11:58	William C Schwebel	1
00121	Moisture Duplicate	SM20 2540 G	1	09243820001B	08/31/2009 11:58	William C Schwebel	1

OLN19 8813

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

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Lancaster, PA 17605-2425
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Miscellaneous Organics Data

OLN19 8814

Case Narrative
Conformance/Nonconformance
Summary

OLN19 8815

Lancaster Laboratories
Where quality is a science.

CASE NARRATIVE

Client: Olin Corporation
SDG#: OLN19

LANCASTER LABORATORIES
MISCELLANEOUS ORGANICS DATA

SAMPLE NUMBER(S)

LL #'s	Sample Code	Matrix Soil	Matrix Water	Comments
5764220	O451D	X		
5764221	O4512	X		Unspiked
5764222MS	O4512	X		Matrix Spike
5764223MSD	O4512	X		Matrix Spike Dup

LABORATORY SUBMITTED QC:

Blank	Aug 26		X	Method Blank
LSC	Aug 26		X	Lab Control Sample
LCSD	Aug 26		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. No method blank form is included due to its unavailability.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC was within specifications.

Case Narrative (continued)
SDG: OLN19

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 Shaw for Date: 9/29/03

Dana M. Kauffman
Manager, Data Deliverables

OLN19 0017

QC Summary

Lancaster Laboratories

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

Matrix Spike Recovery

Instrument No.: TQU01408
MS File Name: 02Sep2009-19
MSD File Name: 02Sep2009-20
Batch No.: 0924510056295
MS Injected: 9/2/2009
MS Injected: 9/2/2009
Workbook: TQU01408-02Sep2009-1
MS ID: 5764222MS
MSD ID: 5764223MSD
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	2.24	24.62	25.10	18	18	11-102	2	30
1,1-Dimethylhydrazine	625	0	285.00	317.49	46	51	10-92	11	30
Monomethylhydrazine	625	0	135.75	140.14	22	22	10-116	3	30

Comments:

Analyst: JW 1543 9/3/2009
Reviewed by: [illegible] 9/4/09

Lancaster Laboratories

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

Laboratory Control Sample Recovery

Instrument No.: TQU01408
LCS File Name: 02Sep2009-21
LCSD File Name: 02Sep2009-22
Batch No.: 0924510056295
LCS Injected: 9/02/2009
LCSD Injected: 9/2/2009
Workbook: TQU01408-02Sep2009-1
LCS ID: LCS
LCSD ID: LCSD
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	101.71	102.04	81	82	70-130	0	30
1,1-Dimethylhydrazine	625	643.38	707.52	103	113	70-130	9	30
Monomethylhydrazine	625	638.94	695.46	102	111	70-130	8	30

Comments:

Analyst: TW 1543 9/3/2009
Reviewed by: [illegible] 9/4/09

Sample Data

01M19 88Z1

Lancaster Laboratories
Quan Summary Report

Workbook Name: TQU01408-02Sep2009-1
Current Workbook Path: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
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	124	-0.010	ng/mL		
Hydrazine	Conditioner2	Unknown	Method Settings	51	-0.011	ng/mL		
Hydrazine	MDL	Unknown	Method Settings	11208	0.072	ng/mL		
Hydrazine	Conditioner3	Unknown	Method Settings	3294	0.013	ng/mL		
Hydrazine	Conditioner4	Unknown	Method Settings	391	-0.008	ng/mL		
Hydrazine	Conditioner5	Unknown	Method Settings	283	-0.009	ng/mL		
Hydrazine	Blank	Unknown	Method Settings	4107	0.019	ng/mL	0.19	ng/g
Hydrazine	5764220FD	Unknown	Method Settings	39841	0.282	ng/mL	2.82	ng/g
Hydrazine	5764221BKG	Unknown	Method Settings	31931	0.224	ng/mL	2.24	ng/g
Hydrazine	5764222MS	Unknown	Method Settings	335792	2.462	ng/mL	24.62	ng/g
Hydrazine	5764223MSD	Unknown	Method Settings	342289	2.510	ng/mL	25.10	ng/g
Hydrazine	LCS	Unknown	Method Settings	1382588	10.171	ng/mL	101.71	ng/g
Hydrazine	LCSD	Unknown	Method Settings	1387011	10.204	ng/mL	102.04	ng/g
Hydrazine	ICV	Unknown	Method Settings	1619351	11.915	ng/mL		
Hydrazine	Spike Check	Unknown	Method Settings	1501832	11.049	ng/mL		
Hydrazine	Conditioner6	Unknown	Method Settings	1685	0.001	ng/mL		
Hydrazine	Conditioner7	Unknown	Method Settings	426	-0.008	ng/mL		
Hydrazine	5766205	Unknown	Method Settings	6097	0.034	ng/mL	0.34	ng/g
Hydrazine	5766206	Unknown	Method Settings	6343	0.036	ng/mL	0.36	ng/g
Hydrazine	5766207	Unknown	Method Settings	5180	0.027	ng/mL	0.27	ng/g
Hydrazine	5766208	Unknown	Method Settings	5006	0.026	ng/mL	0.26	ng/g
Hydrazine	5766209	Unknown	Method Settings	48943	0.349	ng/mL	3.49	ng/g
Hydrazine	5766211	Unknown	Method Settings	4931	0.025	ng/mL	0.25	ng/g
Hydrazine	Conditioner8	Unknown	Method Settings	307	-0.009	ng/mL		
Hydrazine	Conditioner9	Unknown	Method Settings	83	-0.010	ng/mL		
Hydrazine	Blank	Unknown	Method Settings	3167	0.012	ng/mL		
Hydrazine	5763101	Unknown	Method Settings	2853	0.010	ng/mL		
Hydrazine	5766210	Unknown	Method Settings	3347	0.014	ng/mL		
Hydrazine	5766210MS	Unknown	Method Settings	1603436	11.798	ng/mL		
Hydrazine	5766210MSD	Unknown	Method Settings	1586944	11.676	ng/mL		
Hydrazine	ICV/LCS	Unknown	Method Settings	1615634	11.888	ng/mL		
Hydrazine	LCSD	Unknown	Method Settings	1609416	11.842	ng/mL		

OLM19 8822

Analyst: JW 1543 9/3/2009
[illegible] 2/4/09

Lancaster Laboratories
Quan Summary Report

Workbook Name: TQU01408-02Sep2009-1
Current Workbook Path: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
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	NF	NC	ng/mL		
1,1-Dimethylhydrazine	Conditioner2	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	MDL	Unknown	Method Settings	8064	0.277	ng/mL		
1,1-Dimethylhydrazine	Conditioner3	Unknown	Method Settings	667	0.080	ng/mL		
1,1-Dimethylhydrazine	Conditioner4	Unknown	Method Settings	32	0.063	ng/mL		
1,1-Dimethylhydrazine	Conditioner5	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	Blank	Unknown	Method Settings	59	0.064	ng/mL	0.64	ng/g
1,1-Dimethylhydrazine	5764220FD	Unknown	Method Settings	50	0.064	ng/mL	0.64	ng/g
1,1-Dimethylhydrazine	5764221BKG	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5764222MS	Unknown	Method Settings	1069911	28.500	ng/mL	285.00	ng/g
1,1-Dimethylhydrazine	5764223MSD	Unknown	Method Settings	1192133	31.749	ng/mL	317.49	ng/g
1,1-Dimethylhydrazine	LCS	Unknown	Method Settings	2418228	64.338	ng/mL	643.38	ng/g
1,1-Dimethylhydrazine	LCSD	Unknown	Method Settings	2659556	70.752	ng/mL	707.52	ng/g
1,1-Dimethylhydrazine	ICV	Unknown	Method Settings	2775949	73.846	ng/mL		
1,1-Dimethylhydrazine	Spike Check	Unknown	Method Settings	2639479	70.218	ng/mL		
1,1-Dimethylhydrazine	Conditioner6	Unknown	Method Settings	620	0.079	ng/mL		
1,1-Dimethylhydrazine	Conditioner7	Unknown	Method Settings	100	0.065	ng/mL		
1,1-Dimethylhydrazine	5766205	Unknown	Method Settings	121	0.066	ng/mL	0.66	ng/g
1,1-Dimethylhydrazine	5766206	Unknown	Method Settings	73	0.064	ng/mL	0.64	ng/g
1,1-Dimethylhydrazine	5766207	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5766208	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5766209	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	5766211	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
1,1-Dimethylhydrazine	Conditioner8	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	Conditioner9	Unknown	Method Settings	28	0.063	ng/mL		
1,1-Dimethylhydrazine	Blank	Unknown	Method Settings	33	0.063	ng/mL		
1,1-Dimethylhydrazine	5763101	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	5766210	Unknown	Method Settings	NF	NC	ng/mL		
1,1-Dimethylhydrazine	5766210MS	Unknown	Method Settings	2848544	75.775	ng/mL		
1,1-Dimethylhydrazine	5766210MSD	Unknown	Method Settings	2907537	77.343	ng/mL		
1,1-Dimethylhydrazine	ICV/LCS	Unknown	Method Settings	2836255	75.449	ng/mL		
1,1-Dimethylhydrazine	LCSD	Unknown	Method Settings	2855522	75.961	ng/mL		

Analyst: JW 1543 9/3/2009
2/4/09

OLM19 0023

Lancaster Laboratories
Quan Summary Report

Workbook Name: TQU01408-02Sep2009-1
Current Workbook Path: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
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	9951	0.315	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	Blank	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5764220FD	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5764221BKG	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5764222MS	Unknown	Method Settings	514200	13.575	ng/mL	135.75	ng/g
Monomethylhydrazine	5764223MSD	Unknown	Method Settings	530876	14.014	ng/mL	140.14	ng/g
Monomethylhydrazine	LCS	Unknown	Method Settings	2427618	63.894	ng/mL	638.94	ng/g
Monomethylhydrazine	LCSD	Unknown	Method Settings	2642572	69.546	ng/mL	695.46	ng/g
Monomethylhydrazine	ICV	Unknown	Method Settings	2835336	74.616	ng/mL		
Monomethylhydrazine	Spike Check	Unknown	Method Settings	2629591	69.205	ng/mL		
Monomethylhydrazine	Conditioner6	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner7	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	5766205	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5766206	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5766207	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5766208	Unknown	Method Settings	NF	NC	ng/mL	NC	ng/g
Monomethylhydrazine	5766209	Unknown	Method Settings	4412	0.169	ng/mL	1.69	ng/g
Monomethylhydrazine	5766211	Unknown	Method Settings	5131	0.188	ng/mL	1.88	ng/g
Monomethylhydrazine	Conditioner8	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Conditioner9	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	Blank	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	5763101	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	5766210	Unknown	Method Settings	NF	NC	ng/mL		
Monomethylhydrazine	5766210MS	Unknown	Method Settings	2962062	77.948	ng/mL		
Monomethylhydrazine	5766210MSD	Unknown	Method Settings	3000651	78.963	ng/mL		
Monomethylhydrazine	ICV/LCS	Unknown	Method Settings	3063425	80.614	ng/mL		
Monomethylhydrazine	LCSD	Unknown	Method Settings	2926702	77.018	ng/mL		

GLM19 8824

Analyst: JW 1543 9/3/2009
9/4/09

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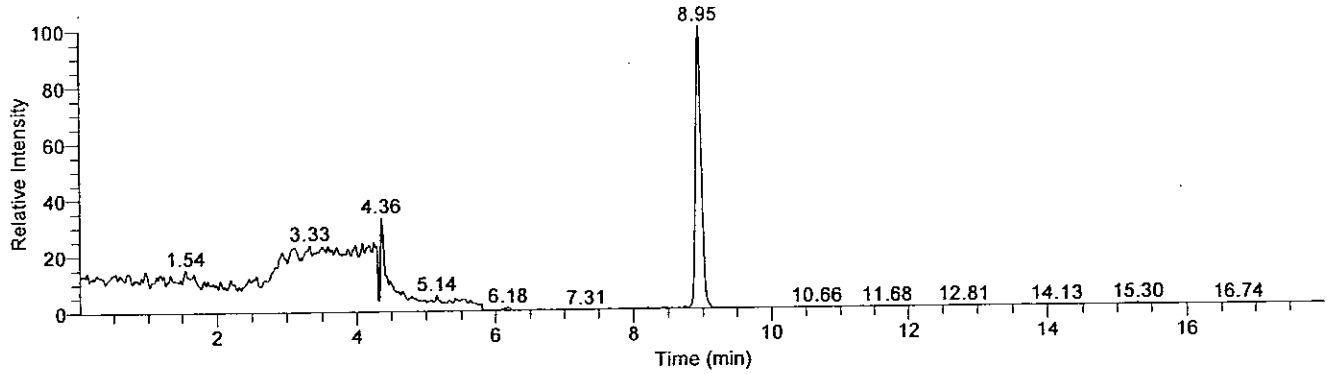
Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-17.raw
Sample ID:	5764220FD
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 7:32:21 PM
Vial:	D:11
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-17 - TIC RT: 0.00 - 17.99 NL: 6.94E3

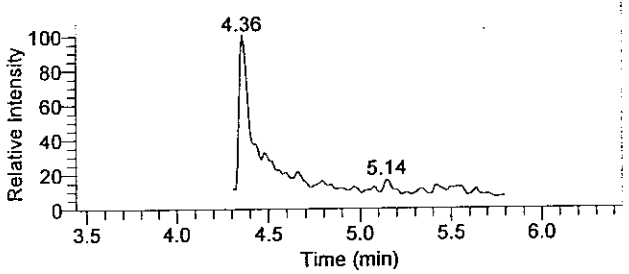


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:11, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-17, Comments: Soil Prep, ID: 5764220FD

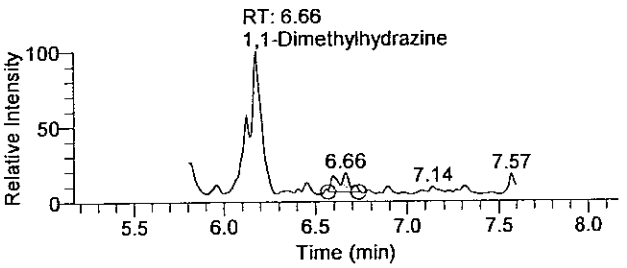
Monomethylhydrazine

02Sep2009-17 - TIC RT: 3.44 - 6.44 NL: 2.30E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



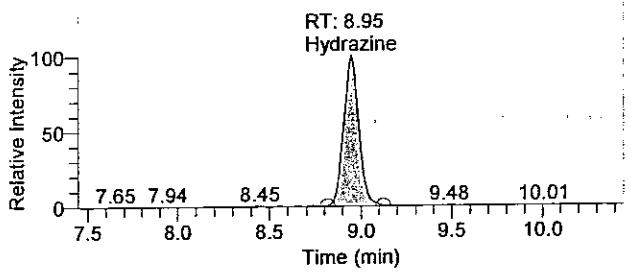
1,1-Dimethylhydrazine

02Sep2009-17 - TIC RT: 5.16 - 8.16 NL: 7.45E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-17 - TIC RT: 7.45 - 10.45 NL: 6.94E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



01N19 8825

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5764220FD	Method Settings	Hydrazine	8.95	39841	0.282	ng/mL
5764220FD	Method Settings	1,1-Dimethylhydrazine	6.66	50	0.064	ng/mL
5764220FD	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst: JW 1543 9/3/2009
[illegible] 9/4/09

01N19 0826

There is no signature data to report.

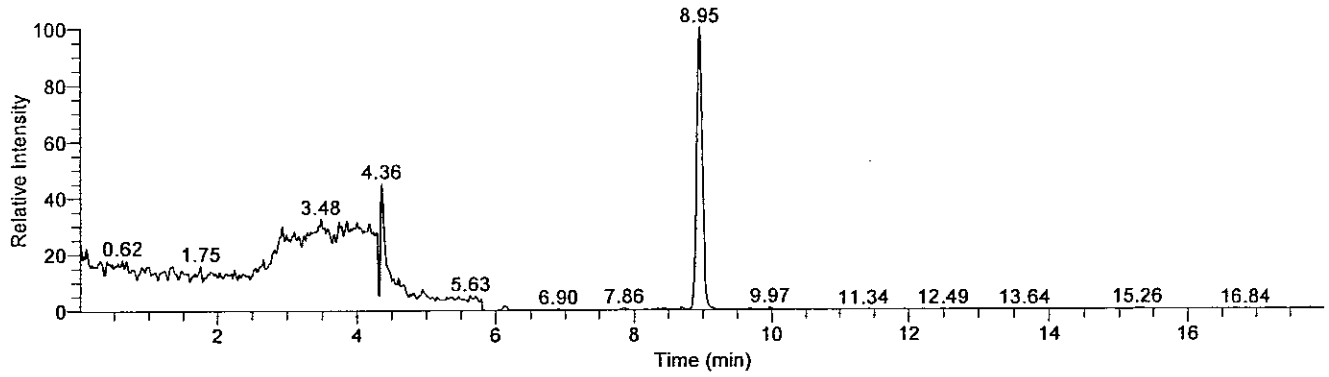
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-18.raw
Sample ID:	5764221BKG
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 7:51:05 PM
Vial:	D:12
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-18 - TIC RT: 0.00 - 17.99 NL: 5.54E3

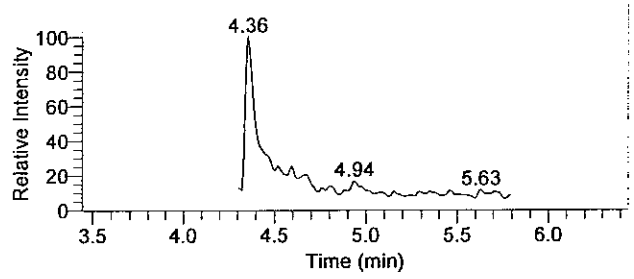


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:12, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-18, Comments: Soil Prep, ID: 5764221BKG

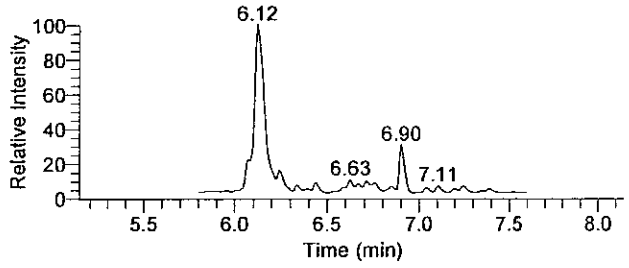
Monomethylhydrazine

02Sep2009-18 - TIC RT: 3.44 - 6.44 NL: 2.50E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



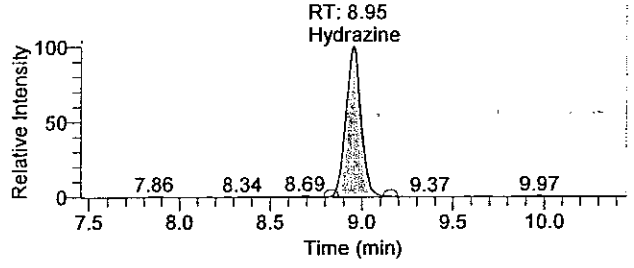
1,1-Dimethylhydrazine

02Sep2009-18 - TIC RT: 5.14 - 8.14 NL: 9.34E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-18 - TIC RT: 7.45 - 10.45 NL: 5.54E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLM13 0027

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5764221BKG	Method Settings	Hydrazine	8.95	31931	0.224	ng/mL
5764221BKG	Method Settings	1,1-Dimethylhydrazine	N/A	NF	NC	ng/mL
5764221BKG	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst : JW 1543 9/3/2009
9/4/09
9/4/09

OLN19 8820

There is no signature data to report.

Standards Data

Lancaster Laboratories

Workbook Name: TQU01408-02Sep2009-1
Instrument No. TQU01408
Analyst JW01543

Sequence Table

Sample ID	File Name	Sample Type	Path	Position	Inj Vol	Batch No.
Conditioner1	01Sep2009-1	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Conditioner2	02Sep2009-2	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
MDL	02Sep2009-3	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:1	10.00	N/A
Cal1	02Sep2009-4	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:2	10.00	N/A
Cal2	02Sep2009-5	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:3	10.00	N/A
Cal3	02Sep2009-6	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:4	10.00	N/A
Cal4	02Sep2009-7	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:5	10.00	N/A
Cal5	02Sep2009-8	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:6	10.00	N/A
Cal6	02Sep2009-9	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:7	10.00	N/A
Cal7	02Sep2009-10	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:8	10.00	N/A
Cal8	02Sep2009-11	Standard	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:9	10.00	N/A
Conditioner3	02Sep2009-12	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Cal3asQC1a	02Sep2009-13	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:4	10.00	N/A
Conditioner4	02Sep2009-14	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Conditioner5	02Sep2009-15	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Blank	02Sep2009-16	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:10	10.00	0924510056295
5764220FD	02Sep2009-17	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:11	10.00	0924510056295
5764221BKG	02Sep2009-18	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:12	10.00	0924510056295
5764222MS	02Sep2009-19	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:13	10.00	0924510056295
①JW 5764223MDS	5764223MSD 02Sep2009-20	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:14	10.00	0924510056295
LCS	02Sep2009-21	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:15	10.00	0924510056295
LCSD	02Sep2009-22	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:16	10.00	0924510056295
ICV	02Sep2009-23	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:17	10.00	N/A
Cal4asQC2a	02Sep2009-24	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:5	10.00	N/A
Spike Check	02Sep2009-25	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:18	10.00	N/A
Conditioner6	02Sep2009-26	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Conditioner7	02Sep2009-27	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
5766205	02Sep2009-28	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:19	10.00	0924510056295
5766206	02Sep2009-29	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:20	10.00	0924510056295
5766207	02Sep2009-30	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:21	10.00	0924510056295
5766208	02Sep2009-31	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:22	10.00	0924510056295
5766209	02Sep2009-32	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:23	10.00	0924510056295
5766211	02Sep2009-33	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:24	10.00	0924510056295

There is no signature data to report.

Lancaster Laboratories

Sample ID	File Name	Sample Type	Path	Position	Inj Vol	Batch No.
Cal5asQC3a	02Sep2009-34	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:6	10.00	N/A
Conditioner8	02Sep2009-35	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Conditioner9	02Sep2009-36	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	E:1	10.00	N/A
Blank	02Sep2009-37	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:25	10.00	0924510056299
5763101	02Sep2009-38	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\	D:26	10.00	0924510056299
5766210	02Sep2009-39	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\	D:27	10.00	0924510056299
5766210MS	02Sep2009-40	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\	D:28	10.00	0924510056299
5766210MSD	02Sep2009-41	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\	D:29	10.00	0924510056299
ICV/LCS	02Sep2009-42	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\	D:30	10.00	0924510056299
LCSD	02Sep2009-43	Unknown	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\	D:31	10.00	0924510056299
Cal3asQC1b	02Sep2009-44	QC	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles	D:4	10.00	N/A

Analyst : JCV 1543 9/3/2009

9/4/09

There is no signature data to report.

Lancaster Laboratories

Component Calibration and Continuing Calibration Verification (CCV) Report

Workbook Name:	TQU01408-02Sep2009-1
Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
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

GLN19 8832

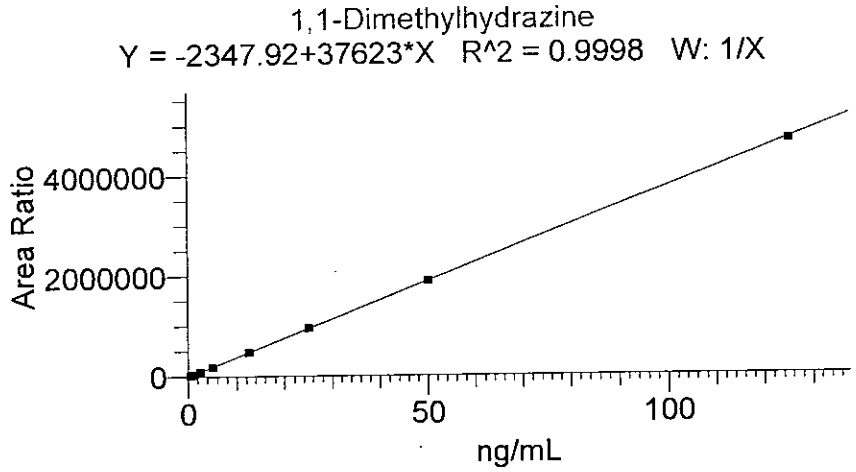
There is no signature data to report.

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	17013	0.500	ng/mL	0.515	2.92
Cal2	Standard	2	N/A	Method Settings	35754	1.000	ng/mL	1.013	1.27
Cal3	Standard	3	N/A	Method Settings	86970	2.500	ng/mL	2.374	-5.04
Cal4	Standard	4	N/A	Method Settings	179662	5.000	ng/mL	4.838	-3.25
Cal5	Standard	5	N/A	Method Settings	479848	12.500	ng/mL	12.817	2.53
Cal6	Standard	6	N/A	Method Settings	954132	25.000	ng/mL	25.423	1.69
Cal7	Standard	7	N/A	Method Settings	1886670	50.000	ng/mL	50.209	0.42
Cal8	Standard	8	N/A	Method Settings	4674657	125.000	ng/mL	124.312	-0.55
Cal3asQC1a	QC	CCV1	N/A	Method Settings	91734	2.500	ng/mL	2.501	0.03
Cal4asQC2a	QC	CCV2	N/A	Method Settings	183596	5.000	ng/mL	4.942	-1.15
Cal5asQC3a	QC	CCV3	N/A	Method Settings	491306	12.500	ng/mL	13.121	4.97
Cal3asQC1b	QC	CCV1	N/A	Method Settings	96842	2.500	ng/mL	2.636	5.46

Analyst: JW 1543 8/13/2008
[illegible] 9/4/08

01M19 8833

There is no signature data to report.

Lancaster Laboratories

Component Calibration and Continuing Calibration Verification (CCV) Report

Workbook Name:	TQU01408-02Sep2009-1
Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
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

01N19 2834

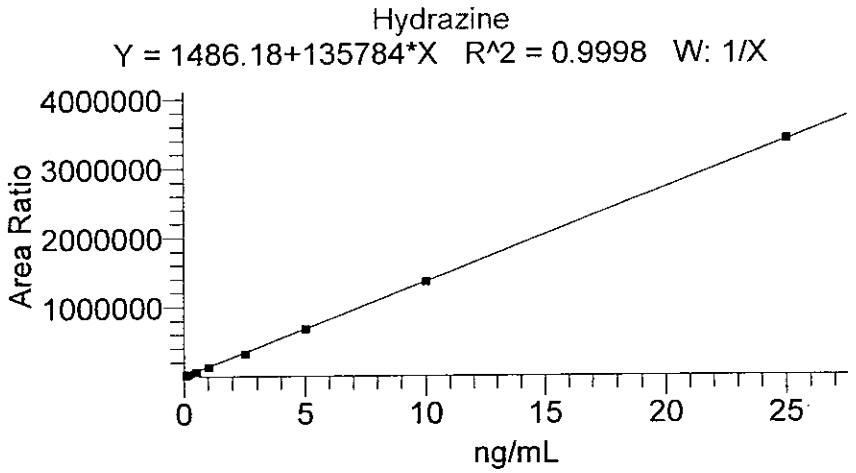
There is no signature data to report.

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	15805	0.100	ng/mL	0.105	5.45
Cal2	Standard	2	N/A	Method Settings	29970	0.200	ng/mL	0.210	4.89
Cal3	Standard	3	N/A	Method Settings	66516	0.500	ng/mL	0.479	-4.22
Cal4	Standard	4	N/A	Method Settings	133824	1.000	ng/mL	0.975	-2.54
Cal5	Standard	5	N/A	Method Settings	326358	2.500	ng/mL	2.393	-4.30
Cal6	Standard	6	N/A	Method Settings	681739	5.000	ng/mL	5.010	0.20
Cal7	Standard	7	N/A	Method Settings	1359469	10.000	ng/mL	10.001	0.01
Cal8	Standard	8	N/A	Method Settings	3413461	25.000	ng/mL	25.128	0.51
Cal3asQC1a	QC	CCV1	N/A	Method Settings	68059	0.500	ng/mL	0.490	-1.94
Cal4asQC2a	QC	CCV2	N/A	Method Settings	137255	1.000	ng/mL	1.000	-0.01
Cal5asQC3a	QC	CCV3	N/A	Method Settings	345080	2.500	ng/mL	2.530	1.22
Cal3asQC1b	QC	CCV1	N/A	Method Settings	71158	0.500	ng/mL	0.513	2.62

Analyst : JW 1543 9/3/2008
[illegible] 9/4/08

01N19 0835

There is no signature data to report.

Lancaster Laboratories

Component Calibration and Continuing Calibration Verification (CCV) Report

Workbook Name:	TQU01408-02Sep2009-1
Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
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

OLN19 8836

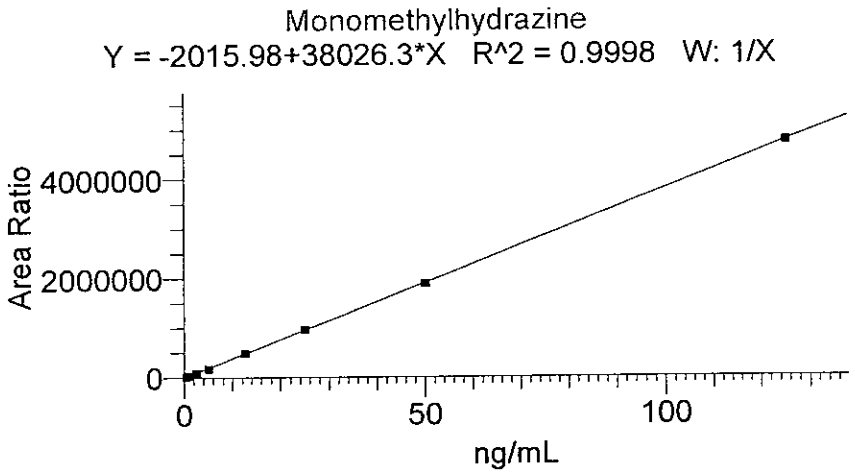
There is no signature data to report.

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	17772	0.500	ng/mL	0.520	4.08
Cal2	Standard	2	N/A	Method Settings	37329	1.000	ng/mL	1.035	3.47
Cal3	Standard	3	N/A	Method Settings	89107	2.500	ng/mL	2.396	-4.15
Cal4	Standard	4	N/A	Method Settings	174628	5.000	ng/mL	4.645	-7.09
Cal5	Standard	5	N/A	Method Settings	484564	12.500	ng/mL	12.796	2.37
Cal6	Standard	6	N/A	Method Settings	967091	25.000	ng/mL	25.485	1.94
Cal7	Standard	7	N/A	Method Settings	1889464	50.000	ng/mL	49.741	-0.52
Cal8	Standard	8	N/A	Method Settings	4746740	125.000	ng/mL	124.881	-0.10
Cal3asQC1a	QC	CCV1	N/A	Method Settings	92196	2.500	ng/mL	2.478	-0.90
Cal4asQC2a	QC	CCV2	N/A	Method Settings	180834	5.000	ng/mL	4.809	-3.83
Cal5asQC3a	QC	CCV3	N/A	Method Settings	503442	12.500	ng/mL	13.292	6.34
Cal3asQC1b	QC	CCV1	N/A	Method Settings	91901	2.500	ng/mL	2.470	-1.21

Analyst: JIV 1543 P/3/2004
9/1/2 9/4/04

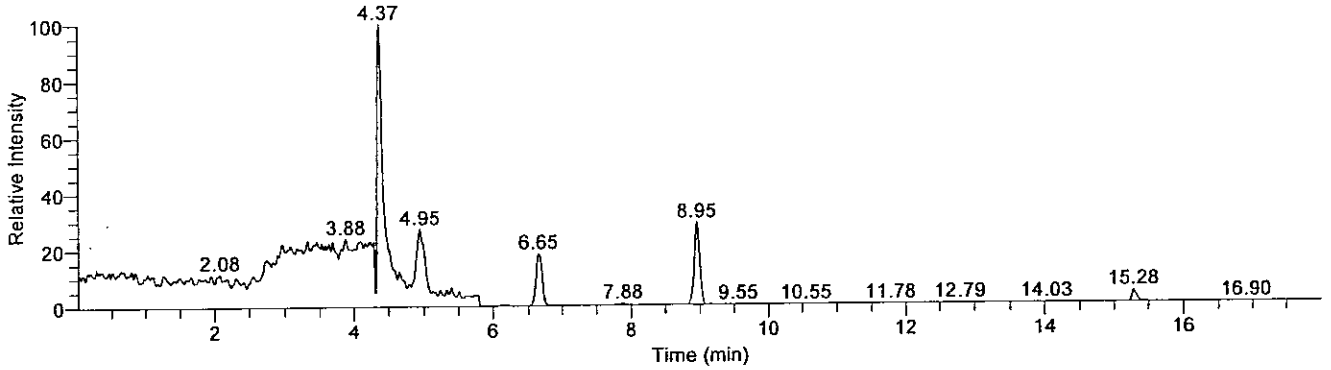
OLN19 8837

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-3.raw
Sample ID:	MDL
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 3:10:03 PM
Vial:	D:1
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-3 - TIC RT: 0.00 - 18.00 NL: 7.04E3

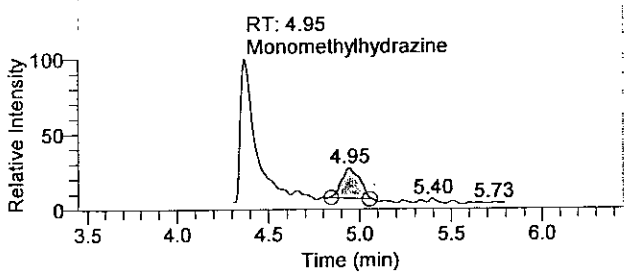


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:1, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-3, Comments: Soil Prep, ID: MDL

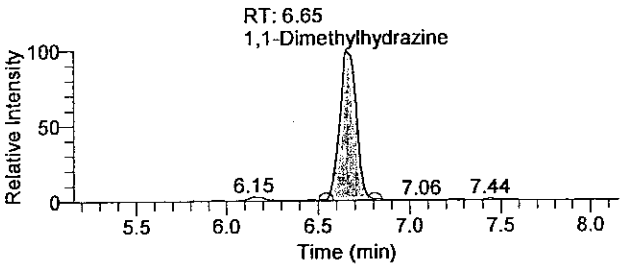
Monomethylhydrazine

02Sep2009-3 - TIC RT: 3.45 - 6.45 NL: 7.04E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



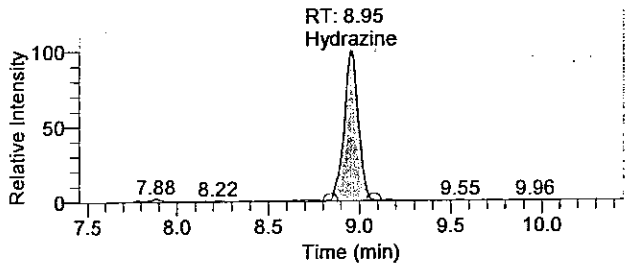
1,1-Dimethylhydrazine

02Sep2009-3 - TIC RT: 5.15 - 8.15 NL: 1.30E3
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-3 - TIC RT: 7.45 - 10.45 NL: 2.05E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



01N13 0838

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
MDL	Method Settings	Hydrazine	8.95	11208	0.072	ng/mL
MDL	Method Settings	1,1-Dimethylhydrazine	6.65	8064	0.277	ng/mL
MDL	Method Settings	Monomethylhydrazine	4.95	9951	0.315	ng/mL

Analyst : JW 1543 9/3/2009

9/4/09

OLN19 8839

There is no signature data to report.

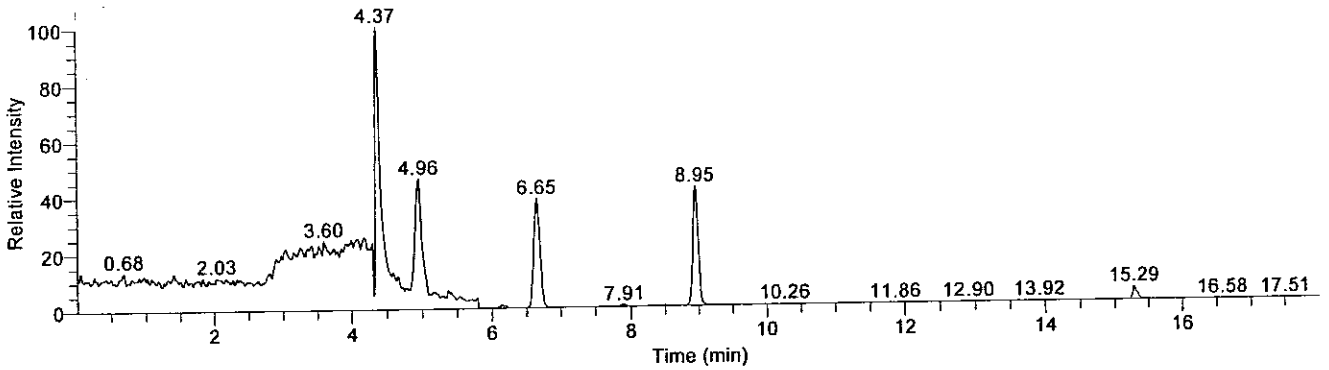
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-4.raw
Sample ID:	Cal1
Sample Type:	Standard
Level:	1
Acquisition Date:	Wednesday, September 02, 2009 3:28:47 PM
Vial:	D:2
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-4 - TIC RT: 0.01 - 18.00 NL: 6.97E3

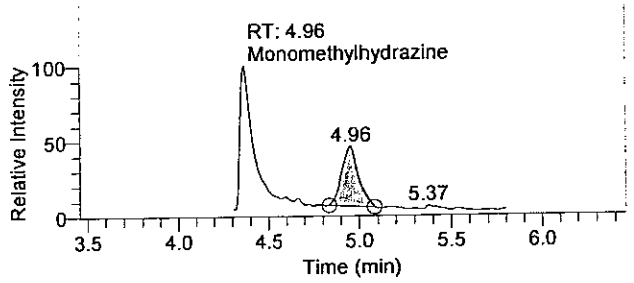


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:2, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-4, Comments: Soil Prep, ID: Cal1

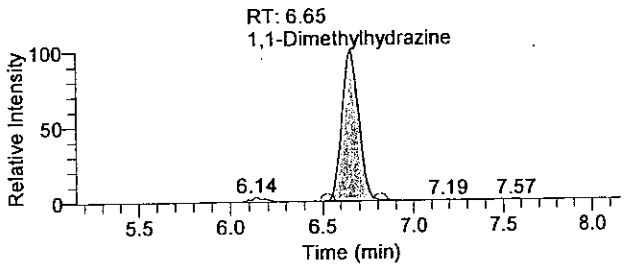
Monomethylhydrazine

02Sep2009-4 - TIC RT: 3.46 - 6.46 NL: 6.97E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



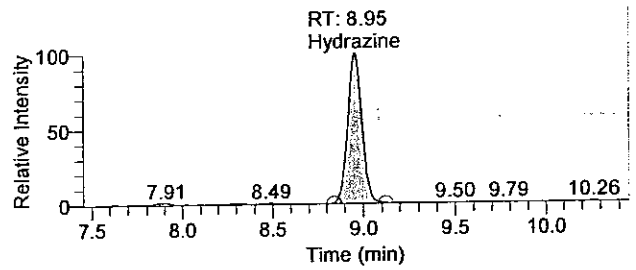
1,1-Dimethylhydrazine

02Sep2009-4 - TIC RT: 5.15 - 8.15 NL: 2.69E3
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-4 - TIC RT: 7.45 - 10.45 NL: 2.94E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal1	Method Settings	Hydrazine	8.95	15805	0.105	ng/mL
Cal1	Method Settings	1,1-Dimethylhydrazine	6.65	17013	0.515	ng/mL
Cal1	Method Settings	Monomethylhydrazine	4.96	17772	0.520	ng/mL

Analyst : JW 1543 P/31 wp

9/4/09

There is no signature data to report.

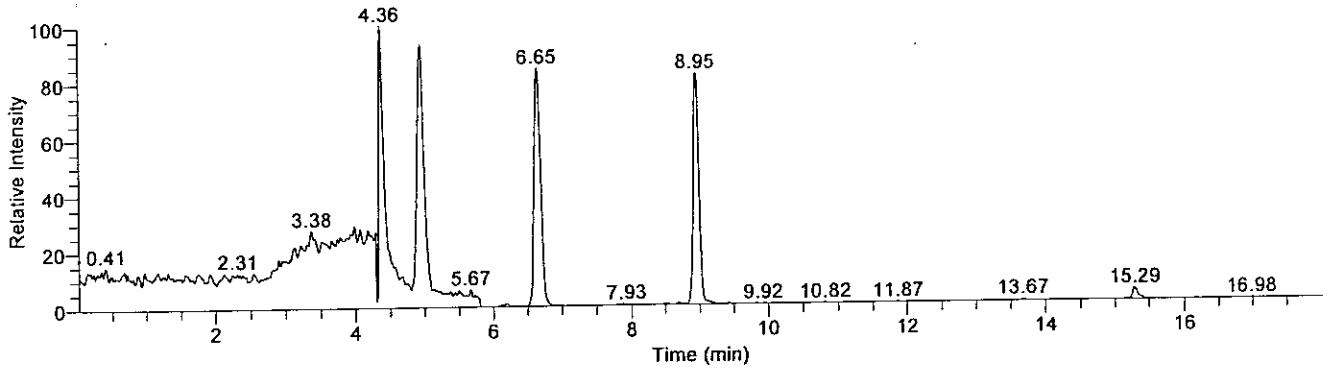
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-5.raw
Sample ID:	Cal2
Sample Type:	Standard
Level:	2
Acquisition Date:	Wednesday, September 02, 2009 3:47:28 PM
Vial:	D:3
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-5 - TIC RT: 0.00 - 18.00 NL: 6.42E3

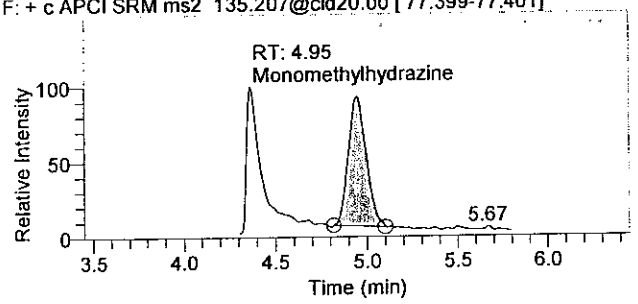


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:3, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-5, Comments: Soil Prep, ID: Cal2

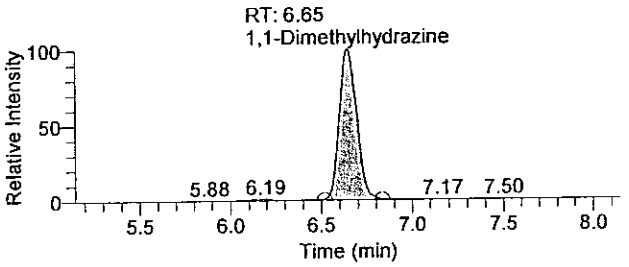
Monomethylhydrazine

02Sep2009-5 - TIC RT: 3.45 - 6.45 NL: 6.42E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



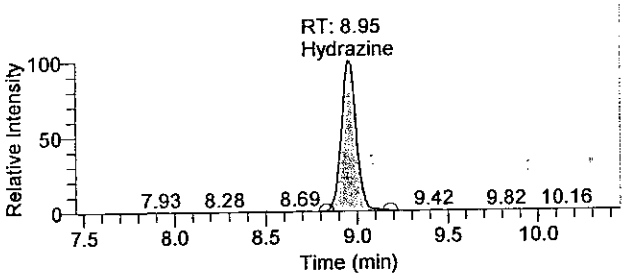
1,1-Dimethylhydrazine

02Sep2009-5 - TIC RT: 5.15 - 8.15 NL: 5.41E3
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-5 - TIC RT: 7.45 - 10.45 NL: 5.26E3
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLM19 9842

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	29970	0.210	ng/mL
Cal2	Method Settings	1,1-Dimethylhydrazine	6.65	35754	1.013	ng/mL
Cal2	Method Settings	Monomethylhydrazine	4.95	37329	1.035	ng/mL

Analyst: JW 1543 P/3/2nd P

9/4/09

OLM19 8843

There is no signature data to report.

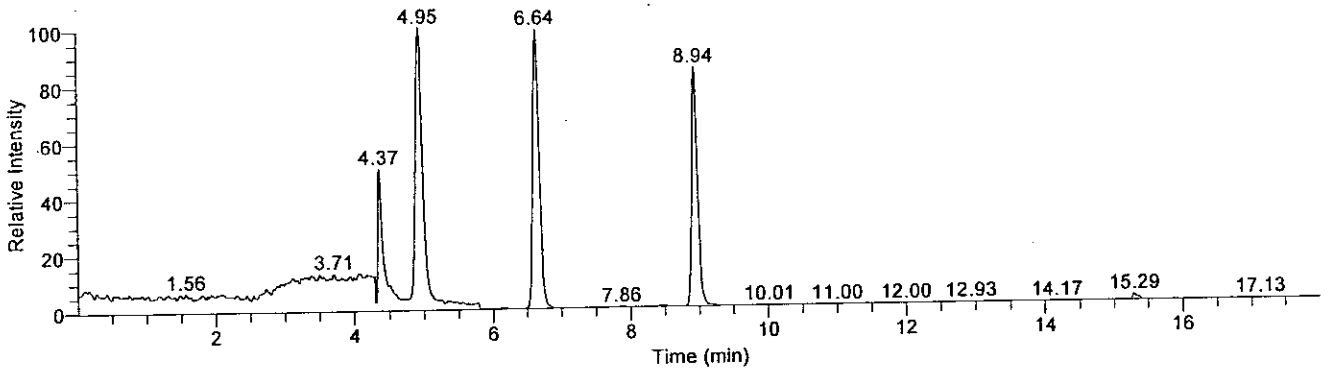
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-6.raw
Sample ID:	Cal3
Sample Type:	Standard
Level:	3
Acquisition Date:	Wednesday, September 02, 2009 4:06:10 PM
Vial:	D:4
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-6 - TIC RT: 0.00 - 18.00 NL: 1.35E4

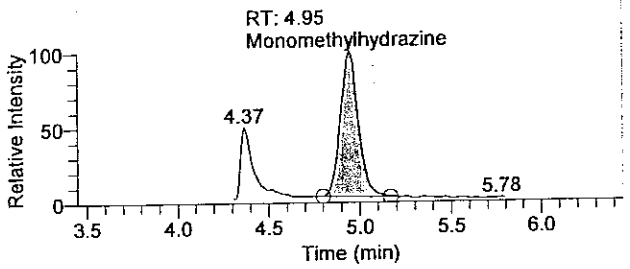


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:4, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-6, Comments: Soil Prep, ID: Cal3

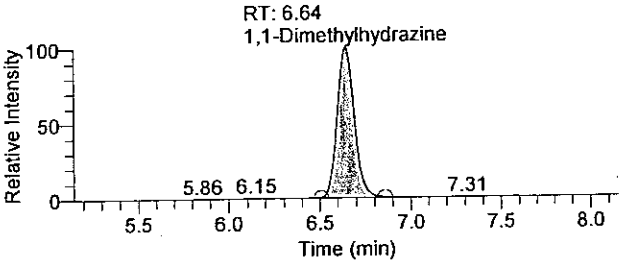
Monomethylhydrazine

02Sep2009-6 - TIC RT: 3.45 - 6.45 NL: 1.35E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



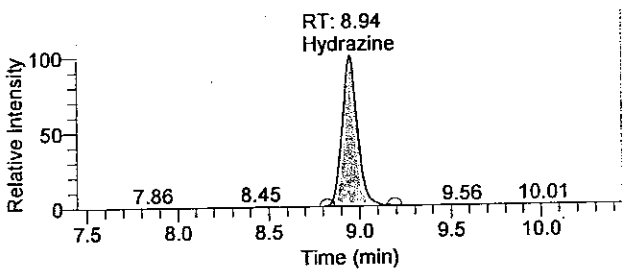
1,1-Dimethylhydrazine

02Sep2009-6 - TIC RT: 5.14 - 8.14 NL: 1.33E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-6 - TIC RT: 7.44 - 10.44 NL: 1.14E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal3	Method Settings	Hydrazine	8.94	66516	0.479	ng/mL
Cal3	Method Settings	1,1-Dimethylhydrazine	6.64	86970	2.374	ng/mL
Cal3	Method Settings	Monomethylhydrazine	4.95	89107	2.396	ng/mL

Analyst : JW 1543 9/3/2009

9/4/09

OLN19 8845

There is no signature data to report.

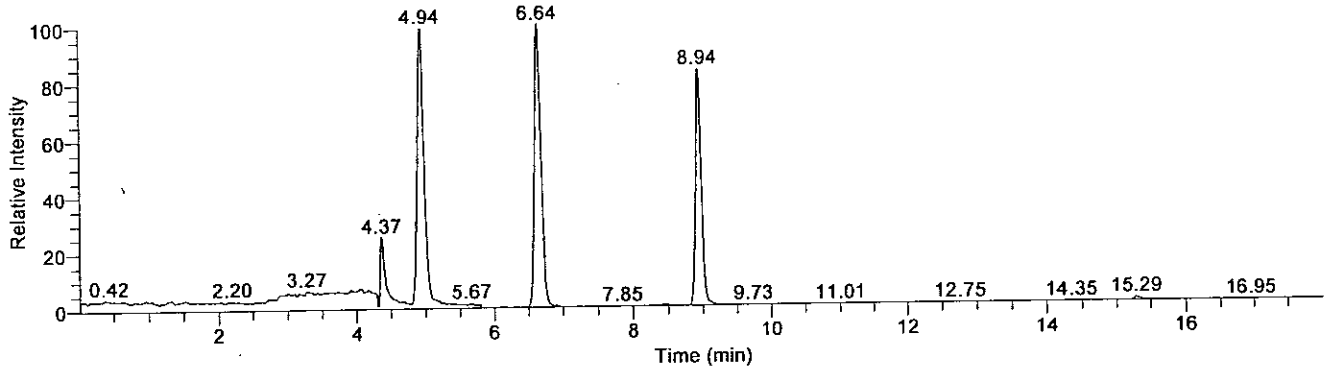
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-7.raw
Sample ID:	Cal4
Sample Type:	Standard
Level:	4
Acquisition Date:	Wednesday, September 02, 2009 4:24:54 PM
Vial:	D:5
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-7 - TIC RT: 0.00 - 18.00 NL: 2.72E4

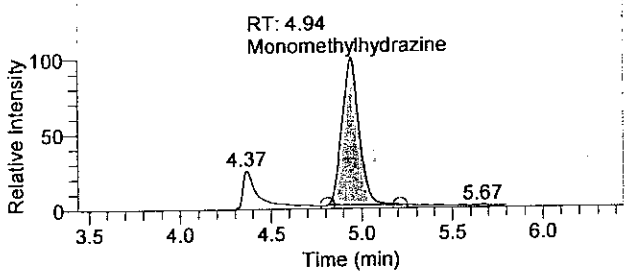


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:5, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-7, Comments: Soil Prep, ID: Cal4

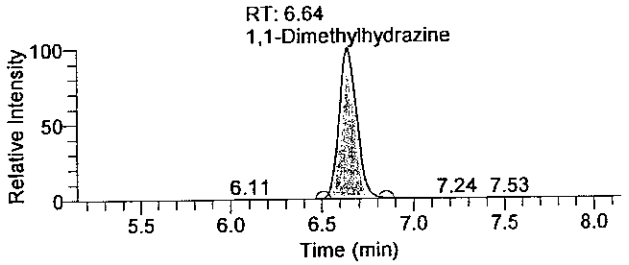
Monomethylhydrazine

02Sep2009-7 - TIC RT: 3.44 - 6.44 NL: 2.69E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



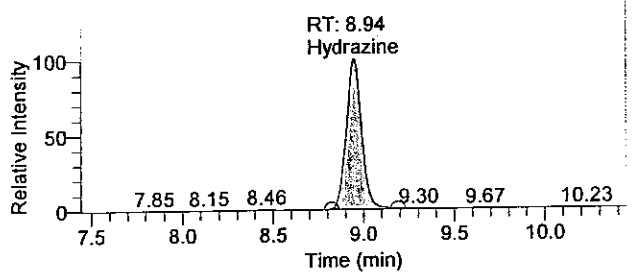
1,1-Dimethylhydrazine

02Sep2009-7 - TIC RT: 5.14 - 8.14 NL: 2.72E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-7 - TIC RT: 7.44 - 10.44 NL: 2.27E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLM19 8846

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal4	Method Settings	Hydrazine	8.94	133824	0.975	ng/mL
Cal4	Method Settings	1,1-Dimethylhydrazine	6.64	179662	4.838	ng/mL
Cal4	Method Settings	Monomethylhydrazine	4.94	174628	4.645	ng/mL

Analyst : JW 1543 P/3/2009
9/4/09

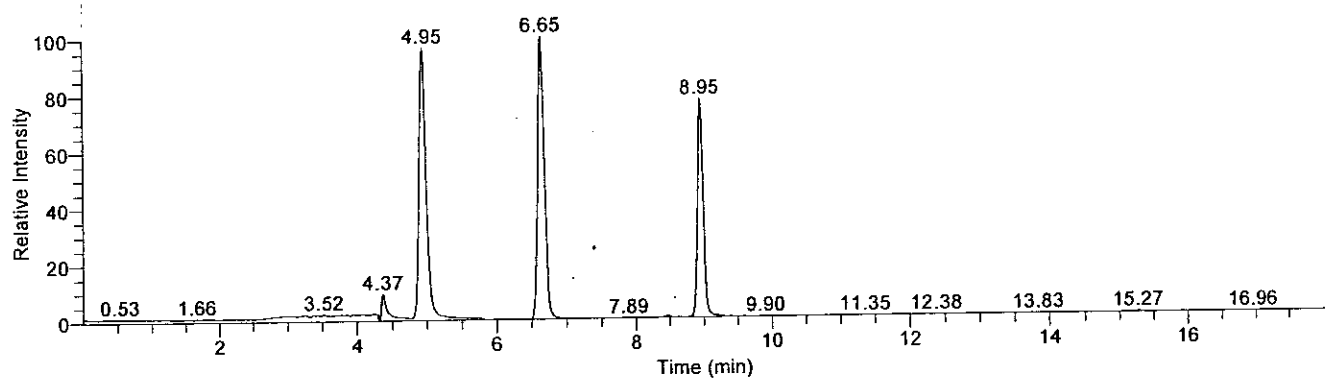
OLN19 8847

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-8.raw
Sample ID:	Cal5
Sample Type:	Standard
Level:	5
Acquisition Date:	Wednesday, September 02, 2009 4:43:40 PM
Vial:	D:6
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-8 - TIC RT: 0.00 - 18.00 NL: 7.33E4

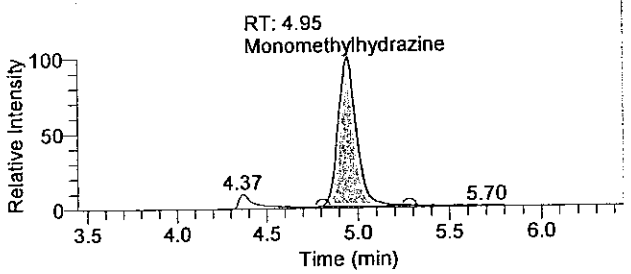


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:6, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-8, Comments: Soil Prep, ID: Cal5

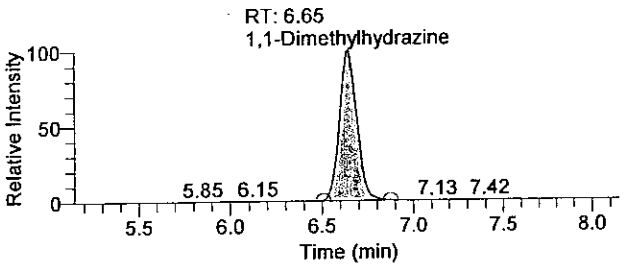
Monomethylhydrazine

02Sep2009-8 - TIC RT: 3.45 - 6.45 NL: 7.06E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



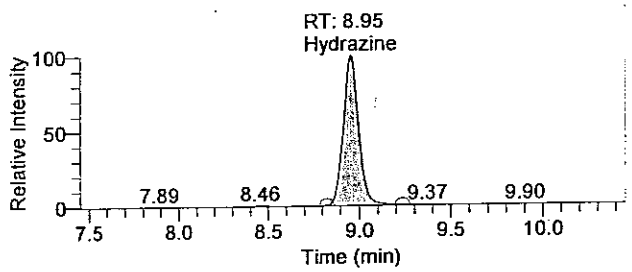
1,1-Dimethylhydrazine

02Sep2009-8 - TIC RT: 5.15 - 8.15 NL: 7.33E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-8 - TIC RT: 7.45 - 10.45 NL: 5.65E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



01N19 0848

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	326358	2.393	ng/mL
Cal5	Method Settings	1,1-Dimethylhydrazine	6.65	479848	12.817	ng/mL
Cal5	Method Settings	Monomethylhydrazine	4.95	484564	12.796	ng/mL

Analyst : JW 1543 P/3/mp
9/1/12 9/4/09

01N19 8849

There is no signature data to report.

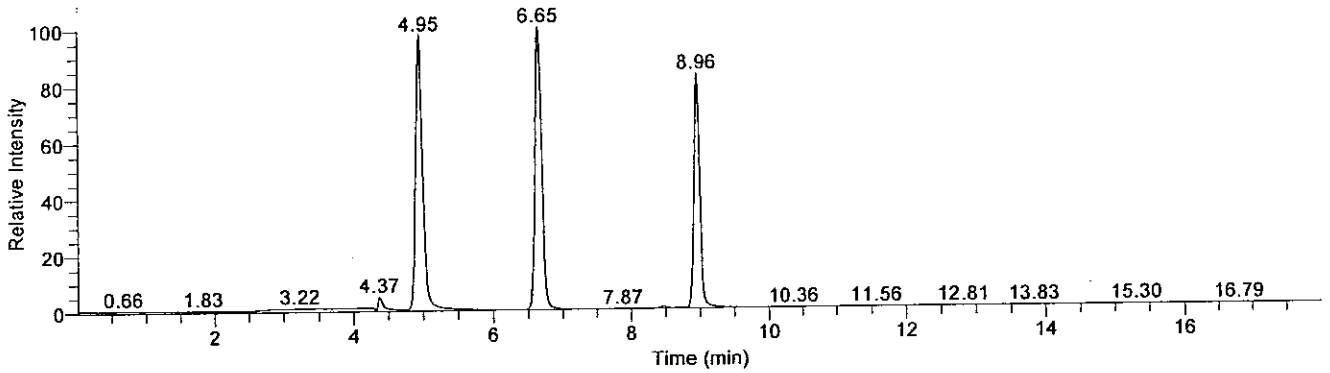
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-9.raw
Sample ID:	Cal6
Sample Type:	Standard
Level:	6
Acquisition Date:	Wednesday, September 02, 2009 5:02:25 PM
Vial:	D:7
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-9 - TIC RT: 0.01 - 17.99 NL: 1.43E5

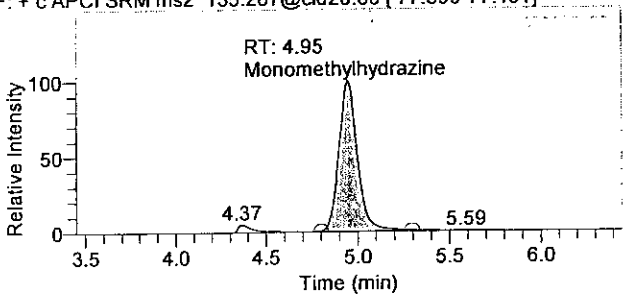


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:7, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-9, Comments: Soil Prep, ID: Cal6

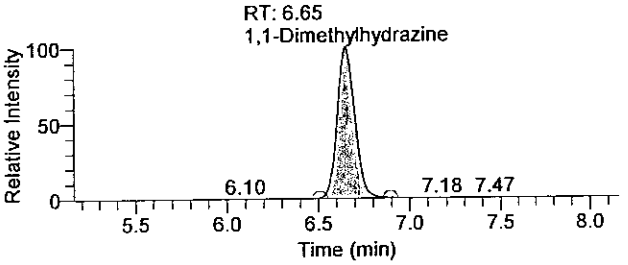
Monomethylhydrazine

02Sep2009-9 - TIC RT: 3.45 - 6.45 NL: 1.39E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



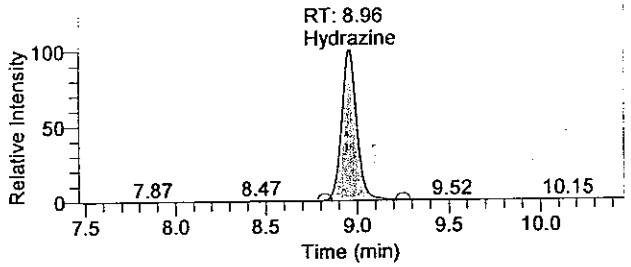
1,1-Dimethylhydrazine

02Sep2009-9 - TIC RT: 5.15 - 8.15 NL: 1.43E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-9 - TIC RT: 7.46 - 10.46 NL: 1.19E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



0DM19 0058

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal6	Method Settings	Hydrazine	8.96	681739	5.010	ng/mL
Cal6	Method Settings	1,1-Dimethylhydrazine	6.65	954132	25.423	ng/mL
Cal6	Method Settings	Monomethylhydrazine	4.95	967091	25.485	ng/mL

Analyst : JW 1543 9/3/2009

9/4/09

OLM19: 0051

There is no signature data to report.

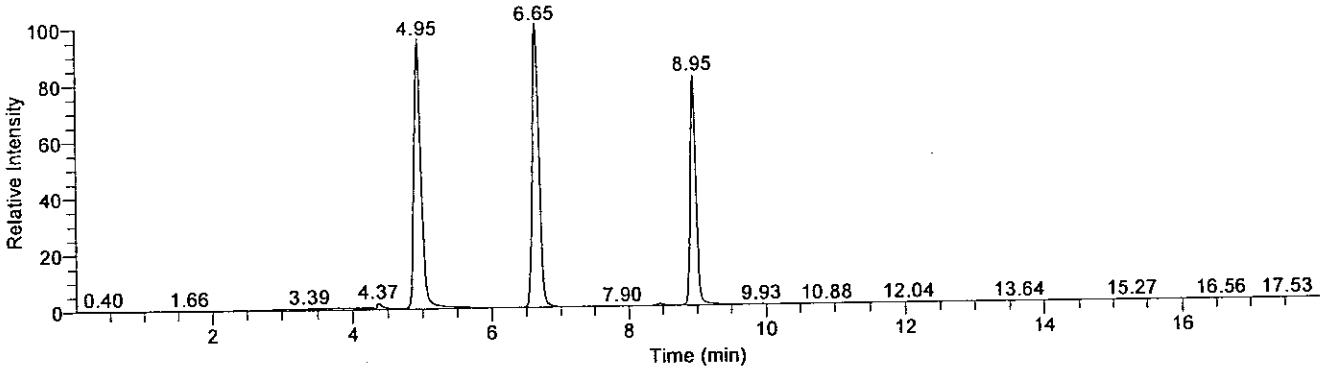
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-10.raw
Sample ID:	Cal7
Sample Type:	Standard
Level:	7
Acquisition Date:	Wednesday, September 02, 2009 5:21:09 PM
Vial:	D:8
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-10 - TIC RT: 0.00 - 17.99 NL: 2.88E5

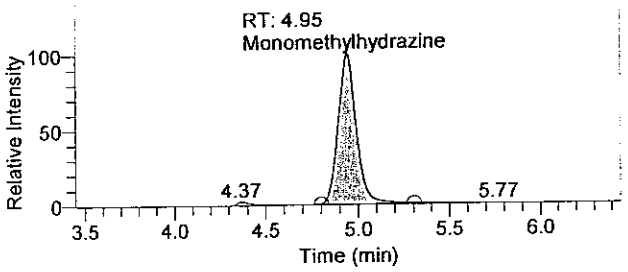


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:8, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-10, Comments: Soil Prep, ID: Cal7

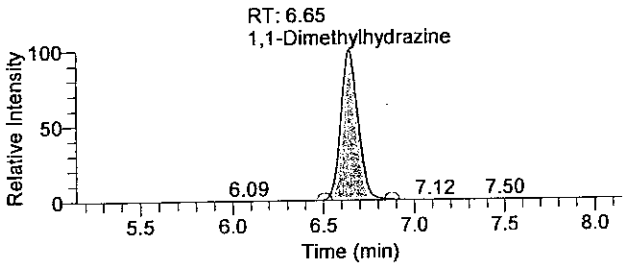
Monomethylhydrazine

02Sep2009-10 - TIC RT: 3.45 - 6.45 NL: 2.74E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



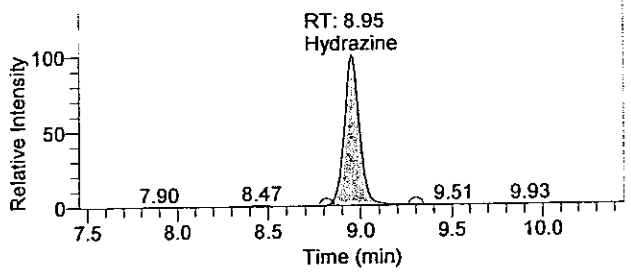
1,1-Dimethylhydrazine

02Sep2009-10 - TIC RT: 5.15 - 8.15 NL: 2.88E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-10 - TIC RT: 7.45 - 10.45 NL: 2.34E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



01M19 8852

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	1359469	10.001	ng/mL
Cal7	Method Settings	1,1-Dimethylhydrazine	6.65	1886670	50.209	ng/mL
Cal7	Method Settings	Monomethylhydrazine	4.95	1889464	49.741	ng/mL

Analyst : JW 1543 9/3/2009
[illegible] 9/4/09

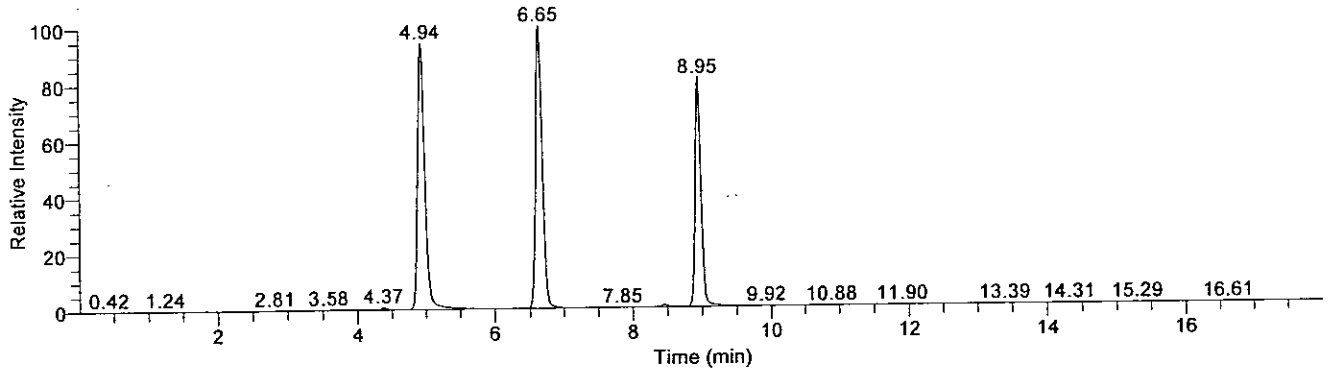
OLN19: 0853

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-11.raw
Sample ID:	Cal8
Sample Type:	Standard
Level:	8
Acquisition Date:	Wednesday, September 02, 2009 5:39:54 PM
Vial:	D:9
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-11 - TIC RT: 0.00 - 18.00 NL: 7.09E5

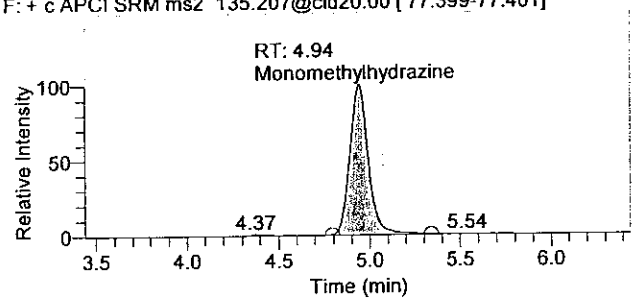


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:9, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-11, Comments: Soil Prep, ID: Cal8

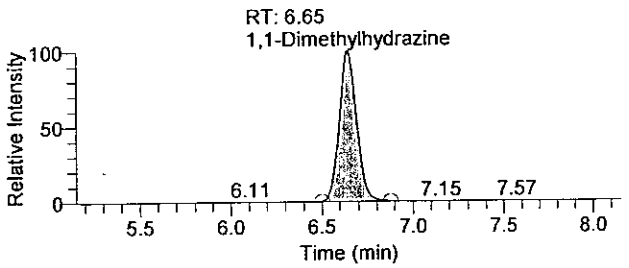
Monomethylhydrazine

02Sep2009-11 - TIC RT: 3.44 - 6.44 NL: 6.68E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



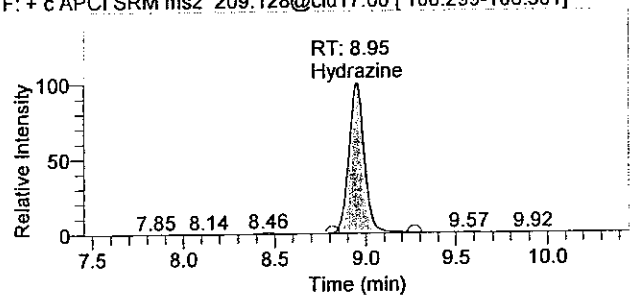
1,1-Dimethylhydrazine

02Sep2009-11 - TIC RT: 5.15 - 8.15 NL: 7.09E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-11 - TIC RT: 7.45 - 10.45 NL: 5.74E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN19 8854

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal8	Method Settings	Hydrazine	8.95	3413461	25.128	ng/mL
Cal8	Method Settings	1,1-Dimethylhydrazine	6.65	4674657	124.312	ng/mL
Cal8	Method Settings	Monomethylhydrazine	4.94	4746740	124.881	ng/mL

Analyst : JW 1543 ③JW 9/3/2009 ~~PHB~~ 9/3/2009
9/4/09

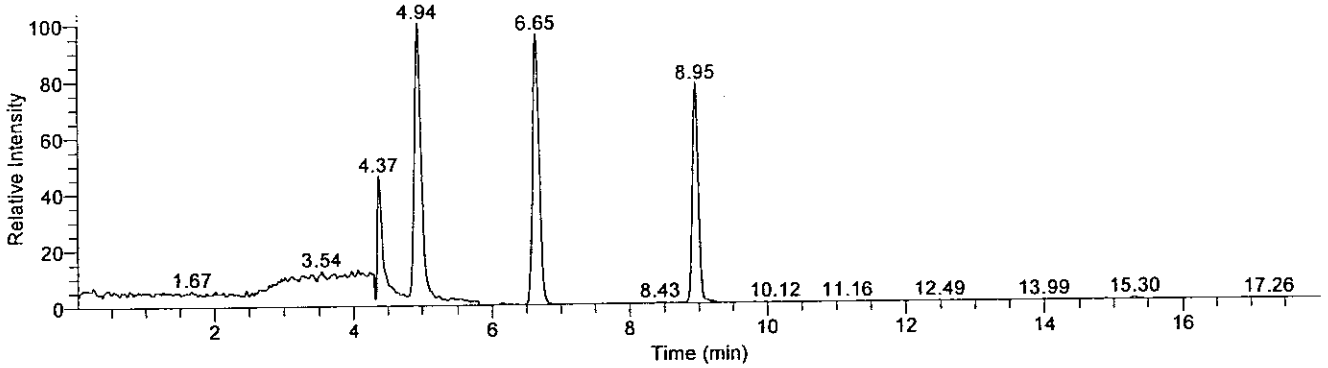
OLN19 8855

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-13.raw
Sample ID:	Cal3asQC1a
Sample Type:	QC
Level:	CCV1
Acquisition Date:	Wednesday, September 02, 2009 6:17:21 PM
Vial:	D:4
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-13 - TIC RT: 0.00 - 18.00 NL: 1.46E4

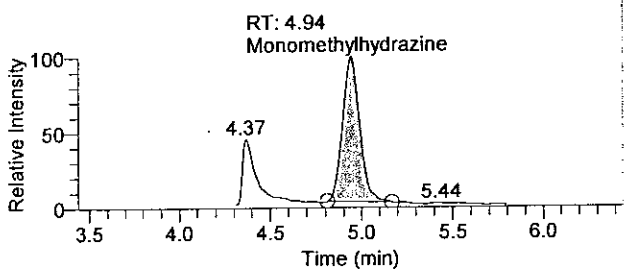


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:4, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-13, Comments: , ID: Cal3asQC1a

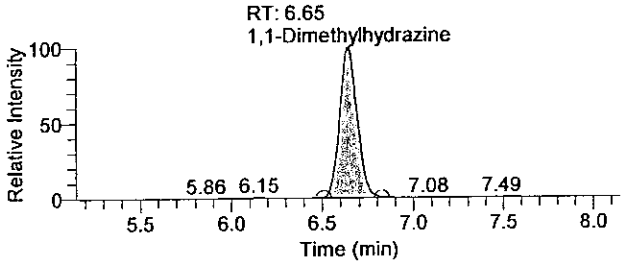
Monomethylhydrazine

02Sep2009-13 - TIC RT: 3.44 - 6.44 NL: 1.46E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



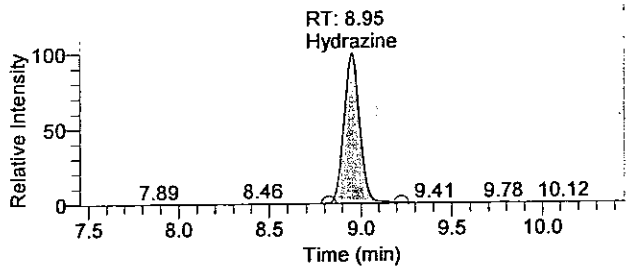
1,1-Dimethylhydrazine

02Sep2009-13 - TIC RT: 5.15 - 8.15 NL: 1.39E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-13 - TIC RT: 7.45 - 10.45 NL: 1.13E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



DEN19 0656

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal3asQC1a	Method Settings	Hydrazine	8.95	68059	0.490	ng/mL
Cal3asQC1a	Method Settings	1,1-Dimethylhydrazine	6.65	91734	2.501	ng/mL
Cal3asQC1a	Method Settings	Monomethylhydrazine	4.94	92196	2.478	ng/mL

Analyst: JW 1543 9/3/2009
[illegible] 9/4/09

OLM19 0857

There is no signature data to report.

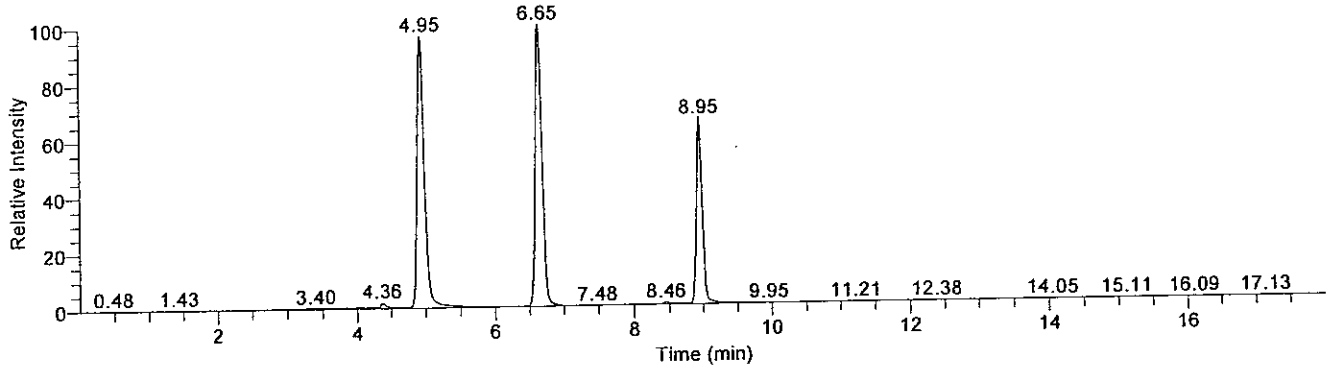
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-23.raw
Sample ID:	ICV
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 9:24:51 PM
Vial:	D:17
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-23 - TIC RT: 0.00 - 18.00 NL: 4.17E5

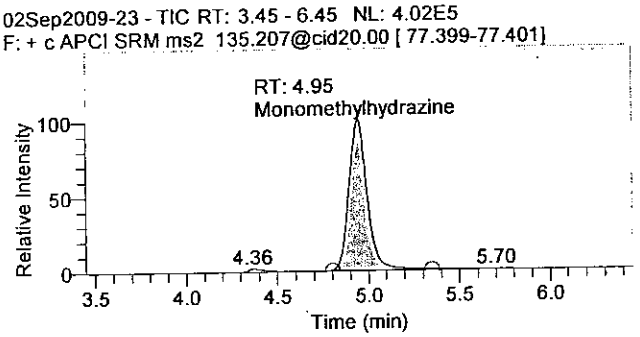


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:17, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-23, Comments: Soil Prep, ID: ICV

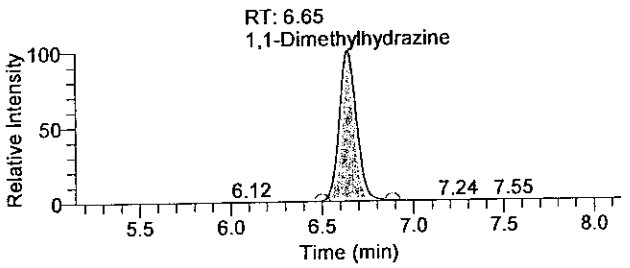
Monomethylhydrazine

02Sep2009-23 - TIC RT: 3.45 - 6.45 NL: 4.02E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



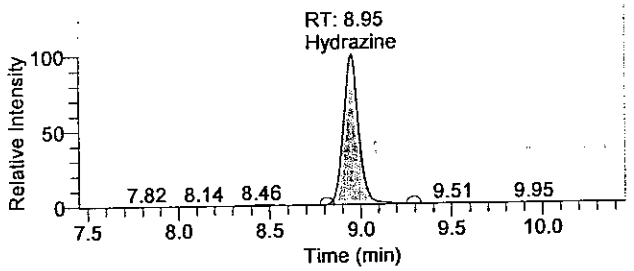
1,1-Dimethylhydrazine

02Sep2009-23 - TIC RT: 5.15 - 8.15 NL: 4.17E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-23 - TIC RT: 7.45 - 10.45 NL: 2.74E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
ICV	Method Settings	Hydrazine	8.95	1619351	11.915	ng/mL
ICV	Method Settings	1,1-Dimethylhydrazine	6.65	2775949	73.846	ng/mL
ICV	Method Settings	Monomethylhydrazine	4.95	2835336	74.616	ng/mL

Analyst: JW 1543 9/3/2009
9/4/09

OLM19 0859

There is no signature data to report.

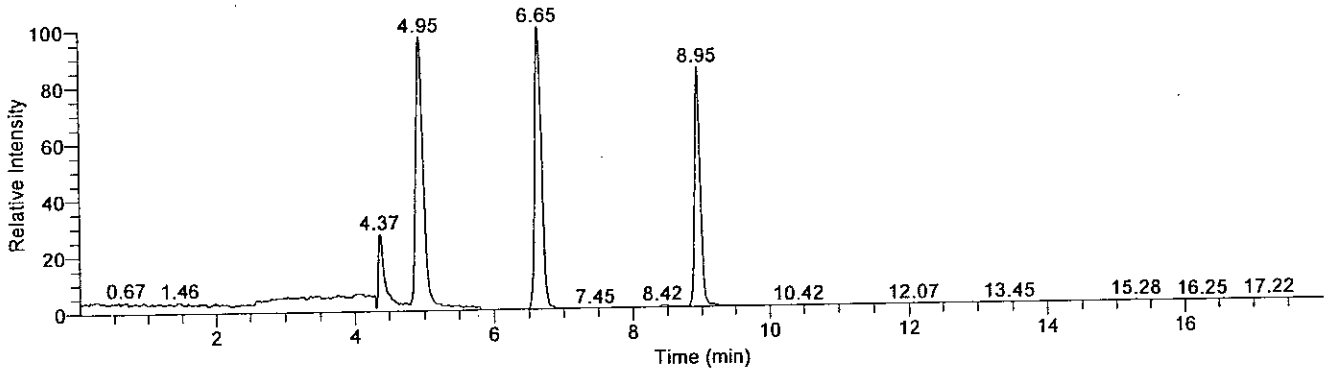
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	N/A
Data File:	02Sep2009-24.raw
Sample ID:	Cal4asQC2a
Sample Type:	QC
Level:	CCV2
Acquisition Date:	Wednesday, September 02, 2009 9:43:37 PM
Vial:	D:5
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-24 - TIC RT: 0.00 - 18.00 NL: 2.76E4

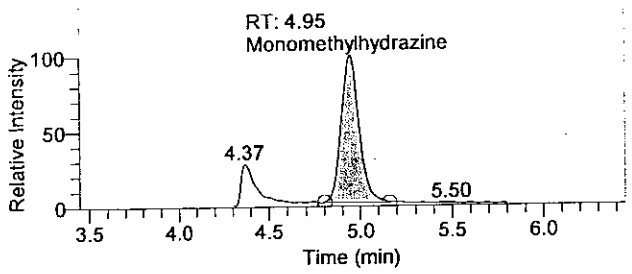


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:5, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-24, Comments: , ID: Cal4asQC2a

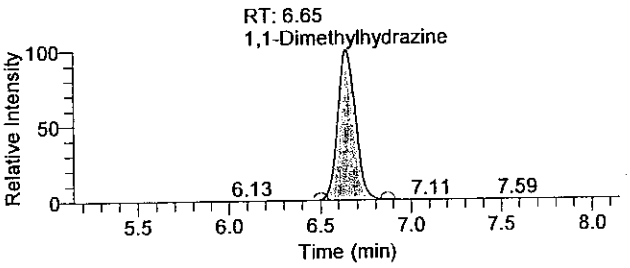
Monomethylhydrazine

02Sep2009-24 - TIC RT: 3.45 - 6.45 NL: 2.67E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



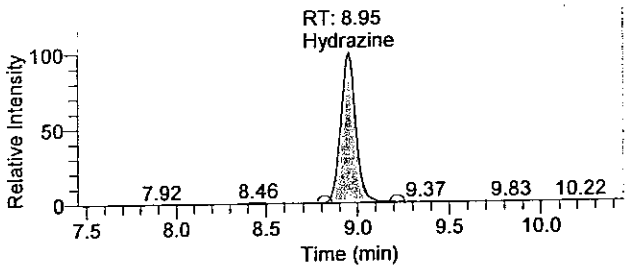
1,1-Dimethylhydrazine

02Sep2009-24 - TIC RT: 5.15 - 8.15 NL: 2.76E4
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-24 - TIC RT: 7.45 - 10.45 NL: 2.34E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



GLN19 0869

There is no signature data to report.

Lancaster Laboratories

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Cal4asQC2a	Method Settings	Hydrazine	8.95	137255	1.000	ng/mL
Cal4asQC2a	Method Settings	1,1-Dimethylhydrazine	6.65	183596	4.942	ng/mL
Cal4asQC2a	Method Settings	Monomethylhydrazine	4.95	180834	4.809	ng/mL

Analyst : JW 1543 9/3/2009
[illegible] 9/4/09

OLM19.0861

There is no signature data to report.

Raw QC Data

OLN19 8862

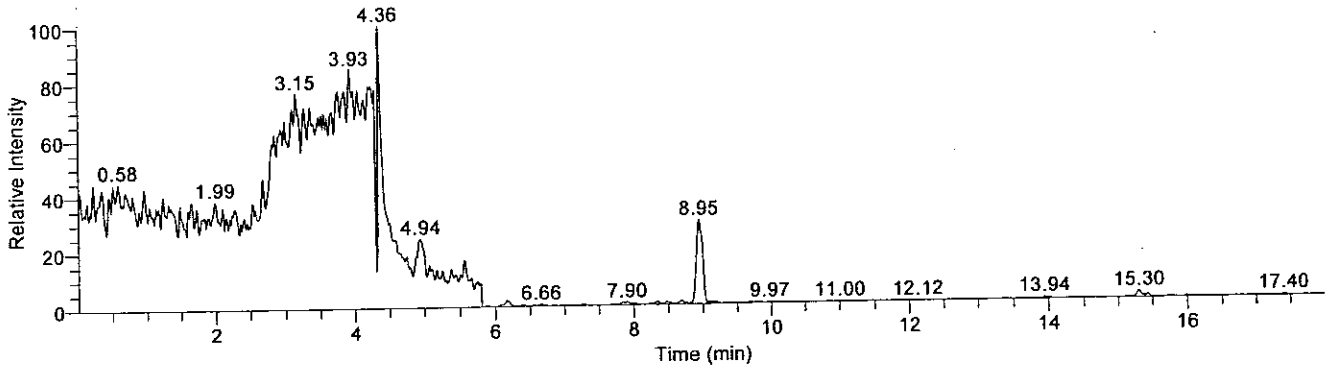
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-16.raw
Sample ID:	Blank
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 7:13:35 PM
Vial:	D:10
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-16 - TIC RT: 0.00 - 17.99 NL: 2.19E3

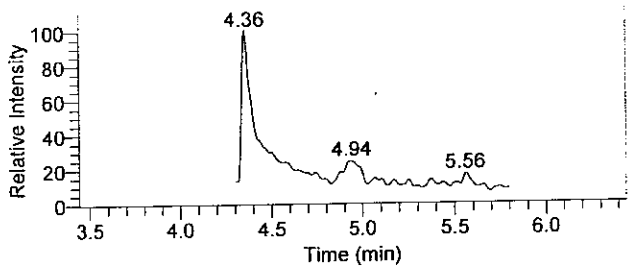


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:10, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-16, Comments: Soil Prep, ID: Blank

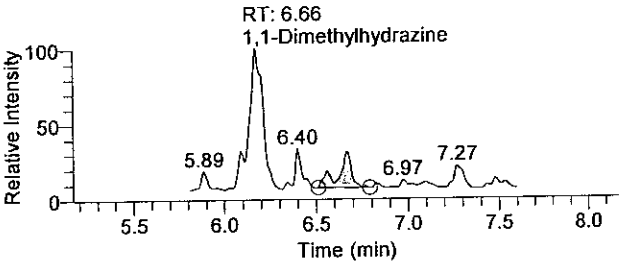
Monomethylhydrazine

02Sep2009-16 - TIC RT: 3.44 - 6.44 NL: 2.19E3
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



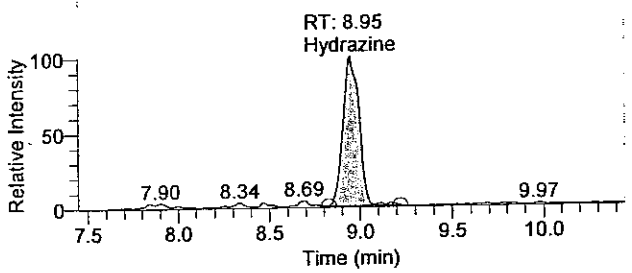
1,1-Dimethylhydrazine

02Sep2009-16 - TIC RT: 5.16 - 8.16 NL: 4.90E1
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-16 - TIC RT: 7.45 - 10.45 NL: 6.55E2
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



There is no signature data to report.

Lancaster Laboratories

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
Blank	Method Settings	Hydrazine	8.95	4107	0.019	ng/mL
Blank	Method Settings	1,1-Dimethylhydrazine	6.66	59	0.064	ng/mL
Blank	Method Settings	Monomethylhydrazine	N/A	NF	NC	ng/mL

Analyst: JW 1543 8/31/2009
SJNL 9/4/09

OLN19: 8864

There is no signature data to report.

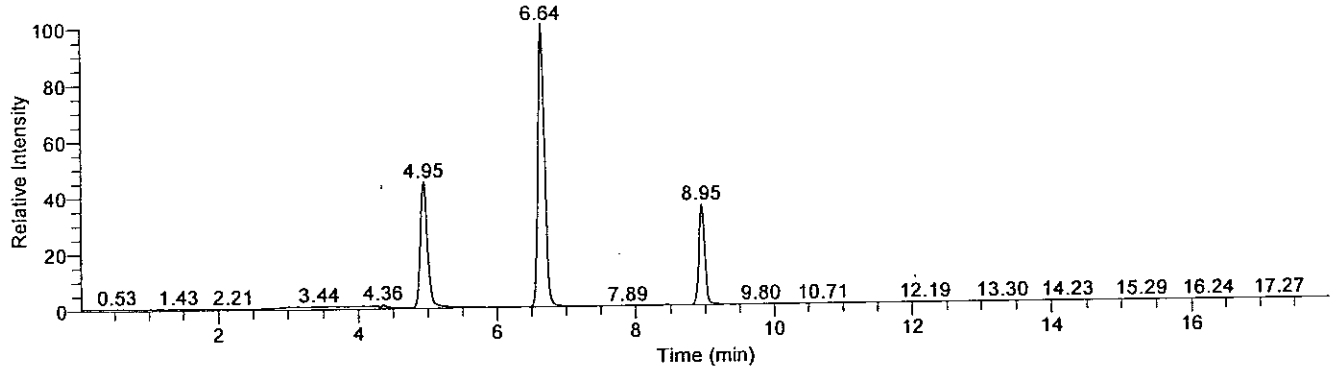
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-19.raw
Sample ID:	5764222MS
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 8:09:50 PM
Vial:	D:13
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-19 - TIC RT: 0.00 - 18.00 NL: 1.64E5

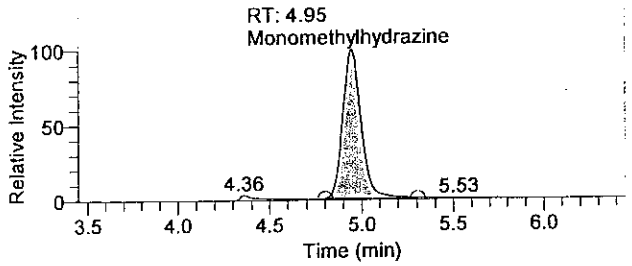


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:13, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-19, Comments: Soil Prep, ID: 5764222MS

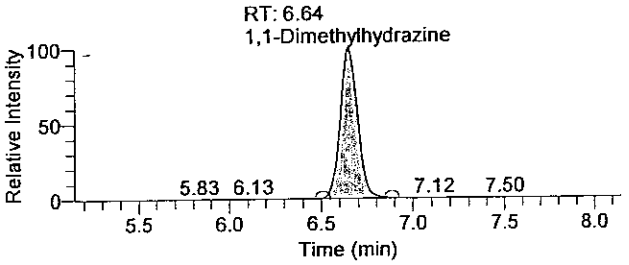
Monomethylhydrazine

02Sep2009-19 - TIC RT: 3.45 - 6.45 NL: 7.33E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



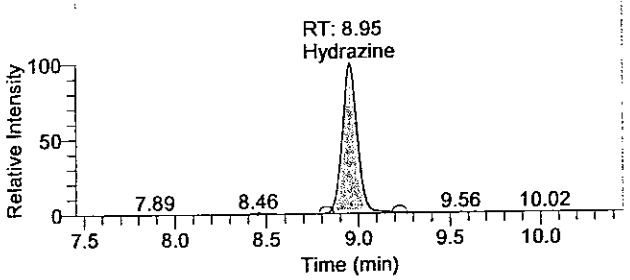
1,1-Dimethylhydrazine

02Sep2009-19 - TIC RT: 5.14 - 8.14 NL: 1.64E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-19 - TIC RT: 7.45 - 10.45 NL: 5.82E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



ODN15 6865

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5764222MS	Method Settings	Hydrazine	8.95	335792	2.462	ng/mL
5764222MS	Method Settings	1,1-Dimethylhydrazine	6.64	1069911	28.500	ng/mL
5764222MS	Method Settings	Monomethylhydrazine	4.95	514200	13.575	ng/mL

Analyst: JW 1543 9/3/2009
[illegible] 9/4/09

OLN19 0066

There is no signature data to report.

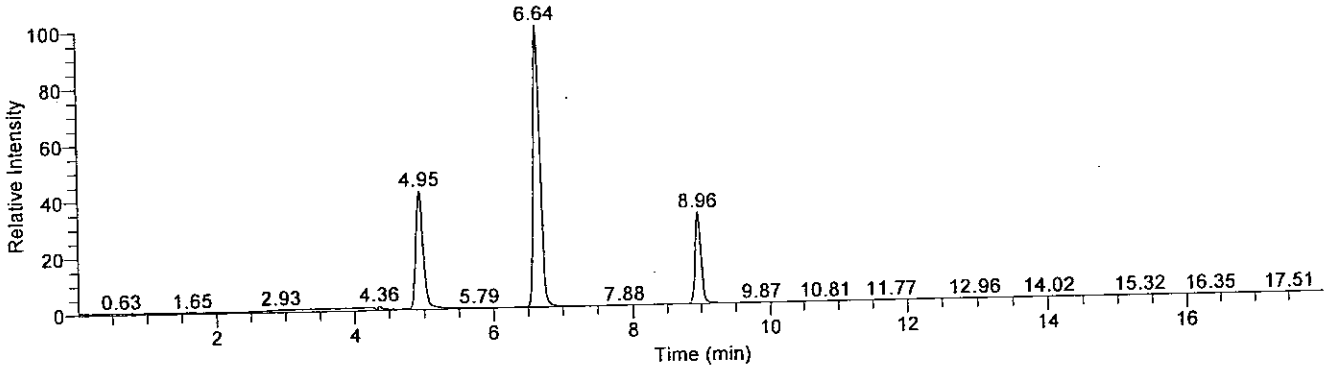
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-20.raw
Sample ID:	③JV ~~5764223MDS~~ 5764223 MSD
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 8:28:36 PM
Vial:	D:14
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-20 - TIC RT: 0.01 - 18.00 NL: 1.80E5

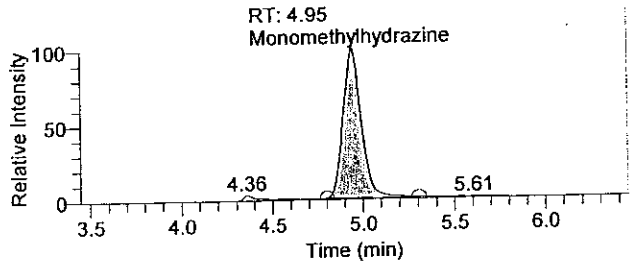


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:14, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-20, Comments: Soil Prep, ID: 5764223MDS

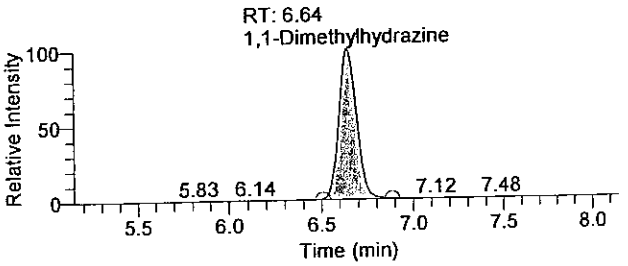
Monomethylhydrazine

02Sep2009-20 - TIC RT: 3.45 - 6.45 NL: 7.56E4
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



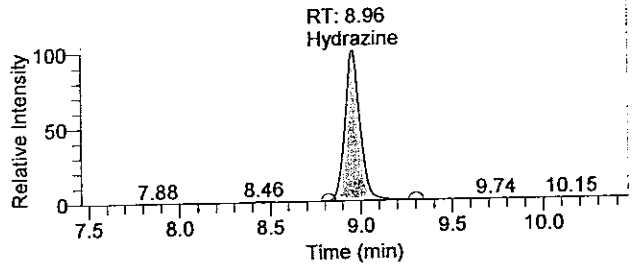
1,1-Dimethylhydrazine

02Sep2009-20 - TIC RT: 5.14 - 8.14 NL: 1.80E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-20 - TIC RT: 7.46 - 10.46 NL: 5.84E4
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN19 8867

There is no signature data to report.

Lancaster Laboratories

Quantify Sample Report

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
5764223MDS	Method Settings	Hydrazine	8.96	342289	2.510	ng/mL
5764223MDS	Method Settings	1,1-Dimethylhydrazine	6.64	1192133	31.749	ng/mL
5764223MDS	Method Settings	Monomethylhydrazine	4.95	530876	14.014	ng/mL

Analyst: JW 1543 9/3/2009
9/4/09

There is no signature data to report.

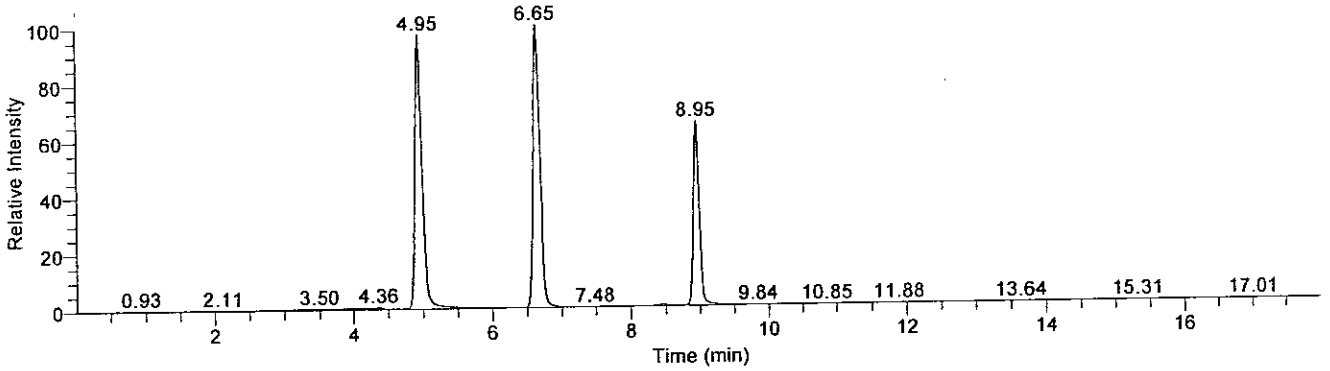
Lancaster Laboratories

Quantify Sample Report

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-21.raw
Sample ID:	LCS
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 8:47:21 PM
Vial:	D:15
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-21 - TIC RT: 0.00 - 17.99 NL: 3.58E5

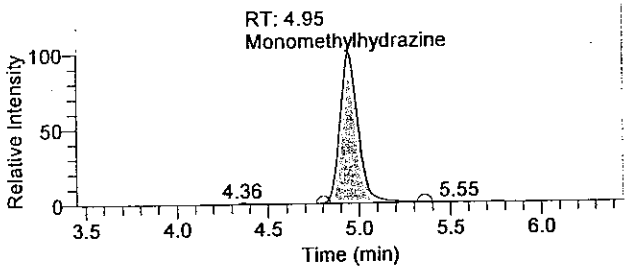


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:15, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-21, Comments: Soil Prep, ID: LCS

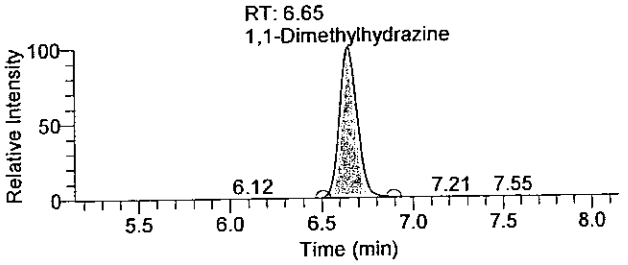
Monomethylhydrazine

02Sep2009-21 - TIC RT: 3.45 - 6.45 NL: 3.48E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



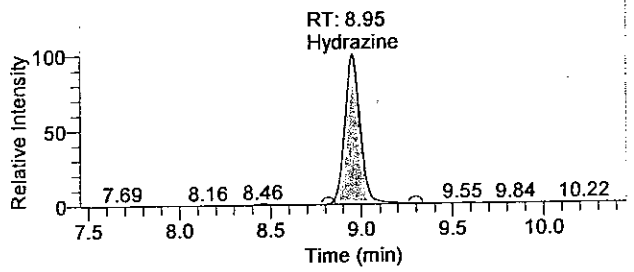
1,1-Dimethylhydrazine

02Sep2009-21 - TIC RT: 5.15 - 8.15 NL: 3.58E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-21 - TIC RT: 7.45 - 10.45 NL: 2.33E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



GLM19 8869

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
LCS	Method Settings	Hydrazine	8.95	1382588	10.171	ng/mL
LCS	Method Settings	1,1-Dimethylhydrazine	6.65	2418228	64.338	ng/mL
LCS	Method Settings	Monomethylhydrazine	4.95	2427618	63.894	ng/mL

Analyst : JW 1543 9/3/2009

9/4/09

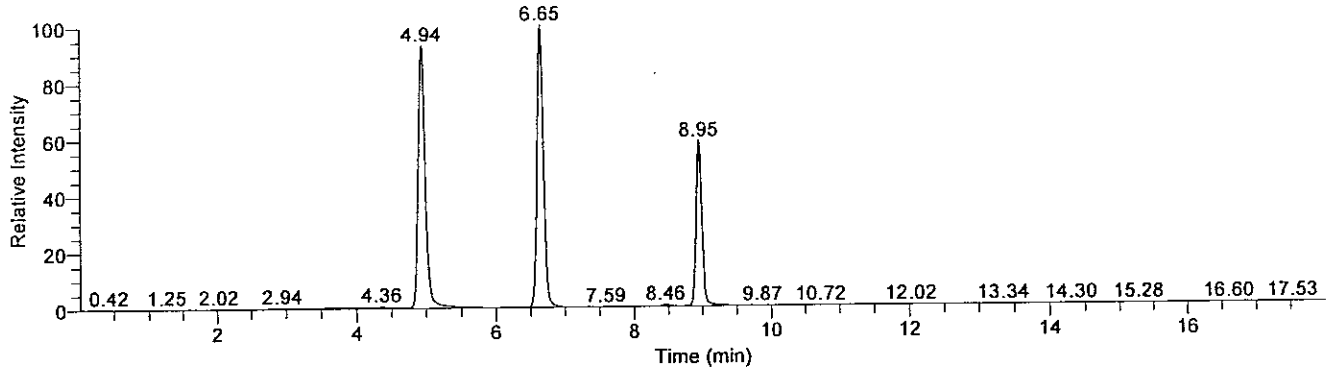
OLM19 8878

There is no signature data to report.

Current Workbook Path:	C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1
Workbook Name:	TQU01408-02Sep2009-1
Analyst	JW01543
Instrument No.	TQU01408
Batch No.	0924510056295
Data File:	02Sep2009-22.raw
Sample ID:	LCSD
Sample Type:	Unknown
Level:	N/A
Acquisition Date:	Wednesday, September 02, 2009 9:06:07 PM
Vial:	D:16
Dilution Factor:	1.00000

Sample Chromatogram

02Sep2009-22 - TIC RT: 0.00 - 18.00 NL: 4.04E5

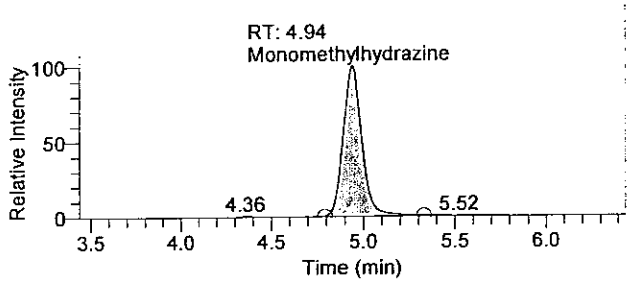


Compound Graphics

Date: 02-Sep-2009, Instrument: Quantum, Vial: D:16, Name: C:\XCalibur\Hydrazine Analysis\Sep 2009\TQU01408-02Sep2009-1\Rawfiles\02Sep2009-22, Comments: Soil Prep, ID: LCSD

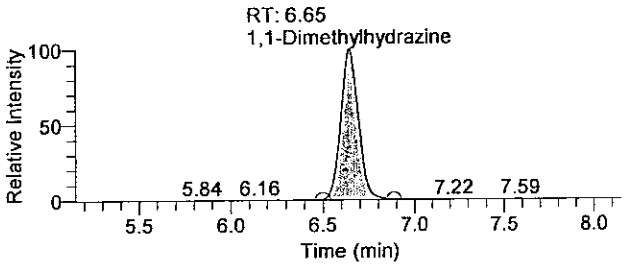
Monomethylhydrazine

02Sep2009-22 - TIC RT: 3.44 - 6.44 NL: 3.75E5
F: + c APCI SRM ms2 135.207@cid20.00 [77.399-77.401]



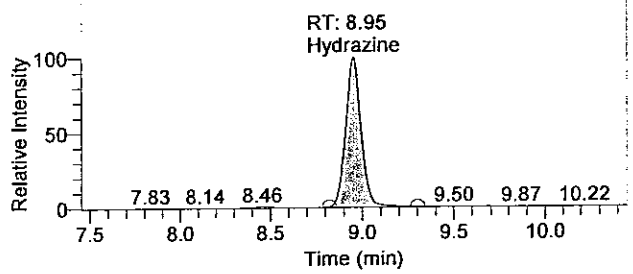
1,1-Dimethylhydrazine

02Sep2009-22 - TIC RT: 5.15 - 8.15 NL: 4.04E5
F: + c APCI SRM ms2 149.210@cid14.00 [106.269-106.271]



Hydrazine

02Sep2009-22 - TIC RT: 7.45 - 10.45 NL: 2.36E5
F: + c APCI SRM ms2 209.128@cid17.00 [106.299-106.301]



OLN19 8871

There is no signature data to report.

Quantitation Results

Sample ID	Integration Type	Component Name	RT	Response	Calculated Conc	Units
LCSD	Method Settings	Hydrazine	8.95	1387011	10.204	ng/mL
LCSD	Method Settings	1,1-Dimethylhydrazine	6.65	2659556	70.752	ng/mL
LCSD	Method Settings	Monomethylhydrazine	4.94	2642572	69.546	ng/mL

Analyst : JW 1543 9/3/2009
[illegible] 9/4/09

OLN19 5872

There is no signature data to report.

Sample Preparation

OLN19 8873

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
Date: 9-2-09
From: Notebook pg. 94

1. Pipette calibration

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

Volume (uL)	Balance Reading (mg)
50	49.36

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

Volume (uL)	Balance Reading (mg)
10	9.74

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

Volume (mL)	Balance Reading (mg)
40	39.40

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

Volume (uL)	Balance Reading (g)
500	0.49514

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

Volume (uL)	Balance Reading (g)
1000	0.99069

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

Volume (mL)	Balance Reading (g)
10	10.03063

All the pipettes passed calibration check Balance: 5554 [illegible] 9/2/09

2. Weigh Ottawa Sand and soil samples

Batch # 0924510056295

Blank	1.0003g
LCS	1.0009g
LCSD	1.0003g
5764220FD	1.0007g
5764221 Bkg	1.0000g
5764222 MS	1.0002g
5764223 MSD	1.0001g
5766205	1.0001g
5766206	1.0000g

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[illegible] 9/2/09

4056.01 Maria Davenport 9-2-09

100562 95

9-2-09
From: Notebook 100562 pg. 95

2. Con't.
5766207 1.0004g
5766208 1.0002g
5766209 1.0003g
5766211 1.0008g

3. Prepare 1% benzaldehyde soln
200.0 mL of benzaldehyde + 20 mL methanol measured with graduated cylinder → glass vial, mixed well.

4. Prepare 2nd source monomethylhydrazine stock soln
Conc. 983 mg/mL
983 mg → 10 mL volumetric flask containing ~ 5 mL methanol.
Brought to volume with methanol, mixed well.

5. Prepare 2nd source LCS spiking soln
Added 2nd source
hydrazine stock soln 100562-58-1 : 69.3 mL
monomethylhydrazine stock soln ~~1065~~ DJW 9/2/09 63.6 mL
1,1-dimethylhydrazine stock soln 100562-43-4 : 77.2 mL
into 10 mL volumetric flask. Brought to volume with methanol, mixed well.

6. Added 100.0ul LCS spiking sol'n into QC samples
Add 10.0ml extraction sol'n into all samples
Shake samples at 300rpm for 10mins
Centrifuge samples 2900rpm for 10mins

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DJW 9/2/09

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9-2-09
From: Notebook 100562 pg. 96

7. Derivatization of MDL and Calibration stds.

1m hexylamine Sol'n	100562-37-1	Standards	Benzaldehyde sol'n
10.0 ul		1.0 ml	0.5 ml

8. Derivatization of ICV and 2nd source LCS spiking sol'n

1m hexylamine Sol'n	0.2m Acetate buffer	Spiking Sol'n	Benzaldehyde Sol'n
100562-37-1	100562-54-5		
10.0 ul	1.0 ml	10.0 ul	0.5 ml

9. Derivatization of all samples in Batch# 09245100562PS

Supernant of extract	5m Acetate Buffer	100562-143	Benzaldehyde Sol'n
1.0 ml	40.0 ul		0.5 ml

To make each derivative sol'n added the corresponding sol'n according to the table above into glass vials, mixed well. Placed the glass vials in a sample shaker with heated (40°c) water bath for 1 hr. Filtered the sol'n into autosampler vials.
End of batch preparation
Maria Davenport 9-2-09

10. Run workbook : TQ UC1408 - 02 Sep 2009 - 1
under : C:\X Calibur \ Hydrazine Analysis \ Sep 2009
Samples All the samples prepared today (from Notebook 100562, pg 95 to 100)
Two batches of samples are in this workbook
Batch# 09245100562PS Soil samples
Batch# 09245100562PP : Aqueous samples

OLM19 0076

J. Way 9/2/2009

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Moisture Data

OLM19 8877

Lancaster Laboratories

MOISTURE

CLIENT: Olin Corporation
SDG: OLN19

SAMPLE NUMBERS:

Sample #	Sample Code
5764220	O451DFD
5764221	O4512BKG
5764222	O4512MS
5764223	O4512MSD

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 09243820001B	Sample number(s): 5764220-5764223				
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: 09243820001B	Sample number(s): 5764220-5764223			
Moisture	4.6	4.5	1	15
Moisture Duplicate	4.6	4.5	1	15
Moisture	4.6	4.5	1	15

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

Moisture Data Report

Batch #: 09243820001

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
LCS 89.5% Std.			1.0827	5.0023	1.6100	89.46	8/31/09 (0189/WCS)	9/ 2/09 (0236/CW)
5764220FD	B	00111	1.0868	6.3255	7.1338	4.40	8/31/09 (0189/WCS)	9/ 2/09 (0236/CW)
5764221BKG	B	00111	1.1208	6.0213	6.8660	4.59	8/31/09 (0189/WCS)	9/ 2/09 (0236/CW)
5764222MS	B	00118				4.59	8/31/09 (0189/WCS)	9/ 2/09 (0236/CW)
5764223MSD	B	00118				4.59	8/31/09 (0189/WCS)	9/ 2/09 (0236/CW)
5764223MSD	B	00121	1.1017	7.0744	7.8551	4.54	8/31/09 (0189/WCS)	9/ 2/09 (0236/CW)

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