

MWH-Pasadena/Boeing  
 618 Michillinda Avenue, Suite 200  
 Arcadia, CA 91007  
 Attention: Bronwyn Kelly

Project ID: Routine Outfall 014  
 APTF Test Stand  
 Report Number: IRK0247

Sampled: 11/04/08  
 Received: 11/04/08

## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8K04068 Extracted: 11/04/08</b>											
<b>Blank Analyzed: 11/04/2008 (8K04068-BLK1)</b>											
Chloride	ND	0.50	0.25	mg/l							
Nitrate-N	ND	0.11	0.060	mg/l							
Nitrite-N	ND	0.15	0.090	mg/l							
Nitrate/Nitrite-N	ND	0.26	0.15	mg/l							
Sulfate	ND	0.50	0.20	mg/l							
<b>LCS Analyzed: 11/04/2008 (8K04068-BS1)</b>											
Chloride	5.30	0.50	0.25	mg/l	5.00		106	90-110			
Nitrate-N	1.23	0.11	0.060	mg/l	1.13		109	90-110			
Nitrite-N	1.55	0.15	0.090	mg/l	1.52		102	90-110			
Sulfate	10.1	0.50	0.20	mg/l	10.0		101	90-110			
<b>Matrix Spike Analyzed: 11/04/2008 (8K04068-MS1) Source: IRK0192-01</b>											
Chloride	318	10	5.0	mg/l	50.0	278	80	80-120			MHA
Nitrate-N	11.8	2.2	1.2	mg/l	11.3	ND	104	80-120			
Nitrite-N	15.5	3.0	1.8	mg/l	15.2	ND	102	80-120			
Sulfate	212	10	4.0	mg/l	100	123	89	80-120			
<b>Matrix Spike Analyzed: 11/05/2008 (8K04068-MS2) Source: IRK0198-01</b>											
Chloride	19.4	0.50	0.25	mg/l	5.00	14.3	101	80-120			
Nitrate-N	5.25	0.11	0.060	mg/l	1.13	3.92	117	80-120			
Nitrite-N	1.58	0.15	0.090	mg/l	1.52	ND	104	80-120			
Sulfate	36.9	0.50	0.20	mg/l	10.0	26.8	101	80-120			
<b>Matrix Spike Dup Analyzed: 11/04/2008 (8K04068-MSD1) Source: IRK0192-01</b>											
Chloride	317	10	5.0	mg/l	50.0	278	78	80-120	0	20	MHA
Nitrate-N	12.1	2.2	1.2	mg/l	11.3	ND	107	80-120	3	20	
Nitrite-N	15.8	3.0	1.8	mg/l	15.2	ND	104	80-120	2	20	
Sulfate	212	10	4.0	mg/l	100	123	88	80-120	0	20	

TestAmerica Irvine

Joseph Doak  
 Project Manager

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### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 8K05004 Extracted: 11/05/08</u></b>											
<b>Blank Analyzed: 11/05/2008 (8K05004-BLK1)</b>											
Fluoride	0.0292	0.10	0.020	mg/l							J
<b>LCS Analyzed: 11/05/2008 (8K05004-BS1)</b>											
Fluoride	1.03	0.10	0.020	mg/l	1.00		103	90-110			
<b>Matrix Spike Analyzed: 11/05/2008 (8K05004-MS1)</b>											
						<b>Source: IRJ2794-01</b>					
Fluoride	1.86	0.10	0.020	mg/l	1.00	0.896	97	80-120			
<b>Matrix Spike Dup Analyzed: 11/05/2008 (8K05004-MSD1)</b>											
						<b>Source: IRJ2794-01</b>					
Fluoride	1.87	0.10	0.020	mg/l	1.00	0.896	97	80-120	0	20	
<b><u>Batch: 8K05073 Extracted: 11/05/08</u></b>											
<b>Blank Analyzed: 11/05/2008 (8K05073-BLK1)</b>											
Turbidity	0.0800	1.0	0.040	NTU							J
<b>Duplicate Analyzed: 11/05/2008 (8K05073-DUP1)</b>											
						<b>Source: IRK0182-03</b>					
Turbidity	0.190	1.0	0.040	NTU		0.180			5	20	J
<b>Duplicate Analyzed: 11/05/2008 (8K05073-DUP2)</b>											
						<b>Source: IRK0297-01</b>					
Turbidity	35.2	1.0	0.040	NTU		35.8			2	20	
<b><u>Batch: 8K05114 Extracted: 11/05/08</u></b>											
<b>Blank Analyzed: 11/05/2008 (8K05114-BLK1)</b>											
Ammonia-N (Distilled)	ND	0.50	0.50	mg/l							

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: 8K05114 Extracted: 11/05/08</u></b>											
<b>LCS Analyzed: 11/05/2008 (8K05114-BS1)</b>											
Ammonia-N (Distilled)	10.1	0.50	0.50	mg/l	10.0		101	80-115			
<b>Matrix Spike Analyzed: 11/05/2008 (8K05114-MS1)</b>											
						<b>Source: IRK0072-01</b>					
Ammonia-N (Distilled)	10.4	0.50	0.50	mg/l	10.0	0.560	98	70-120			
<b>Matrix Spike Dup Analyzed: 11/05/2008 (8K05114-MSD1)</b>											
						<b>Source: IRK0072-01</b>					
Ammonia-N (Distilled)	10.6	0.50	0.50	mg/l	10.0	0.560	101	70-120	3	15	
<b><u>Batch: 8K05133 Extracted: 11/05/08</u></b>											
<b>Blank Analyzed: 11/10/2008 (8K05133-BLK1)</b>											
Biochemical Oxygen Demand	ND	2.0	0.50	mg/l							
<b>LCS Analyzed: 11/10/2008 (8K05133-BS1)</b>											
Biochemical Oxygen Demand	196	100	25	mg/l	198		99	85-115			
<b>LCS Dup Analyzed: 11/10/2008 (8K05133-BSD1)</b>											
Biochemical Oxygen Demand	202	100	25	mg/l	198		102	85-115	3	20	
<b><u>Batch: 8K06055 Extracted: 11/06/08</u></b>											
<b>Blank Analyzed: 11/06/2008 (8K06055-BLK1)</b>											
Total Dissolved Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 11/06/2008 (8K06055-BS1)</b>											
Total Dissolved Solids	1020	10	10	mg/l	1000		102	90-110			

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## METHOD BLANK/QC DATA

### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8K06055 Extracted: 11/06/08</b>											
<b>Duplicate Analyzed: 11/06/2008 (8K06055-DUP1)</b>						<b>Source: IRK0184-01</b>					
Total Dissolved Solids	6020	10	10	mg/l		6140			2	10	
<b>Batch: 8K07091 Extracted: 11/07/08</b>											
<b>Blank Analyzed: 11/08/2008 (8K07091-BLK1)</b>											
Perchlorate	ND	4.0	0.90	ug/l							
<b>LCS Analyzed: 11/08/2008 (8K07091-BS1)</b>											
Perchlorate	26.9	4.0	0.90	ug/l	25.0		108	85-115			
<b>Matrix Spike Analyzed: 11/08/2008 (8K07091-MS1)</b>						<b>Source: IRK0239-02</b>					
Perchlorate	23.5	4.0	0.90	ug/l	25.0	ND	94	80-120			
<b>Matrix Spike Dup Analyzed: 11/08/2008 (8K07091-MSD1)</b>						<b>Source: IRK0239-02</b>					
Perchlorate	24.0	4.0	0.90	ug/l	25.0	ND	96	80-120	2	20	
<b>Batch: 8K11075 Extracted: 11/11/08</b>											
<b>Blank Analyzed: 11/11/2008 (8K11075-BLK1)</b>											
Total Suspended Solids	ND	10	10	mg/l							
<b>LCS Analyzed: 11/11/2008 (8K11075-BS1)</b>											
Total Suspended Solids	993	10	10	mg/l	1000		99	85-115			
<b>Duplicate Analyzed: 11/11/2008 (8K11075-DUP1)</b>						<b>Source: IRK0279-01</b>					
Total Suspended Solids	ND	10	10	mg/l		ND				10	

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### INORGANICS

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: 8K13049 Extracted: 11/13/08</b>											
<b>Blank Analyzed: 11/13/2008 (8K13049-BLK1)</b>											
Hexane Extractable Material (Oil & Grease)	ND	5.0	1.4	mg/l							
<b>LCS Analyzed: 11/13/2008 (8K13049-BS1)</b>											
Hexane Extractable Material (Oil & Grease)	19.0	5.0	1.4	mg/l	20.2		94	78-114			MNR1
<b>LCS Dup Analyzed: 11/13/2008 (8K13049-BSD1)</b>											
Hexane Extractable Material (Oil & Grease)	19.4	5.0	1.4	mg/l	20.2		96	78-114	2	11	

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## Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IRK0247-01	1664-HEM	Hexane Extractable Material (Oil & Greas	mg/l	1.42	4.7	15
IRK0247-01	624-Boeing 012/013/014 DT, LOW	1,2-Dibromoethane (EDB)	ug/l	0	0.50	50
IRK0247-01	624-Boeing 012/013/014 DT, LOW	tert-Butanol (TBA)	ug/l	0	10	12
IRK0247-01	625-Boeing 012/013/014 DT	Naphthalene	ug/l	0	9.4	21
IRK0247-01	8015B-DRO/ORO-C13C28/C29C40DRO (C13 - C28)	GRO (C4 - C12)	mg/l	0.0092	0.094	0.1
IRK0247-01	8015B-GRO(C4-C12)	GRO (C4 - C12)	mg/l	0.0089	0.050	0.1
IRK0247-01	8260B-SIM 1,4-Dioxane	1,4-Dioxane	ug/l	0.090	2.0	3
IRK0247-01	Ammonia-N, Titr (4500NH3-C) w/d	Ammonia-N (Distilled)	mg/l	0.28	0.50	10
IRK0247-01	Boron-200.7	Boron	mg/l	0.14	0.050	1
IRK0247-01	Cadmium-200.8	Cadmium	ug/l	0.56	1.0	3.1
IRK0247-01	Chloride - 300.0	Chloride	mg/l	26	0.50	150
IRK0247-01	Copper-200.8	Copper	ug/l	1.95	2.0	14
IRK0247-01	Fluoride-4500FC	Fluoride	mg/l	0.38	0.10	1.6
IRK0247-01	Lead-200.8	Lead	ug/l	0.84	1.0	5.2
<b>IRK0247-01</b>	<b>Nitrate-N, 300.0</b>	<b>Nitrate-N</b>	<b>mg/l</b>	<b>9.32</b>	<b>2.2</b>	<b>8</b>
IRK0247-01	Nitrite-N, 300.0	Nitrite-N	mg/l	0	0.15	1
<b>IRK0247-01</b>	<b>Nitrogen, NO3+NO2 -N</b>	<b>Nitrate/Nitrite-N</b>	<b>mg/l</b>	<b>9.32</b>	<b>5.2</b>	<b>8</b>
IRK0247-01	Perchlorate 314.0-DEFAULT	Perchlorate	ug/l	0	4.0	6
IRK0247-01	Selenium-200.8	Selenium	ug/l	0.32	2.0	5
IRK0247-01	Sett. Solids - SM2540F	Total Settleable Solids	ml/l	0	0.10	0.3
IRK0247-01	Sulfate-300.0	Sulfate	mg/l	22	0.50	300
IRK0247-01	TDS - SM 2540C	Total Dissolved Solids	mg/l	213	10	950
IRK0247-01	TSS - SM2540D	Total Suspended Solids	mg/l	2.00	10	45
IRK0247-01	Zinc-200.8	Zinc	ug/l	19	20	160

## Compliance Check

The results obtained from the analytical testing of this data set were checked against compliance limits received from the client. Any results at or above the compliance limits appear in bold on this page.

LabNumber	Analysis	Analyte	Units	Result	MRL	Compliance Limit
IRK0247-02	624-Boeing 012/013/014 DT, LOW	1,2-Dibromoethane (EDB)	ug/l	0	0.50	50
IRK0247-02	624-Boeing 012/013/014 DT, LOW	tert-Butanol (TBA)	ug/l	0	10	12

### TestAmerica Irvine

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## DATA QUALIFIERS AND DEFINITIONS

- B** Analyte was detected in the associated Method Blank.
- J** Estimated value. Analyte detected at a level less than the Reporting Limit (RL) and greater than or equal to the Method Detection Limit (MDL). The user of this data should be aware that this data is of limited reliability.
- M1** The MS and/or MSD were above the acceptance limits due to sample matrix interference. See Blank Spike (LCS).
- MHA** Due to high levels of analyte in the sample, the MS/MSD calculation does not provide useful spike recovery information. See Blank Spike (LCS).
- MNR1** There was no MS/MSD analyzed with this batch due to insufficient sample volume. See Blank Spike/Blank Spike Duplicate.
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- RPD** Relative Percent Difference

## ADDITIONAL COMMENTS

**For GRO (C4-C12):**

GRO (C4-C12) is quantitated against a gasoline standard. Quantitation begins immediately following the methanol peak.

**For Extractable Fuel Hydrocarbons (EFH, DRO, ORO) :**

Unless otherwise noted, Extractable Fuel Hydrocarbons (EFH, DRO, ORO) are quantitated against a Diesel Fuel Standard.

**TestAmerica Irvine**

Joseph Doak  
Project Manager

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## Certification Summary

### TestAmerica Irvine

Method	Matrix	Nelac	California
EDD + Level 4	Water	N/A	N/A
EPA 1664A	Water	X	X
EPA 180.1	Water	X	X
EPA 200.7-Diss	Water	X	X
EPA 200.7	Water	X	X
EPA 200.8-Diss	Water	X	X
EPA 200.8	Water	X	X
EPA 300.0	Water	X	X
EPA 314.0	Water	X	X
EPA 624	Water	X	X
EPA 625	Water	X	X
EPA 8015B MOD.	Water	X	X
EPA 8015B	Water	X	X
EPA 8260B-SIM	Water	X	X
Filtration	Water	N/A	N/A
SM 2540D	Water	X	X
SM 4500-F-C	Water	X	X
SM2540C	Water	X	
SM2540F	Water	X	X
SM4500NH3-C	Water		
SM5210B	Water	X	

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at [www.testamericainc.com](http://www.testamericainc.com)

### Subcontracted Laboratories

#### TestAmerica Denver

4955 Yarrow Street - Arvada, CO 80002

Analysis Performed: Level 4 Data Package  
 Samples: IRK0247-01

Analysis Performed: Mercury - 245.1  
 Samples: IRK0247-01

Analysis Performed: Mercury - 245.1, Diss  
 Samples: IRK0247-01

#### TestAmerica Irvine

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**Truesdail Laboratories-SUB** *California Cert #1237*

14201 Franklin Avenue - Tustin, CA 92680

Analysis Performed: Hydrazine  
Samples: IRK0247-01

Analysis Performed: Level 4 + EDD  
Samples: IRK0247-01

**Vista Analytical** *NELAC Cert #02102CA, California Cert #1640, Nevada Cert #CA-413*

1104 Windfield Way - El Dorado Hills, CA 95762

Analysis Performed: 1613-Dioxin-HR-Alta  
Samples: IRK0247-01

Analysis Performed: Level 4 Data Package  
Samples: IRK0247-01

**TestAmerica Irvine**

Joseph Doak  
Project Manager

**CHAIN OF CUSTODY FORM**

Test America Version 12/20/07

<b>Client Name/Address:</b> MWH-Arcadia 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007		<b>Project:</b> Boeing-SSFL NPDES Routine Outfall 014 APTF Test Stand		<b>ANALYSIS REQUIRED</b>																														
<b>Test America Contact:</b> Joseph Doak <b>Project Manager:</b> Bronwyn Kelly <b>Sampler:</b> R DANA		<b>Phone Number:</b> (626) 568-6691 <b>Fax Number:</b> (626) 568-6515		Oil & Grease (1664-HEM)		8015 - gas		8015 - diesel/jet fuel		TRPH = Total Rec. Petroleum Hydrocarbons (8015)		1,4-Dioxane (8260B)		BOD <sub>5</sub> (20 degrees C)		625 (Naphthalene + NDMA analysis)		Ammonia-N (350.2)		CI, SO <sub>4</sub> , F, NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate		Nitrate-N, Nitrite-N		Field readings: Temp = 13.5 = 55 pH = 6.60 Time of readings =		Comments								
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #	8015 - gas	8015 - diesel/jet fuel	TRPH = Total Rec. Petroleum Hydrocarbons (8015)	1,4-Dioxane (8260B)	BOD <sub>5</sub> (20 degrees C)	625 (Naphthalene + NDMA analysis)	Ammonia-N (350.2)	CI, SO <sub>4</sub> , F, NO <sub>3</sub> +NO <sub>2</sub> -N, Perchlorate	Nitrate-N, Nitrite-N	Field readings: Temp = 13.5 = 55 pH = 6.60 Time of readings =	Comments																	
Outfall 014	W	1L Amber	1	11-4-08 09:25	HCl	1A	X																											
Outfall 014 Dup	W	1L Amber	1		HCl	1B	X																											
Outfall 014	W	VOAs	1		HCl	2A	X																											
Outfall 014 Dup	W	VOAs	2		HCl	2B, 2C	X																											
Outfall 014	W	1L Amber	1		None	3A		X																										
Outfall 014 Dup	W	1L Amber	1		None	3B		X																										
Outfall 014	W	1L Amber	1		HCl	4A			X																									
Outfall 014 Dup	W	1L Amber	1		HCl	4B			X																									
Outfall 014	W	VOAs	1		HCl	5A				X																								
Outfall 014 Dup	W	VOAs	2		HCl	5B, 5C				X																								
Outfall 014	W	1L Poly	1		None	6					X																							
Outfall 014	W	1L Amber	1		None	7A						X																						
Outfall 014 Dup	W	1L Amber	1		None	7B						X																						
Outfall 014	W	500 ml Poly	1		H <sub>2</sub> SO <sub>4</sub>	8							X																					
Outfall 014	W	500 ml Poly	2		None	9A, 9B								X																				
Outfall 014	W	500 ml Poly	1		None	10									X																			
Relinquished By				11-4-08	Date/Time:	1415	Received By		Date/Time:		11/4/08		1415		Turn around Time: (check)		24 Hours		5 Days		48 Hours		10 Days		72 Hours		Normal		Sample Integrity: (check)		Intact		On Ice: X	
Relinquished By				11-4-08	Date/Time:	1710	Received By		Date/Time:		11-4-08		1710		Turn around Time: (check)		24 Hours		5 Days		48 Hours		10 Days		72 Hours		Normal		Sample Integrity: (check)		Intact		On Ice: X	

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Client Name/Address: <b>MWH-Arcadia</b> 618 Michillinda Avenue, Suite 200 Arcadia, CA 91007		Project: Boeing-SSFL NPDES <b>Routine Outfall 014</b> APTF Test Stand		ANALYSIS REQUIRED										Comments			
Test America Contact: Joseph Doak Project Manager: Bronwyn Kelly Sampler: <i>R N - A C A</i>		Phone Number: (626) 568-6691 Fax Number: (626) 568-6515		Turbidity, TDS, TSS		Settleable Solids		624 (EDB, 1,2,3-TCF, MTBE, DIPE, TBA)		Total Recoverable Metals, Cd, Se, Zn, B, Cu, Pb, Hg		Total Dissolved Metals, Cd, Se, Zn, B, Cu, Pb, Hg			TCDD (and all congeners)		Monomethyl hydrazine
Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date/Time	Preservative	Bottle #											
Outfall 014	W	500 ml Poly	2	<i>11-4-08 09:25</i>	None	11A, 11B	X										
Outfall 014	W	1L Poly	1		None	12		X									
Outfall 014	W	VOAs	1		HCl	13A			X								
Outfall 014 Dup	W	VOAs	2		HCl	13B, 13C			X								
Outfall 014	W	1L Poly	2		HNO <sub>3</sub>	14A, 14B			X								
Outfall 014	W	1L Poly	1		None	15											
Outfall 014	W	1L Amber	2		None	16A, 16B											
Outfall 014	W	1L Amber	2	<i>11-4-08 09:35</i>	None	17A, 17B						X					
Trip Blanks	W	VOAs	3		HCl	16A, 18B, 18C			X								
Relinquished By	<i>Kim Bin</i>			Date/Time: <i>11-4-08 1415</i>													
Relinquished By	<i>Jeff Bevan TAE</i>			Date/Time: <i>11/4/08 1710</i>													
Relinquished By	<i>Jeff Bevan TAE</i>			Date/Time: <i>11-4-08 1710</i>													

Received By: *Jeff Bevan TAE* Date/Time: *11/4/08 1415*  
 Turn around Time: (check)  
 24 Hours \_\_\_\_\_ 5 Days \_\_\_\_\_  
 48 Hours \_\_\_\_\_ 10 Days \_\_\_\_\_  
 72 Hours \_\_\_\_\_ Normal

Sample Integrity: (check)  
 Intact  On Ice:

3.4C



## TestAmerica - Irvine

---

**Laboratory Number: 979607**

**Project Name: IRK0247**  
**Project Number: IRK0247**



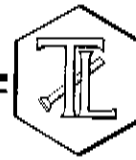
Prepared for:

**Joseph Doak**  
**TestAmerica - Irvine**  
**17461 Derian Avenue, Suite 100**  
**Irvine, CA 92614**

Prepared by:

**Truesdail Laboratories, Inc.**  
**Tustin, CA 92780**

**November 13, 2008**



## Table of Contents

### TLI Laboratory Level IV Data Package

Laboratory Number: 979607

Project Name: IRK0247

Total Number of Pages: 72

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<b>Samples Cross Reference</b>	
<b>Case Narrative</b>	
<b>Results Summary</b>	
Sample Analytical Results	
QA/QC reports	
Qualifier Codes and Definitions	
<b>SAMPLE CHECK-IN RECORDS</b>	2.0
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## **Section 1.0**

# **REPORTS**

**Samples Cross Reference**

**Case Narrative**

**Results Summary**

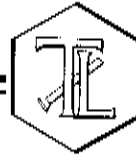
**Sample Analytical Results**

**QA/QC reports**

**Qualifier Codes and Definitions**

# TRUESDAIL LABORATORIES, INC.

EXCELLENCE IN INDEPENDENT TESTING



Established 1931

November 13, 2008

## REPORT

14201 FRANKLIN AVENUE  
TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 · FAX (714) 730-6462  
www.truesdail.com

*Client:* TestAmerica - Irvine  
17461 Derian Avenue, Suite 100  
Irvine, CA 92614  
*Attention:* Joseph Doak

*Project Name:* IRK0247

*Date Received:* 11/5/08

*Project Number:* IRK0247

*Truesdail Project:* 979607

### Samples Cross-reference

<u>Truesdail ID</u>	<u>Client ID</u>	<u>Matrix</u>	<u>Date Sampled</u>	<u>Time Sampled</u>	<u>Analysis Requested</u>
979607-1	IRK0247-01	Water	11/04/08	09:25	Hydrazines by EPA 8315M

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

K.R.P. Iyer  
K.R.P. Iyer  
Quality Control/Quality Assurance Officer

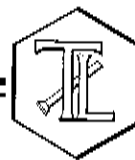
Mona Nassimi  
Mona Nassimi  
Laboratory Manager

This report applies only to the sample, or samples, investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public, and these laboratories, this report is submitted and accepted for the exclusive use of the client to whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from Truesdail Laboratories.

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# TRUESDAIL LABORATORIES, INC.

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TUSTIN, CALIFORNIA 92780-7008  
(714) 730-6239 · FAX (714) 730-6462  
www.truesdail.com

November 13, 2008

*Client:* TestAmerica - Irvine  
17461 Derian Avenue, Suite 100  
Irvine, CA 92614  
*Attention:* Joseph Doak

*Project Name:* IRK0247  
*Project Number:* IRK0247

*Date Received:* 11/05/08  
*Truesdail Project:* 979607

## Case Narrative

*Sample Receipt* The sample was received at 4 °C and in good condition. It was kept in a refrigerator until analysis. Thereafter, it is being kept in ambient storage for an additional 2 months before disposal. Any anomalies would be noted in the "Comments" section.

*Analysis* The analysis was performed as requested on the chain-of-custody.

*Quality Control* The analytical results for each batch of samples performed include one set of laboratory control sample/laboratory control sample duplicate (LCS/LCSD), one matrix spike/matrix spike duplicate (MS/MSD), and a reagent blank (Method Blank). Any exceptions or problems would be noted in the "Comments" section.

*Comments* Matrix spike and matrix spike duplicate were done on 979607 (IRK0247-01) as the method requirement per batch of 20 samples.

All quality assurance requirements set forth by the method specification and all quality control recoveries were within the laboratory acceptance limits. No anomalies or nonconformance events occurred during the course of analysis.

The results are quantitated down to the RL level.

Respectfully Submitted,  
TRUESDAIL LABORATORIES, INC.

  
K.R.P. Iyer  
Quality Control/Quality Assurance Officer

  
Mona Nassimi

Laboratory Manager

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003



# TRUESDAIL LABORATORIES, INC.

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 (714) 730-6239 • FAX (714) 730-6462 • www.truesdail.com

**Client:** TestAmerica Analytical-Irvine  
 17461 Derian Avenue, Suite 100  
 Irvine, CA 92614-5817

## REPORT

**Attention:** Joseph Doak  
**Sample:** Water / 1 Sample  
**Project Name:** IRK0247  
**P.O. Number:** IRK0247  
**Method Number:** 8315 (Modified)  
**Investigation:** Hydrazines

**Laboratory No:** 979607  
**Report Date:** November 10, 2008  
**Sampling Date:** November 4, 2008  
**Receiving Date:** November 5, 2008  
**Extraction Date:** November 5, 2008  
**Analysis Date:** November 6, 2008  
**Units:** µg/L  
**Reported By:** JS

### Analytical Results

Sample ID	Sample Description	Sample Amount (mL)	Dilution Factor	Monomethyl Hydrazine	u-Dimethyl Hydrazine	Hydrazine	Qualifier Codes
707848-MB	Method Blank	100	1	ND	ND	ND	None
979607	IRK0247-01	100	1	ND	ND	ND	None
MDL				0.56	0.32	0.15	
PQL				5.0	5.0	1.00	
<b>Sample Reporting Limits</b>							
				5.0	5.0	1.00	

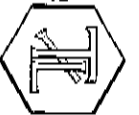
Note: Results based on detector #1 (UV=365nm) data.

Mona Nassimi, Manager  
 Analytical Services, Truesdail Laboratories, Inc.

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 (714) 730-6239 · FAX (714) 730-6462 · www.truesdail.com

**Client:** TestAmerica Analytical-Irvine  
 17461 Derian Avenue, Suite 100  
 Irvine, CA 92614-5817

**Client Contact:** Joseph Doak  
**Sample:** Water / 1 Sample  
**P.O. Number:** IRK0247  
**Method Number:** 8315 (Modified)  
**Investigation:** Hydrazines  
**Run Batch No.:** Extraction: 4672; Analysis: 640

**QC Lab. No.:** 707848  
**Project Lab. No.:** 979607  
**Spiked Sample ID:** 979607  
**Report Date:** November 10, 2008  
**Sampling Date:** November 4, 2008  
**Receiving Date:** November 5, 2008  
**Extraction Date:** November 5, 2008  
**Analysis Date:** November 6, 2008  
**Reported By:** JS

## Quality Control/Quality Assurance Calibration Report

Parameter	Theoretical	Measured	Percent	Control	Flag
	Value (ug/L)	Value (ug/L)	Recovery	Limits	
Monomethyl Hydrazine	25.0	26.0	104	85-115	PASS
u-Dimethyl Hydrazine	25.0	27.1	108	85-115	PASS
Hydrazine	5.0	5.19	104	85-115	PASS

Parameter	Theoretical	Measured	Percent	Control	Flag
	Value (ug/L)	Value (ug/L)	Recovery	Limits	
Monomethyl Hydrazine	50.0	46.6	93.1	85-115	PASS
u-Dimethyl Hydrazine	50.0	48.5	97.1	85-115	PASS
Hydrazine	10.0	9.21	92.1	85-115	PASS

## Quality Control/Quality Assurance Spikes Report

Parameter	Spiked Concentration			Recovered Concentration			Percent Recovery (%)	MS/MSD RPD	Flag	Accuracy %ID
	ug/L	LCS	LCSD	ug/L	LCS	LCSD				
Monomethyl Hydrazine	50.0	52.7	53.5	0.0	105	107	1.44%	PASS	20	50-150
u-Dimethyl Hydrazine	50.0	53.8	54.1	0.0	108	108	0.59%	PASS	20	50-150
Hydrazine	10.0	10.8	9.93	0.0	108	99.3	8.63%	PASS	20	50-150

Note: Results based on detector #1 (UV=365nm) data.

Mona Nassimi, Manager  
 Analytical Services, Truesdail Laboratories, Inc.

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**Client:** TestAmerica - Irvine  
17461 Derian Avenue, Suite 100  
Irvine, CA 92614

**Attention:** Joseph Doak  
**Project Name:** IRK0247  
**Method Number:** 8315 (Modified)  
**Investigation:** Hydrazines

**Laboratory No:** 979607  
**Report Date:** November 13, 2008  
**Sampling Date:** November 4, 2008  
**Receiving Date:** November 5, 2008  
**Analysis Date:** November 6, 2008  
**Reported By:** JS

## Qualifier Codes and Definitions

<u>Code</u>	<u>Definition</u>
FPS	Force Peak Start: Peak start needs to be adjusted to the baseline
FPE	Force Peak End: Peak end needs to be adjusted to the baseline
SP	Split Peak: Background or co-eluting peaks need to be split.
MDL	Method Detection Limit
PQL	Practical Quantitation Limit
ND	Not Detected: Analyte is not detected at or above the method detection limit.
N/A	Not Applicable
ICV	Initial Calibration Verification: First source calibration standard run at a mid-level spike prior to samples.
QCS	Quality Control Standard: Second source calibration standard run at a mid-level spike after all samples.
MB	Method Blank: Reagent water extracted and run with each batch of 20 samples to demonstrate that all analytes are not detected from the extraction process.
LCS (D)	Laboratory Control Spike: Second source standard spiked into blank matrix and extracted and run with each batch of 20 samples (run in duplicate).
MS (D)	Matrix Spike: Second source standard spiked into sample matrix and extracted and run with each batch of 20 samples (run in duplicate).
RPD	Relative Percent Difference: A calculated value of the deviation between the spikes and spike duplicates to measure precision.
J	J-flags: Any result found between the MDL and the PQL will be reported with a "J" attached.
Flag	Pass if within Control Limits; otherwise "Fail"



## **Section 2.0**

# **SAMPLE CHECK-IN RECORDS**

**Chain of Custody**

**Sample Integrity and Analysis Discrepancy Form**

**Internal Chain of Custody**

SUBCONTRACT ORDER

TestAmerica Irvine

IRK0247

979 607

SENDING LABORATORY:

TestAmerica Irvine  
17461 Derian Avenue, Suite 100  
Irvine, CA 92614  
Phone: (949) 261-1022  
Fax: (949) 260-3297  
Project Manager: Joseph Doak

RECEIVING LABORATORY:

Truesdail Laboratories-SUB  
14201 Franklin Avenue  
Tustin, CA 92680  
Phone : (714) 730-6239  
Fax: (714) 730-6462  
Project Location: CA - CALIFORNIA  
Receipt Temperature: \_\_\_\_\_ °C

Rec'd 11/05/08  
s16a 979607

Ice: Y / N

Analysis	Units	Due	Expires	Comments
Sample ID: IRK0247-01	Water			
Hydrazine-OUT	%	11/13/08	11/07/08 09:25	Truesdail-Monomethylhydrazine, J flags, 72hr HT!!! Excel EDD email to pm, Include Std logs for Lvl IV
Level 4 + EDD-OUT	N/A	11/13/08	12/02/08 09:25	
Containers Supplied:				
1 L Amber (AF)	1 L Amber (AG)			

For Sample Conditions  
See Form Attached

ALERT !!  
Level IV QC

Released By: [Signature] 11/05/08 07:00  
Date/Time  
[Signature] 11/05/08 08:05  
Date/Time

Received By: [Signature] TAI 11/05/08 07:10  
Date/Time  
[Signature] 11/05/08 08:05  
Date/Time



# Sample Integrity & Analysis Discrepancy Form

Client: Test America

Lab # 979607

Date Delivered: 11/05/08 Time: 08:05 By:  Mail  Field Service  Client

1. Was a Chain of Custody received and signed?  Yes  No  N/A
2. Does Customer require an acknowledgement of the COC?  Yes  No  N/A
3. Are there any special requirements or notes on the COC?  Yes  No  N/A
4. If a letter was sent with the COC, does it match the COC?  Yes  No  N/A
5. Were all requested analyses understood and acceptable?  Yes  No  N/A
6. Were samples received in a chilled condition?  
Temperature (if yes)? 4°C  Yes  No  N/A
7. Were samples received intact  
(i.e. broken bottles, leaks, air bubbles, etc.)  Yes  No  N/A
8. Were sample custody seals intact?  Yes  No  N/A
9. Does the number of samples received agree with COC?  Yes  No  N/A
10. Did sample labels correspond with the client ID's?  Yes  No  N/A
11. Did sample labels indicate proper preservation?  
Preserved (if yes) by:  Truesdail  Client  Yes  No  N/A
12. Were samples pH checked? pH = 5  Yes  No  N/A
13. Were all analyses within holding time at time of receipt?  
If not, notify Project Manager.  Yes  No  N/A
14. Have Project due dates been checked and accepted?  
Turn Around Time (TAT):  RUSH  Std  Yes  No  N/A
15. **Sample Matrix:**  Liquid  Drinking Water  Ground Water  Waste Water  
 Sludge  Soil  Wipe  Paint  Solid  Other Water

**ALERT !!**  
**Level IV QC**

16. Comments: \_\_\_\_\_

17. Sample Check-In completed by Truesdail Log-In/Receiving: L. Shubunina

# Internal Chain of Custody Logbook

Exhibit 4

Lab Number: 979607  
 Client Name: Test America

Storage Temperature: 4°C

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature
				11/5/08	8:15am		Juda	<i>[Signature]</i>
	Hydrozine (A, B)	11-5-08	3pm	11-5-08	4:30pm	300 ml	JEFFS	<i>[Signature]</i>

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

Bottle I.D.	Analysis Done	Date Out	Time Out	Date In	Time In	Amount Taken (g or ml)	Printed Name	Signature

Storage Date	Shelf No. For Storage	Printed Name	Initials

Discharge Date	Printed Name	Initials

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## **Section 3.0**

# **Data Package**

### **QC Batch 707848**

Cross Reference Table  
Calibration Data Retention Time Window  
Sample Raw Data  
Extraction Chronicle  
Extraction Sample Log  
Organic Standard Preparation Logbook  
Daily Sample Log  
Sample Queue  
Peak Responses  
Multipoint Calibration  
Samples and QC chromatograms



Truesdall Laboratories, Inc.

Client: TestAmerica Analytical-Irvine  
 Laboratory Number: 979607  
 Batch QA/QC Number: 707848  
 Instrument Batch #: 640  
 Extraction Batch #: 4672

**Cross-Reference of field sample number to laboratory sample number & Sample queue description**

#	Name	Description	File Name	DF
1	MP BLANK 1	Mobile Phase blank consisting of 50:50 water:acetonitrile	NO080601	1
2	707848-Std 1	Hydrazine standard #1 with a spike amount of MMH:UDMH:Hydrazine=5:5:1ug/L	NO080602	1
3	707848-Std 2	Hydrazine standard #2 with a spike amount of MMH:UDMH:Hydrazine=10:10:2ug/L	NO080603	1
4	707848-Std 3	Hydrazine standard #3 with a spike amount of MMH:UDMH:Hydrazine=25:25:5ug/L	NO080604	1
5	707848-Std 4	Hydrazine standard #4 with a spike amount of MMH:UDMH:Hydrazine=50:50:10ug/L	NO080605	1
6	707848-Std 5	Hydrazine standard #5 with a spike amount of MMH:UDMH:Hydrazine=100:100:20ug/L	NO080606	1
7	ICV @ 25ppb	Initial Calibration verification using the Hydrazines standard #3	NO080607	1
8	707848-LCS	Lab control spike with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	NO080608	1
9	707848-LCSD	Lab control spike duplicate with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	NO080609	1
10	707848-MB	Method blank of the extraction batch # 4672	NO080610	1
11	979607	IRK0247-01	NO080611	1
12	979607-MS	IRK0247-01 with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	NO080612	1
13	979607-MSD	IRK0247-01 with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	NO080613	1
14	707848-QCS	QCS 2nd source with a spike amount of MMH:UDMH:Hydrazine= 50:50:10 ug/L	NO080614	1
15	MP BLANK 2	Mobile Phase blank consisting of 50:50 water:acetonitrile	NO080615	1

QC Report No. 707848  
 Laboratory No. 979607  
 Extrl. Batch No.: 4672  
 Intr. Batch No.: 640  
 Matrix: Water

Date Prepared: November 5, 2008  
 Date Extracted: November 5, 2008  
 Date Analyzed: November 6, 2008  
 Date Reported: November 10, 2008  
 Analyst JS

**Calibration Data**

**Standard Preparation Information**

Lab ID: WO08110503 Exp. Date: 11/12/08		Concentration, ug/L				
Analytes	Conc. (ug/mL)	Std #1	Std #2	Std #3	Std #4	Std #5
Monomethyl Hydrazine	100	5.00	10.0	25.0	50.0	100
Unsymmetrical Dimethyl Hydrazine	100	5.00	10.0	25.0	50.0	100
Hydrazine	20.0	1.00	2.00	5.00	10.0	20.0

**Calibration Curve Information**

Analytes	R <sup>2</sup>	RF % RSD	Response, Area				
			Std #1	Std #2	Std #3	Std #4	Std #5
Monomethyl Hydrazine	0.9985	11.7%	13091	20166	51802	94859	200620
Unsymmetrical Dimethyl Hydrazine	0.9972	15.6%	10181	14575	36608	65068	140437
Hydrazine	0.9975	9.0%	3306	5705	13566	25281	54960

Acceptance Limit: 20%

**Retention Time Windows (min)**

Detectors	Analytes	Std#1	Std#2	Std#3	Std#4	Std#5	ICV	QCS	Avg. RT	Width
UV#1 385 nm	MMH	7.242	7.250	7.317	7.308	7.308	7.317	7.300	7.292	0.096
	UDMH	12.100	12.125	12.125	12.117	12.108	12.117	12.100	12.113	0.032
	Hydrazine	16.375	16.433	16.375	16.367	16.342	16.283	16.333	16.368	0.139
UV#2 322 nm	MMH	7.308	7.333	7.358	7.375	7.375	7.375	7.358	7.355	0.077
	UDMH	12.167	12.175	12.183	12.175	12.175	12.183	12.167	12.175	0.020
	Hydrazine	16.458	16.467	16.442	16.408	16.392	16.383	16.383	16.419	0.108

**Retention Time Windows**

Parameter	MMH		UDMH		Hydrazine	
	UV #1	UV #2	UV #1	UV #2	UV #1	UV #2
Upper	7.387	7.431	12.145	12.195	16.497	16.527
Lower	7.196	7.278	12.081	12.155	16.220	16.311

ICV - Initial Calibration Verification

CCV - Continuous Calibration Verification

RT - Retention Time

%D - Percent Difference

Formulas:

$$RF \% RSD = 100\% * Stdev(Response Factor) / Average(Response Factor)$$

$$Response Factor = Concentration / Response$$

$$R^2 = (Covariance(Concentration, Response) / (Stdev(Concentration) * Stdev(Response)))^2$$

Laboratory No.: 979607  
 QC Report No: 707848  
 Client: TestAmerica Analytical-Irvine  
 Extrl. Batch No: 4672  
 Intr. Batch No.: 640  
 Matrix/Samples: Water / 1 Sample

Date Sampled: November 4, 2008  
 Date Received: November 5, 2008  
 Date Extracted: November 5, 2008  
 Date Analyzed: November 6, 2008  
 Date Reported: November 10, 2008  
 Analyst JS

Sample Information

Sample ID	Volume (mL)		DF	Date & Time Analyzed	Chromatography File ID
	Initial	Final			
707848-LCS	100	5	1	11/6/08 14:34	NO080608
707848-LCSD	100	5	1	11/6/08 14:59	NO080609
707848-MB	100	5	1	11/6/08 15:25	NO080610
979607	100	5	1	11/6/08 15:51	NO080611
979607-MS	100	5	1	11/6/08 16:16	NO080612
979607-MSD	100	5	1	11/6/08 16:41	NO080613

Retention Time

Sample ID	MMH		UDMH		Hydrazine	
	UV #1	UV #2	UV #1	UV #2	UV #1	UV #2
707848-LCS	7.300	7.350	12.125	12.192	16.292	16.383
707848-LCSD	7.317	7.375	12.125	12.192	16.292	16.392
707848-MB	ND	ND	ND	ND	ND	ND
979607	ND	ND	ND	ND	ND	ND
979607-MS	7.283	7.358	12.092	12.158	16.300	16.367
979607-MSD	7.292	7.358	12.100	12.158	16.283	16.358

DF = Dilution Factor  
 RT = Retention Time  
 ND = Not Detected

### EXTRACTION CHRONICLE

**Method #:** 8315M  
**Matrix:** Water / Liquid

**Ext. Chemist:** Jeff S.  
**Spiked by:** Jeff S.

#### Extraction Information

Ext. Batch #:	4672	pH:	5	Ext. Solvt:	DCM
Date Extracted:	11/5/08	Start Time:	4:00 PM	Lot ID:	48181
Date Finished:	11/6/08	Stop Time:	NA	Final Solvt:	Acetonitrile
Ext. Method:	Orbital Shaker@200rpm	Method #:	8315M	Lot ID:	CV692

#### Spike Information

Matrix Spike:	Hydrazine Standard 1st Source	Matrix Spike:	Hydrazine Standard 2nd Source
Standard ID:	WQ08110503	Standard ID:	WQ08110504
Conc. (ug/mL)	100/100/20 (MMH/UDMH/Hyd.)	Conc. (ug/mL):	100/100/20 (MMH/UDMH/Hyd.)
Exp. Date:	11/12/08	Exp. Date:	11/12/08

1st. Source( Aldrich)  
 2nd. Source ( Chem Service)

#### Sample Information

Sample ID	Client	Sample Date	Date Received	Sample (mL)	Standard Source	Matrix Spike (uL)	Final Vol. (mL)
707848-MB	Method Blank	11/5/08	11/5/08	100			5
707848-Std 1	QC-Cal	11/5/08	11/5/08	100	1st	5	5
707848-Std 2	QC-Cal	11/5/08	11/5/08	100	1st	10	5
707848-Std 3	QC-Cal	11/5/08	11/5/08	100	1st	25	5
707848-Std 4	QC-Cal	11/5/08	11/5/08	100	1st	50	5
707848-Std 5	QC-Cal	11/5/08	11/5/08	100	1st	100	5
707848-LCS	QC	11/5/08	11/5/08	100	2nd	50	5
707848-LCSD	QC	11/5/08	11/5/08	100	2nd	50	5
979607	TestAmerica-Irvine	11/4/08	11/5/08	100			5
979607-MS	TestAmerica-Irvine	11/4/08	11/5/08	100	2nd	50	5
979607-MSD	TestAmerica-Irvine	11/4/08	11/5/08	100	2nd	50	5
707848-QCS	QC	11/5/08	11/5/08	100	2nd	50	5

Truesdail Laboratories Inc.  
EXTRACTION SAMPLE LOG

5:20 PM 4PM

METHOD # **8315M**

BATCH # **4672**

Matrix (DW, WW, S, or other)\*: WATER

Start Date: 11-5-08

Finish Date: 11-6-08

APPROXIMATES.

LAB. ID. #	CLIENT	INIT. VOL./WEIGHT	FINAL VOL.	SURROG.(✓)	LCS/MS (✓)
707848-ME	METHOD BLANK	100 mL	5 mL	MA	
707848-SSD 1	QC-CAL	↓	↓	↓	5 µl 155
2					10
3					25
4					50
5					100
707848-LCS	QC				50 µl 22
↓ -LCS0	↓				↓
979607	TEST AMERICA - IRVING				
979607-MS	↓				50 µl 22
↓ -MS0	↓				↓
707848-015	QC				↓
<div style="border: 1px solid black; padding: 5px; transform: rotate(-45deg); display: inline-block;">                     11-5-08 OS                 </div>					

EXTRACTION SOLVENTS. CHECK WHAT APPLIES AND INDICATE MANUFACTURER/LOT ID.

MeCl<sub>2</sub> Manuf./Lot ID.: 48181

Acetone Manuf./Lot ID.:

Other ACN  
CV692

Hexane Manuf./Lot ID.:

Ether Manuf./Lot ID.:

LIST SURROGATE(S) NAME(S), LCS/MS NAME, AND ID NUMBERS:

W008110503 1<sup>ST</sup> SOURCE @ 100 µg/mL ALDZIC EXP. 11-12-08

W008110504 2<sup>ND</sup> SOURCE @ 100 µg/mL OTCM SERVICE EXP. 11-12-08

\*DW=Drinking Water; WW=Waste Water; S=Solid/Soil

EXTRACTION CHEMIST (PRINT NAME):

JEFF S.

ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
S008110501	HYDRAZINES <sup>1ST</sup> SOURCE					
DATE PREP.: 11-5-08	M M H	0031151	0.866 <sup>2</sup> /ul	46.2 ul	8 mL	5,000
	U D M H	0031152	0.791	50.6 ul		5,000
ANALYST: JS	HYDRAZINE	0031150	1.021	7.84 ul		1,000
EXP. DATE: 1-5-09						
SOLVENT: H <sub>2</sub> O						
SOLV. LOT ID: NA						
ALDRICH						

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
S008110502	HYDRAZINES <sup>2ND</sup> SOURCE					
DATE PREP.: 11-5-08	M M H	0031158	0.866 <sup>9</sup> /ul	46.2 ul	8 mL	5,200
	U D M H	0031157	0.791	50.6 ul		5,000
ANALYST: JS	HYDRAZINE	0031156	1.021	7.84 ul		1,000
EXP. DATE: 1-5-09						
SOLVENT: H <sub>2</sub> O						
SOLV. LOT ID: NA						
CHEM SERVICE						

ORGANIC STANDARD PREPARATION LOGBOOK

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
W008110503	Hydrazines <sup>175</sup> Source	S008110501	5000 5000 1000	200ul	10mL	100 100 200 ug/ml
DATE PREP.:						
11-5-08						
ANALYST:						
FS.						
EXP. DATE:						
11-12-08						
SOLVENT:						
H <sub>2</sub> O						
SOLV. LOT ID:						
NA						
ADDRESS:						

STANDARD ID.	COMPOUND	LAB ID.	INI. CONC.	AMT. USED	FINAL VOL.	FINAL CONC.
W008110504	Hydrazines <sup>20</sup> Source	S008110502	5000 5000 1000	200ul	10mL	100 100 200 ug/ml
DATE PREP.:						
11-5-08						
ANALYST:						
J.S.						
EXP. DATE:						
11-12-08						
SOLVENT:						
H <sub>2</sub> O						
SOLV. LOT ID:						
NA						
CH2M SERVICE						

Truesdail Laboratories, Inc.

Shimadzu HPLC #1  
DAILY SAMPLE LOG

Date Analyzed: 11-6-08

8315 M  
HYDRAZINES

WATER

Start Time: \_\_\_\_\_

Stop Time: \_\_\_\_\_

Inst. Batch No.: 640

Sample ID	Dil. Factor	Method No.	Notes (see below)*
MP Blank 1	1	NO08110601	INST. BLANK
707848-STD1		2	W008110503 e 5 ppb
2		3	10
3		4	25
4		5	50
5		6	100
ICV e 25 ppb		7	STD. #3 e 25 ppb
707848-LCS		8	QC-W008110504 e 50 ug/L
-LCS		9	
-MB		10	METHOD BLANK WATER
979607		11	IRK0247-01
979607-MS		12	IRK0247-01 MS e 50 ug/L
-MSD		13	MSD
707848-QLS		14	2 <sup>nd</sup> QLS SOURCE e 50 ppb
MP Blank 2		15	INST. BLANK

Daily Instrument Maintenance Log

1<sup>st</sup> SOURCE W008110503 e 100 100 ug/mL AMPICIT EXP. 11-12-08  
20

2<sup>nd</sup> SOURCE W008110504 e 100 100 ug/mL CLAM  
20 SOURCE EXP. 11-12-08

Analyst (Print Name): JEFF S.

\*Enter what applies: Client, Standard ID., Quality Control (LCS/MS)



# BASELINE 810 METHOD REPORT

Printed: 10-NOV-2008 11:21

EPA8315M, ODS COL, SHIMADZU LC/UV

Sample Queue

## Queue Parameters

File Path: C:\MAX\DATA1\8315M      Raw Sample Weight: 1.000  
Starting Index: 1                      Volume of Extract: 1.000

## Stripchart Parameters

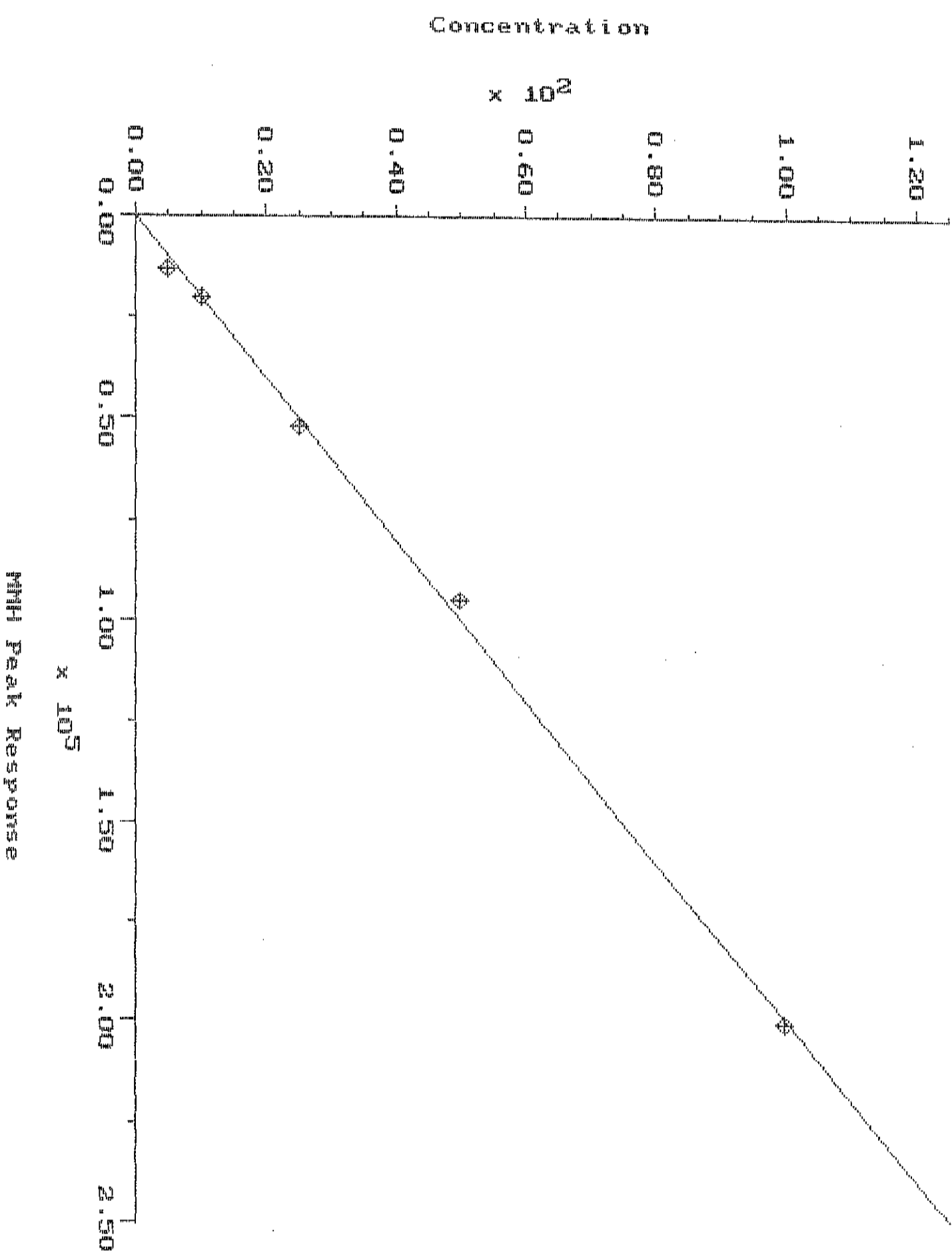
Scaling: Use saved regions              x-Axis limits: 0.0-12288  
Peak Labels: Names, retention times      y-Axis limits: 0.001000-0.008000  
Regions: 2  
Options: baselines, starts/ends, maxima

## Sample Queue Table

#	Name	Type	Source	File Name	Index	Inj. Volume	Amount	Dilution
1	MP BLANK 1	UNKN	DISK	N0080601	1			
2	707848-Std 1	STND	DISK	N0080602	2			
3	707848-Std 2	STND	DISK	N0080603	3			
4	707848-Std 3	STND	DISK	N0080604	4			
5	707848-Std 4	STND	DISK	N0080605	5			
6	707848-Std 5	STND	DISK	N0080606	6			
7	ICV @ 25ppb	UNKN	DISK	N0080607	7			
8	707848-LCS	UNKN	DISK	N0080608	8			
9	707848-LCSD	UNKN	DISK	N0080609	9			
10	707848-MB	UNKN	DISK	N0080610	10			
11	979607	UNKN	DISK	N0080611	11			
12	979607 MS	UNKN	DISK	N0080612	12			
13	979607 MSD	UNKN	DISK	N0080613	13			
14	707848-QCS	UNKN	DISK	N0080614	14			
15	MP BLANK 2	UNKN	DISK	N0080615	15			

Standard Concentrations

Component	707848-Std 1	707848-Std 2	707848-Std 3	707848-Std 4	707848-Std 5
MMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
*MMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
UDMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
*UDMH	5.000E+00	1.000E+01	2.500E+01	5.000E+01	1.000E+02
Hydrazine	1.000E+00	2.000E+00	5.000E+00	1.000E+01	2.000E+01
*Hydrazine	1.000E+00	2.000E+00	5.000E+00	1.000E+01	2.000E+01



# MMH Calibration Report

Printed: 10-NOV-2008 11:28:59

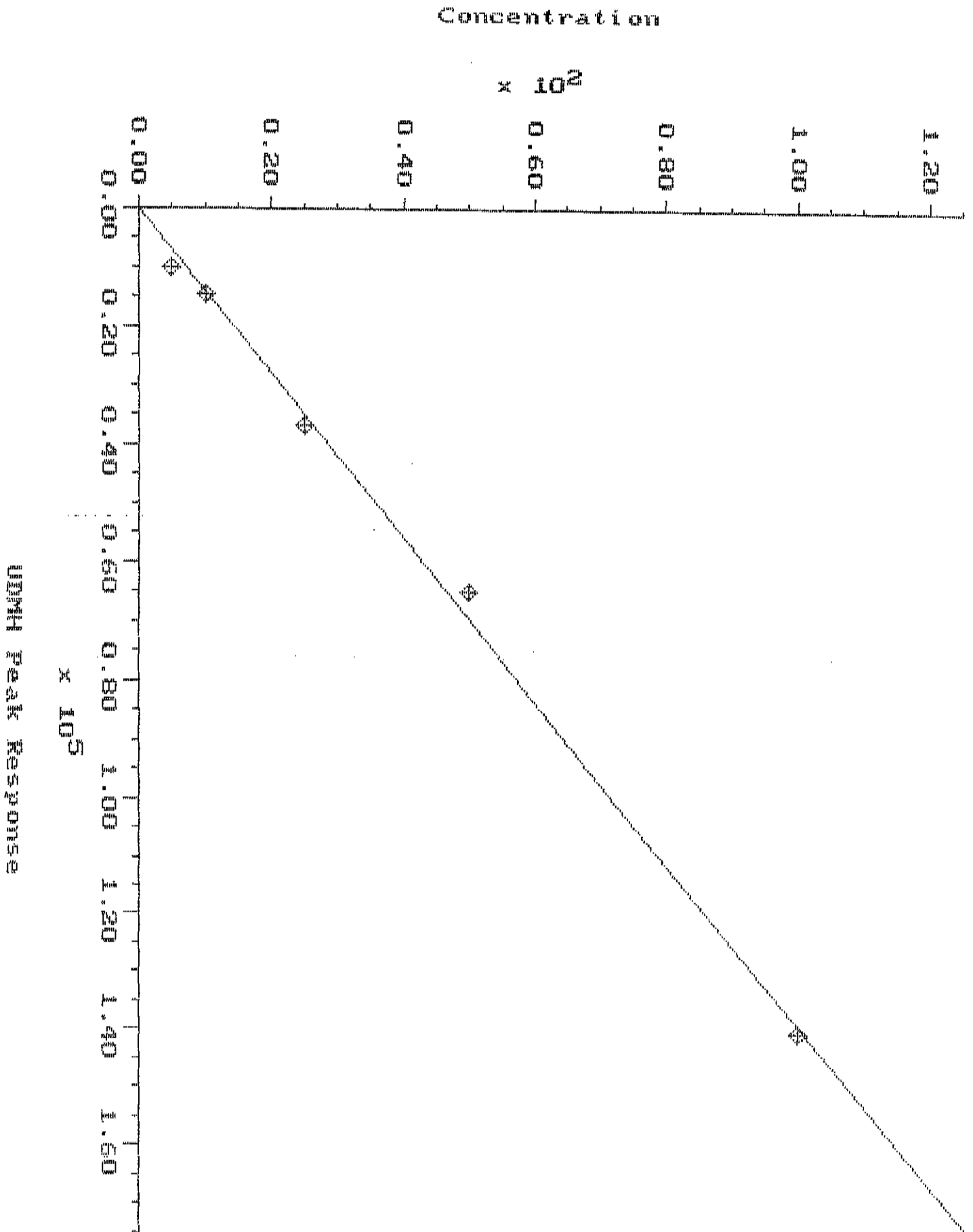
Quant Basis: Area  
Curve Type: Linear  
Y-axis Label: Concentration

Rejection Tolerance: None  
Weighting: None

Internal Standard: None  
Forced Through Origin: Yes

Equation: Conc = 5.021536E-04 \* R

<u>Sample</u>	<u>File Name</u>	<u>Valid</u>	<u>Concentration</u>	<u>Response</u>	<u>Calc'd Concentration</u>	<u>% Deviation</u>	<u>Response Factor</u>
707848-Std 1	N0080602	Y	5.000000E+00	1.3091261E+04	6.573824E+00	-2.39E+01	3.819342E-04
707848-Std 2	N0080603	Y	1.000000E+01	2.0166057E+04	1.012646E+01	-1.25E+00	4.958828E-04
707848-Std 3	N0080604	Y	2.500000E+01	5.1802383E+04	2.601275E+01	-3.89E+00	4.826033E-04
707848-Std 4	N0080605	Y	5.000000E+01	9.4859016E+04	4.763380E+01	4.97E+00	5.270980E-04
707848-Std 5	N0080606	Y	1.000000E+02	2.0061970E+05	1.007419E+02	-7.36E-01	4.984555E-04



# UDMH Calibration Report

Printed: 10-NOV-2008 11:29:06

Quant Basis: Area  
Curve Type: Linear  
Y-axis Label: Concentration

Rejection Tolerance: None  
Weighting: None

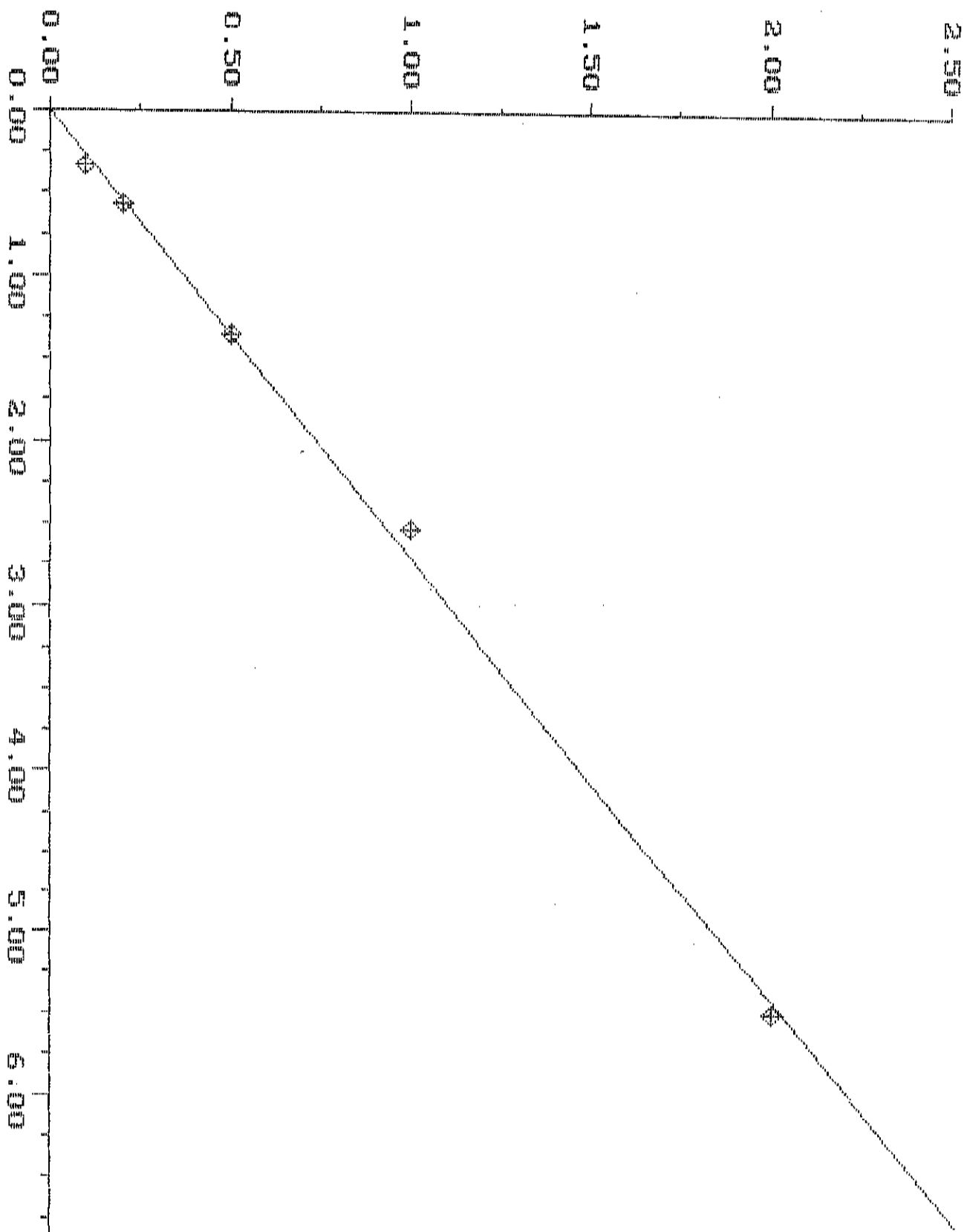
Internal Standard: None  
Forced Through Origin: Yes

Equation: Conc = 7.187522E-04 \* R

<u>Sample</u>	<u>File Name</u>	<u>Valid</u>	<u>Concentration</u>	<u>Response</u>	<u>Calc'd Concentration</u>	<u>% Deviation</u>	<u>Response Factor</u>
707848-Std 1	N0080602	Y	5.000000E+00	1.0160687E+04	7.303017E+00	-3.15E+01	4.920927E-04
707848-Std 2	N0080603	Y	1.000000E+01	1.4575185E+04	1.047595E+01	-4.54E+00	6.860977E-04
707848-Std 3	N0080604	Y	2.500000E+01	3.6608137E+04	2.631218E+01	-4.99E+00	6.829083E-04
707848-Std 4	N0080605	Y	5.000000E+01	6.5067922E+04	4.676771E+01	6.91E+00	7.684278E-04
707848-Std 5	N0080606	Y	1.000000E+02	1.4043717E+05	1.009395E+02	-9.31E-01	7.120622E-04

Concentration

$\times 10^{-1}$



Hydrizine Peak Response

$\times 10^4$

# Hydrazine Calibration Report

Printed: 10-NOV-2008 11:29:15

Quant Basis: Area  
Curve Type: Linear  
Y-axis Label: Concentration

Rejection Tolerance: None  
Weighting: None

Internal Standard: None  
Forced Through Origin: Yes

Equation:  $\text{Conc} = 3.688772\text{E-}04 * R$

<u>Sample</u>	<u>File Name</u>	<u>Valid</u>	<u>Concentration</u>	<u>Response</u>	<u>Calc'd Concentration</u>	<u>% Deviation</u>	<u>Response Factor</u>
707848-Std 1	NO080602	Y	1.000000E+00	3.3057561E+03	1.219418E+00	-1.80E+01	3.025027E-04
707848-Std 2	NO080603	Y	2.000000E+00	5.7053945E+03	2.104590E+00	-4.97E+00	3.505454E-04
707848-Std 3	NO080604	Y	5.000000E+00	1.3568091E+04	5.004960E+00	-9.91E-02	3.685117E-04
707848-Std 4	NO080605	Y	1.000000E+01	2.5281367E+04	9.325721E+00	7.23E+00	3.955482E-04
707848-Std 5	NO080606	Y	2.000000E+01	5.4990457E+04	2.028473E+01	-1.40E+00	3.636995E-04



# BASELINE 810 CUSTOM REPORT

Printed: 10-NOV-2008 11:30:46

SAMPLE: MP BLANK 1

#1 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV  
Acquired: 6-NOV-2008 11:36  
Rate: 2.0 points/sec  
Duration: 24.000 minutes  
Operator: JS

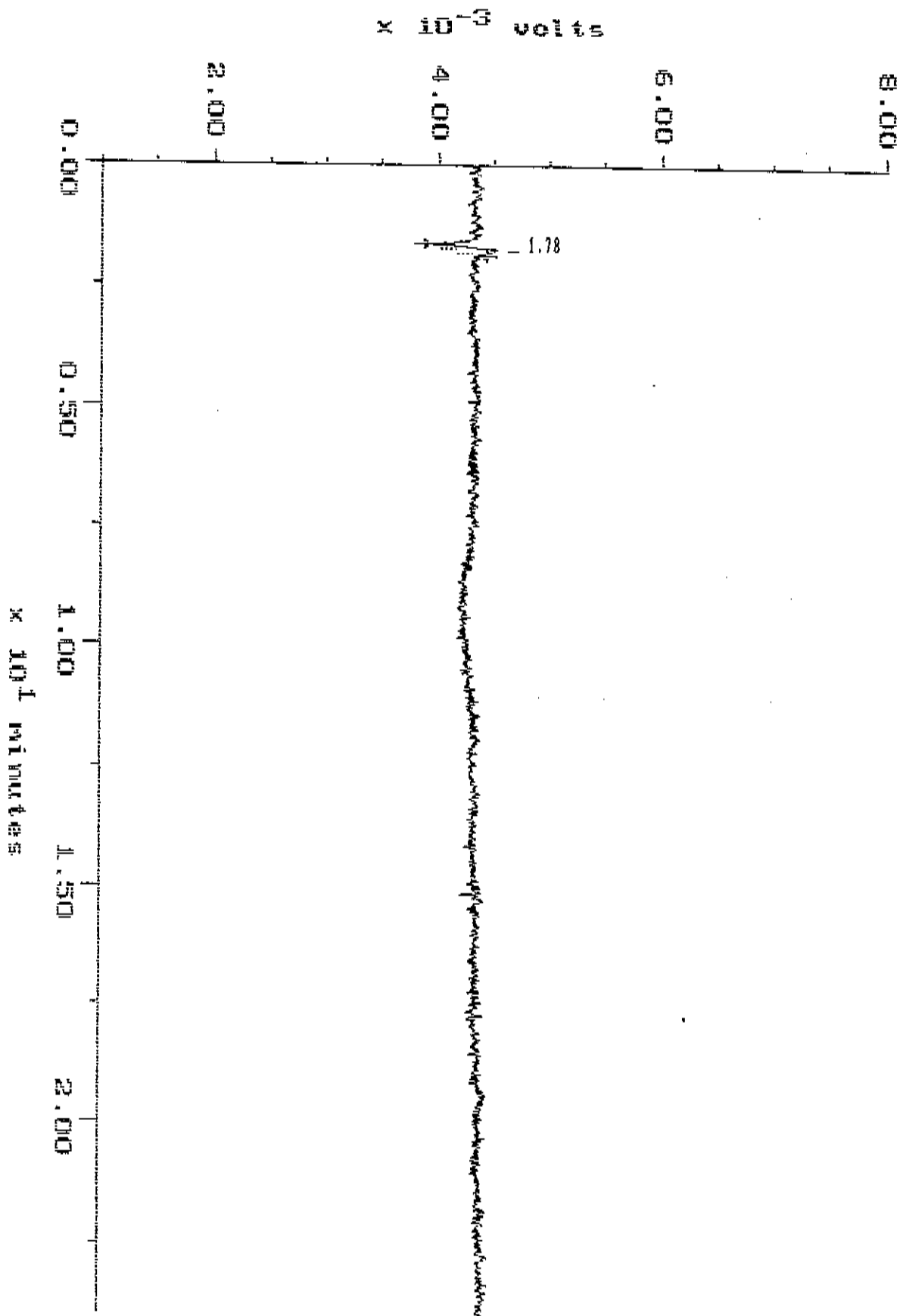
Type: UNKN  
Instrument: Shimadzu 6A  
Filename: N0080601  
Index: 1

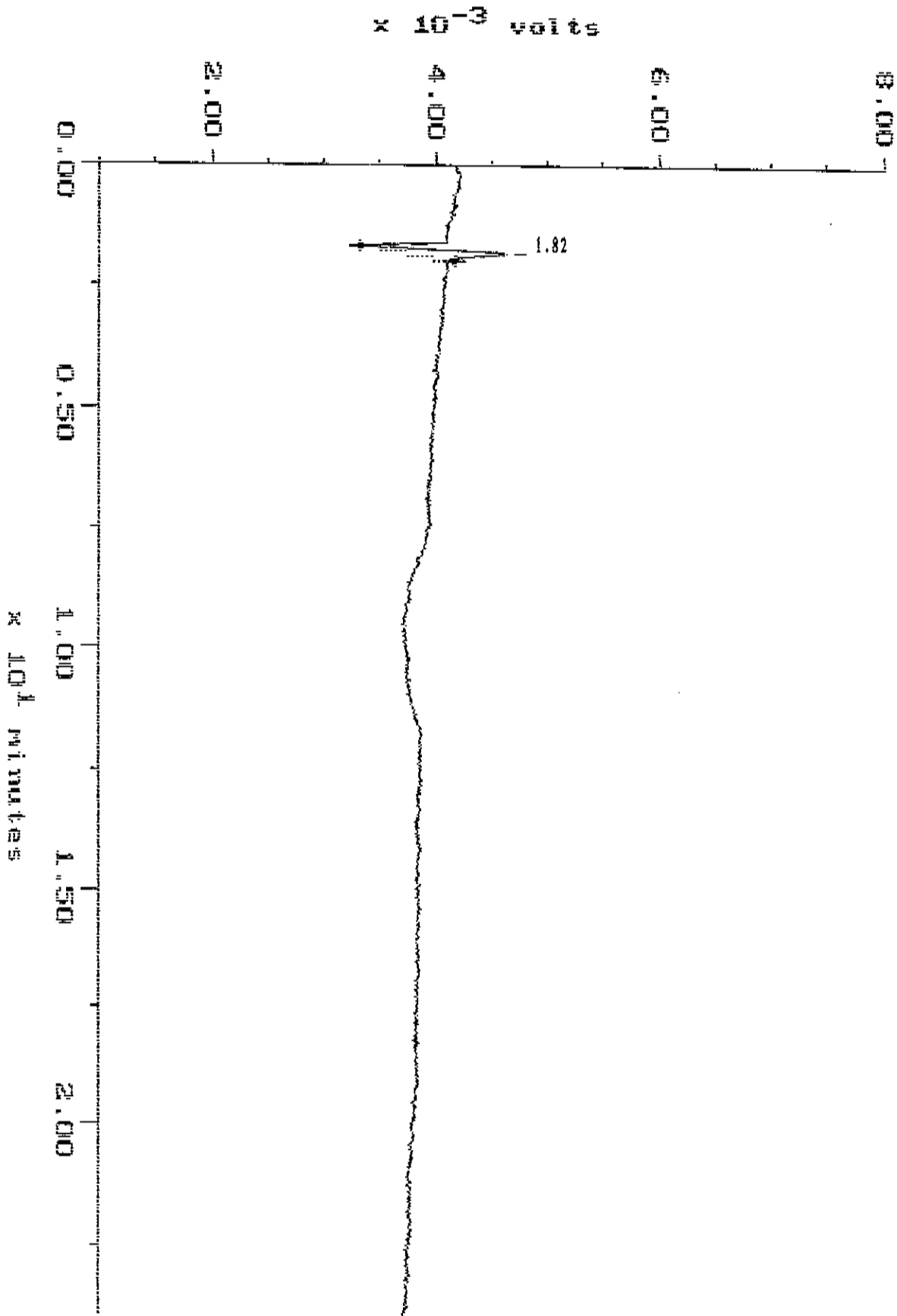
DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
---	---	-----	-----	-----	-----
1			1.783	2962	
TOTAL				2962	0.0000

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
---	---	-----	-----	-----	-----
1			1.817	7424	
TOTAL				7424	0.0000





**BASELINE 810 CUSTOM REPORT**

Printed: 10-NOV-2008 11:31:28

SAMPLE: 707848-Std 1

#2 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV  
 Acquired: 6-NOV-2008 12:01  
 Rate: 2.0 points/sec  
 Duration: 24.000 minutes  
 Operator: JS

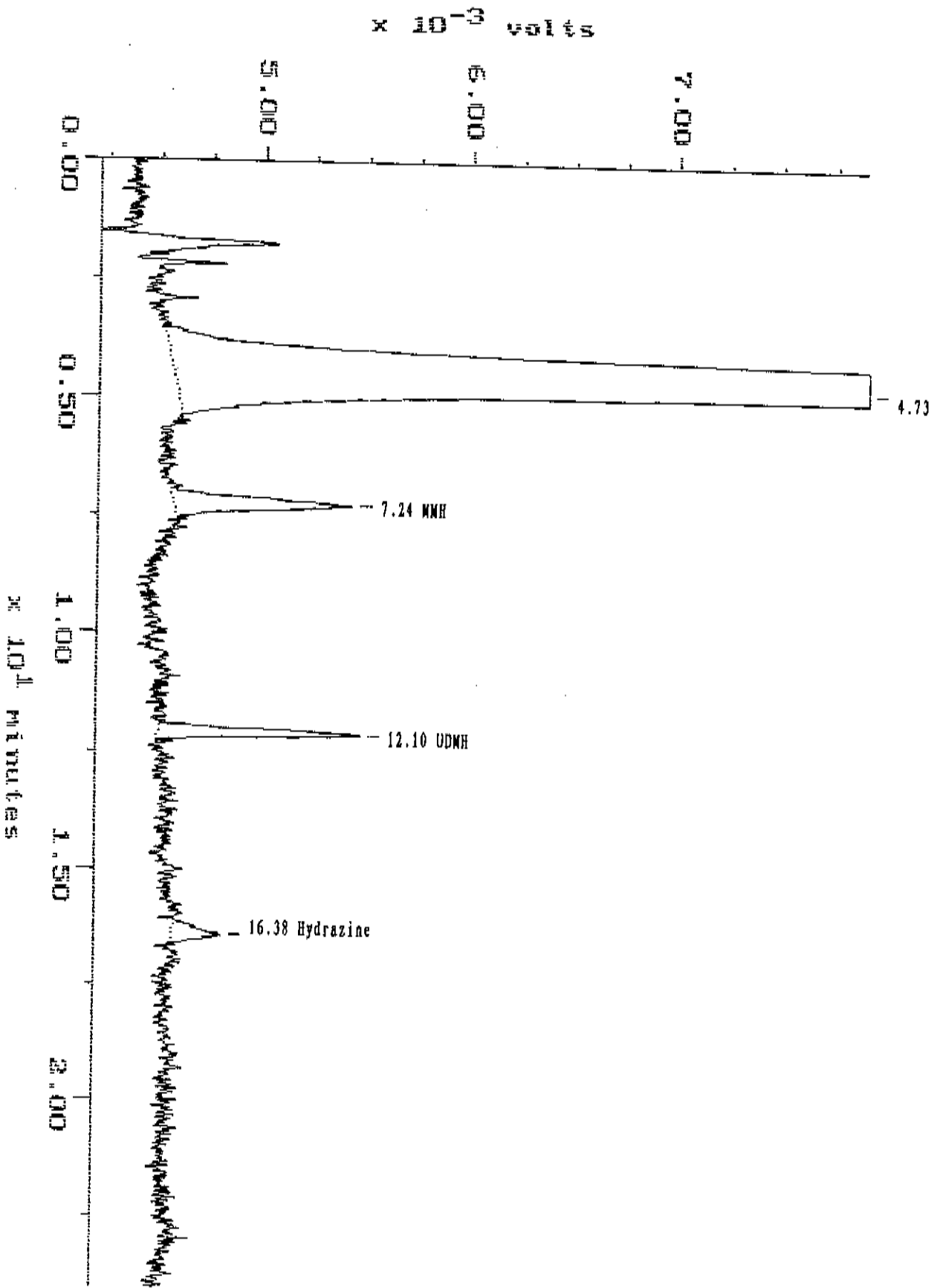
Type: STND  
 Instrument: Shimadzu 6A  
 Filename: N0080602  
 Index: 2

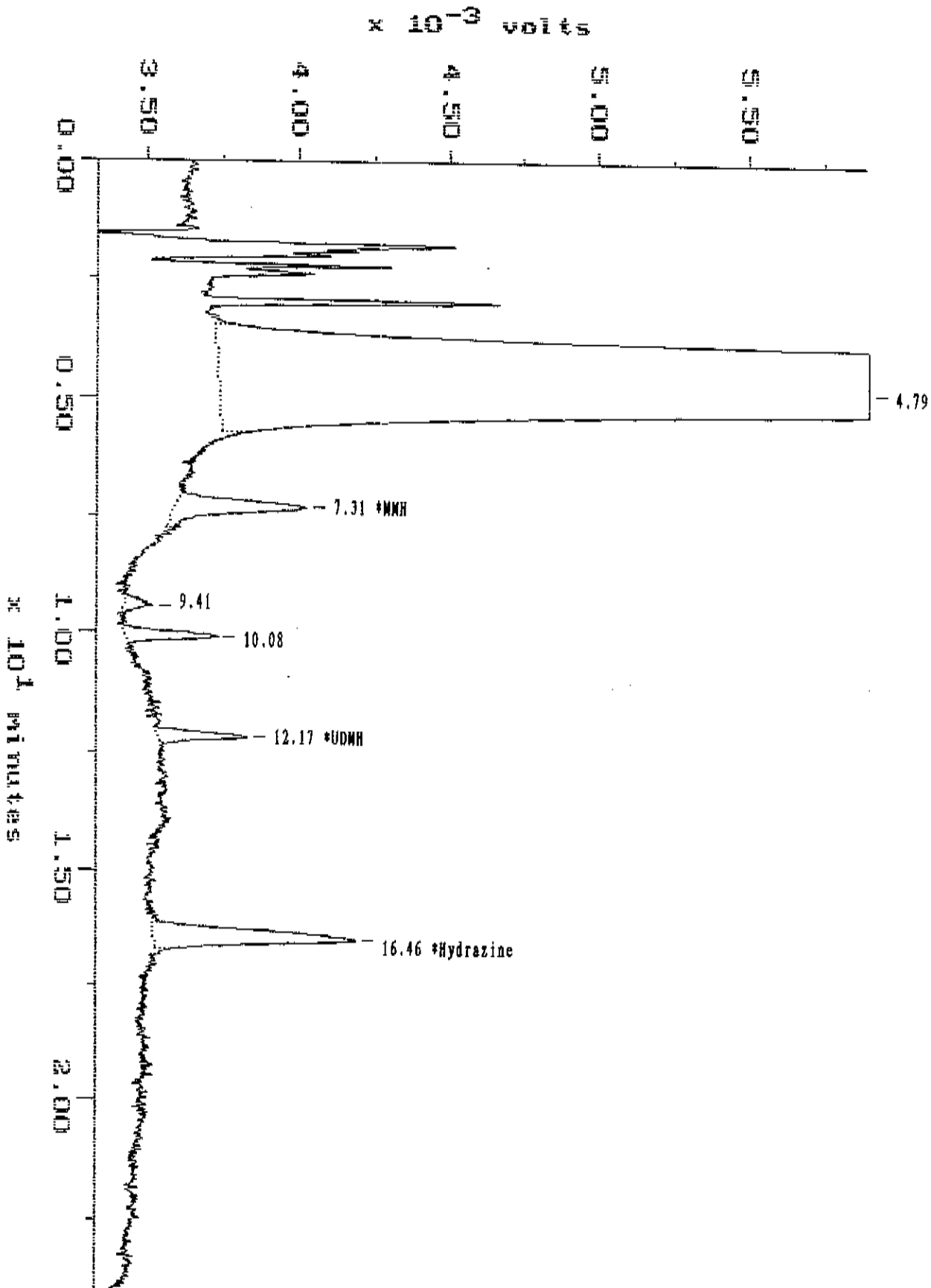
DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.733	700570	
2	1	MNH	7.242	13091	5.0000
3	3	UDMH	12.100	10161	5.0000
4	5	Hydrazine	16.375	3306	1.0000
TOTAL				727127	11.0000

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.792	4708964	
2	2	*MNH	7.308	7767	5.0000
3			9.408	1171	
4			10.075	3380	
5	4	*UDMH	12.167	3022	5.0000
6	6	*Hydrazine	16.458	12460	1.0000
TOTAL				4736764	11.0000





## BASELINE 810 CUSTOM REPORT

Printed: 10-NOV-2008 11:32:12

SAMPLE: 707848-Std 2

#3 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV  
 Acquired: 6-NOV-2008 12:27  
 Rate: 2.0 points/sec  
 Duration: 24.000 minutes  
 Operator: JS

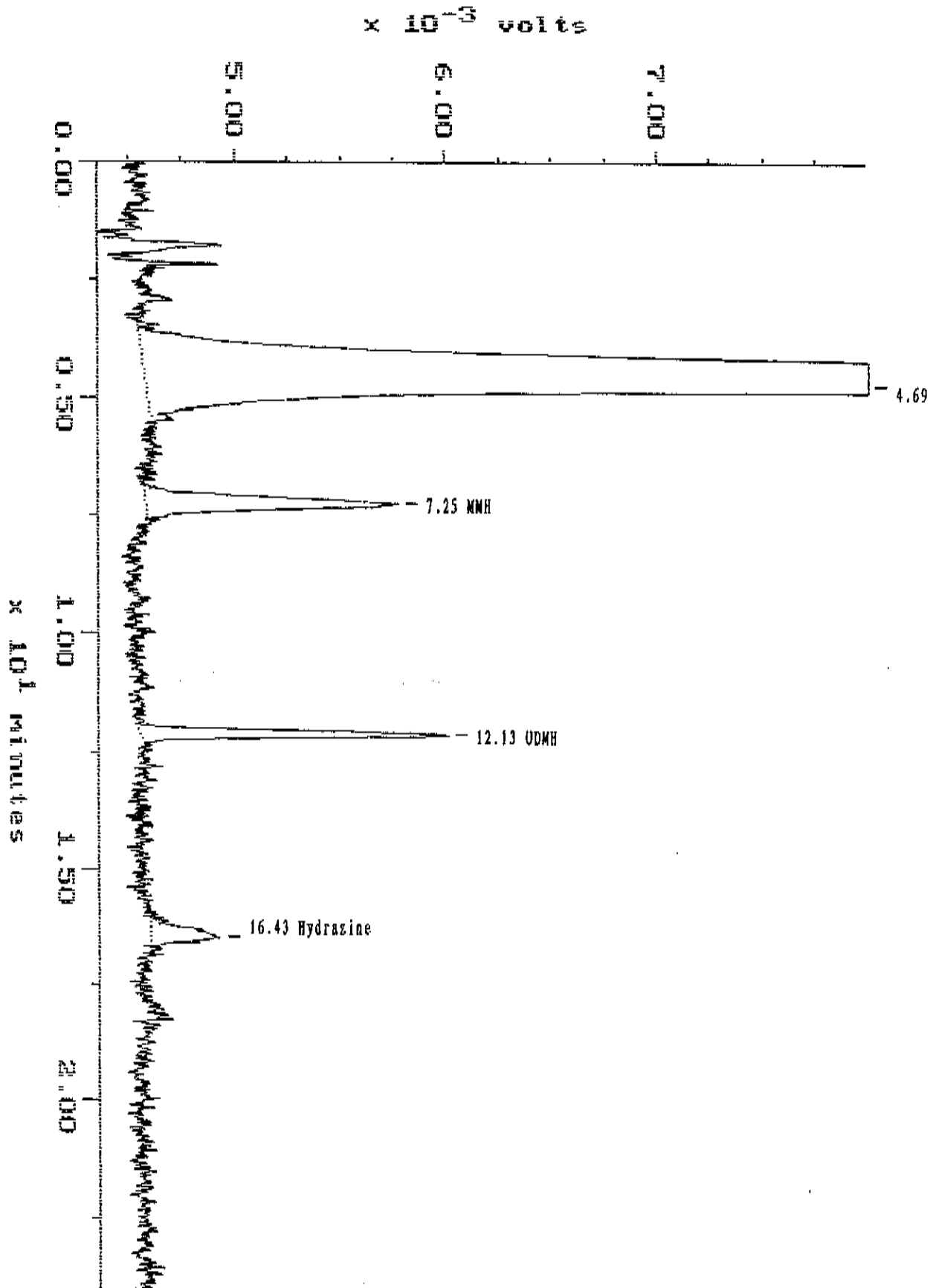
Type: STND  
 Instrument: Shimadzu 6A  
 Filename: N0080603  
 Index: 3

DETECTOR: UV #1 365

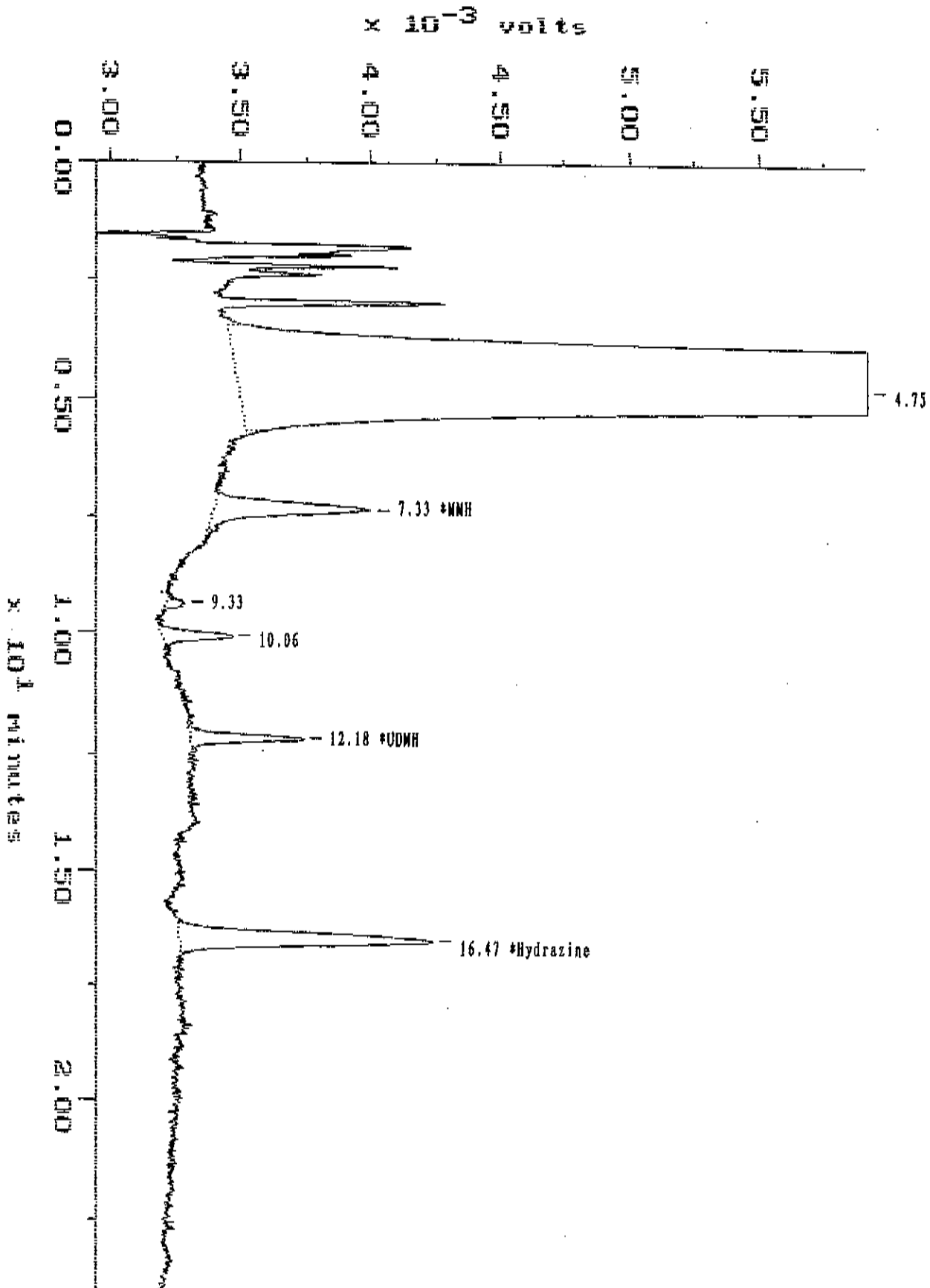
PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.692	638815	
2	1	MNH	7.250	20166	10.0000
3	3	UDMH	12.125	14575	10.0000
4	5	Hydrazine	16.433	5705	2.0000
TOTAL				679262	22.0000

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.750	4243884	
2	2	*MNH	7.333	10972	10.0000
3			9.325	1016	
4			10.058	3225	
5	4	*UDMH	12.175	4819	10.0000
6	6	*Hydrazine	16.467	17794	2.0000
TOTAL				4281710	22.0000







**BASELINE 810 CUSTOM REPORT**

Printed: 10-NOV-2008 11:32:55

SAMPLE: 707848-Std 3

#4 in Method: EPA8315M,ODS COL,SHIMADZU LC/UV  
 Acquired: 6-NOV-2008 12:52  
 Rate: 2.0 points/sec  
 Duration: 24.000 minutes  
 Operator: JS

Type: STND  
 Instrument: Shimadzu 6A  
 Filename: N0080604  
 Index: 4

DETECTOR: UV #1 365

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.775	740732	
2	1	MNH	7.317	51802	25.0000
3	3	UDMH	12.125	36608	25.0000
4	5	Hydrazine	16.375	13568	5.0000
TOTAL				842710	55.0000

DETECTOR: \*UV #2 322

PK#	ID#	Component Name	Retention Time ( minutes )	Peak Area	Sample Conc. ( ug/L )
1			4.833	4949543	
2	2	*MNH	7.358	27102	25.0000
3			9.333	876	
4			10.092	4020	
5	4	*UDMH	12.183	11443	25.0000
6	6	*Hydrazine	16.442	47484	5.0000
TOTAL				5040468	55.0000