ATTACHMENT 3 PART 2: LABORATORY ANALYTICAL REPORTS

This attachment contains the laboratory analytical reports prepared by Columbia Analytical Service Inc., of Kelso Washington (Part of the ALS Group).

COLUMBIA ANALYTICAL SERVICES, INC.
(PART OF THE ALS GROUP)

May 21, 2013 Analytical Report for Service Request No: K1303913

David Conner
Battelle
4800 Oak Grove Dr.
M/S 180-801
Pasadena, CA 91109

RE: JPL - Pasadena CA/100016516

Dear David:

Enclosed are the results of the samples submitted to our laboratory on April 30, 2013. For your reference, these analyses have been assigned our service request number K1303913.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at Howard.Holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Howard Holmes
Project Manager

HH/mj

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition*: Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS ENVIRONMENTAL

Client:	Battellle	**Service Request No.:**	K1303913
Project:	JPL-Pasadena CA	**Date Received:**	4/30/13
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Two water samples were received for analysis at ALS Environmental on 4/30/13. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Nitrosamines by EPA 521

Initial Calibration Exceptions:
Due to calculation discrepancies in software the data reporting system is flagging the COD evaluation result for N-Nitrsosdimehtylamine-d6 and in calibration CAL12363. The COD is within criteria in the data quantitation software. Method 521 does not require a COD evaluation. No further corrective action was necessary.

Calibration Verification Exceptions:
The control criterion was exceeded for N-Nitrosodimethylamine in Continuing Calibration Verification (CCV) 0503001. The sample were reanalyzed and reported from an analysis with an acceptable CCV. No further corrective action was required.

No other anomalies associated with the analysis of these samples were observed.

Approved by _____

Chain of Custody

ALS Environmental-Kelso

1317 South 13th, Kelso, WA 98626 (360) 577-7222 FAX (360) 636-1068

SR# K1303913

PAGE 1 OF 1

Project Name: JPL - Pasadena CA Project Number: 100016516

Project Manager: David Conner Company: Battelle

Company/Address: 505 King Ave. Phone: 619-726-7311

City, State, Zip: Columbus, OH 43201 FAX: 614-458-6641

Sampler's Signature: Andy Wolff (Andy Wolff)

Sample I.D.	Date	Time	LAB ID	Matrix	Number of Containers	Analysis Requested: NDMA (521)					REMARKS
MW-4-1	4/26/2013	14:20		AQ	1	X					
MW-17-4	4/26/2013	7:55		AQ	1	X					

TURNAROUND REQUIREMENTS

_____ 24 hr _____ 48 hr _____ 5 day

__X__ Standard (21 days)

_____ Provide FAX Preliminary Results

Requested Report Date:_____

REPORT REQUIREMENTS

X I. Routine Report: Results, Method Blank, Surrogate, as required

x II. Report Dup., MS, MSD as required

x III. Data Validation Report (includes raw data)

_____ IV. CLP Deliverable Report

X V. EDD

Comments/Special Instructions:

Reed: Billy 4/30/13 850
BRAD TUBIN AL

Invoice Information

P.O. # 345443

Bill to: Ben Headington

505 King Ave., Columbus, OH

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature: Andy Wolff	Signature: Nicole	Signature: Nicole	Signature:
Printed Name: Andy Wolff	Printed Name: Nicole	Printed Name: Nicole	Printed Name:
Firm: Blaine Tech Services	Firm: Blaine Tech SERVICES	Firm: Blaine Tech SERVICES	Firm: FEDEX
Date/Time: 4/29/13 900	Date/Time: 4/29/13 900	Date/Time: 4/29/13 1600	Date/Time: 4/29/13 1600

PC #2

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K13* 03913

Received: 4/30/13 Opened: 4/30/13 By: BST Unloaded: 4/30/13 By: BST

1. Samples were received via? *Mail* *(Fed Ex)* *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) *(Cooler)* *Box* *Envelope* *Other*_____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.0	-0.2	—	—	-0.2	330		7996 3834 5614	

7. Packing material: *Inserts* *Baggies* *(Bubble Wrap)* *Gel Packs* *(Wet Ice)* *Dry Ice* *Sleeves*
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

*Notes, Discrepancies, & Resolutions:*_____

Nitrosamines by EPA 521

Organic Analysis:
Nitrosamines by EPA 521

Summary Package

Sample and QC Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Service Request: K1303913

Cover Page - Organic Analysis Data Package
Nitrosamines by EPA 521

Sample Name	Lab Code	Date Collected	Date Received
MW-4-1	K1303913-001	04/26/2013	04/30/2013
MW-17-4	K1303913-002	04/26/2013	04/30/2013

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Tom E Patterson Name: Tom Patterson

Date: 5/14/13 Title:

Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: 04/26/2013
Date Received: 04/30/2013

Nitrosamines by EPA 521

Sample Name: MW-4-1
Lab Code: K1303913-001

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	05/03/13	Acceptable

Comments:

Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: 04/26/2013
Date Received: 04/30/2013

Nitrosamines by EPA 521

Sample Name: MW-17-4
Lab Code: K1303913-002

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	05/03/13	Acceptable

Comments:

Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304244-4

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/03/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	05/03/13	Acceptable

Comments:

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913

Surrogate Recovery Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1
MW-4-1	K1303913-001	77
MW-17-4	K1303913-002	75
Batch QC	K1303964-001	77
Method Blank	KWG1304244-4	75
Batch QCMS	KWG1304244-1	83
Batch QCDMS	KWG1304244-2	87
Lab Control Sample	KWG1304244-3	86

Surrogate Recovery Control Limits (%)

Sur1 = N-Nitrosodimethylamine-d6 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/07/2013

Matrix Spike/Duplicate Matrix Spike Summary
Nitrosamines by EPA 521

Sample Name: Batch QC
Lab Code: K1303964-001

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low
Extraction Lot: KWG1304244

		Batch QCMS KWG1304244-1 Matrix Spike			Batch QCDMS KWG1304244-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	ND	1.58	2.00	79	1.80	2.00	90	50-150	13	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/03/2013

Lab Control Spike Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1304244

	Lab Control Sample KWG1304244-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
N-Nitrosodimethylamine	1.20	2.00	60	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.
Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/03/2013
Time Analyzed: 21:49

Method Blank Summary
Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304244-4

Extraction Method: METHOD
Analysis Method: 521

Instrument ID: MS16
File ID: J:\MS16\DATA\050313-521\0503009.D

Level: Low
Extraction Lot: KWG1304244

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-4-1	K1303913-001	J:\MS16\DATA\050313-521\0503002.D	05/03/13	16:54
MW-17-4	K1303913-002	J:\MS16\DATA\050313-521\0503003.D	05/03/13	17:36
Batch QC	K1303964-001	J:\MS16\DATA\050313-521\0503004.D	05/03/13	18:18
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050313-521\0503005.D	05/03/13	19:00
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050313-521\0503006.D	05/03/13	19:42
Lab Control Sample	KWG1304244-3	J:\MS16\DATA\050313-521\0503008.D	05/03/13	21:06
MW-4-1	K1303913-001	J:\MS16\DATA\050713-521\0507002.D	05/07/13	20:24
MW-17-4	K1303913-002	J:\MS16\DATA\050713-521\0507003.D	05/07/13	21:07
Batch QC	K1303964-001	J:\MS16\DATA\050713-521\0507004.D	05/07/13	21:49
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050713-521\0507005.D	05/07/13	22:31
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050713-521\0507006.D	05/07/13	23:14

QA/QC Report

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/03/2013
Time Analyzed: 21:06

Lab Control Sample Summary
Nitrosamines by EPA 521

Sample Name: Lab Control Sample
Lab Code: KWG1304244-3

Extraction Method: METHOD
Analysis Method: 521

Instrument ID: MS16
File ID: J:\MS16\DATA\050313-521\0503008.D

Level: Low
Extraction Lot: KWG1304244

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-4-1	K1303913-001	J:\MS16\DATA\050313-521\0503002.D	05/03/13	16:54
MW-17-4	K1303913-002	J:\MS16\DATA\050313-521\0503003.D	05/03/13	17:36
Batch QC	K1303964-001	J:\MS16\DATA\050313-521\0503004.D	05/03/13	18:18
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050313-521\0503005.D	05/03/13	19:00
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050313-521\0503006.D	05/03/13	19:42
Method Blank	KWG1304244-4	J:\MS16\DATA\050313-521\0503009.D	05/03/13	21:49
MW-4-1	K1303913-001	J:\MS16\DATA\050713-521\0507002.D	05/07/13	20:24
MW-17-4	K1303913-002	J:\MS16\DATA\050713-521\0507003.D	05/07/13	21:07
Batch QC	K1303964-001	J:\MS16\DATA\050713-521\0507004.D	05/07/13	21:49
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050713-521\0507005.D	05/07/13	22:31
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050713-521\0507006.D	05/07/13	23:14

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Level ID	File ID
A	J:\MS16\DATA\040413-521ICAL\0404001.D
B	J:\MS16\DATA\040413-521ICAL\0404002.D
C	J:\MS16\DATA\040413-521ICAL\0404003.D
D	J:\MS16\DATA\040413-521ICAL\0404004.D
E	J:\MS16\DATA\040413-521ICAL\0404005.D
F	J:\MS16\DATA\040413-521ICAL\0404006.D
G	J:\MS16\DATA\040413-521ICAL\0404007.D
H	J:\MS16\DATA\040413-521ICAL\0404008.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
N-Nitrosodimethylamine-d6	A	0.50	2.46	B	1.0	2.54	C	2.0	3.01	D	5.0	3.19	E	7.0	3.51
	F	10	4.01	G	15	3.25	H	20	4.45						
N-Nitrosodimethylamine				B	1.0	2.47	C	2.0	3.24	D	5.0	3.00	E	7.0	3.62
	F	10	4.15	G	15	3.54	H	20	3.76						

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
N-Nitrosodimethylamine-d6	SURR	Quadratic(0,0)	COD	0.979	*	≥0.99	3.30		
N-Nitrosodimethylamine	MS	Quadratic(0,0)	COD	0.990		≥0.99	3.40		

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Calibration Date: 04/04/2013
Date Analyzed: 04/05/2013

Second Source Calibration Verification
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration ID: CAL12363
Units: ug/L

File ID: J:\MS16\DATA\040413-521ICAL\0404009.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine	10	11	3.40	4.03	NA	10	± 30 %	)uadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/03/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304578
Units: ug/L

File ID: J:\MS16\DATA\050313-521\0503001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	0.60		3.30	1.63	NA	-40	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.49		3.40	1.77	NA	-51 *	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/03/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304578
Units: ug/L

File ID: J:\MS16\DATA\050313-521\0503007.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	6.1		3.30	3.86	NA	21	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	5.0		3.40	3.62	NA	0	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/03/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304578
Units: ug/L

File ID: J:\MS16\DATA\050313-521\0503010.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	10	11		3.30	3.72	NA	5	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	10	9.4		3.40	3.44	NA	-6	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound**

‡ **CCC Compound**

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/07/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304579
Units: ug/L

File ID: J:\MS16\DATA\050713-521\0507001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	0.90		3.30	2.49	NA	-10	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.68		3.40	2.45	NA	-32	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/07/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304579
Units: ug/L

File ID: J:\MS16\DATA\050713-521\0507007.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	5.1		3.30	3.16	NA	2	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	3.9		3.40	2.82	NA	-22	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913

Analysis Run Log
Nitrosamines by EPA 521

Analysis Method: 521

Analysis Lot: KWG1304578
Instrument ID: MS16

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
521\0503.D	GC/MS Tuning - Decafluorotriphenylp	KWG1304578-1	5/3/2013	15:29		5/3/2013	15:56
\0503001.D	Continuing Calibration Verification	KWG1304578-2	5/3/2013	16:11		5/3/2013	16:38
\0503002.D	MW-4-1	K1303913-001	5/3/2013	16:54		5/3/2013	17:21
\0503003.D	MW-17-4	K1303913-002	5/3/2013	17:36		5/3/2013	18:03
\0503004.D	Batch QC	K1303964-001	5/3/2013	18:18		5/3/2013	18:45
\0503005.D	Batch QCMS	KWG1304244-1	5/3/2013	19:00		5/3/2013	19:27
\0503006.D	Batch QCDMS	KWG1304244-2	5/3/2013	19:42		5/3/2013	20:09
\0503007.D	Continuing Calibration Verification	KWG1304578-3	5/3/2013	20:24		5/3/2013	20:51
\0503008.D	Lab Control Sample	KWG1304244-3	5/3/2013	21:06		5/3/2013	21:33
\0503009.D	Method Blank	KWG1304244-4	5/3/2013	21:49		5/3/2013	22:16
\0503010.D	Continuing Calibration Verification	KWG1304578-4	5/3/2013	22:31		5/3/2013	22:58

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913

Analysis Run Log
Nitrosamines by EPA 521

Analysis Method: 521

Analysis Lot: KWG1304579
Instrument ID: MS16

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
521\0507.D	GC/MS Tuning - Decafluorotriphenylp	KWG1304579-1	5/7/2013	19:00		5/7/2013	19:27
\0507001.D	Continuing Calibration Verification	KWG1304579-2	5/7/2013	19:42		5/7/2013	20:09
\0507002.D	MW-4-1	K1303913-001	5/7/2013	20:24		5/7/2013	20:51
\0507003.D	MW-17-4	K1303913-002	5/7/2013	21:07		5/7/2013	21:34
\0507004.D	Batch QC	K1303964-001	5/7/2013	21:49		5/7/2013	22:16
\0507005.D	Batch QCMS	KWG1304244-1	5/7/2013	22:31		5/7/2013	22:58
\0507006.D	Batch QCDMS	KWG1304244-2	5/7/2013	23:14		5/7/2013	23:41
\0507007.D	Continuing Calibration Verification	KWG1304579-3	5/7/2013	23:56		5/8/2013	00:23

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013

Extraction Prep Log
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Extraction Lot: KWG1304244
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MW-4-1	K1303913-001	04/26/13	04/30/13	500ml	1ml	NA	
MW-4-1RE	K1303913-001	04/26/13	04/30/13	500ml	1ml	NA	
MW-17-4	K1303913-002	04/26/13	04/30/13	500ml	1ml	NA	
MW-17-4RE	K1303913-002	04/26/13	04/30/13	500ml	1ml	NA	
Method Blank	KWG1304244-4	NA	NA	500ml	1ml	NA	
Batch QC	K1303964-001	NA	NA	500ml	1ml	NA	
Batch QCRE	K1303964-001	NA	NA	500ml	1ml	NA	
Batch QCMS	KWG1304244-1	NA	NA	500ml	1ml	NA	
Batch QCDMS	KWG1304244-2	NA	NA	500ml	1ml	NA	
Lab Control Sample	KWG1304244-3	NA	NA	500ml	1ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Organic Analysis:
Nitrosamines by EPA 521

Validation Package

QC Reports

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913

Surrogate Recovery Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1
MW-4-1	K1303913-001	77
MW-17-4	K1303913-002	75
Batch QC	K1303964-001	77
Method Blank	KWG1304244-4	75
Batch QCMS	KWG1304244-1	83
Batch QCDMS	KWG1304244-2	87
Lab Control Sample	KWG1304244-3	86

Surrogate Recovery Control Limits (%)

Sur1 = N-Nitrosodimethylamine-d6 70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/07/2013

Matrix Spike/Duplicate Matrix Spike Summary
Nitrosamines by EPA 521

Sample Name: Batch QC
Lab Code: K1303964-001

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low
Extraction Lot: KWG1304244

		Batch QCMS KWG1304244-1 Matrix Spike			Batch QCDMS KWG1304244-2 Duplicate Matrix Spike					
Analyte Name	**Sample Result**	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	ND	1.58	2.00	79	1.80	2.00	90	50-150	13	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Results flagged with a pound (#) indicate the control criteria is not applicable.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/03/2013

Lab Control Spike Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1304244

	Lab Control Sample KWG1304244-3 Lab Control Spike			
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**
N-Nitrosodimethylamine	1.20	2.00	60	50-150

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/03/2013
Time Analyzed: 21:49

Method Blank Summary
Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304244-4

Extraction Method: METHOD
Analysis Method: 521

Instrument ID: MS16
File ID: J:\MS16\DATA\050313-521\0503009.D

Level: Low
Extraction Lot: KWG1304244

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-4-1	K1303913-001	J:\MS16\DATA\050313-521\0503002.D	05/03/13	16:54
MW-17-4	K1303913-002	J:\MS16\DATA\050313-521\0503003.D	05/03/13	17:36
Batch QC	K1303964-001	J:\MS16\DATA\050313-521\0503004.D	05/03/13	18:18
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050313-521\0503005.D	05/03/13	19:00
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050313-521\0503006.D	05/03/13	19:42
Lab Control Sample	KWG1304244-3	J:\MS16\DATA\050313-521\0503008.D	05/03/13	21:06
MW-4-1	K1303913-001	J:\MS16\DATA\050713-521\0507002.D	05/07/13	20:24
MW-17-4	K1303913-002	J:\MS16\DATA\050713-521\0507003.D	05/07/13	21:07
Batch QC	K1303964-001	J:\MS16\DATA\050713-521\0507004.D	05/07/13	21:49
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050713-521\0507005.D	05/07/13	22:31
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050713-521\0507006.D	05/07/13	23:14

QA/QC Report

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Extracted: 05/03/2013
Date Analyzed: 05/03/2013
Time Analyzed: 21:06

Lab Control Sample Summary
Nitrosamines by EPA 521

Sample Name: Lab Control Sample
Lab Code: KWG1304244-3

Extraction Method: METHOD
Analysis Method: 521

Instrument ID: MS16
File ID: J:\MS16\DATA\050313-521\0503008.D

Level: Low
Extraction Lot: KWG1304244

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-4-1	K1303913-001	J:\MS16\DATA\050313-521\0503002.D	05/03/13	16:54
MW-17-4	K1303913-002	J:\MS16\DATA\050313-521\0503003.D	05/03/13	17:36
Batch QC	K1303964-001	J:\MS16\DATA\050313-521\0503004.D	05/03/13	18:18
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050313-521\0503005.D	05/03/13	19:00
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050313-521\0503006.D	05/03/13	19:42
Method Blank	KWG1304244-4	J:\MS16\DATA\050313-521\0503009.D	05/03/13	21:49
MW-4-1	K1303913-001	J:\MS16\DATA\050713-521\0507002.D	05/07/13	20:24
MW-17-4	K1303913-002	J:\MS16\DATA\050713-521\0507003.D	05/07/13	21:07
Batch QC	K1303964-001	J:\MS16\DATA\050713-521\0507004.D	05/07/13	21:49
Batch QCMS	KWG1304244-1	J:\MS16\DATA\050713-521\0507005.D	05/07/13	22:31
Batch QCDMS	KWG1304244-2	J:\MS16\DATA\050713-521\0507006.D	05/07/13	23:14

Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Raw Data

Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: 04/26/2013
Date Received: 04/30/2013

Nitrosamines by EPA 521

Sample Name: MW-4-1
Lab Code: K1303913-001

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050313-521\0503002.D
Lab ID: K1303913-001
RunType: SMPL
Matrix: WATER

Date Acquired: 05/03/2013 16:54
Date Quantitated: 05/03/2013 19:03
Batch ID: KWG1304578
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA
Continuing Calibration Recovery	N-Nitrosodimethylamine	-51.0	NA	50	NR

Primary Review: AN 5/14/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503002.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 16:54	**Quant Date:**	05/03/2013 19:03	**Vial:**	11
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1303913-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/26/2013	**Receive Date:**	04/30/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	K1303913
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233869	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.74	0.01	97	14689	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7496	7.70	77	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10	0.03	0.00	47	118	0.1100	0.32	U	NR

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503002.D Vial: 11
Acq On : 03 May 13 16:54 Operator: SVO-DW
Sample : K1303913-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 03 19:01:23 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

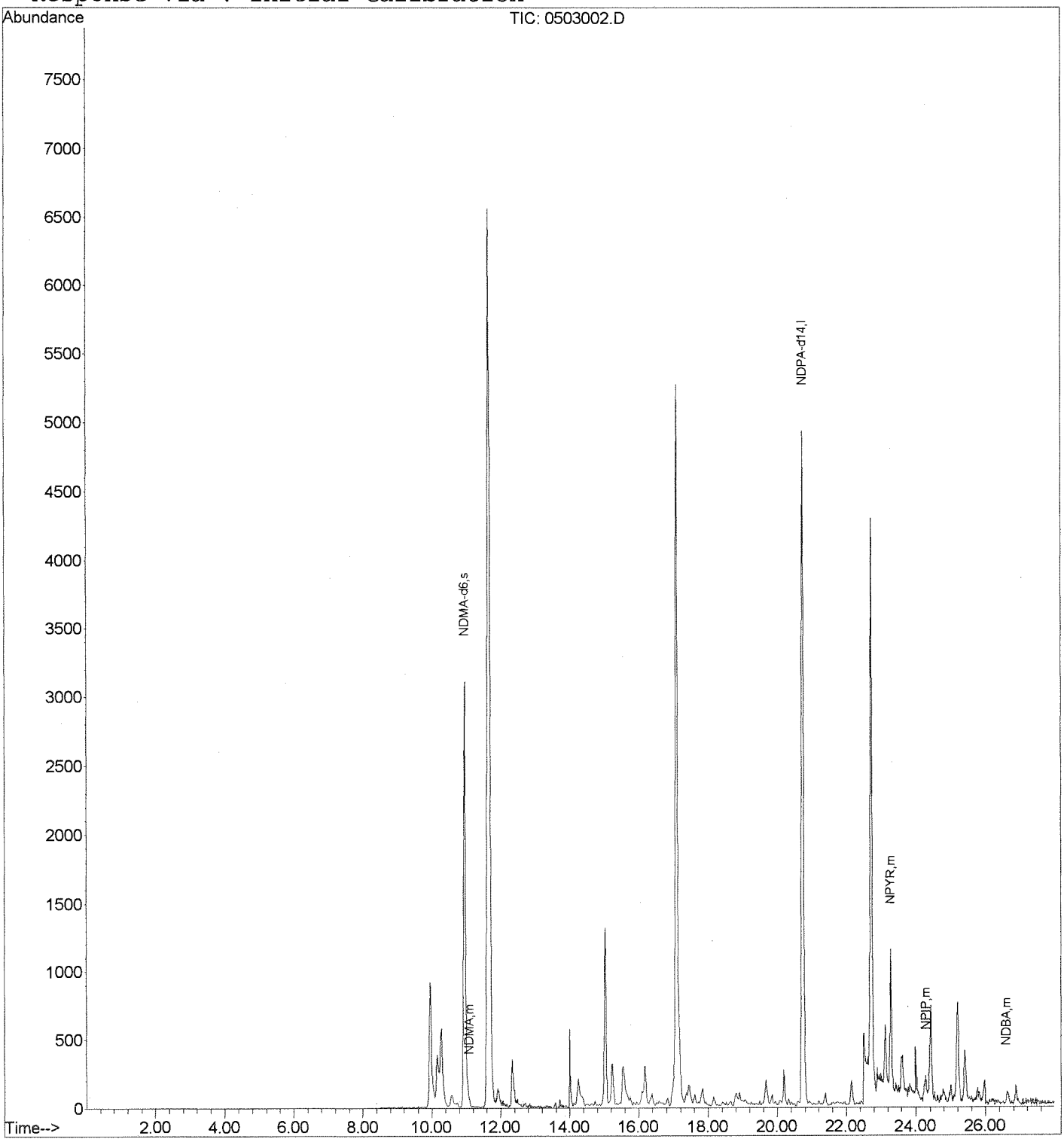
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.74	97	14689	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7496	7.70	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.10	47	118	0.11	ug/L	75
8) NPYR	23.29	55	1266	0.81	ug/L	96
9) NPIP	24.28	69	198	0.22	ug/L	100
10) NDBA	26.60	57	209	0.65	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503002.D 040413_D14.M Tue May 14 16:13:43 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503002.D Vial: 11
Acq On : 03 May 13 16:54 Operator: SVO-DW
Sample : K1303913-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 3 19:03 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Exception Report

Data File: J:\MS16\DATA\050713-521\0507002.D
Lab ID: K1303913-001
RunType: SMPL
Matrix: WATER

Date Acquired: 05/07/2013 20:24
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MR
Surrogates	N-Nitrosodimethylamine-d6	13.6	70	130	

Primary Review: DV 5/14/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507002.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 20:24	**Quant Date:**	05/08/2013 20:57	**Vial:**	11
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1303913-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/26/2013	**Receive Date:**	04/30/2013

Analysis Lot:	KWG1304579	**Prep Lot:**	KWG1304244	**Report Group:**	K1303913
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233869	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\050713-521\0507.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.75	-0.01	97	16083	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7087	6.80	68	70-130	*	NR

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	-0.02	0.00	47	445	0.3800	0.76	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507002.D Vial: 11
Acq On : 07 May 13 20:24 Operator: SVO-DW
Sample : K1303913-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:20 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

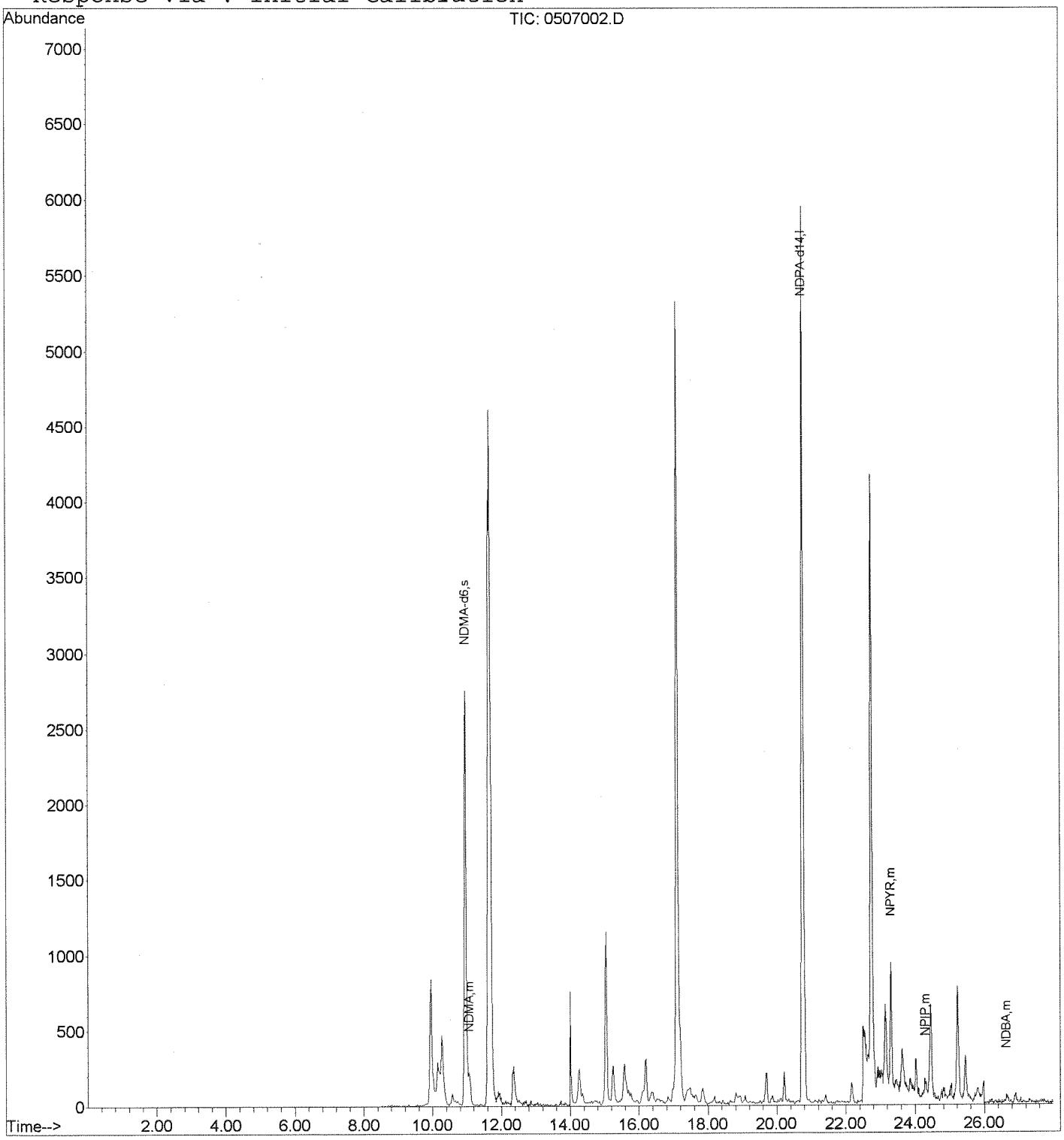
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.75	97	16083	50.00	ug/L	-0.02
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7087	6.80	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	445	0.38	ug/L	75
8) NPYR	23.31	55	1212	0.74	ug/L	96
9) NPIP	24.30	69	162	0.21	ug/L	100
10) NDBA	26.64	57	117	0.61	ug/L	100

(#) = qualifier out of range (m) = manual integration
0507002.D 040413_D14.M Tue May 14 16:10:16 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507002.D Vial: 11
Acq On : 07 May 13 20:24 Operator: SVO-DW
Sample : K1303913-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: 04/26/2013
Date Received: 04/30/2013

Nitrosamines by EPA 521

Sample Name: MW-17-4
Lab Code: K1303913-002

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050713-521\0507003.D
Lab ID: K1303913-002
RunType: SMPL
Matrix: WATER

Date Acquired: 05/07/2013 21:07
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MR
Surrogates	N-Nitrosodimethylamine-d6	10.1	70	130	

Primary Review: 05/14/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507003.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 21:07	**Quant Date:**	05/08/2013 20:57	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1303913-002			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/26/2013	**Receive Date:**	04/30/2013

Analysis Lot:	KWG1304579	**Prep Lot:**	KWG1304244	**Report Group:**	K1303913
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233870	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\050713-521\0507.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.76	0.00	97	13605	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	4271	5.07	51	70-130	*	NR

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	-0.02	0.00	47	300	0.3100	0.62	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507003.D Vial: 12
Acq On : 07 May 13 21:07 Operator: SVO-DW
Sample : K1303913-002 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:20 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

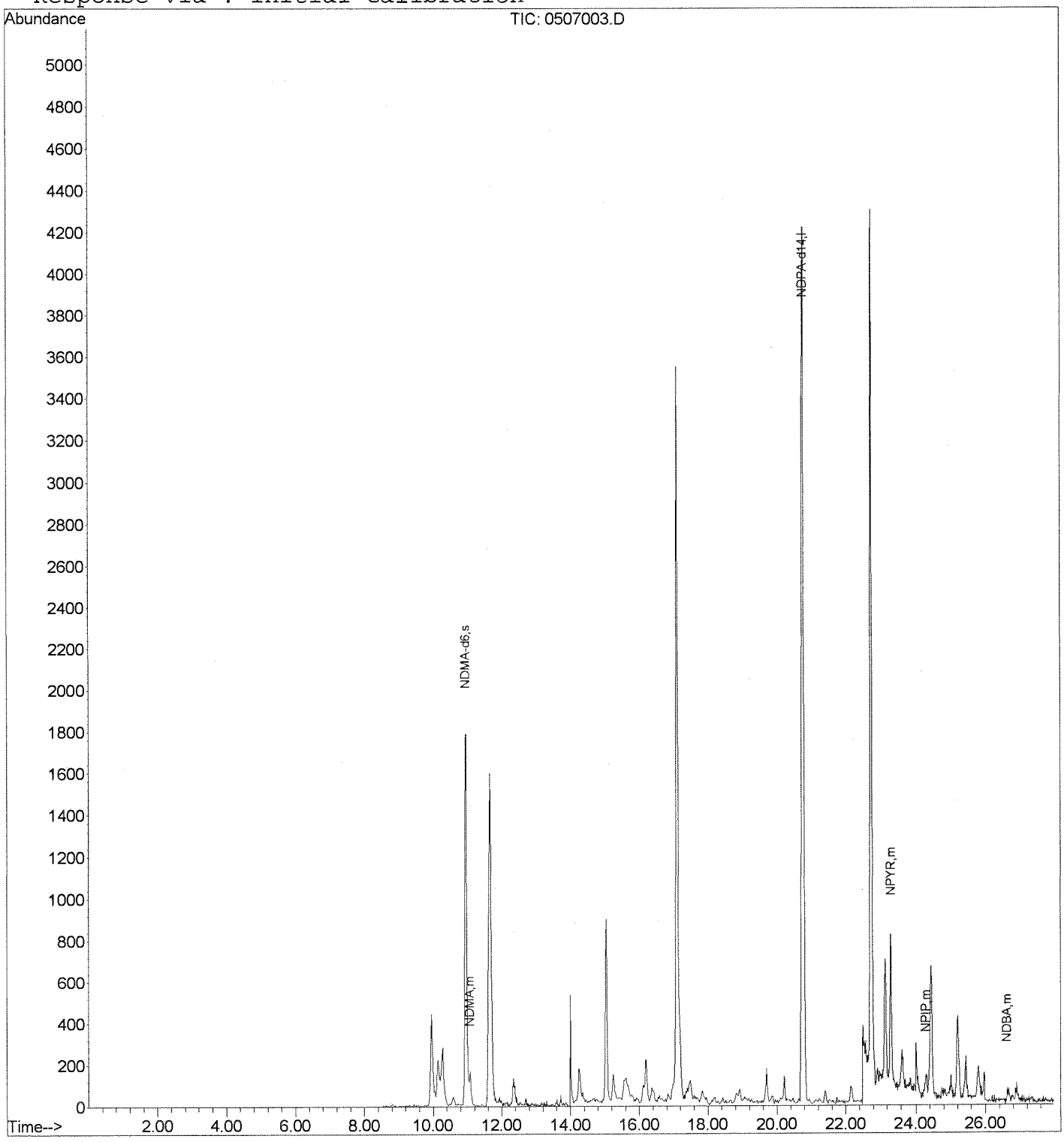
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.76	97	13605	50.00	ug/L	-0.02
System Monitoring Compounds						
3) NDMA-d6	10.96	50	4271	5.07	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	300	0.31	ug/L	75
8) NPYR	23.31	55	1149	0.80	ug/L	96
9) NPIP	24.29	69	154	0.21	ug/L	100
10) NDBA	26.62	57	112	0.62	ug/L	100

(#) = qualifier out of range (m) = manual integration
0507003.D 040413_D14.M Tue May 14 16:10:17 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507003.D Vial: 12
Acq On : 07 May 13 21:07 Operator: SVO-DW
Sample : K1303913-002 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Exception Report

Data File: J:\MS16\DATA\050313-521\0503003.D
Lab ID: K1303913-002
RunType: SMPL
Matrix: WATER

Date Acquired: 05/03/2013 17:36
Date Quantitated: 05/03/2013 19:03
Batch ID: KWG1304578
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA
Continuing Calibration Recovery	N-Nitrosodimethylamine	-51.0	NA	50	NR

Primary Review: BV 5/14/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503003.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 17:36	**Quant Date:**	05/03/2013 19:03	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1303913-002			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/26/2013	**Receive Date:**	04/30/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	K1303913
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233870	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	17073	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	8465	7.52	75	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10	0.03	0.00	47	132	0.1100	0.32	U	NR

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503003.D Vial: 12
Acq On : 03 May 13 17:36 Operator: SVO-DW
Sample : K1303913-002 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 03 19:01:24 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

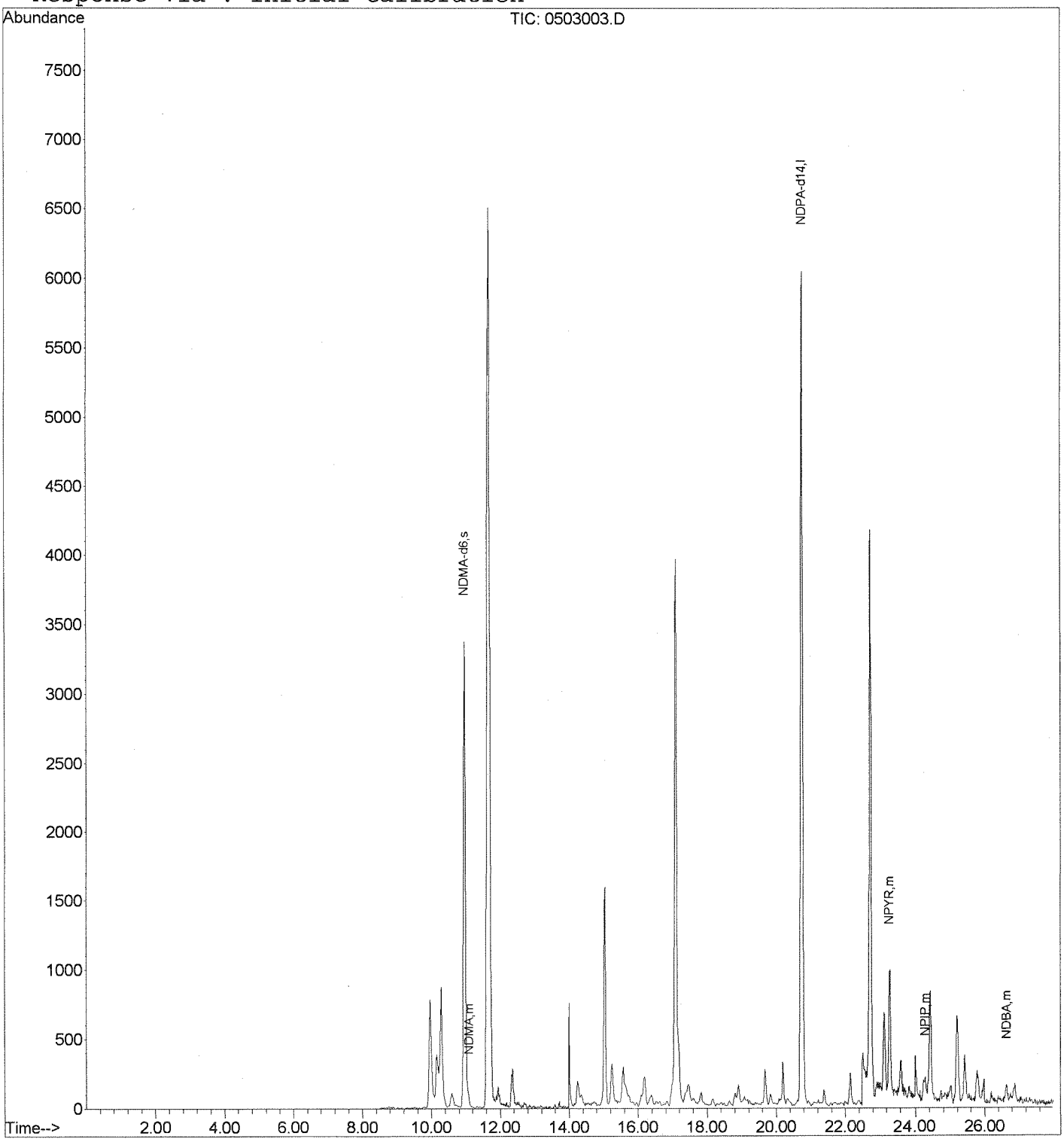
Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) NDPA-d14	20.73	97	17073	50.00	ug/L		-0.04
System Monitoring Compounds							
3) NDMA-d6	10.96	50	8465	7.52	ug/L		-0.02
Target Compounds							Qvalue
4) NDMA	11.10	47	132	0.11	ug/L		75
8) NPYR	23.29	55	1392	0.78	ug/L		98
9) NPIP	24.29	69	248	0.22	ug/L	#	100
10) NDBA	26.65	57	220	0.65	ug/L		100

(#) = qualifier out of range (m) = manual integration
0503003.D 040413_D14.M Tue May 14 16:13:44 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503003.D Vial: 12
Acq On : 03 May 13 17:36 Operator: SVO-DW
Sample : K1303913-002 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 3 19:03 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304244-4

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/03/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	75	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050313-521\0503009.D
Lab ID: KWG1304244-4
RunType: MB
Matrix: WATER

Date Acquired: 05/03/2013 21:49
Date Quantitated: 05/07/2013 18:46
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MARK/JM
	N-Nitrosodiethylamine	0.9866	0.99	NA	NA
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	↓

Primary Review: 05/24/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503009.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 21:49	**Quant Date:**	05/07/2013 18:46	**Vial:**	17
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1304244-4			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/03/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233874	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.01	97	16129	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7996	7.52	75	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine				47	0		0.32	U	
1	N-Nitrosomethylethylamine				61	0		0.50	U	
1	N-Nitrosodiethylamine				75	0		0.76	U	
1	N-Nitrosodi-n-propylamine				89	0		0.76	U	
1	N-Nitrosopyrrolidine	23.29	-0.11	0.00	55	843	0.5900	1.18	J	
1	N-Nitrosopiperidine	24.29	-0.05	0.00	69	104	0.1900	0.55	U	
1	N-Nitrosodi-n-butylamine				57	0		0.77	U	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503009.D Vial: 17
Acq On : 03 May 13 21:49 Operator: SVO-DW
Sample : 050313 MB Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 18:43:50 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

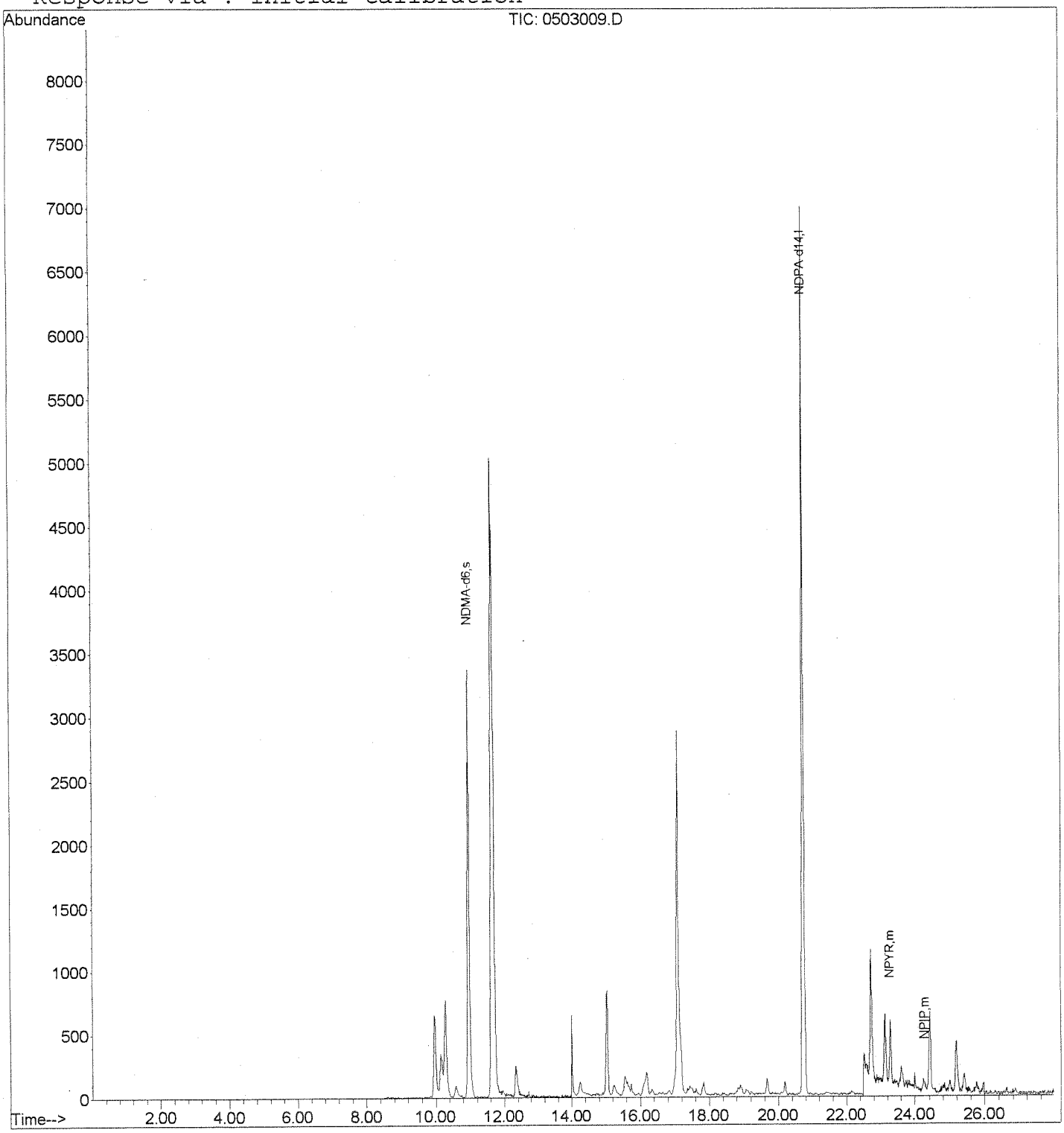
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	16129	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7996	7.52	ug/L	-0.02
Target Compounds						Qvalue
8) NPYR	23.29	55	843	0.59	ug/L	96
9) NPIP	24.29	69	104	0.19	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503009.D 040413_D14.M Tue May 14 16:14:05 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503009.D Vial: 17
Acq On : 03 May 13 21:49 Operator: SVO-DW
Sample : 050313 MB Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 18:46 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Batch QC
Lab Code: K1303964-001

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	77	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050313-521\0503004.D
Lab ID: K1303964-001
RunType: SMPL
Matrix: WATER

Date Acquired: 05/03/2013 18:18
Date Quantitated: 05/03/2013 19:03
Batch ID: KWG1304578
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA
Continuing Calibration Recovery	N-Nitrosodimethylamine	-51.0	NA	50	MR

Primary Review: 5/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503004.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 18:18	**Quant Date:**	05/03/2013 19:03	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1303964-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/30/2013	**Receive Date:**	05/01/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	K1303964
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/03/2013		
Prep Ref:	1233868				

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	15201	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.97	0.01	0.00	50	7762	7.70	77	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine				47	0		0.32	U	NR

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503004.D Vial: 13
Acq On : 03 May 13 18:18 Operator: SVO-DW
Sample : K1303964-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 03 19:01:24 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

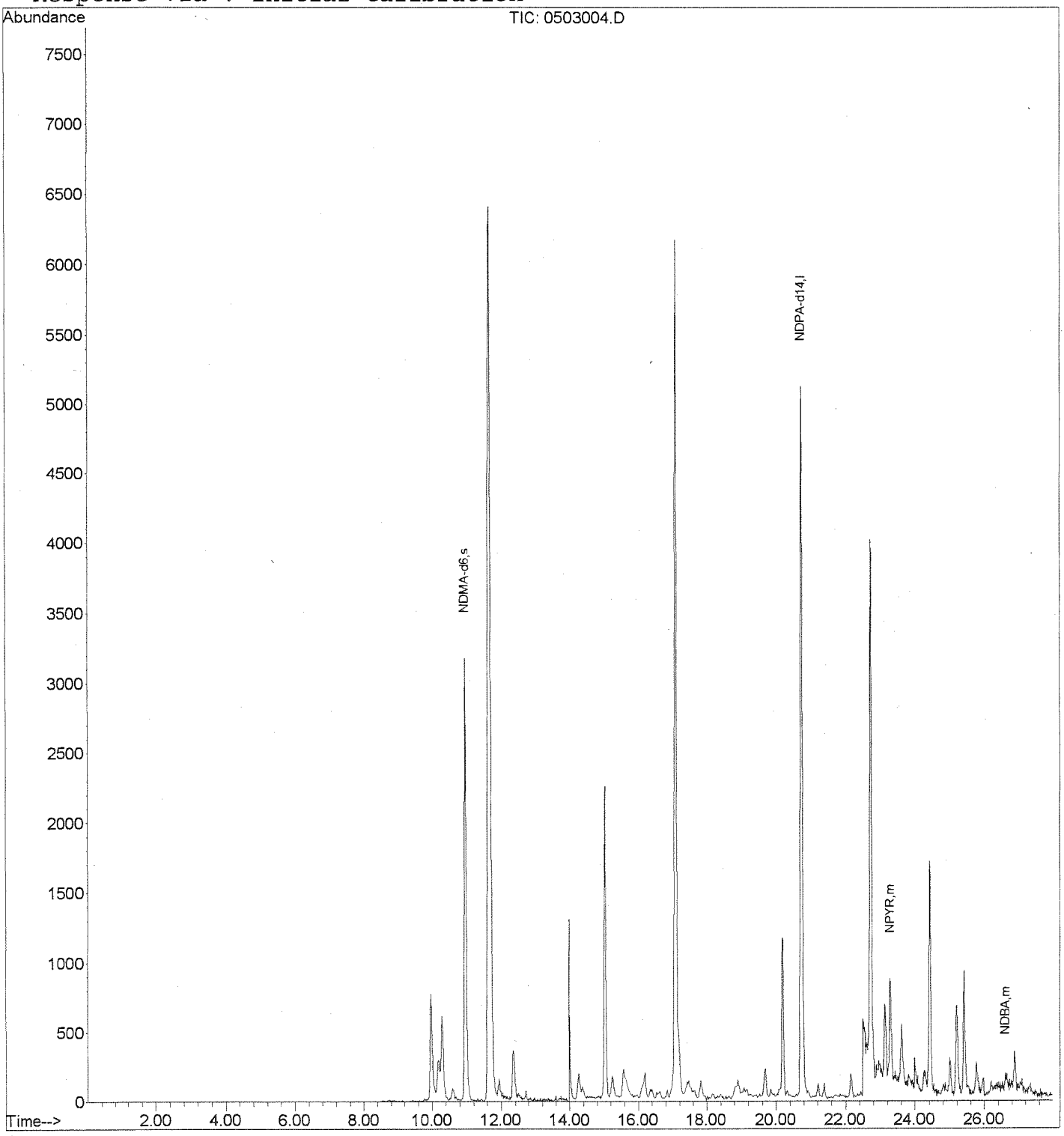
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	15201	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.97	50	7762	7.70	ug/L	-0.02
Target Compounds						Qvalue
8) NPYR	23.28	55	1191	0.76	ug/L	97
10) NDBA	26.62	57	292	0.68	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503004.D 040413_D14.M Tue May 14 16:13:44 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503004.D Vial: 13
Acq On : 03 May 13 18:18 Operator: SVO-DW
Sample : K1303964-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 3 19:03 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Exception Report

Data File: J:\MS16\DATA\050713-521\0507004.D
Lab ID: K1303964-001
RunType: SMPL
Matrix: WATER

Date Acquired: 05/07/2013 21:49
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NR
Surrogates	N-Nitrosodimethylamine-d6	13.1	70	130	L

Primary Review: 3/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507004.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 21:49	**Quant Date:**	05/08/2013 20:57	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1303964-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/30/2013	**Receive Date:**	05/01/2013

Analysis Lot:	KWG1304579	**Prep Lot:**	KWG1304244	**Report Group:**	K1303964
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233868	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\050713-521\0507.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.75	-0.01	97	15076	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	6382	6.57	66	70-130	*	NR

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.07	-0.03	0.00	47	221	0.2000	0.40	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507004.D Vial: 13
Acq On : 07 May 13 21:49 Operator: SVO-DW
Sample : K1303964-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:20 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

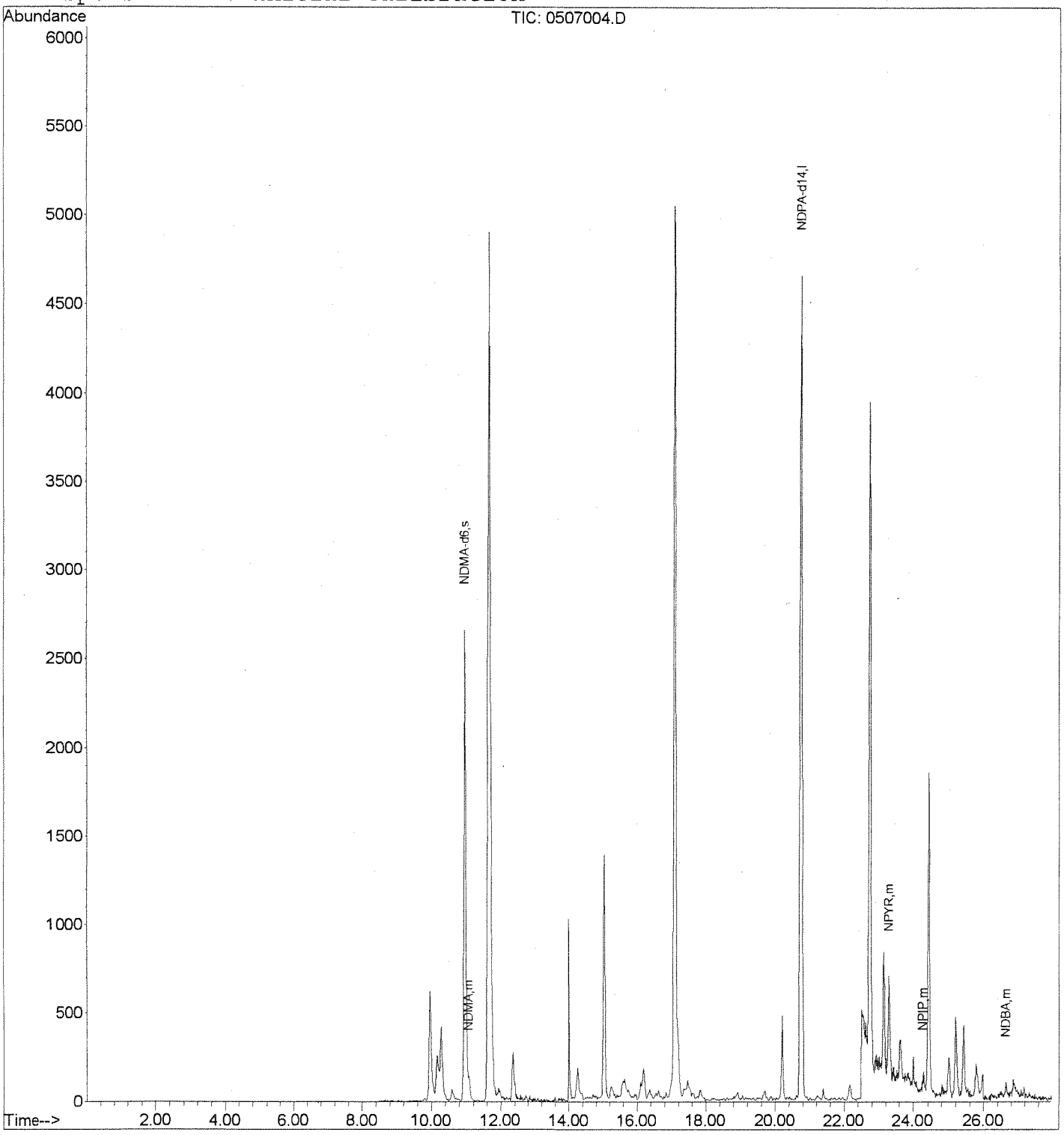
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.75	97	15076	50.00	ug/L	-0.02
System Monitoring Compounds						
3) NDMA-d6	10.96	50	6382	6.57	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.07	47	221	0.20	ug/L	75
8) NPYR	23.29	55	922	0.65	ug/L	96
9) NPIP	24.27	69	101	0.19	ug/L	100
10) NDBA	26.64	57	130	0.62	ug/L	100

(#) = qualifier out of range (m) = manual integration
0507004.D 040413_D14.M Tue May 14 16:10:17 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507004.D Vial: 13
Acq On : 07 May 13 21:49 Operator: SVO-DW
Sample : K1303964-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Batch QCMS
Lab Code: KWG1304244-1

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**1.58**		2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	83	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050313-521\0503005.D
Lab ID: KWG1304244-1 -- K1303964-001MS
RunType: MS
Matrix: WATER

Date Acquired: 05/03/2013 19:00
Date Quantitated: 05/14/2013 16:32
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NARRNA
	N-Nitrosodiethylamine	0.9866	0.99	NA	NT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	I
Continuing Calibration Recovery	N-Nitrosodimethylamine	-51.0	NA	50	NK
	N-Nitrosodi-n-propylamine	77.0	NA	50	NT

Primary Review: 5/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503005.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 19:00	**Quant Date:**	05/14/2013 16:32	**Vial:**	14
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1304244-1 -- K1303964-001MS			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/03/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/03/2013		
Prep Ref:	1233871				

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\050313-521\0503.D			**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D			**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	14318	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0d		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	8023	8.33	83	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10	0.03	0.00	47	577	0.5600	1.12	J	NR
1	N-Nitrosomethylethylamine	13.72	0.04	0.00	61	872	0.7300	1.46	J	
1	N-Nitrosodiethylamine	15.82		0.00	75	128	0.7500	1.50	J	
1	N-Nitrosodi-n-propylamine	21.03	-0.02	0.00	89	150	1.63	3.26		
1	N-Nitrosopyrrolidine	23.41	0.01	0.00	55	1703	1.03	2.06		
1	N-Nitrosopiperidine	24.35	0.01	0.00	69	3426	0.9600	1.92	J	
1	N-Nitrosodi-n-butylamine	26.62		0.00	57	947	0.9800	1.96	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503005.D Vial: 14
Acq On : 03 May 13 19:00 Operator: SVO-DW
Sample : K1303964-001MS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 18:43:49 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

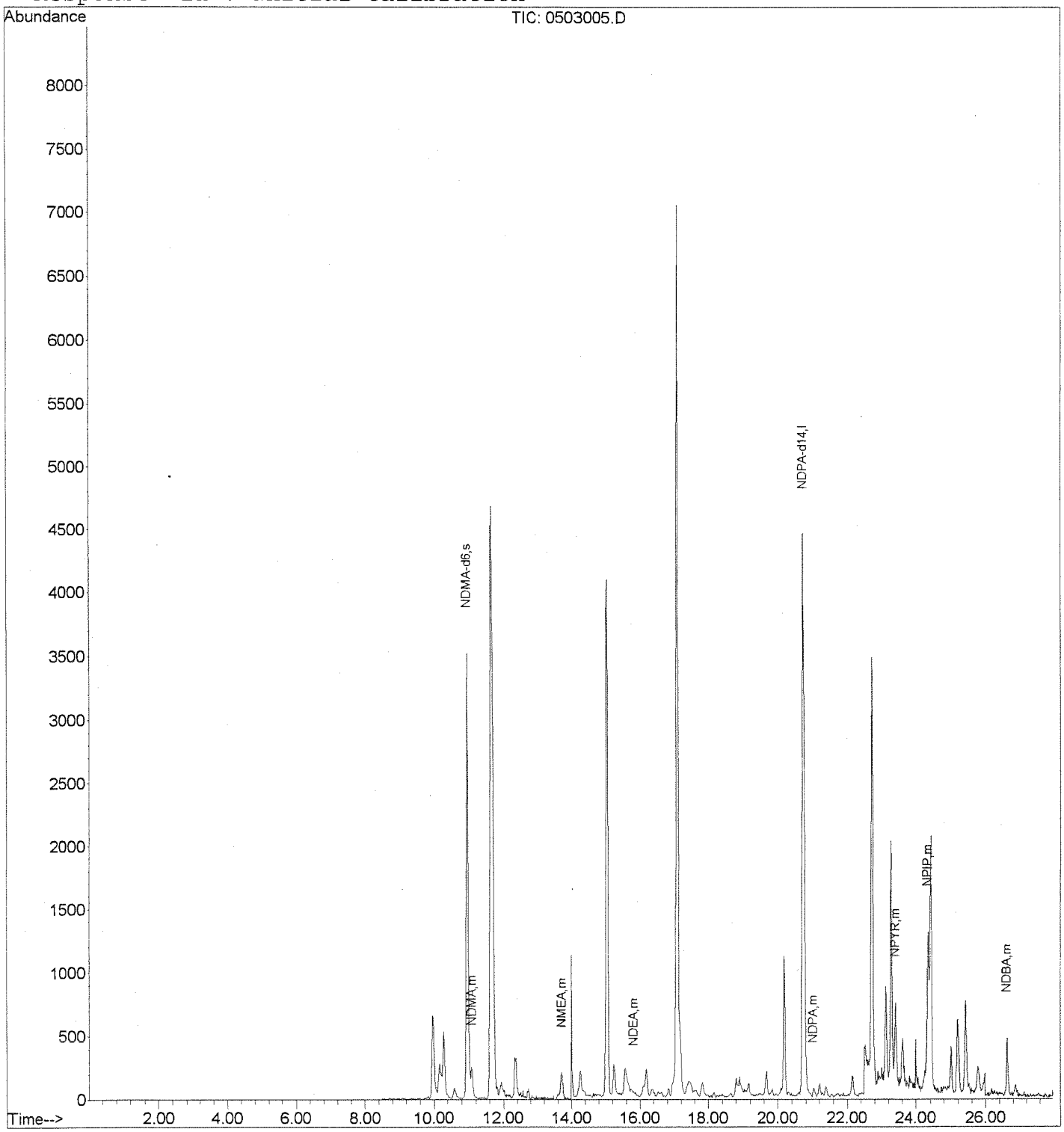
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	14318	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.96	50	8023	8.33	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.10	47	577	0.56	ug/L	75
5) NMEA	13.72	61	872	0.73	ug/L	99
6) NDEA	15.82	75	128	0.75	ug/L	100
7) NDPA	21.03	89	150	1.63	ug/L	100
8) NPYR	23.41	55	1703	1.03	ug/L	96
9) NPIP	24.35	69	3426	0.96	ug/L	100
10) NDBA	26.62	57	947	0.98	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503005.D 040413_D14.M Tue May 14 16:29:50 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503005.D Vial: 14
Acq On : 03 May 13 19:00 Operator: SVO-DW
Sample : K1303964-001MS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 16:32 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Exception Report

Data File: J:\MS16\DATA\050713-521\0507005.D
Lab ID: KWG1304244-1 -- K1303964-001MS
RunType: MS
Matrix: WATER

Date Acquired: 05/07/2013 22:31
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NC
	N-Nitrosodiethylamine	0.9866	0.99	NA	NC
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	I
Continuing Calibration Recovery	N-Nitrosodi-n-propylamine	64.0	NA	50	NC

Primary Review: RV 5/14/13

Secondary Review: MH

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507005.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 22:31	**Quant Date:**	05/08/2013 20:57	**Vial:**	14
Run Type:	MS			**Dilution:**	1.0
Lab ID:	KWG1304244-1 -- K1303964-001MS			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/03/2013

Analysis Lot:	KWG1304579	**Prep Lot:**	KWG1304244	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/03/2013		
Prep Ref:	1233871				

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\050713-521\0507.D			**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D			**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.03	97	14835	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7102	7.30	73	70-130	OK	NR

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	-0.02	0.00	47	838	0.7900	1.58	J	
1	N-Nitrosomethylethylamine	13.72		0.00	61	670	0.5400	1.08	J	
1	N-Nitrosodiethylamine				75	0		0.76	U	
1	N-Nitrosodi-n-propylamine	21.05		0.00	89	131	1.50	3.00		
1	N-Nitrosopyrrolidine	23.42		0.00	55	1498	0.9100	1.82	J	
1	N-Nitrosopiperidine	24.36		0.00	69	3153	0.8700	1.74	J	
1	N-Nitrosodi-n-butylamine	26.64	-0.01	0.00	57	844	0.9200	1.84	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507005.D Vial: 14
Acq On : 07 May 13 22:31 Operator: SVO-DW
Sample : K1303964-001MS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:21 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

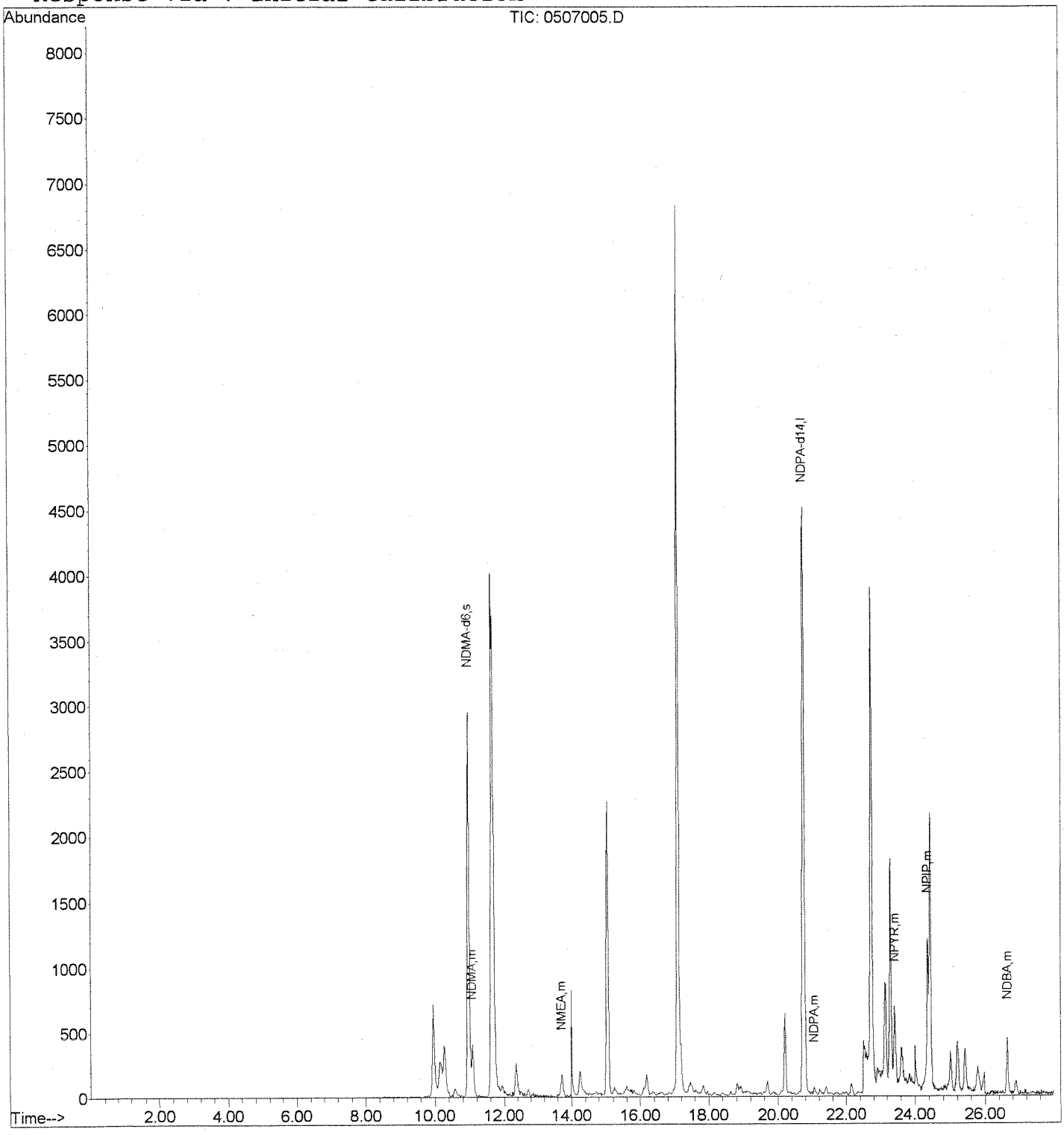
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	14835	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7102	7.30	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	838	0.79	ug/L	77
5) NMEA	13.72	61	670	0.54	ug/L	96
7) NDPA	21.05	89	131	1.50	ug/L	100
8) NPYR	23.42	55	1498	0.91	ug/L	96
9) NPIP	24.36	69	3153	0.87	ug/L	100
10) NDBA	26.64	57	844	0.92	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507005.D Vial: 14
Acq On : 07 May 13 22:31 Operator: SVO-DW
Sample : K1303964-001MS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Batch QCDMS
Lab Code: KWG1304244-2

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**1.80**		2.0	1	05/03/13	05/07/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050313-521\0503006.D
Lab ID: KWG1304244-2 -- K1303964-001DMS
RunType: DMS
Matrix: WATER

Date Acquired: 05/03/2013 19:42
Date Quantitated: 05/07/2013 18:46
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MRR
	N-Nitrosodiethylamine	0.9866	0.99	NA	NT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	1
Continuing Calibration Recovery	N-Nitrosodimethylamine	-51.0	NA	50	MR
	N-Nitrosodi-n-propylamine	77.0	NA	50	NA

Primary Review: AV 5/14/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503006.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 19:42	**Quant Date:**	05/07/2013 18:46	**Vial:**	15
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1304244-2 -- K1303964-001DMS			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/03/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233872	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	13764	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	8089	8.66	87	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	0.01	0.00	47	574	0.5800	1.16	J	NR
1	N-Nitrosomethylethylamine	13.72	0.04	0.00	61	869	0.7600	1.52	J	
1	N-Nitrosodiethylamine	15.81	-0.01	0.00	75	168	1.02	2.04		
1	N-Nitrosodi-n-propylamine	21.05		0.00	89	114	1.46	2.92		
1	N-Nitrosopyrrolidine	23.42	0.02	0.00	55	1785	1.10	2.20		
1	N-Nitrosopiperidine	24.35	0.01	0.00	69	3516	1.01	2.02		
1	N-Nitrosodi-n-butylamine	26.62		0.00	57	930	0.9900	1.98	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503006.D Vial: 15
Acq On : 03 May 13 19:42 Operator: SVO-DW
Sample : K1303964-001DMS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 18:43:49 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

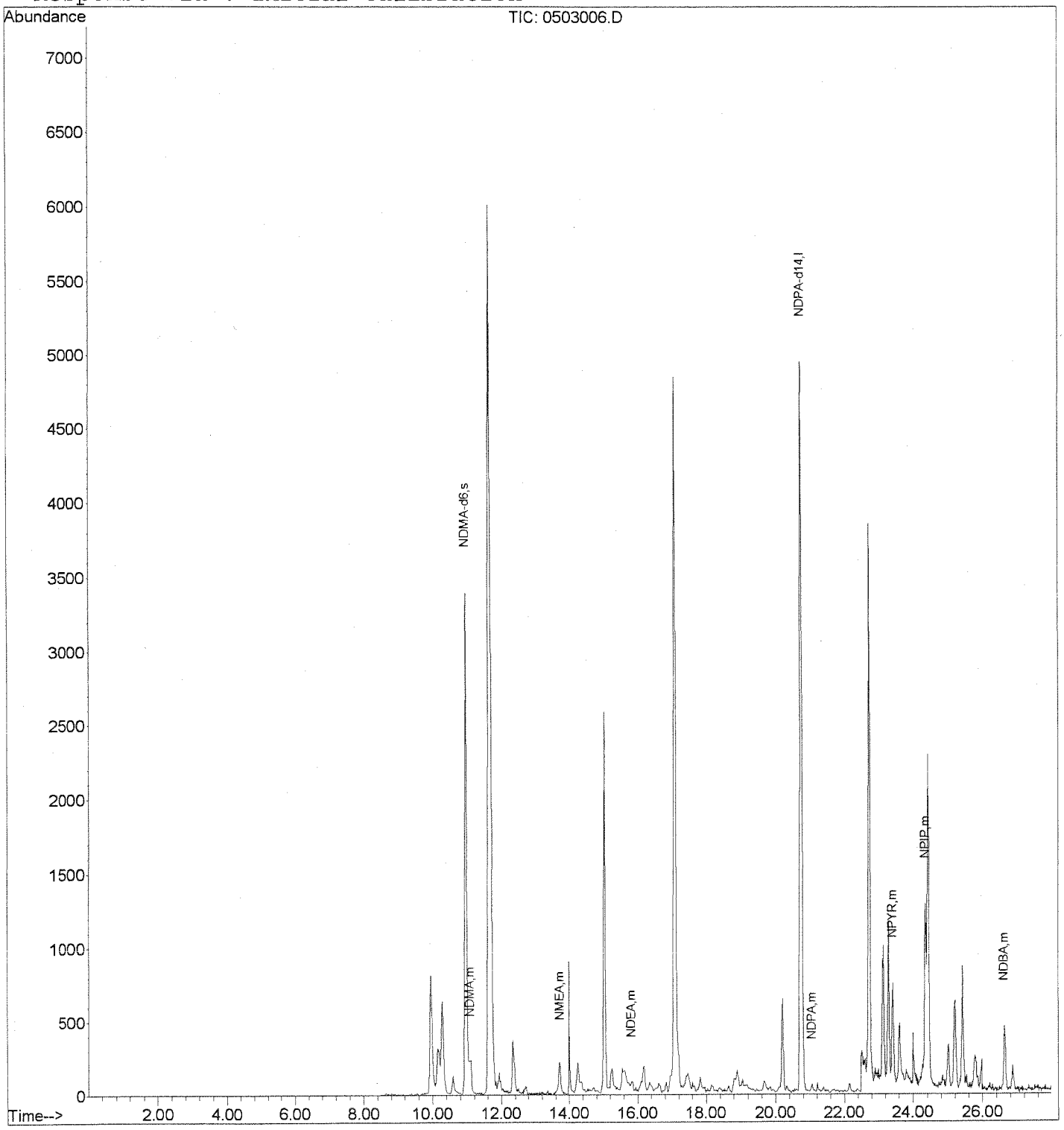
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13764	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.96	50	8089	8.66	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	574	0.58	ug/L	75
5) NMEA	13.72	61	869	0.76	ug/L	99
6) NDEA	15.81	75	168	1.02	ug/L	100
7) NDPA	21.05	89	114	1.46	ug/L	100
8) NPYR	23.42	55	1785	1.10	ug/L	98
9) NPIP	24.35	69	3516	1.01	ug/L	100
10) NDBA	26.62	57	930	0.99	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503006.D 040413_D14.M Tue May 14 16:13:45 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503006.D Vial: 15
Acq On : 03 May 13 19:42 Operator: SVO-DW
Sample : K1303964-001DMS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 18:46 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL - Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1303913
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Lab Control Sample
Lab Code: KWG1304244-3

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**1.20**		2.0	1	05/03/13	05/03/13	KWG1304244	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	86	70-130	05/03/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\050313-521\0503008.D
Lab ID: KWG1304244-3
RunType: LCS
Matrix: WATER

Date Acquired: 05/03/2013 21:06
Date Quantitated: 05/07/2013 18:46
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MRR/MA
	N-Nitrosodiethylamine	0.9866	0.99	NA	MT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	"

Primary Review: 5/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503008.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 21:06	**Quant Date:**	05/07/2013 18:46	**Vial:**	16
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1304244-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/03/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	KWG1304244	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1233873	**Prep Date:**	05/03/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.01	97	13272	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7759	8.62	86	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10	0.03	0.00	47	575	0.6000	1.20	J	
1	N-Nitrosomethylethylamine	13.70	0.01	0.00	61	677	0.6100	1.22	J	
1	N-Nitrosodiethylamine	15.84	0.01	0.00	75	105	0.6700	1.34	J	
1	N-Nitrosodi-n-propylamine				89	0		0.76	U	
1	N-Nitrosopyrrolidine	23.41	0.01	0.00	55	1400	0.9400	1.88	J	
1	N-Nitrosopiperidine	24.34		0.00	69	2830	0.8700	1.74	J	
1	N-Nitrosodi-n-butylamine	26.62	-0.01	0.00	57	805	0.9400	1.88	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503008.D Vial: 16
Acq On : 03 May 13 21:06 Operator: SVO-DW
Sample : 050313 LCS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 18:43:50 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

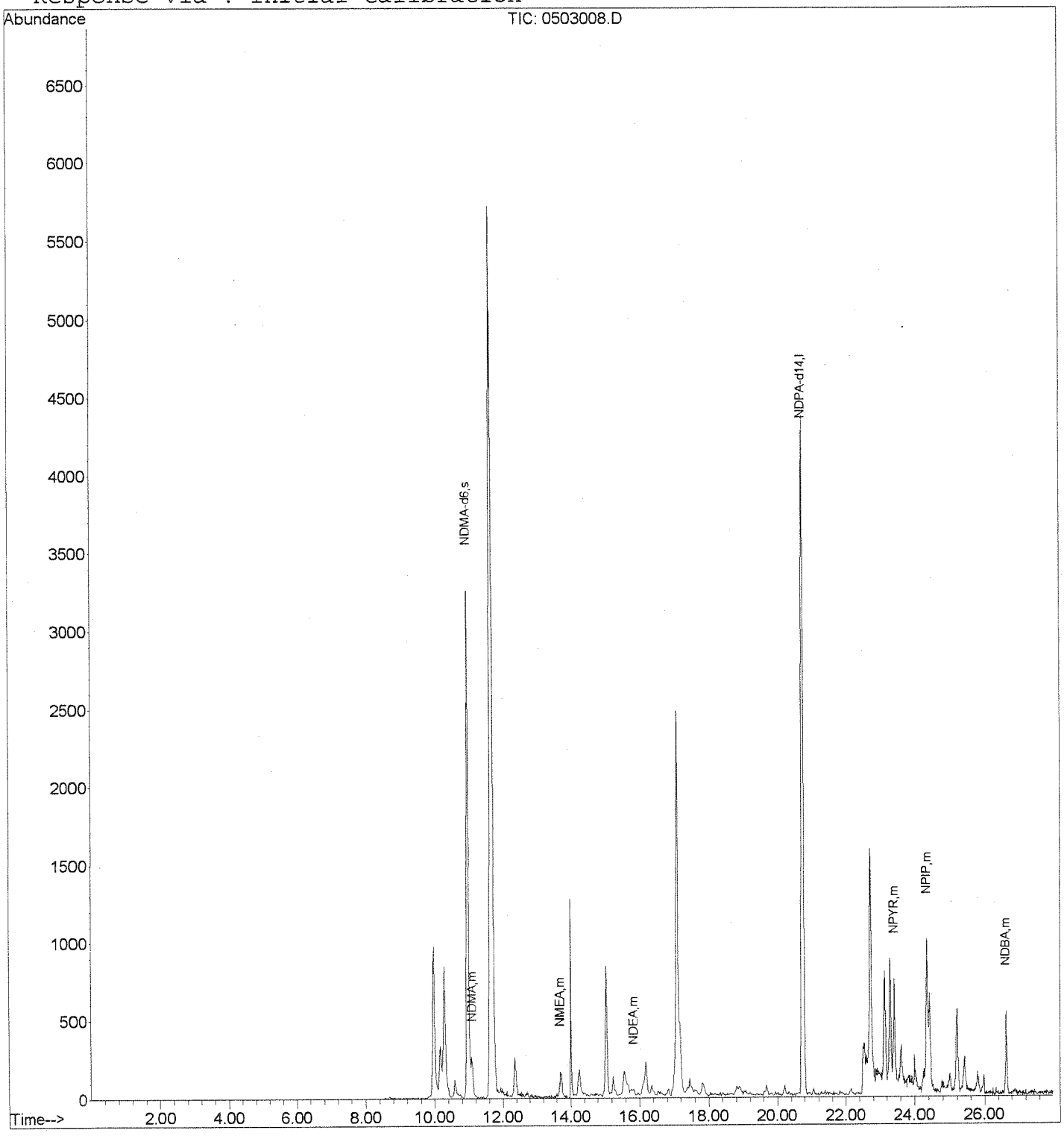
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13272	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7759	8.62	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.10	47	575	0.60	ug/L	75
5) NMEA	13.70	61	677	0.61	ug/L	99
6) NDEA	15.84	75	105	0.67	ug/L	100
8) NPYR	23.41	55	1400	0.94	ug/L	96
9) NPIP	24.34	69	2830	0.87	ug/L	100
10) NDBA	26.62	57	805	0.94	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503008.D 040413_D14.M Tue May 14 16:14:04 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503008.D Vial: 16
Acq On : 03 May 13 21:06 Operator: SVO-DW
Sample : 050313 LCS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 18:46 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Exception Report

Data File: J:\MS16\DATA\050713-521\0507006.D
Lab ID: KWG1304244-2 -- K1303964-001DMS
RunType: DMS
Matrix: WATER

Date Acquired: 05/07/2013 23:14
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NC
	N-Nitrosodiethylamine	0.9866	0.99	NA	NT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	NT
Continuing Calibration Recovery	N-Nitrosodi-n-propylamine	64.0	NA	50	NT

Primary Review: 5/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507006.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 23:14	**Quant Date:**	05/08/2013 20:57	**Vial:**	15
Run Type:	DMS			**Dilution:**	1.0
Lab ID:	KWG1304244-2 -- K1303964-001DMS			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/03/2013

Analysis Lot:	KWG1304579	**Prep Lot:**	KWG1304244	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/03/2013		
Prep Ref:	1233872				

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\050713-521\0507.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\050313-521\0503009.D	**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.03	97	13410	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7287	8.12	81	70-130	OK	NR

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	-0.02	0.00	47	865	0.9000	1.80	J	
1	N-Nitrosomethylethylamine	13.71	-0.01	0.00	61	670	0.6000	1.20	J	
1	N-Nitrosodiethylamine	15.84		0.00	75	164	1.02	2.04		
1	N-Nitrosodi-n-propylamine	21.05		0.00	89	126	1.54	3.08		
1	N-Nitrosopyrrolidine	23.42		0.00	55	1768	1.11	2.22		
1	N-Nitrosopiperidine	24.36		0.00	69	3379	1.00	2.00		
1	N-Nitrosodi-n-butylamine	26.65		0.00	57	841	0.9600	1.92	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507006.D Vial: 15
Acq On : 07 May 13 23:14 Operator: SVO-DW
Sample : K1303964-001DMS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:21 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

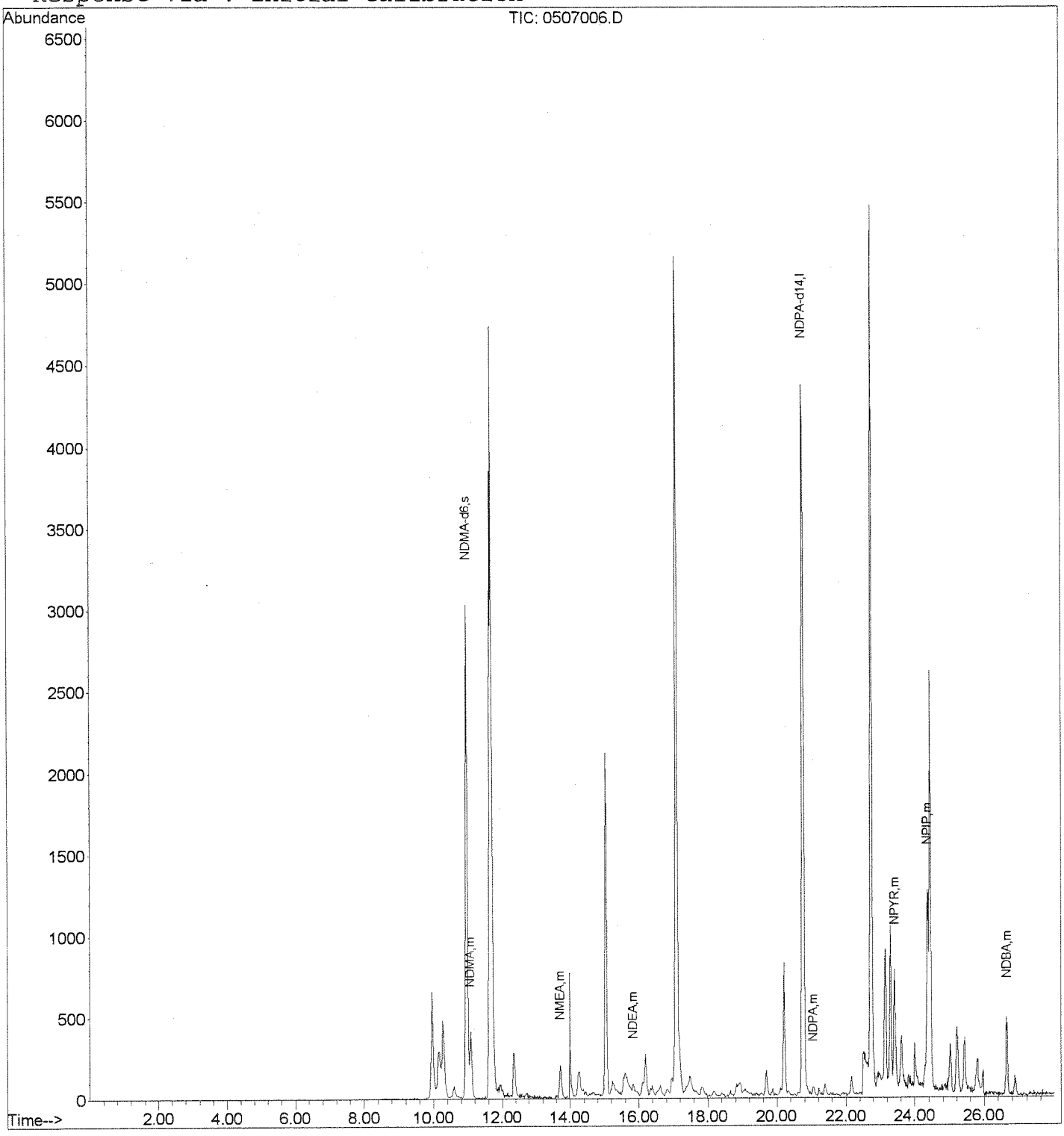
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13410	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7287	8.12	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	865	0.90	ug/L	76
5) NMEA	13.71	61	670	0.60	ug/L	99
6) NDEA	15.84	75	164	1.02	ug/L	100
7) NDPA	21.05	89	126	1.54	ug/L	100
8) NPYR	23.42	55	1768	1.11	ug/L	96
9) NPIP	24.36	69	3379	1.00	ug/L	100
10) NDBA	26.65	57	841	0.96	ug/L	100

(#) = qualifier out of range (m) = manual integration
0507006.D 040413_D14.M Tue May 14 16:10:18 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507006.D Vial: 15
Acq On : 07 May 13 23:14 Operator: SVO-DW
Sample : K1303964-001DMS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Standards Data

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Level ID	File ID
A	J:\MS16\DATA\040413-521ICAL\0404001.D
B	J:\MS16\DATA\040413-521ICAL\0404002.D
C	J:\MS16\DATA\040413-521ICAL\0404003.D
D	J:\MS16\DATA\040413-521ICAL\0404004.D
E	J:\MS16\DATA\040413-521ICAL\0404005.D
F	J:\MS16\DATA\040413-521ICAL\0404006.D
G	J:\MS16\DATA\040413-521ICAL\0404007.D
H	J:\MS16\DATA\040413-521ICAL\0404008.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
N-Nitrosodimethylamine-d6	A	0.50	2.46	B	1.0	2.54	C	2.0	3.01	D	5.0	3.19	E	7.0	3.51
	F	10	4.01	G	15	3.25	H	20	4.45						
N-Nitrosodimethylamine				B	1.0	2.47	C	2.0	3.24	D	5.0	3.00	E	7.0	3.62
	F	10	4.15	G	15	3.54	H	20	3.76						

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
N-Nitrosodimethylamine-d6	SURR	Quadratic(0,0)	COD	0.979	*	≥ 0.99	3.30		
N-Nitrosodimethylamine	MS	Quadratic(0,0)	COD	0.990		≥ 0.99	3.40		

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Calibration Date: 04/04/2013
Date Analyzed: 04/05/2013

Second Source Calibration Verification
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration ID: CAL12363
Units: ug/L

File ID: J:\MS16\DATA\040413-521ICAL\0404009.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine	10	11	3.40	4.03	NA	10	± 30 %	uadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Directory: J:\MS16\DATA\040413-521ICAL

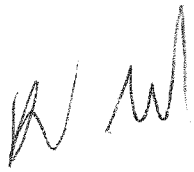
Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1		0404.D	1.	DCM		04 Apr 2013 32:2
2	1	0404001.D	1.	DWSTD06-44J@0.5ppb		04 Apr 2013 33:1
3	2	0404002.D	1.	DWSTD06-44I@1.0ppb		04 Apr 2013 33:5
4	3	0404003.D	1.	DWSTD06-44H@2.0ppb		04 Apr 2013 34:4
5	4	0404004.D	1.	DWSTD06-44G@5.0ppb		04 Apr 2013 35:2
6	5	0404005.D	1.	DWSTD06-44F@7.0ppb	CAL12363	05 Apr 2013 12:0
7	6	0404006.D	1.	DWSTD06-44E@ 10ppb		05 Apr 2013 12:4
8	7	0404007.D	1.	DWSTD06-44D@ 15ppb		05 Apr 2013 13:3
9	8	0404008.D	1.	DWSTD06-44C@ 20ppb		05 Apr 2013 14:1
10	9	0404009.D	1.	DWSTD06-36F ICV@10p		05 Apr 2013 14:5

4/5/13

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

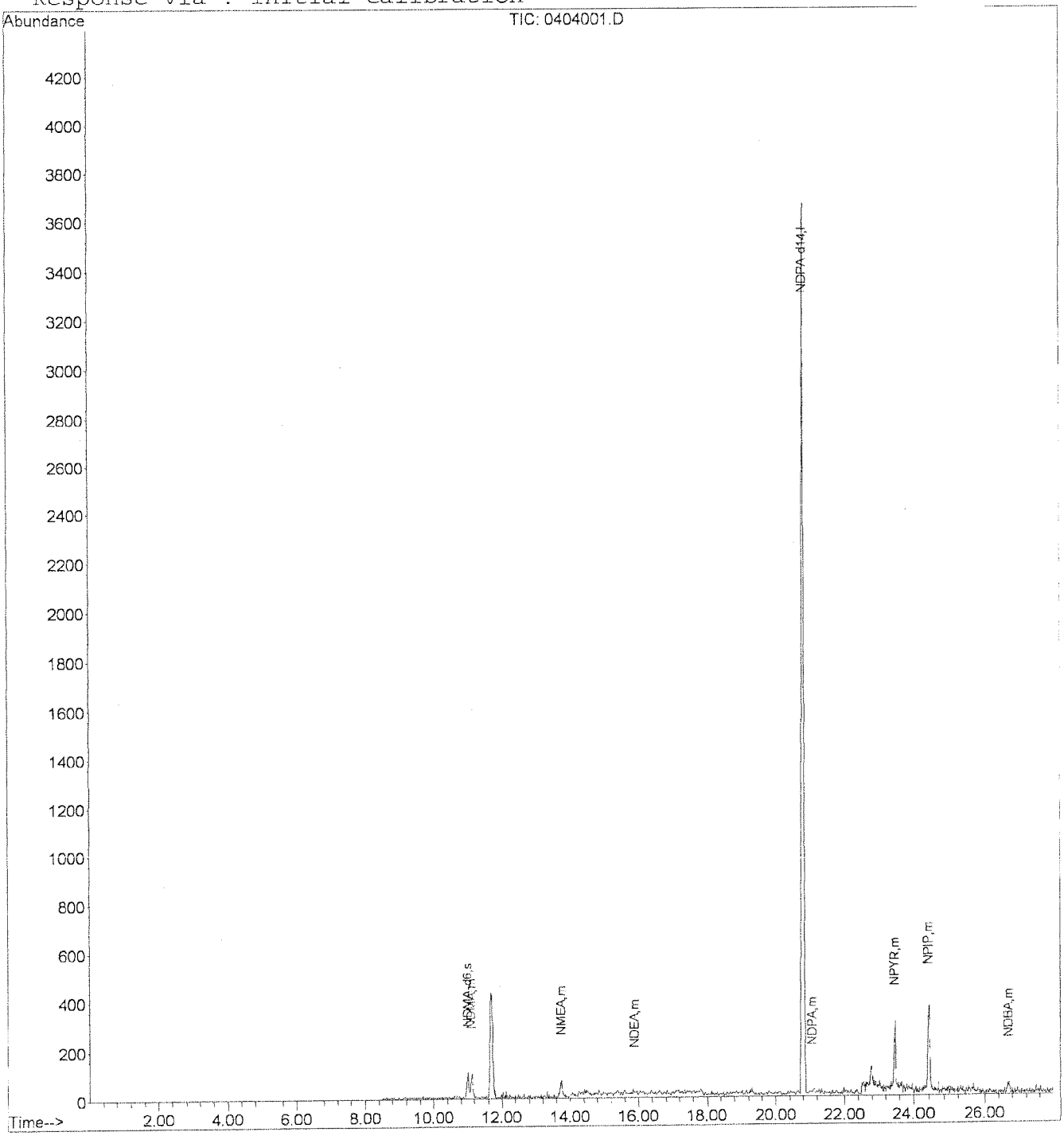
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.77	97	10903	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	11.00	50	268	0.45	ug/L	0.02
Target Compounds						Qvalue
4) NDMA	11.12	47	272	0.34	ug/L	75
5) NMEA	13.74	61	315	0.35	ug/L	99
6) NDEA	15.89	75	29m	0.23	ug/L	
7) NDPA	21.07	89	29m	0.35	ug/L	
8) NPYR	23.46	55	744	0.70	ug/L	96
9) NPIP	24.39	69	1234	0.65	ug/L	100
10) NDBA	26.69	57	105	0.63	ug/L	100



(#) = qualifier out of range (m) = manual integration
0404001.D 040413_D14.M Fri Apr 05 13:32:05 2013 Page 1

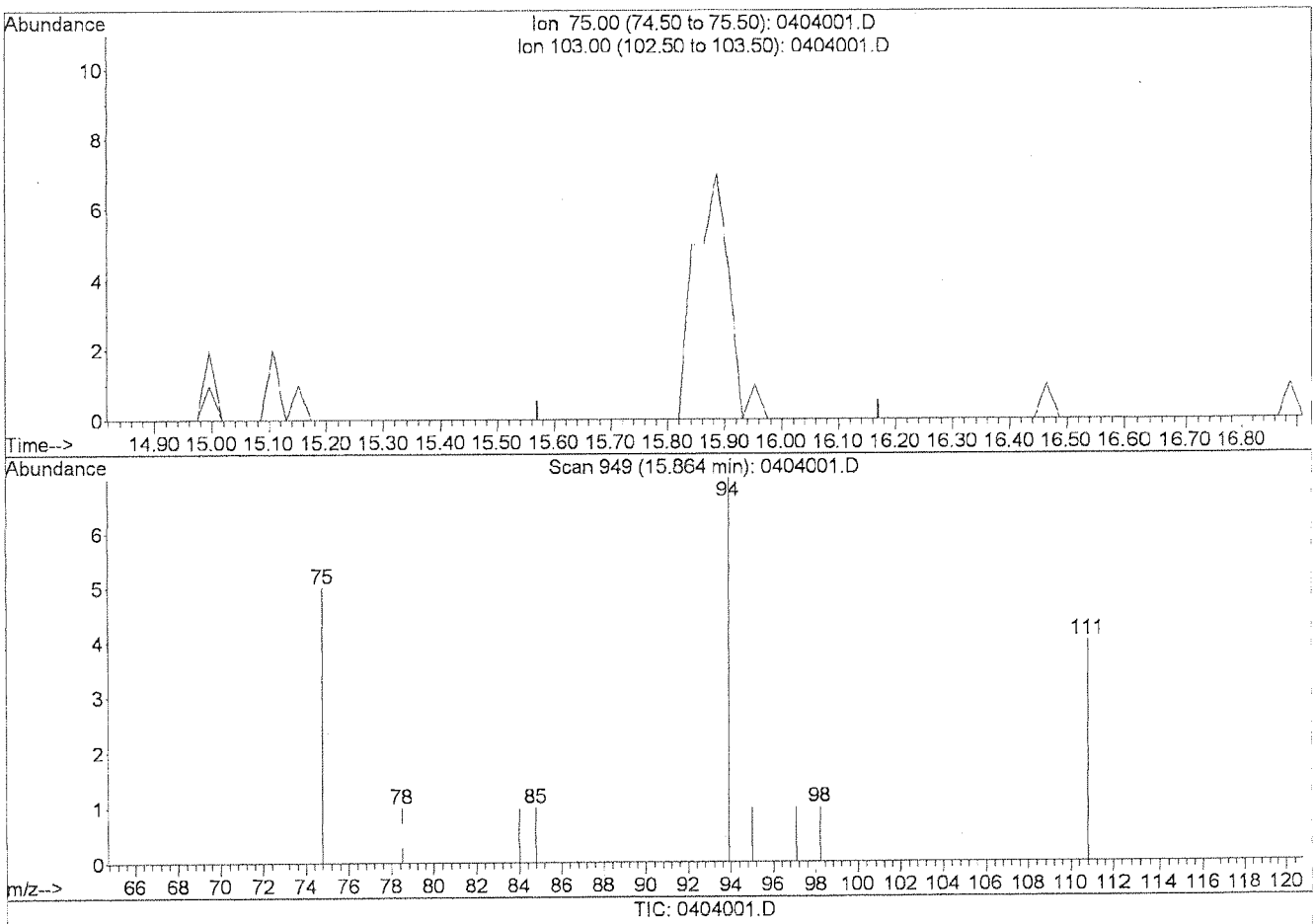
Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



(6) NDEA (m)

15.87min 0.00ug/L

response 0

Ion	Exp%	Act%
75.00	100	0.00
103.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

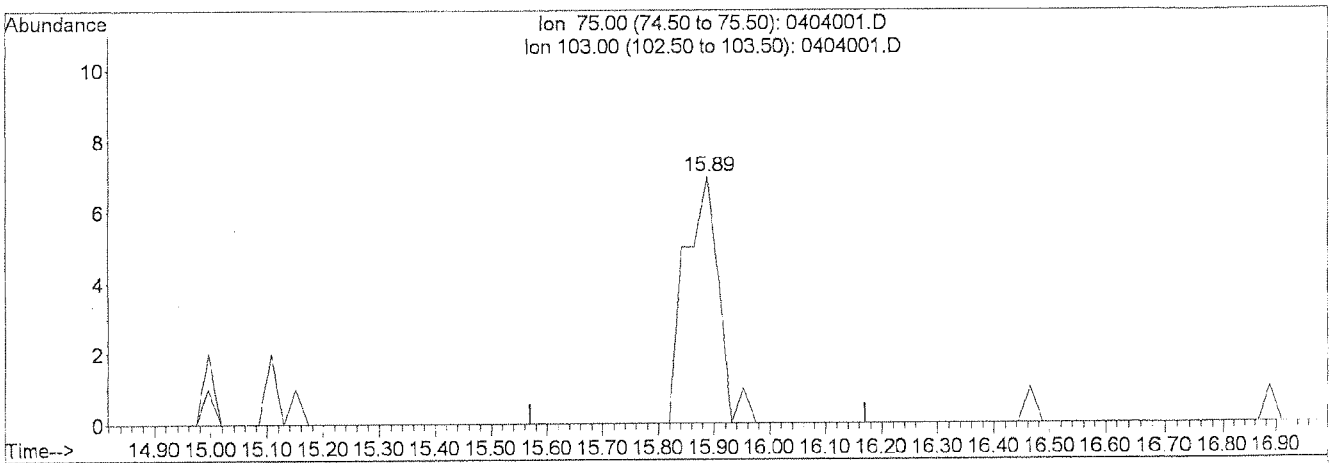
Manual Integration:

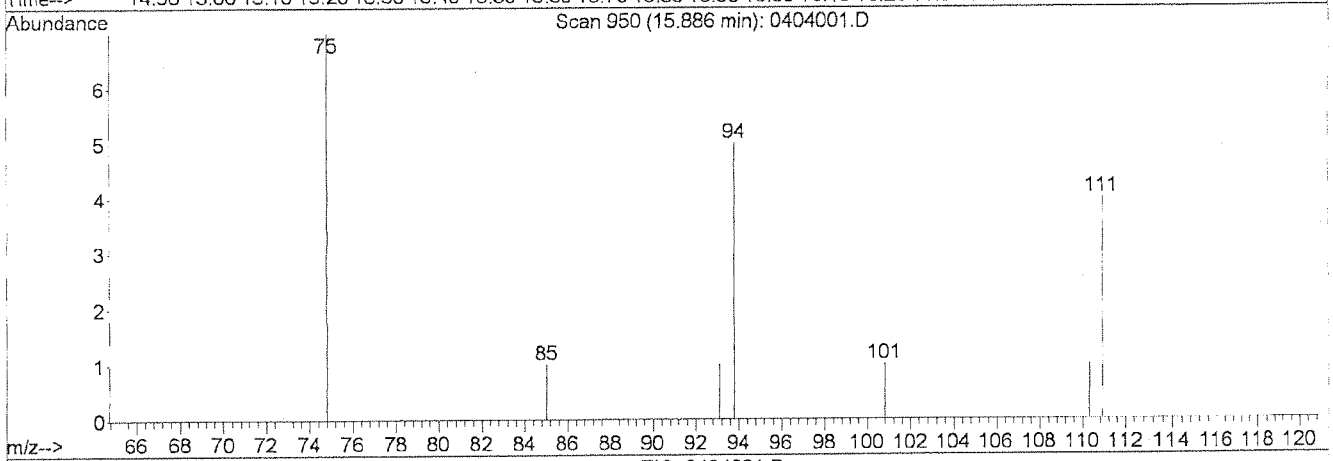
Before

0404001.D 040413_D14.M Fri Apr 05 13:05:59 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration





TIC: 0404001.D

(6) NDEA (m)

15.89min 0.23ug/L m

response 29

Ion	Exp%	Act%
75.00	100	100
103.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

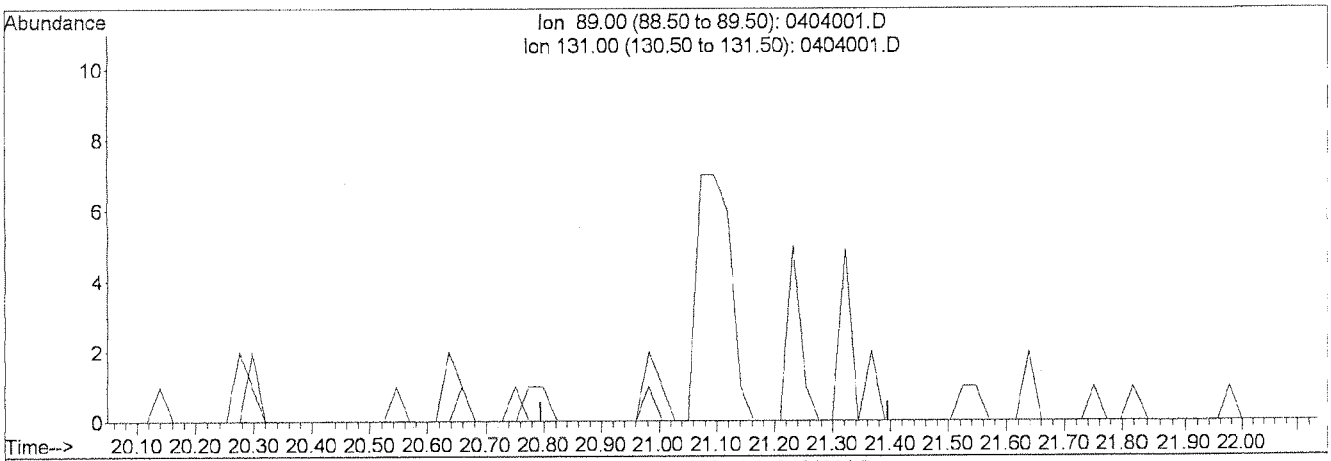
Missed Peak

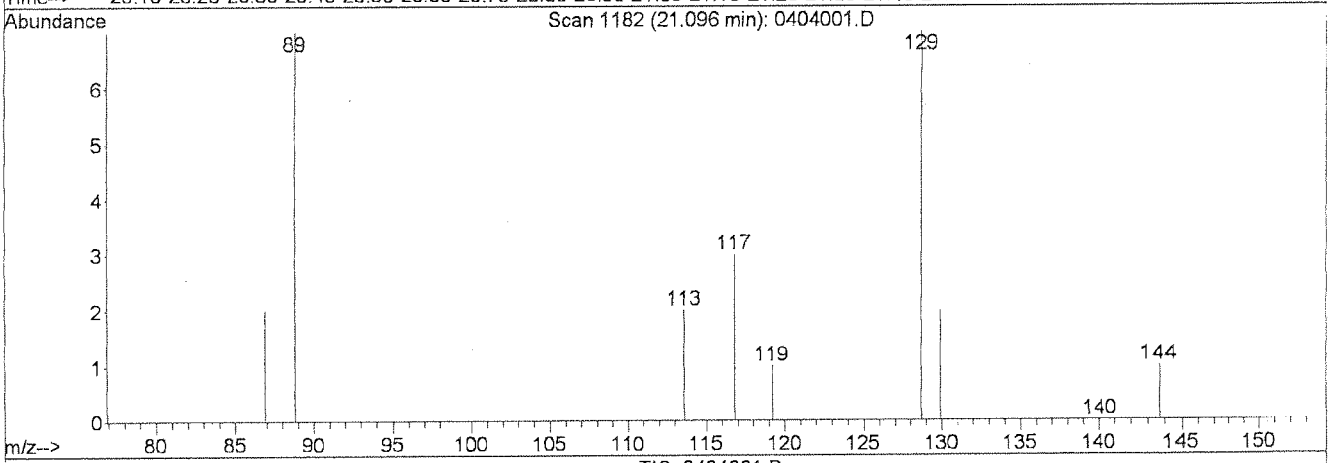
04/05/13

0404001.D 040413_D14.M Fri Apr 05 13:06:12 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration





TIC: 0404001.D

(7) NDPA (m)

21.10min 0.00ug/L

response 0

Ion	Exp%	Act%
89.00	100	0.00
131.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

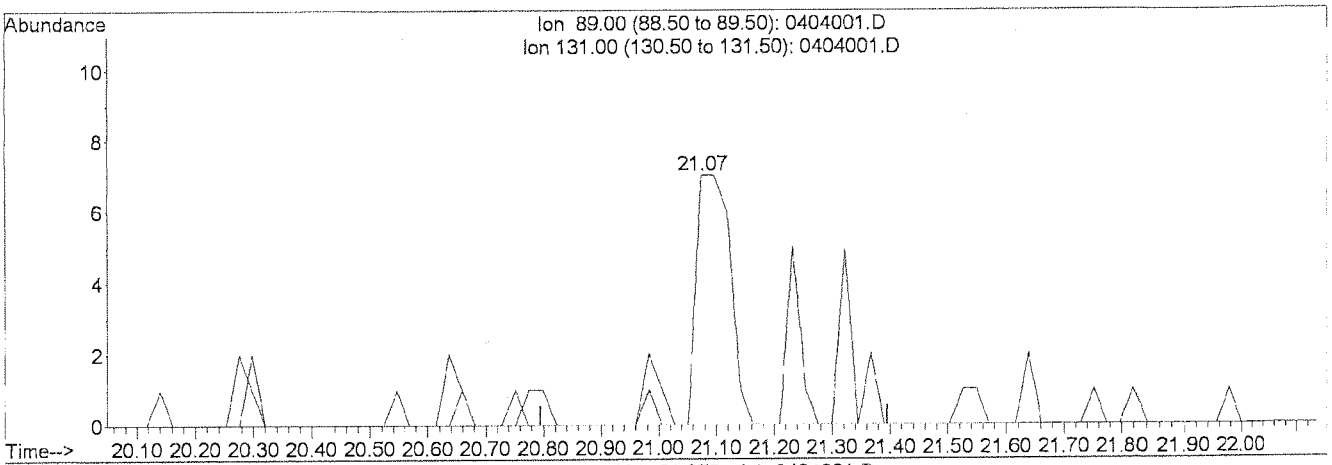
Manual Integration:

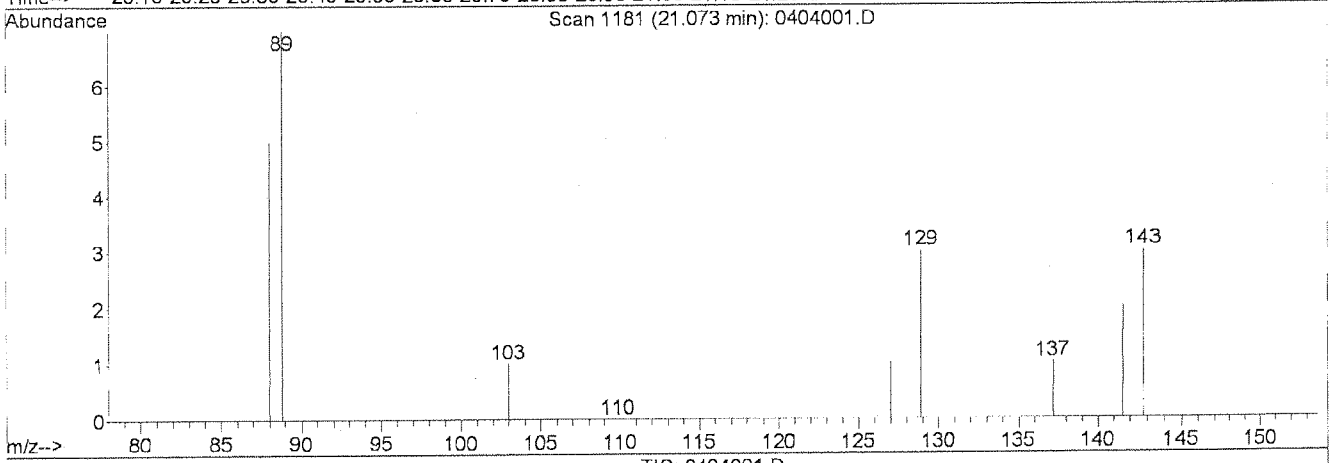
Before

0404001.D 040413_D14.M Fri Apr 05 13:06:15 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration





TIC: 0404001.D

(7) NDPA (m)

21.07min 0.35ug/L m

response 29

Ion	Exp%	Act%
89.00	100	100
131.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Missed Peak

04/05/13

0404001.D 040413_D14.M Fri Apr 05 13:06:21 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

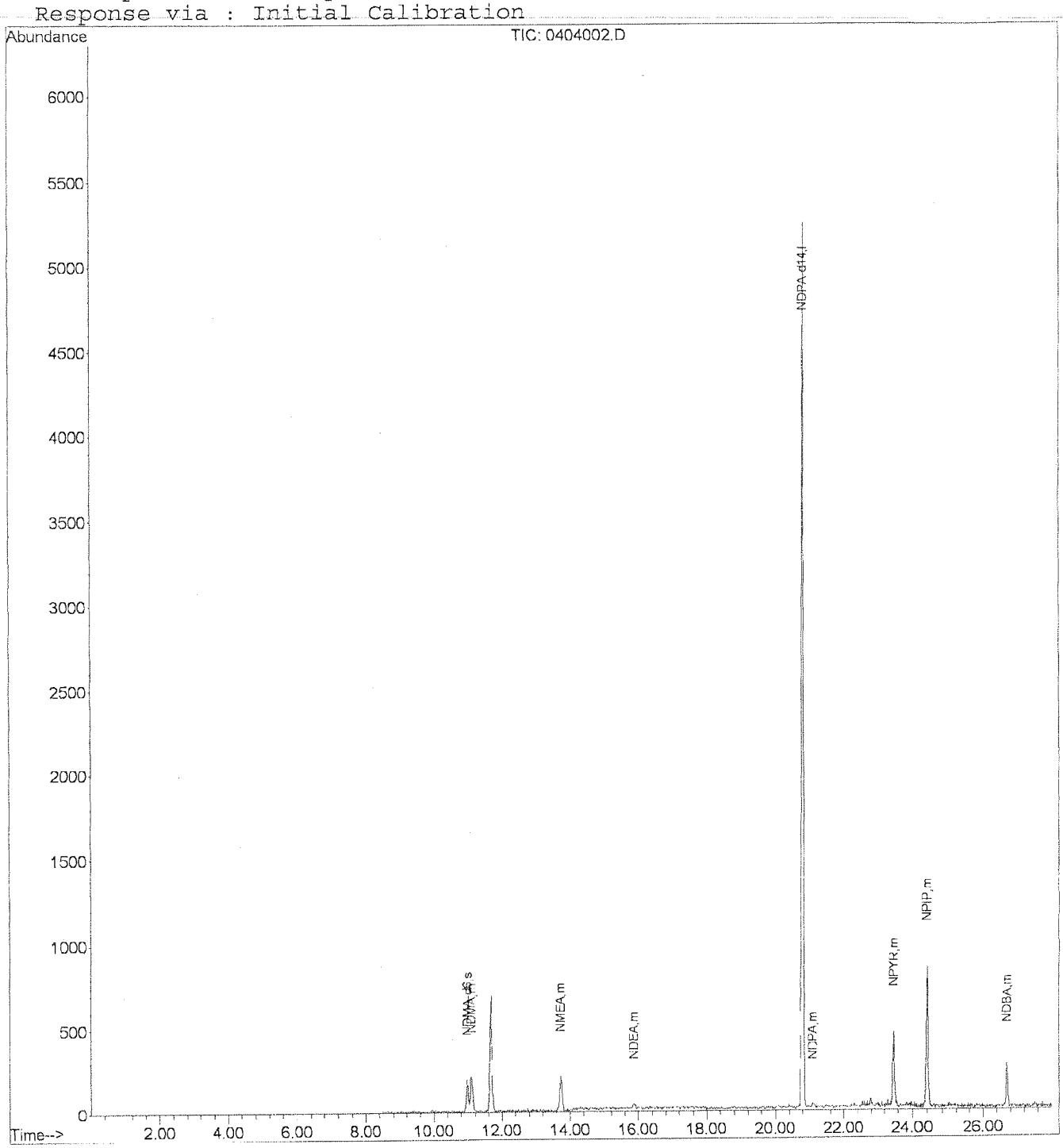
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	11737	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	596	0.92	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	580	0.68	ug/L	82
5) NMEA	13.72	61	953	0.97	ug/L	100
6) NDEA	15.86	75	123	0.90	ug/L	100
7) NDPA	21.10	89	39m	0.44	ug/L	
8) NPYR	23.47	55	1116	0.87	ug/L	96
9) NPIP	24.39	69	2357	0.92	ug/L	100
10) NDBA	26.69	57	506	0.83	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404002.D 040413_D14.M Fri Apr 05 13:32:06 2013 Page 1

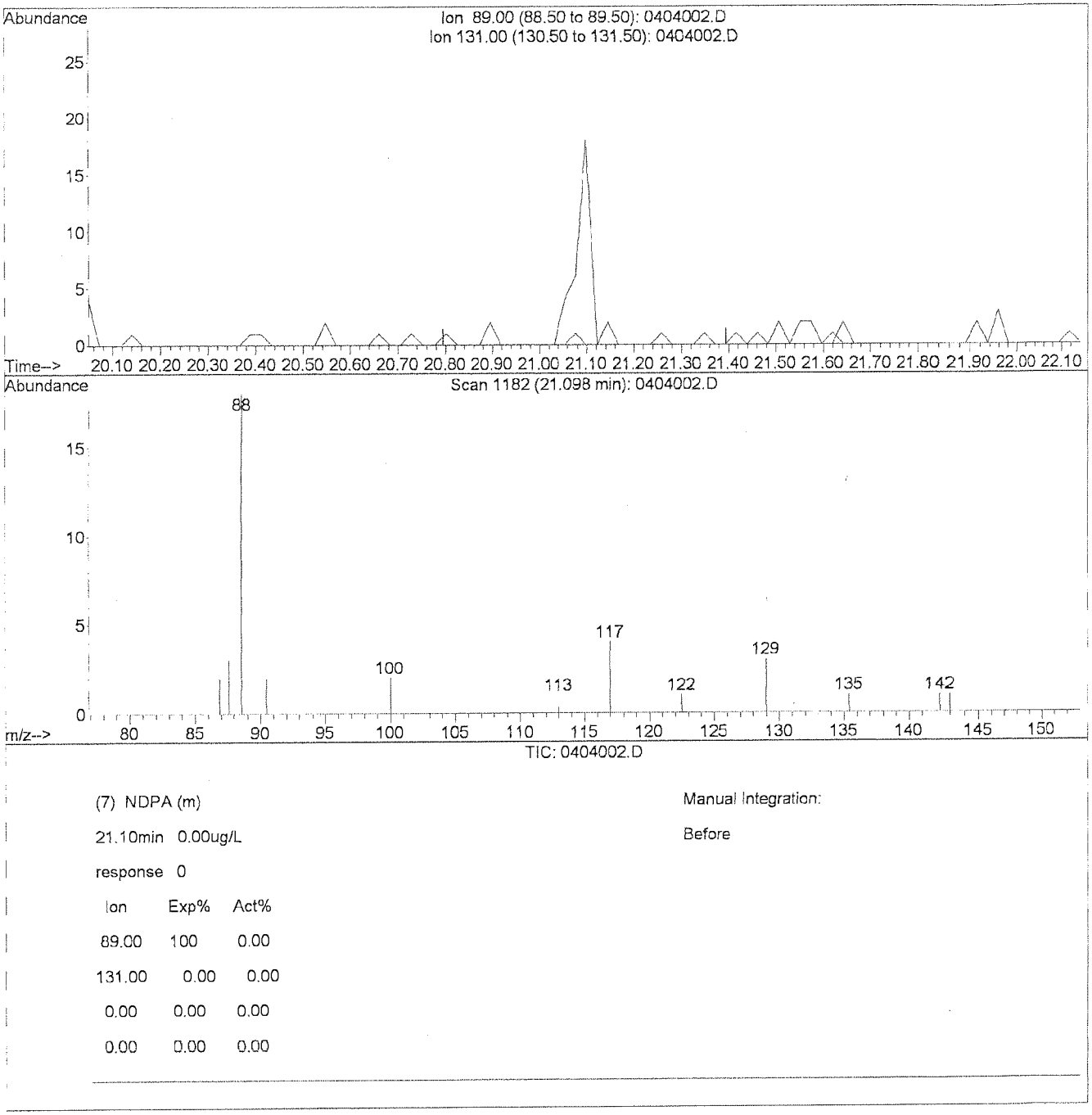
Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



(7) NDPA (m)

21.10min 0.00ug/L

response 0

Ion	Exp%	Act%
89.00	100	0.00
131.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

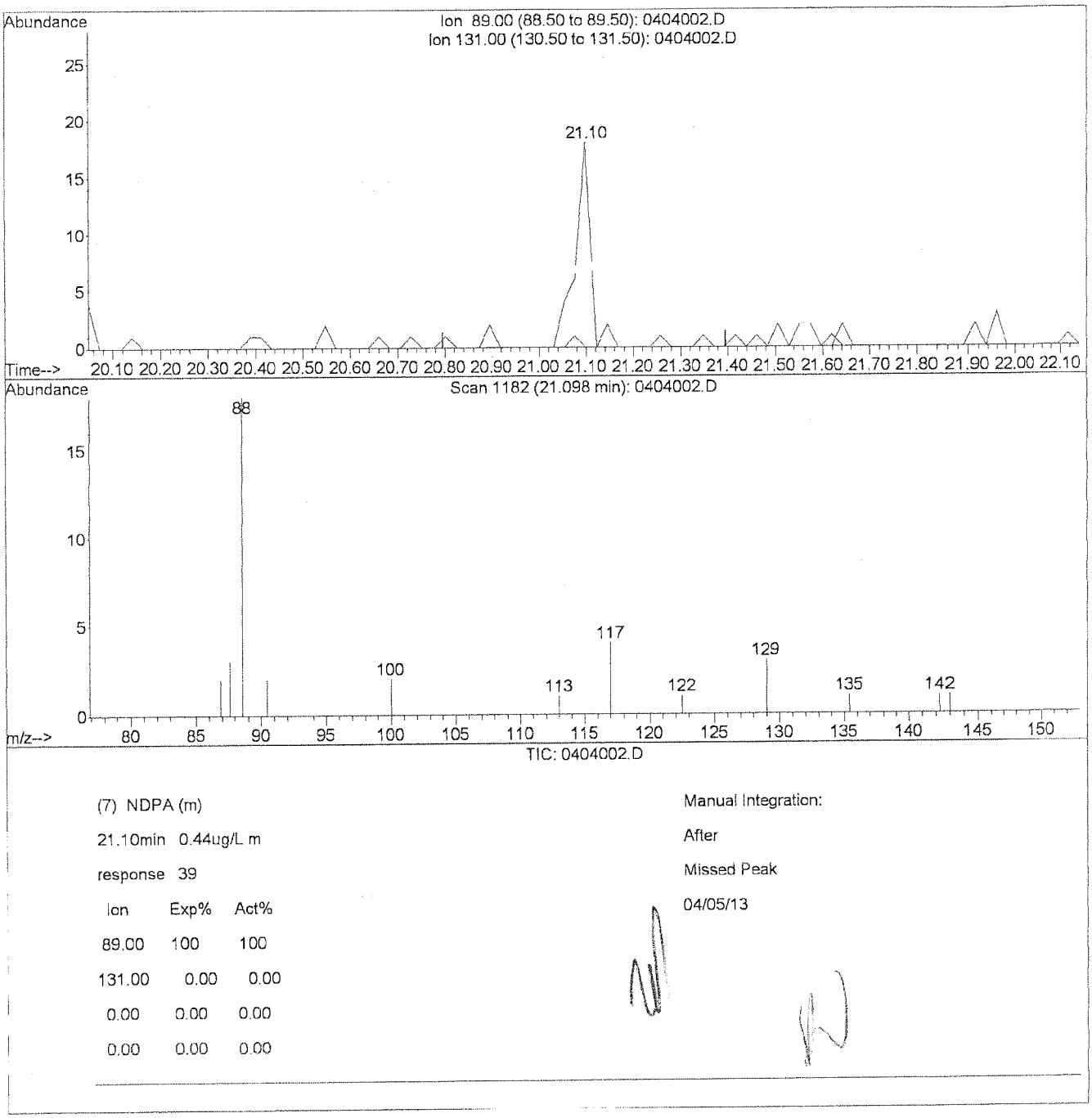
Manual Integration:

Before

0404002.D 040413_D14.M Fri Apr 05 13:06:44 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



0404002.D 040413_D14.M Fri Apr 05 13:06:53 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404003.D Vial: 3
Acq On : 04 Apr 13 22:41 Operator: SVO-DW
Sample : DWSTD06-44H@2.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

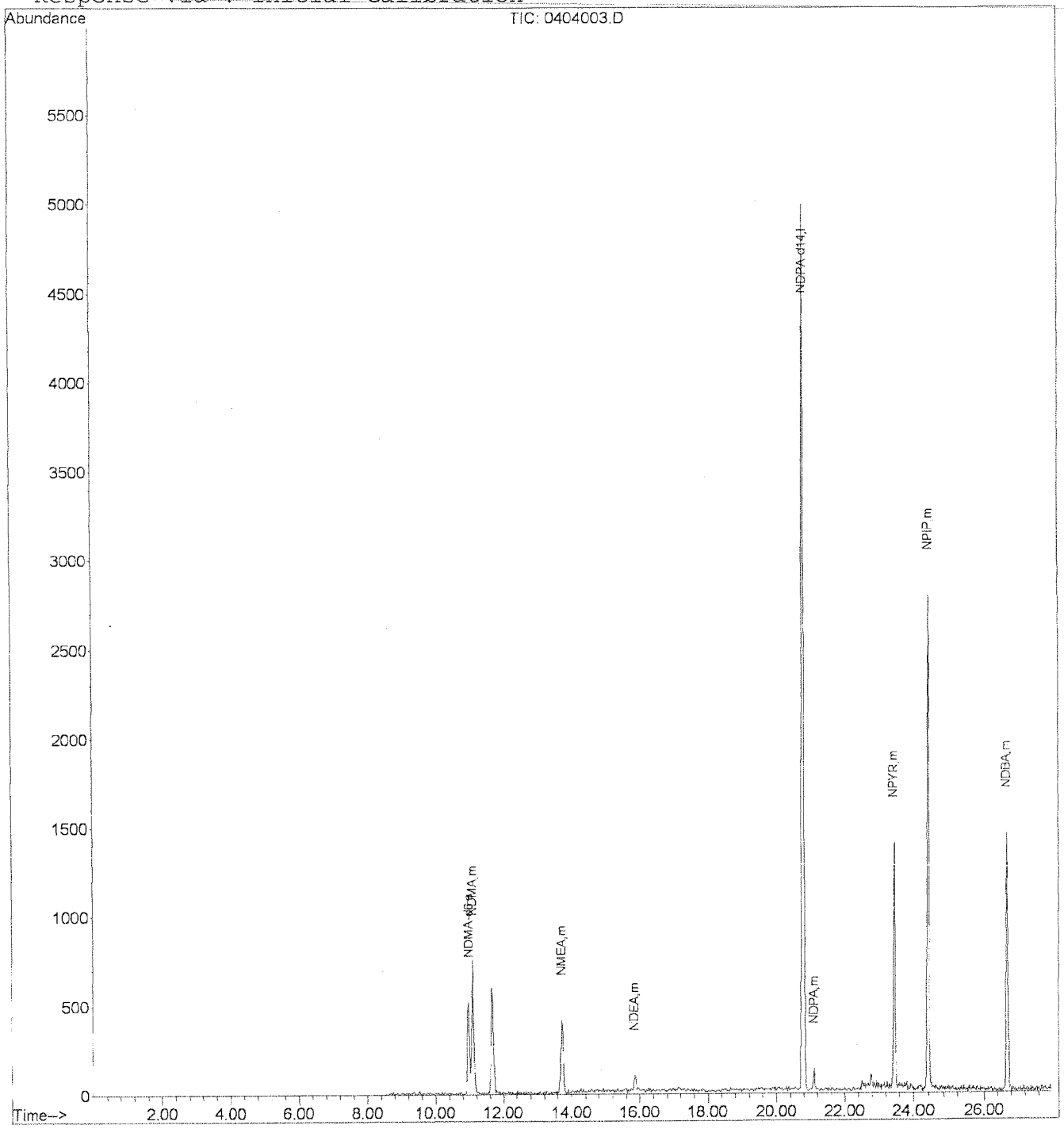
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	12543	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	1508	2.11	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	1624	1.78	ug/L	75
5) NMEA	13.72	61	1948	1.84	ug/L	99
6) NDEA	15.86	75	263	1.78	ug/L	100
7) NDPA	21.10	89	196	1.82	ug/L	100
8) NPYR	23.46	55	3682	2.16	ug/L	96
9) NPIP	24.39	69	8008	2.27	ug/L	100
10) NDBA	26.68	57	2601	1.85	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404003.D 040413_D14.M Fri Apr 05 13:32:08 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404003.D Vial: 3
Acq On : 04 Apr 13 22:41 Operator: SVO-DW
Sample : DWSTD06-44H@2.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404004.D Vial: 4
Acq On : 04 Apr 13 23:24 Operator: SVO-DW
Sample : DWSTD06-44G@5.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

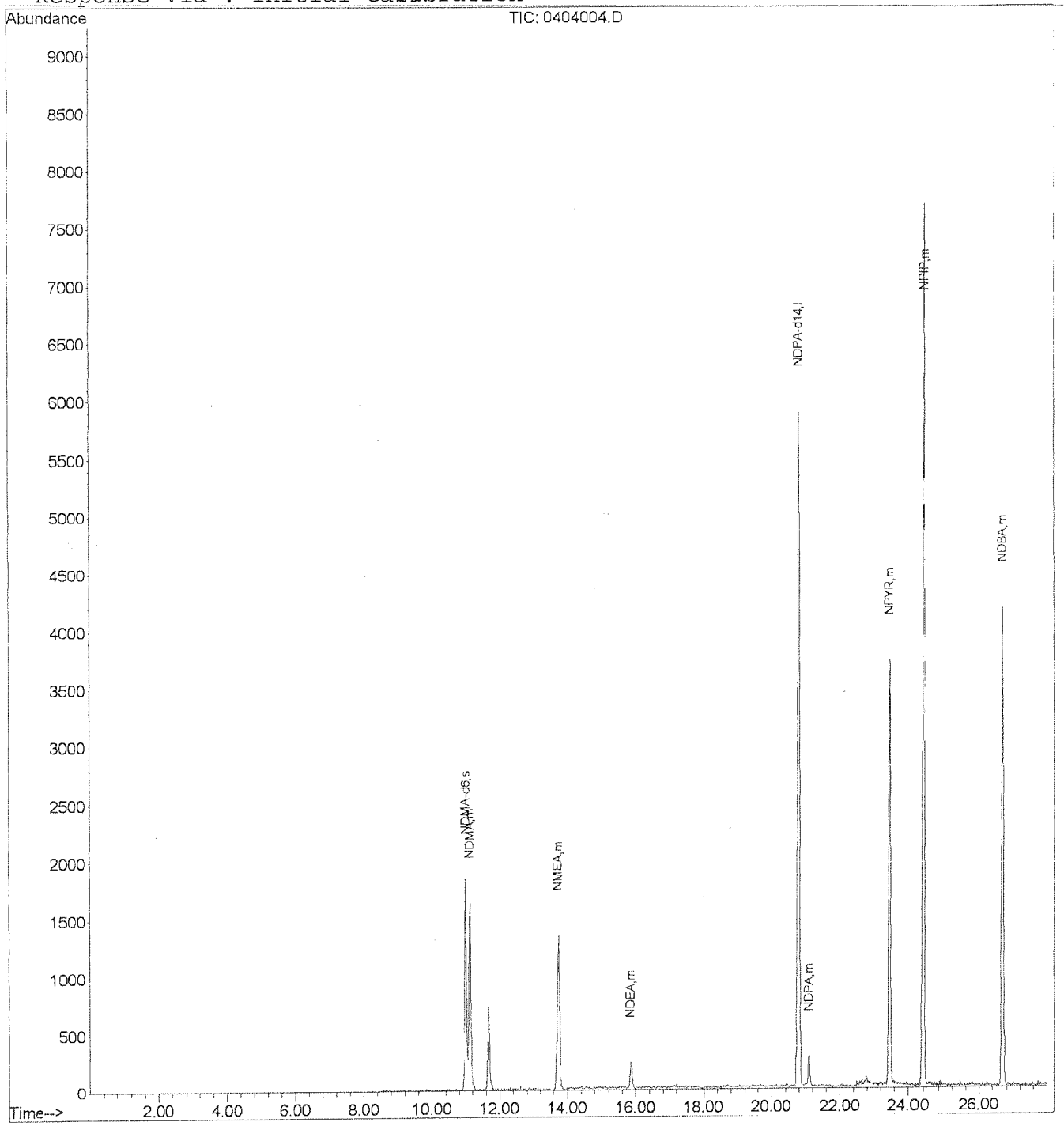
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	14495	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	4625	5.14	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.12	47	4355	4.13	ug/L	77
5) NMEA	13.73	61	5848	4.62	ug/L	99
6) NDEA	15.86	75	811	4.59	ug/L	100
7) NDPA	21.10	89	652	4.35	ug/L	100
8) NPYR	23.46	55	10726	4.93	ug/L	96
9) NPIP	24.39	69	21389	4.78	ug/L	100
10) NDBA	26.68	57	8713	4.27	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404004.D 040413_D14.M Fri Apr 05 13:32:10 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404004.D Vial: 4
Acq On : 04 Apr 13 23:24 Operator: SVO-DW
Sample : DWSTD06-44G@5.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404005.D Vial: 5
Acq On : 05 Apr 2013 00:06 Operator: SVO-DW
Sample : DWSTD06-44F@7.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

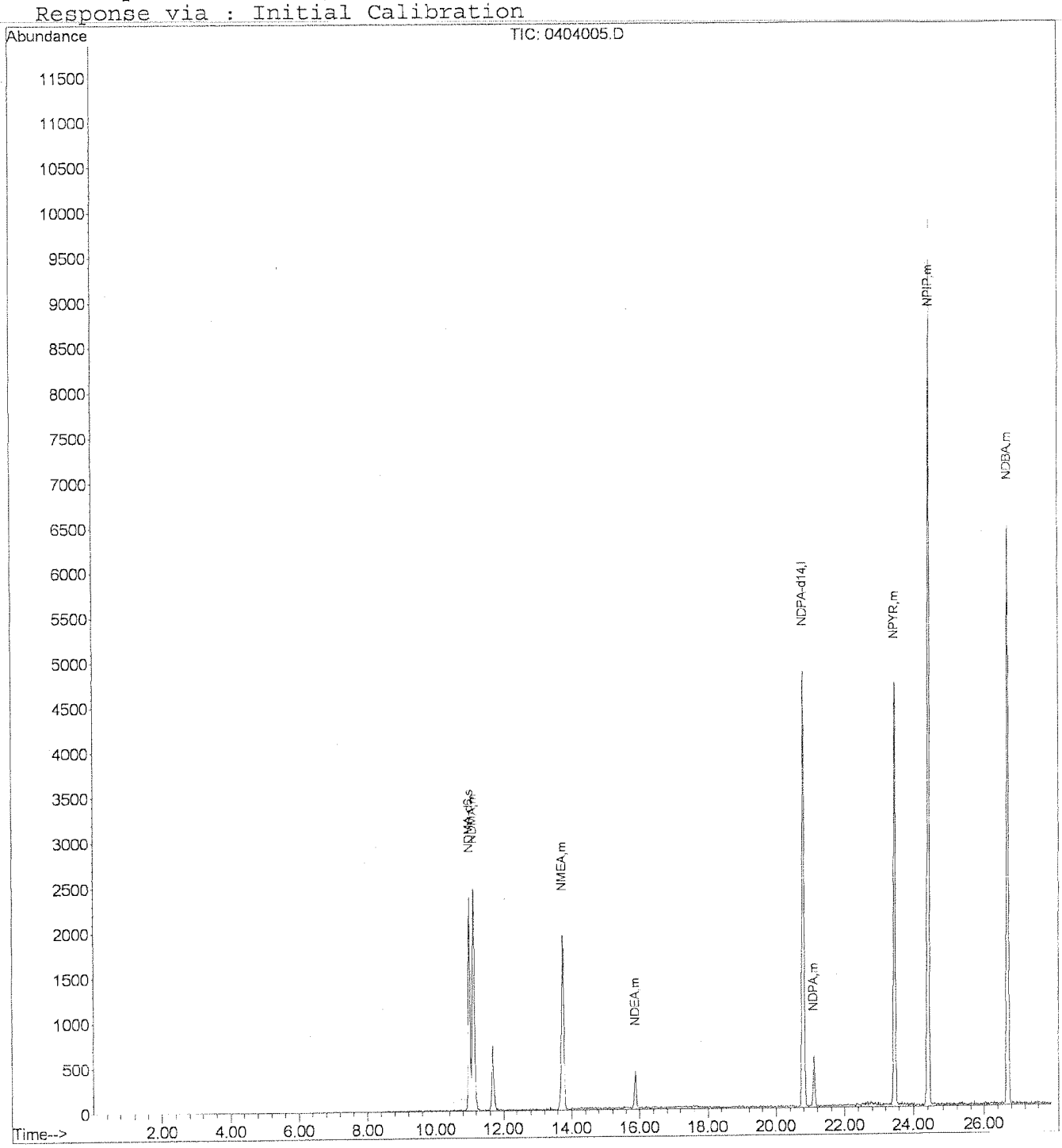
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	12659	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	6228	7.47	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	6414	6.93	ug/L	79
5) NMEA	13.73	61	8398	7.36	ug/L	99
6) NDEA	15.87	75	1227	7.65	ug/L	100
7) NDPA	21.10	89	1267	7.83	ug/L	100
8) NPYR	23.47	55	12630	6.45	ug/L	96
9) NPIP	24.40	69	25551	6.37	ug/L	100
10) NDBA	26.69	57	14909	7.75	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404005.D 040413_D14.M Fri Apr 05 13:32:11 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404005.D Vial: 5
Acq On : 05 Apr 2013 00:06 Operator: SVO-DW
Sample : DWSTD06-44F@7.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

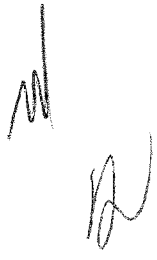
Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404006.D Vial: 6
Acq On : 05 Apr 2013 00:48 Operator: SVO-DW
Sample : DWSTD06-44E@ 10ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:29 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

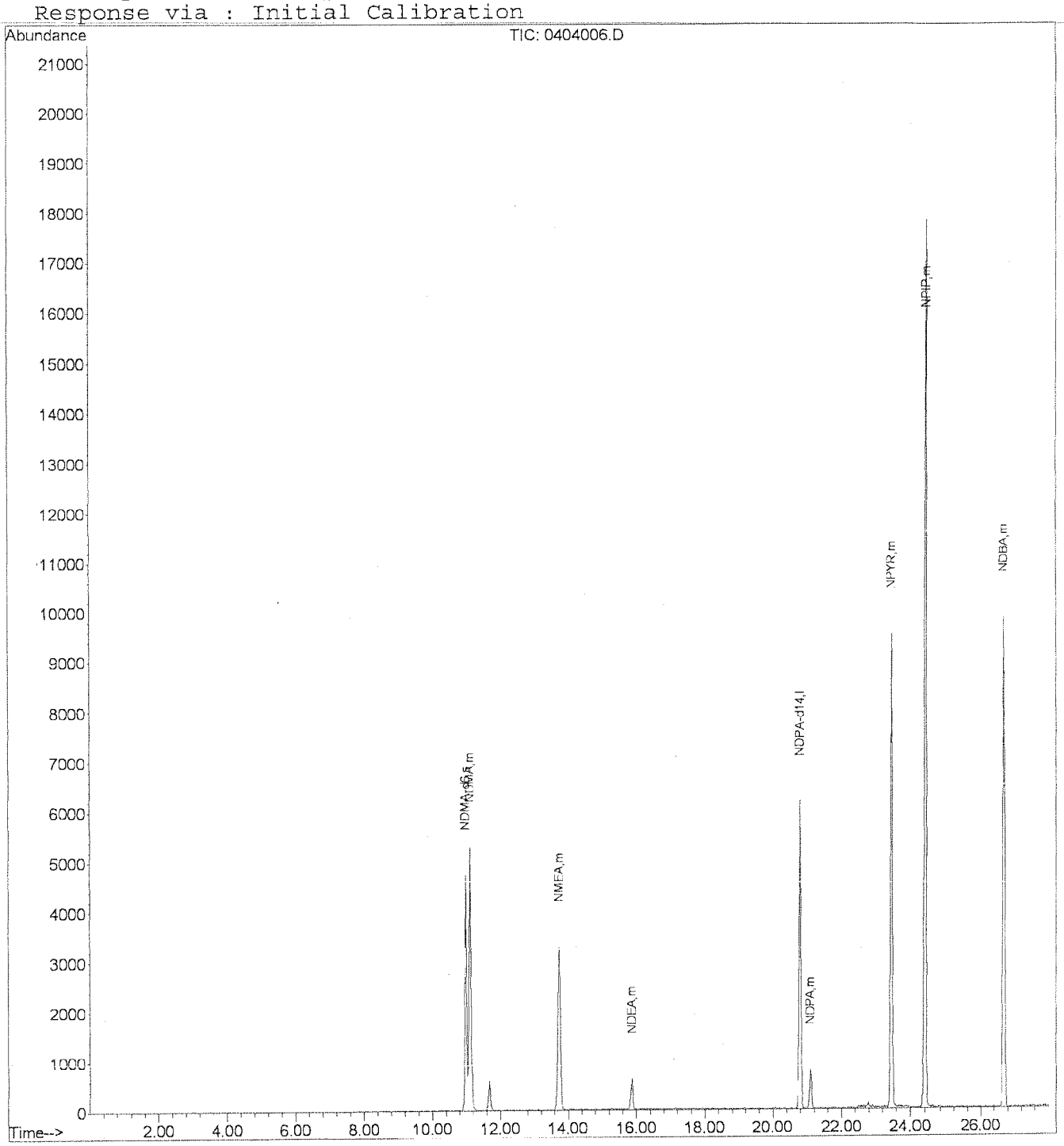
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	15387	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	12352	11.15	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	12774	11.28	ug/L	76
5) NMEA	13.73	61	15098	10.50	ug/L	99
6) NDEA	15.86	75	1979	9.88	ug/L	100
7) NDPA	21.08	89	2445	10.73	ug/L	100
8) NPYR	23.46	55	25977	10.29	ug/L	96
9) NPIP	24.39	69	52695	10.33	ug/L	100
10) NDBA	26.67	57	24974	10.39	ug/L	100



(#) = qualifier out of range (m) = manual integration
0404006.D 040413_D14.M Fri Apr 05 13:32:13 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404006.D Vial: 6
Acq On : 05 Apr 2013 00:48 Operator: SVO-DW
Sample : DWSTD06-44E@ 10ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404007.D Vial: 7
Acq On : 05 Apr 2013 01:30 Operator: SVO-DW
Sample : DWSTD06-44D@ 15ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:29 2013 Quant Results File: 040413_D14.RES

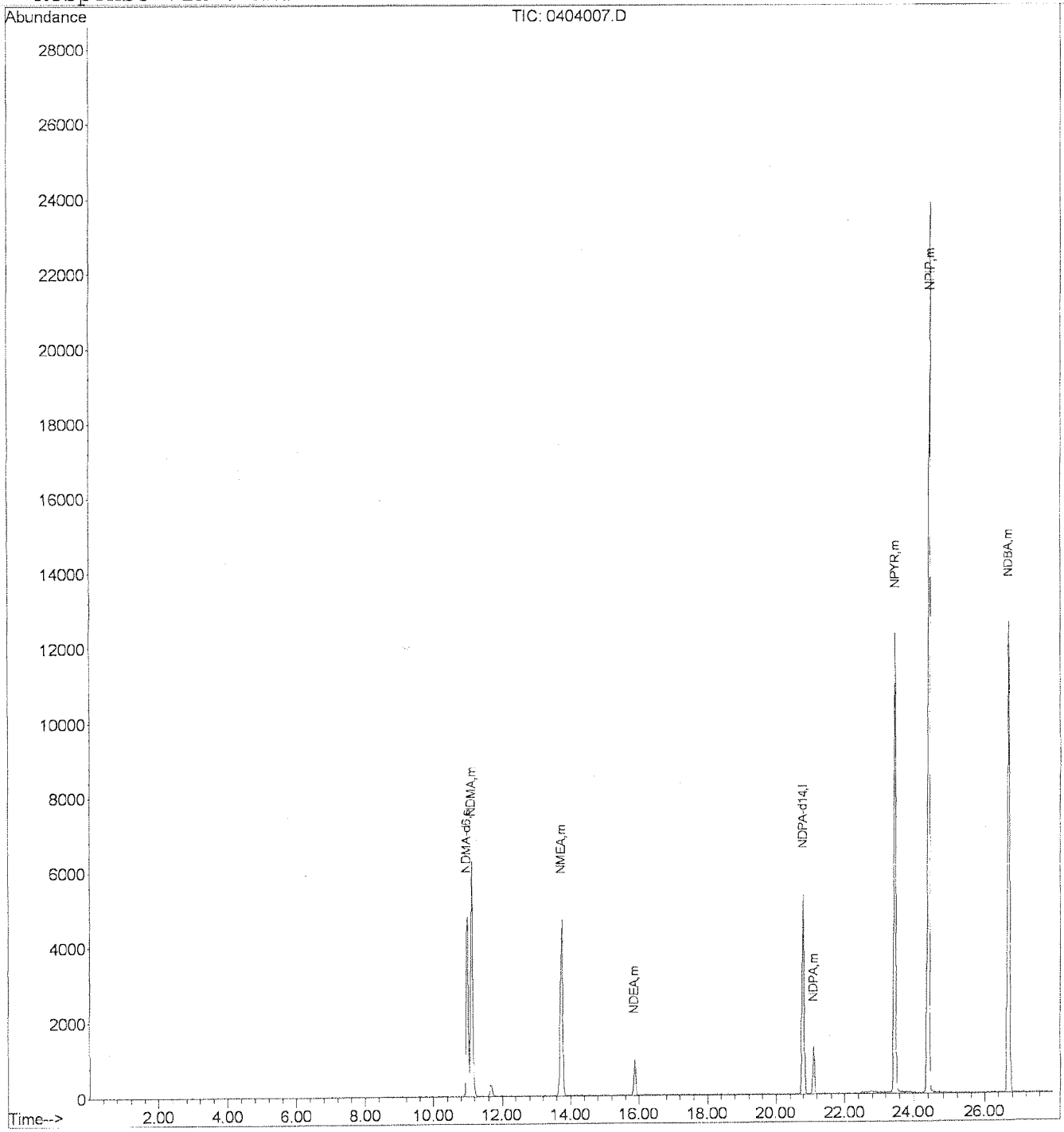
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	13694	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.97	50	13343	12.99	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.11	47	14540	14.36	ug/L	77
5) NMEA	13.73	61	20415	15.15	ug/L	99
6) NDEA	15.86	75	3137	16.35	ug/L	100
7) NDPA	21.10	89	3469	14.51	ug/L	100
8) NPYR	23.46	55	36357	15.22	ug/L	96
9) NPIP	24.39	69	72626	15.36	ug/L	100
10) NDBA	26.68	57	33302	15.08	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404007.D 040413_D14.M Fri Apr 05 13:32:14 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404007.D Vial: 7
Acq On : 05 Apr 2013 01:30 Operator: SVO-DW
Sample : DWSTD06-44D@ 15ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



0404007.D 040413_D14.M Fri Apr 05 13:32:14 2013 Page 2

Data File : J:\MS16\DATA\040413-521ICAL\0404008.D Vial: 8
Acq On : 05 Apr 2013 02:12 Operator: SVO-DW
Sample : DWSTD06-44C@ 20ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:29 2013 Quant Results File: 040413_D14.RES

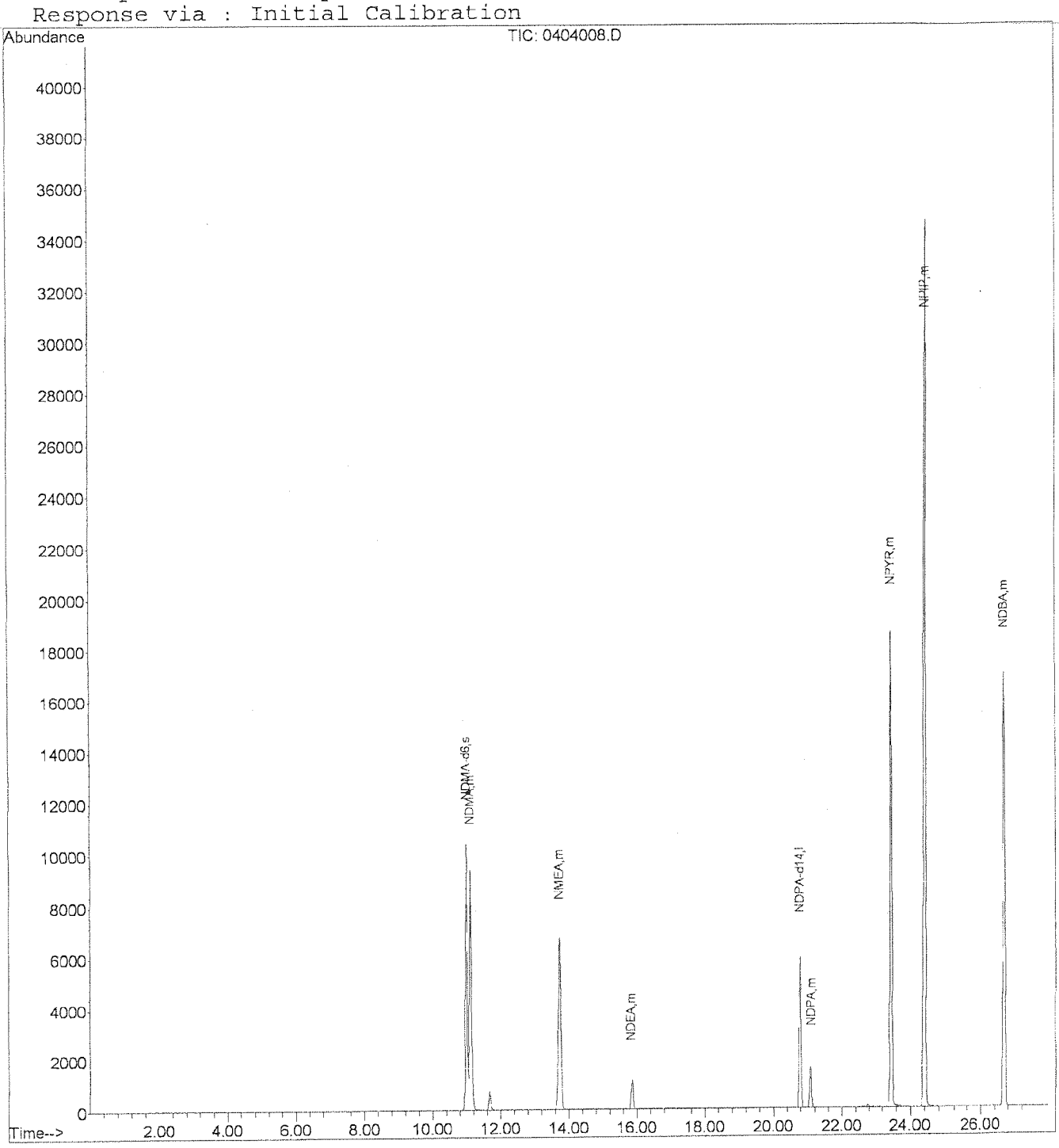
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	14954	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	26606	20.40	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	22507	20.17	ug/L	79
5) NMEA	13.71	61	30340	19.67	ug/L	100
6) NDEA	15.84	75	4104	19.02	ug/L	100
7) NDPA	21.10	89	4230	15.55	ug/L	100
8) NPYR	23.45	55	54625	19.88	ug/L	96
9) NPIP	24.39	69	105526	19.81	ug/L	100
10) NDBA	26.68	57	48567	19.70	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404008.D 040413_D14.M Fri Apr 05 13:32:16 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404008.D Vial: 8
Acq On : 05 Apr 2013 02:12 Operator: SVO-DW
Sample : DWSTD06-44C@ 20ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404009.D Vial: 9
Acq On : 05 Apr 2013 02:55 Operator: SVO-DW
Sample : DWSTD06-36F ICV@10p Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:31:30 2013 Quant Results File: 040413_D14.RES

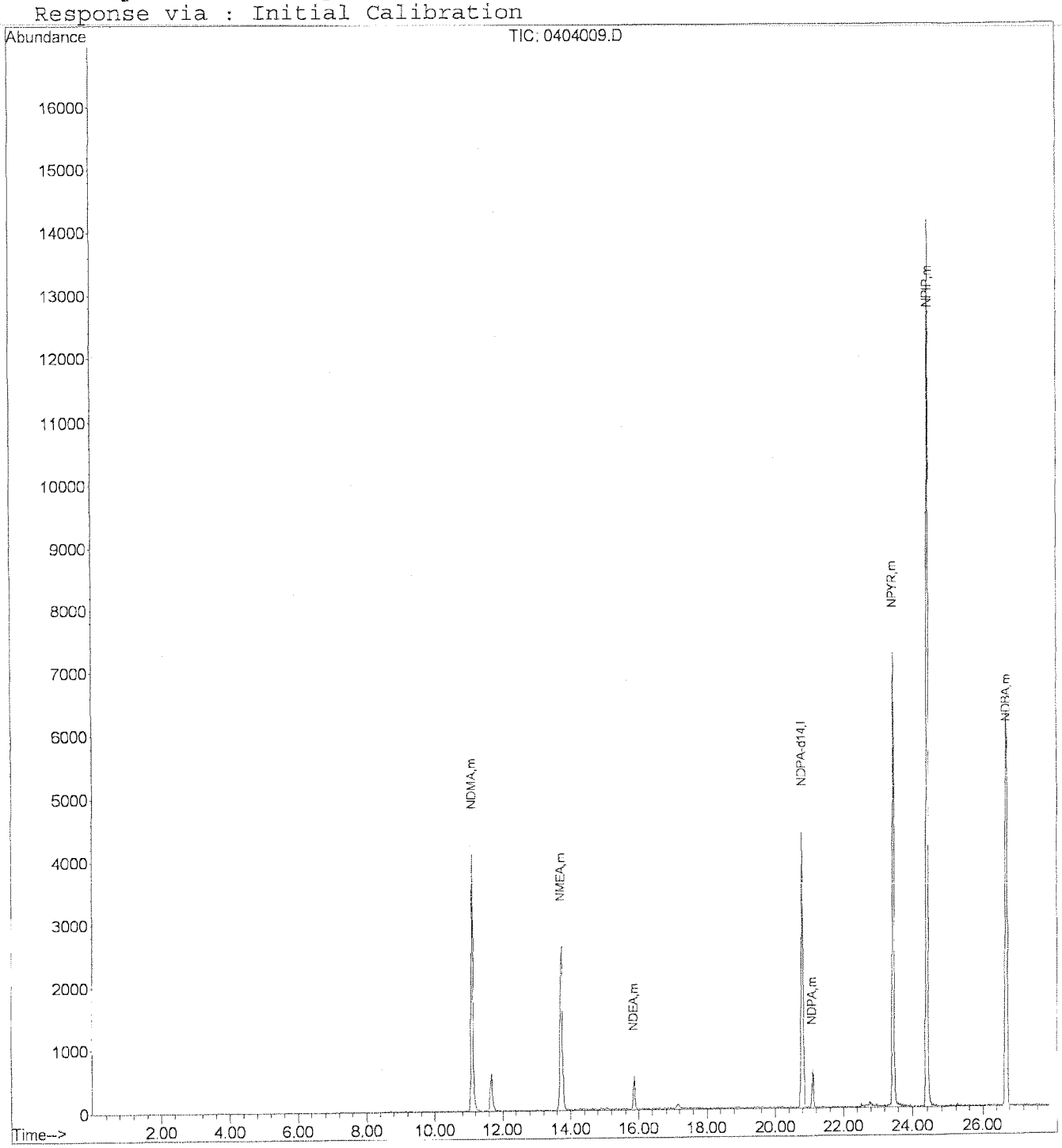
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:26:01 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	11468	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	0.00	50	0	0.00	ug/L	
Target Compounds						Qvalue
4) NDMA	11.10	47	9246	10.98	ug/L	80
5) NMEA	13.73	61	12049	11.16	ug/L	100
6) NDEA	15.86	75	1863	12.16	ug/L	100
7) NDPA	21.08	89	1840	10.79	ug/L	100
8) NPYR	23.45	55	20284	10.72	ug/L	97
9) NPIP	24.40	69	38938	10.52	ug/L	100
10) NDBA	26.70	57	17269	9.70	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404009.D 040413_D14.M Fri Apr 05 13:32:17 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404009.D Vial: 9
Acq On : 05 Apr 2013 02:55 Operator: SVO-DW
Sample : DWSTD06-36F ICV@10p Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:33 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/03/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304578
Units: ug/L

File ID: J:\MS16\DATA\050313-521\0503001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	0.60		3.30	1.63	NA	-40	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.49		3.40	1.77	NA	-51 *	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Exception Report

Data File: J:\MS16\DATA\050313-521\0503001.D
Lab ID: KWG1304578-2
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/03/2013 16:11
Date Quantitated: 05/03/2013 19:03
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	
	N-Nitrosodiethylamine	0.9866	0.99	NA	
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	
Internal Standards	N-Nitrosodi-n-propylamine-d14	17079	8215.9	15258.1	ISTD out
	N-Nitrosodiethylamine-d10	0	0	0	1

Primary Review: _____

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503001.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 16:11	**Quant Date:**	05/03/2013 19:03	**Vial:**	1
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304578-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/14/2013

Analysis Lot:	KWG1304578	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\050313-521\0503.D			**Method ID:**	MJ808
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	17079	50.00	*
1	N-Nitrosodiethylamine-d10			81	0		*

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	N-Nitrosodimethylamine-d6	10.96			50	556	0.6000		70-130	NA

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.07			47	604	0.4900			
1	N-Nitrosomethylethylamine	13.68			61	867	0.6100			
1	N-Nitrosodiethylamine	15.82			75	200	0.9800			
1	N-Nitrosodi-n-propylamine	21.05			89	210	1.77			
1	N-Nitrosopyrrolidine	23.40			55	2094	1.05			
1	N-Nitrosopiperidine	24.34			69	4639	1.07			
1	N-Nitrosodi-n-butylamine	26.62			57	1248	1.02			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503001.D Vial: 1
Acq On : 03 May 13 16:11 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 03 19:01:23 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

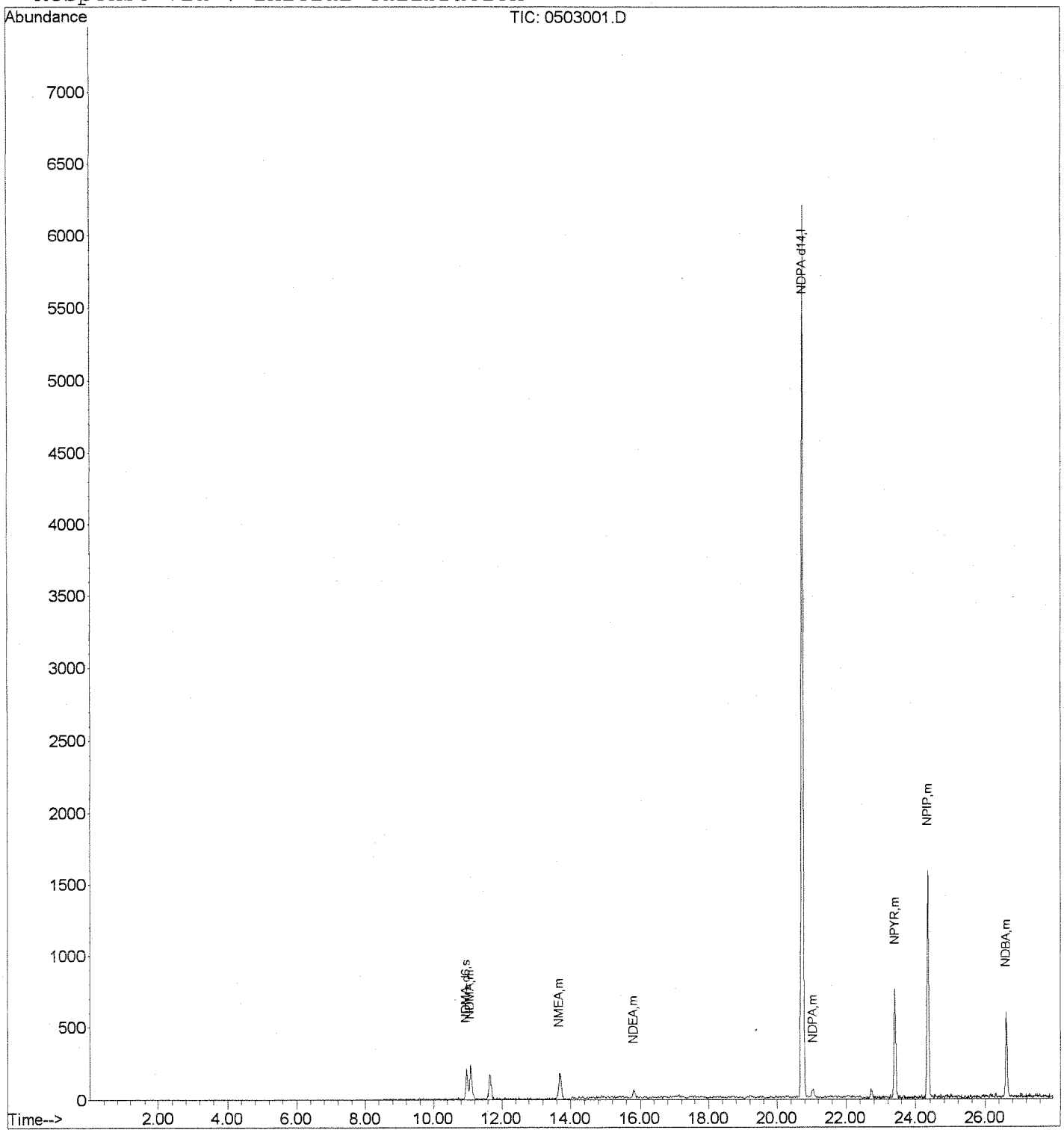
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	17079	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	556	0.60	ug/L	-0.03
Target Compounds						Qvalue
4) NDMA	11.07	47	604	0.49	ug/L	83
5) NMEA	13.68	61	867	0.61	ug/L	99
6) NDEA	15.82	75	200	0.98	ug/L	100
7) NDPA	21.05	89	210	1.77	ug/L	100
8) NPYR	23.40	55	2094	1.05	ug/L	96
9) NPIP	24.34	69	4639	1.07	ug/L	100
10) NDBA	26.62	57	1248	1.02	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503001.D 040413_D14.M Tue May 14 16:13:40 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503001.D Vial: 1
Acq On : 03 May 13 16:11 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 3 19:03 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/03/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304578
Units: ug/L

File ID: J:\MS16\DATA\050313-521\0503007.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	6.1		3.30	3.86	NA	21	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	5.0		3.40	3.62	NA	0	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Exception Report

Data File: J:\MS16\DATA\050313-521\0503007.D
Lab ID: KWG1304578-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/03/2013 20:24
Date Quantitated: 05/07/2013 18:46
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MRR/MA
	N-Nitrosodiethylamine	0.9866	0.99	NA	MT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	b

Primary Review: AV 5/14/13

Secondary Review: [signature]

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503007.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 20:24	**Quant Date:**	05/07/2013 18:46	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304578-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/14/2013

Analysis Lot:	KWG1304578	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.74	-0.04	97	17670	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96			50	6814	6.06		70-130	NA	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.07			47	6404	4.99			
1	N-Nitrosomethylethylamine	13.69			61	8702	5.58			
1	N-Nitrosodiethylamine	15.83			75	1141	5.17			
1	N-Nitrosodi-n-propylamine	21.04			89	1127	5.33			
1	N-Nitrosopyrrolidine	23.40			55	14065	5.26			
1	N-Nitrosopiperidine	24.34			69	28983	5.34			
1	N-Nitrosodi-n-butylamine	26.63			57	11753	4.66			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503007.D Vial: 2
Acq On : 03 May 13 20:24 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 18:43:49 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

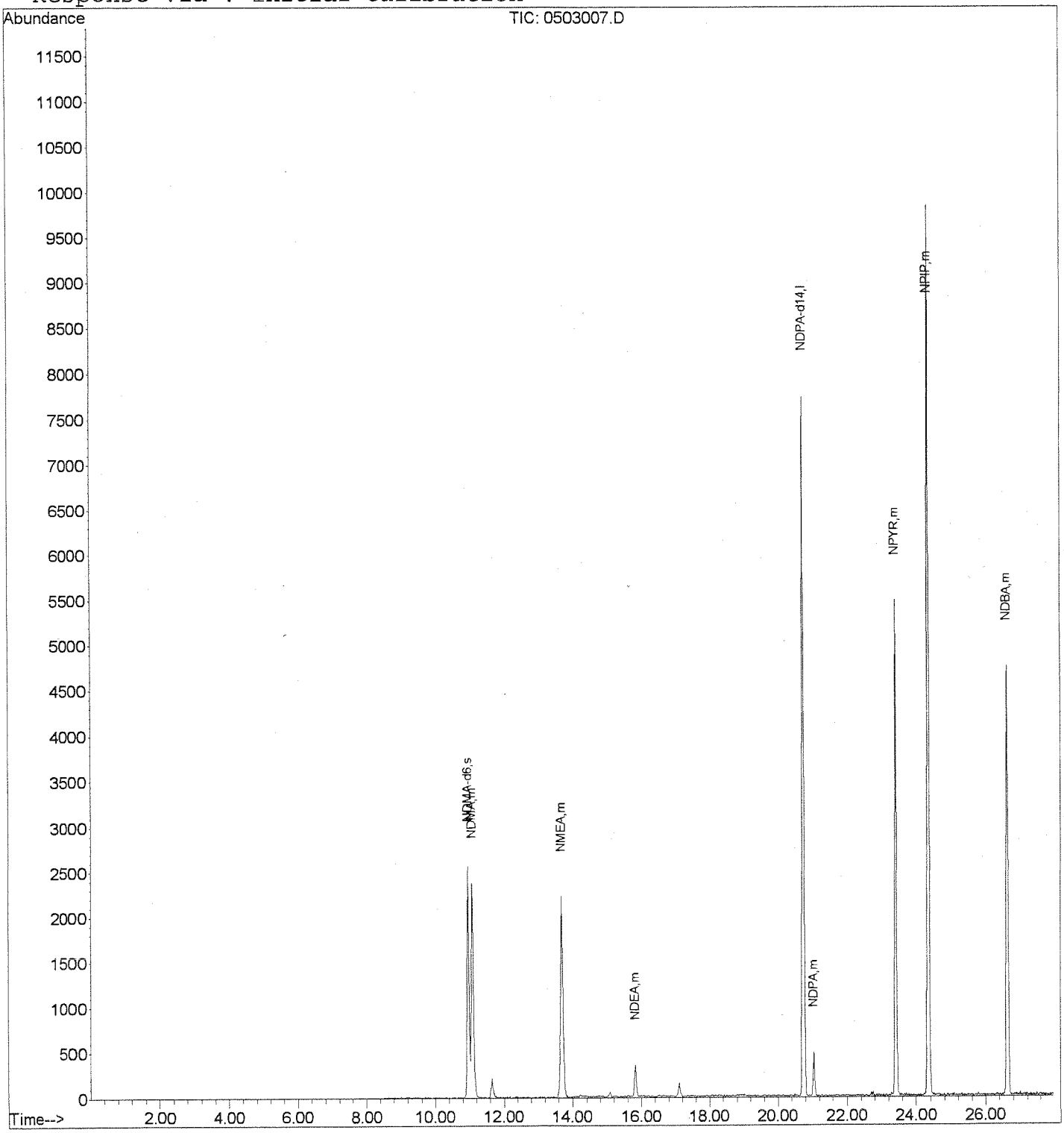
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.74	97	17670	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	6814	6.06	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.07	47	6404	4.99	ug/L	75
5) NMEA	13.69	61	8702	5.58	ug/L	100
6) NDEA	15.83	75	1141	5.17	ug/L	100
7) NDPA	21.04	89	1127	5.33	ug/L	100
8) NPYR	23.40	55	14065	5.26	ug/L	96
9) NPIP	24.34	69	28983	5.34	ug/L	100
10) NDBA	26.63	57	11753	4.66	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503007.D 040413_D14.M Tue May 14 16:13:46 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503007.D Vial: 2
Acq On : 03 May 13 20:24 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 18:46 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/03/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304578
Units: ug/L

File ID: J:\MS16\DATA\050313-521\0503010.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	10	11		3.30	3.72	NA	5	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	10	9.4		3.40	3.44	NA	-6	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound**

‡ **CCC Compound**

Exception Report

Data File: J:\MS16\DATA\050313-521\0503010.D
Lab ID: KWG1304578-4
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/03/2013 22:31
Date Quantitated: 05/07/2013 18:46
Batch ID: KWG1304578
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA R2 LMA
	N-Nitrosodiethylamine	0.9866	0.99	NA	NA
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	↓

Primary Review: 05/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050313-521\0503010.D			**Instrument:**	MS16
Acqu Date:	05/03/2013 22:31	**Quant Date:**	05/07/2013 18:46	**Vial:**	3
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304578-4			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/14/2013

Analysis Lot:	KWG1304578	**Prep Lot:**	**Report Group:**
Analysis Method:	521	**Prep Method:**	
Prep Ref:		**Prep Date:**	

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\050313-521\0503.D	**Method ID:**	MJ808
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	19710	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.95			50	14679	10.51		70-130	NA	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.07			47	13554	9.39			
1	N-Nitrosomethylethylamine	13.69			61	19336	10.50			
1	N-Nitrosodiethylamine	15.80			75	2555	9.87			
1	N-Nitrosodi-n-propylamine	21.03			89	2804	9.70			
1	N-Nitrosopyrrolidine	23.41			55	31629	9.84			
1	N-Nitrosopiperidine	24.34			69	65170	10.13			
1	N-Nitrosodi-n-butylamine	26.62			57	28150	9.24			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503010.D Vial: 3
Acq On : 03 May 13 22:31 Operator: SVO-DW
Sample : DWSTD06-44E CCV @10 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 07 18:43:50 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

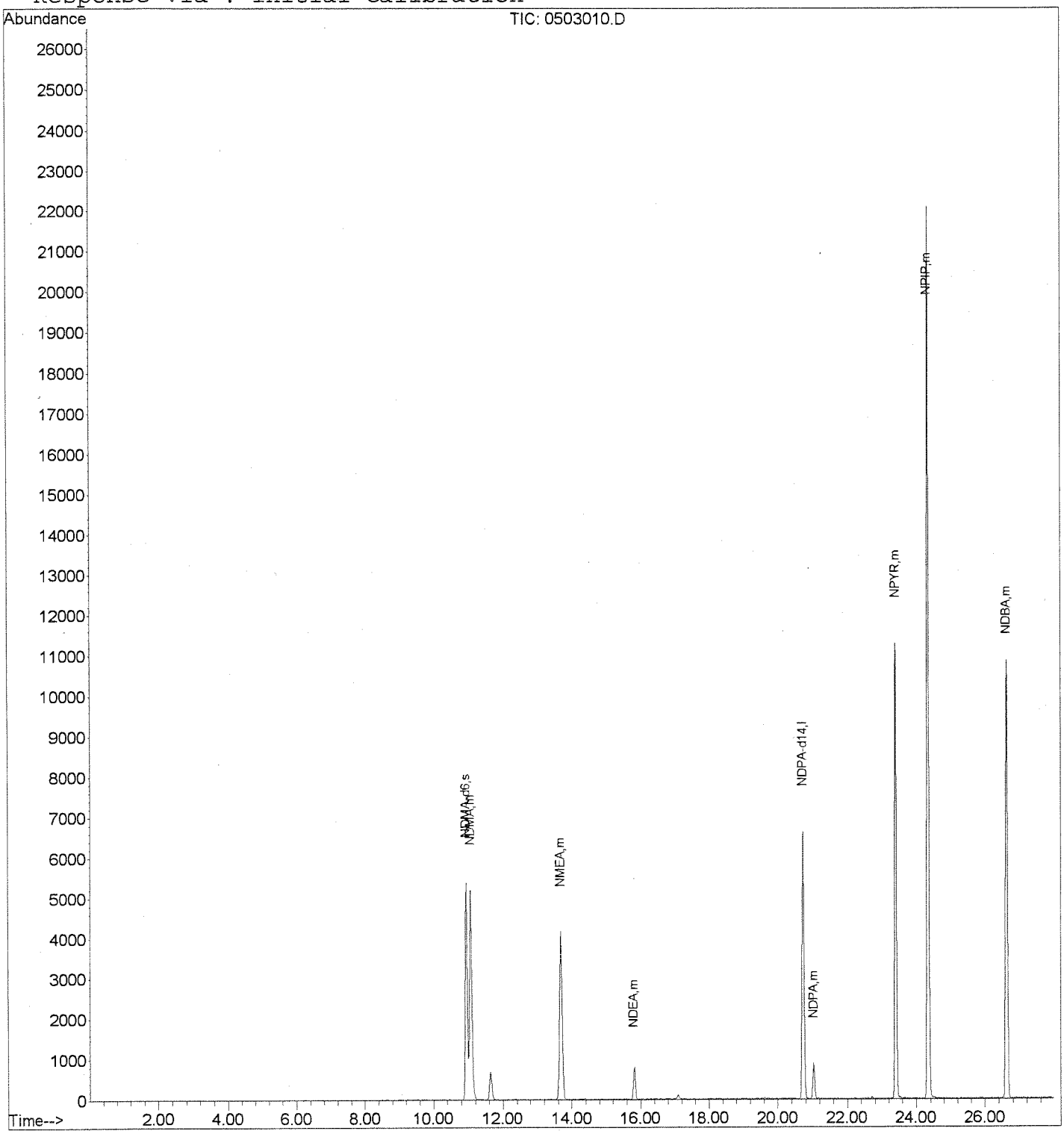
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	19710	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.95	50	14679	10.51	ug/L	-0.03
Target Compounds						Qvalue
4) NDMA	11.07	47	13554	9.39	ug/L	79
5) NMEA	13.69	61	19336	10.50	ug/L	99
6) NDEA	15.80	75	2555	9.87	ug/L	100
7) NDPA	21.03	89	2804	9.70	ug/L	100
8) NPYR	23.41	55	31629	9.84	ug/L	96
9) NPIP	24.34	69	65170	10.13	ug/L	100
10) NDBA	26.62	57	28150	9.24	ug/L	100

(#) = qualifier out of range (m) = manual integration
0503010.D 040413_D14.M Tue May 14 16:14:05 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050313-521\0503010.D Vial: 3
Acq On : 03 May 13 22:31 Operator: SVO-DW
Sample : DWSTD06-44E CCV @10 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 7 18:46 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/07/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304579
Units: ug/L

File ID: J:\MS16\DATA\050713-521\0507001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	0.90		3.30	2.49	NA	-10	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.68		3.40	2.45	NA	-32	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Exception Report

Data File: J:\MS16\DATA\050713-521\0507001.D
Lab ID: KWG1304579-2
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/07/2013 19:42
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NR
	N-Nitrosodiethylamine	0.9866	0.99	NA	NR
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	I
Internal Standards	N-Nitrosodi-n-propylamine-d14	16011	8215.9	15258.1	NA
	N-Nitrosodiethylamine-d10	0	0	0	↓

Primary Review: 5/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507001.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 19:42	**Quant Date:**	05/08/2013 20:57	**Vial:**	1
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304579-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/14/2013

Analysis Lot:	KWG1304579	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\050713-521\0507.D			**Method ID:**	MJ808
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.76	-0.02	97	16011	50.00	*
1	N-Nitrosodiethylamine-d10			81	0		*

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	N-Nitrosodimethylamine-d6	10.96			50	798	0.9000		70-130 NA	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10			47	786	0.6800			
1	N-Nitrosomethylethylamine	13.72			61	1182	0.8900			
1	N-Nitrosodiethylamine	15.84			75	153	0.8000			
1	N-Nitrosodi-n-propylamine	21.05			89	169	1.64			
1	N-Nitrosopyrrolidine	23.42			55	2119	1.12			
1	N-Nitrosopiperidine	24.36			69	4012	1.00			
1	N-Nitrosodi-n-butylamine	26.65			57	1117	1.00			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507001.D Vial: 1
Acq On : 07 May 13 19:42 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:19 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

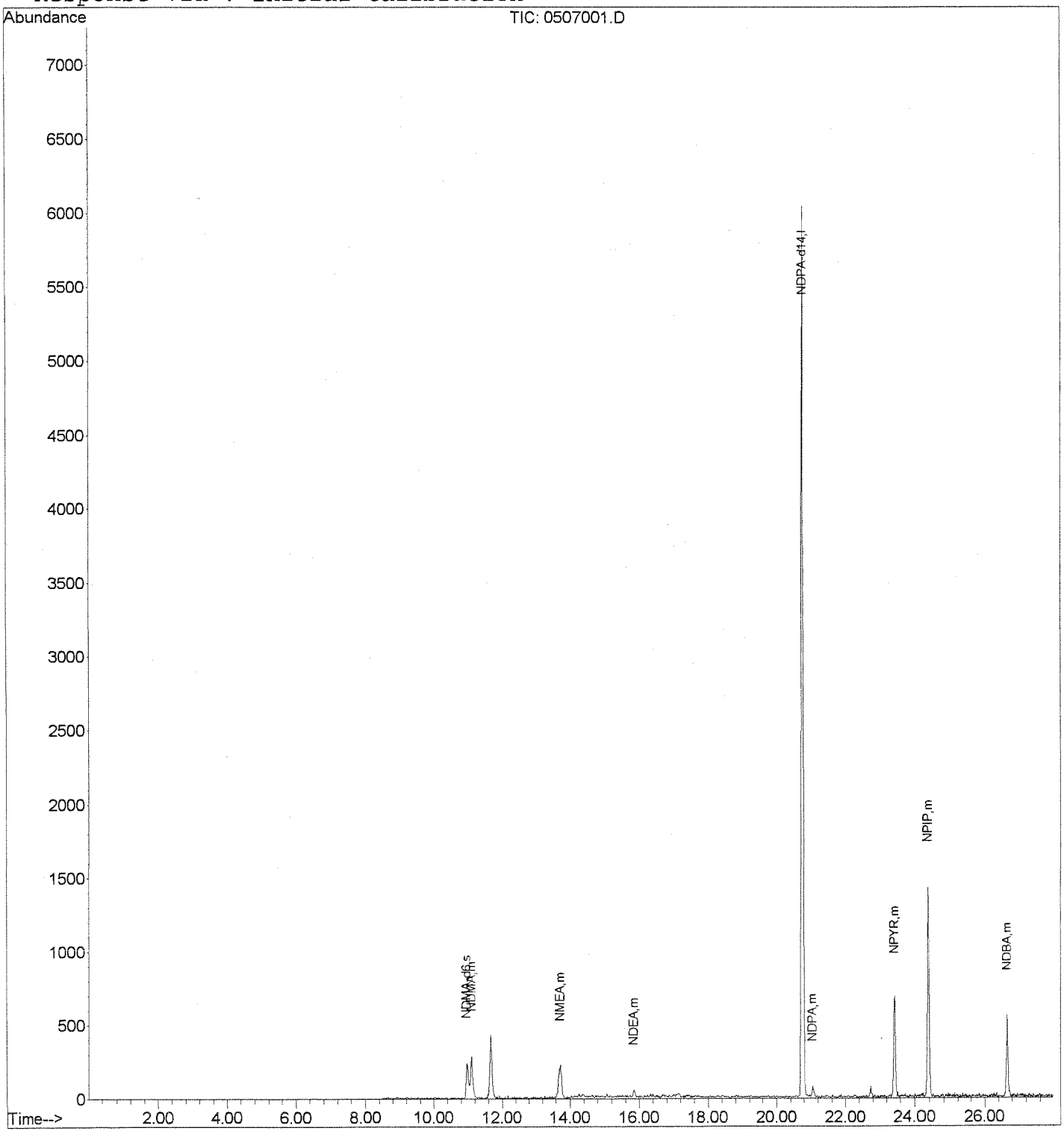
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.76	97	16011	50.00	ug/L	-0.02
System Monitoring Compounds						
3) NDMA-d6	10.96	50	798	0.90	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.10	47	786	0.68	ug/L	75
5) NMEA	13.72	61	1182	0.89	ug/L	99
6) NDEA	15.84	75	153	0.80	ug/L	100
7) NDPA	21.05	89	169	1.64	ug/L	100
8) NPYR	23.42	55	2119	1.12	ug/L	96
9) NPIP	24.36	69	4012	1.00	ug/L	100
10) NDBA	26.65	57	1117	1.00	ug/L	100

(#) = qualifier out of range (m) = manual integration
0507001.D 040413_D14.M Tue May 14 16:10:14 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507001.D Vial: 1
Acq On : 07 May 13 19:42 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL - Pasadena CA/100016516

Service Request: K1303913
Date Analyzed: 05/07/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304579
Units: ug/L

File ID: J:\MS16\DATA\050713-521\0507007.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	5.1		3.30	3.16	NA	2	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	3.9		3.40	2.82	NA	-22	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound

‡ CCC Compound

Exception Report

Data File: J:\MS16\DATA\050713-521\0507007.D
Lab ID: KWG1304579-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/07/2013 23:56
Date Quantitated: 05/08/2013 20:57
Batch ID: KWG1304579
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NR
	N-Nitrosodiethylamine	0.9866	0.99	NA	NT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	J

Primary Review: 5/14/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\050713-521\0507007.D			**Instrument:**	MS16
Acqu Date:	05/07/2013 23:56	**Quant Date:**	05/08/2013 20:57	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304579-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/14/2013

Analysis Lot:	KWG1304579	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\050713-521\0507.D			**Method ID:**	MJ808
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	15840	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.94			50	5009	5.10		70-130	NA	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08			47	4472	3.90			
1	N-Nitrosomethylethylamine	13.69			61	6803	4.90			
1	N-Nitrosodiethylamine	15.83			75	920	4.67			
1	N-Nitrosodi-n-propylamine	21.06			89	1095	5.66			
1	N-Nitrosopyrrolidine	23.42			55	11053	4.67			
1	N-Nitrosopiperidine	24.35			69	21081	4.41			
1	N-Nitrosodi-n-butylamine	26.64			57	8419	3.84			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507007.D Vial: 2
Acq On : 07 May 13 23:56 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 08 20:55:21 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

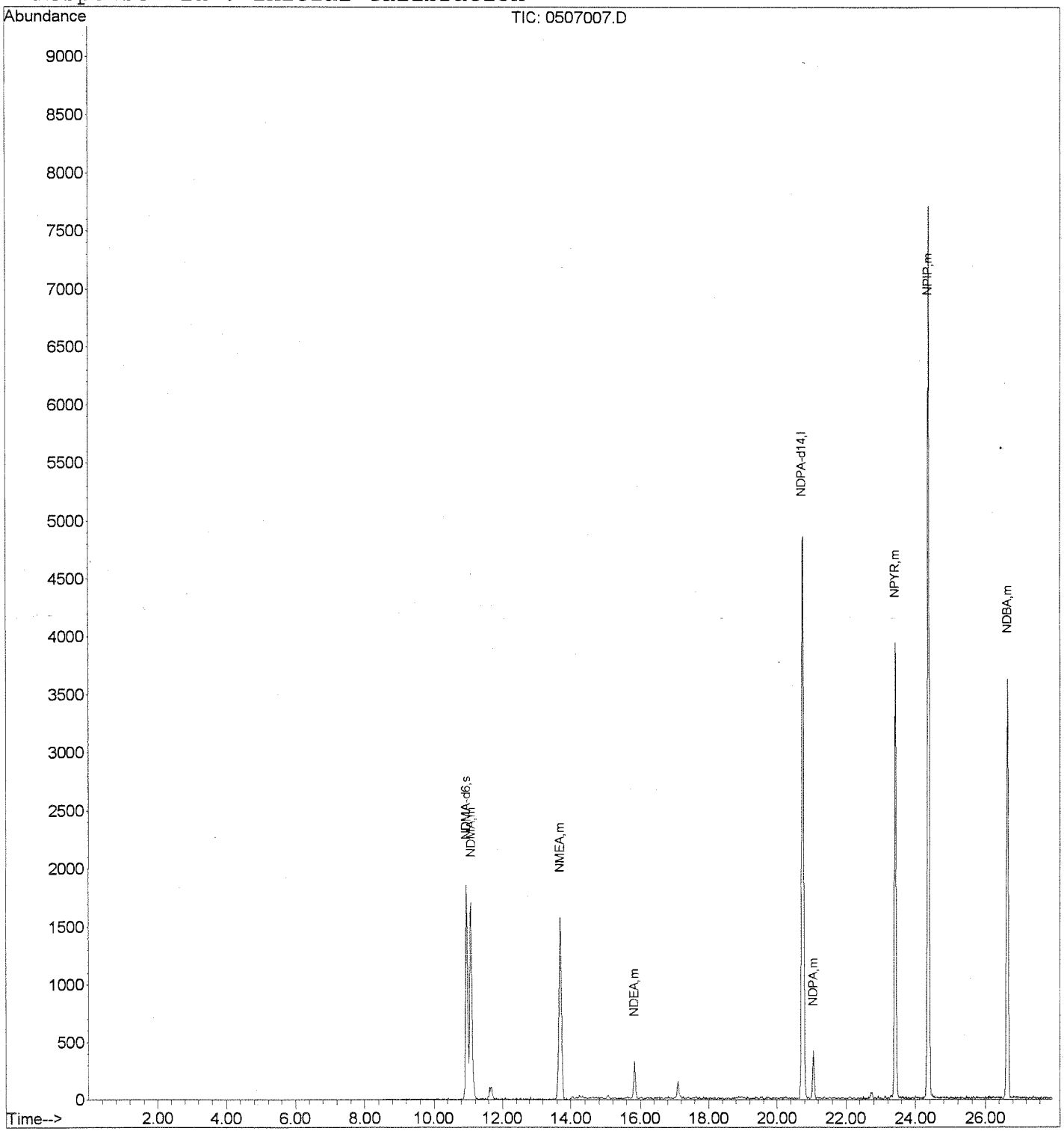
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	15840	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.94	50	5009	5.10	ug/L	-0.04
Target Compounds						Qvalue
4) NDMA	11.08	47	4472	3.90	ug/L	75
5) NMEA	13.69	61	6803	4.90	ug/L	99
6) NDEA	15.83	75	920	4.67	ug/L	100
7) NDPA	21.06	89	1095	5.66	ug/L	100
8) NPYR	23.42	55	11053	4.67	ug/L	96
9) NPIP	24.35	69	21081	4.41	ug/L	100
10) NDBA	26.64	57	8419	3.84	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\050713-521\0507007.D Vial: 2
Acq On : 07 May 13 23:56 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 8 20:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG1304244	**Prep Method:**	METHOD	**Prep Date:**	05/03/13 08:00
Department:	Semivoa GC				

ab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.
1303913-001	MW-4-1	521 Nitrosamines	WATER	500ml	1ml
1303913-002	MW-17-4	521 Nitrosamines	WATER	500ml	1ml
1303964-001	M001-IXBF	521 Nitrosamines	WATER	500ml	1ml
WG1304244-1	Matrix Spike	521 Nitrosamines	WATER	500ml	1ml
WG1304244-2	Duplicate Matrix Spike	521 Nitrosamines	WATER	500ml	1ml
WG1304244-3	Lab Control Sample	521 Nitrosamines	WATER	500ml	1ml
WG1304244-4	Method Blank	521 Nitrosamines	WATER	500ml	1ml

Lab Code	Parent Lab Code	Comments
KWG1304244-1	K1303964-001	
KWG1304244-2	K1303964-001	

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1303913-001	1233869	DWSTD06-28 F	10uL			
K1303913-002	1233870	DWSTD06-28 F	10uL			
K1303964-001	1233868	DWSTD06-28 F	10uL			
KWG1304244-1	1233871	DWSTD06-28 F	10uL	DWSTD06-22 I	10uL	
KWG1304244-2	1233872	DWSTD06-28 F	10uL	DWSTD06-22 I	10uL	
KWG1304244-3	1233873	DWSTD06-28 F	10uL	DWSTD06-22 I	10uL	
KWG1304244-4	1233874	DWSTD06-28 F	10uL			

Comments:

Started By: RHayes Assisted By: Training Yes No

Completed By: RHayes Assisted By: Yes No

Reviewed By: Date: Storage: To inst

Chain of Custody

Relinquished By: Date: 5-3-13 Extracts Examined

Received By: Date: 5/8/13 Yes No

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request No.: As Listed **Date Extracted:** 5-3-13

Analyst: Rob Hayes **Method:** EPA 521

StarLims Run : _____

Nitrosoamines in Water

	Lab ID	Client ID	Sample Volume	Surr	MS	Cl2 res.	Final Volume
	K1303913-001	ε	500	10		<0.1	1
	1 -002	ε	500	10		<0.1	1
*	K1303964-001		500	10		0.6 0.8	1
	MB		500	10		<0.1	1
	LCS		500	10	10	<0.1	1
*	K1303964-001	MS	500	10	10	0.6 0.8	1
*	K1303964-001	DMS	500	10	10	0.6 0.8	1

Comments: Sodium Thiosulfate Added to Sample for Dechlorination purposes. ε Samples slow to pass through SPE cartridge.

DCM Lot # DG1063 **MeOH Lot #** DG860 **Sulfate Lot #** 221-13 120356

SPE Cartridge Lot # 100154-EM

Surrogate ID: Dwst-DOK-28E 1ppm XP 7-9-13

Spike ID : Dwst-DOK-22J 100ppb XP 5-7-13

Vial: Amber **Extract Storage:** 215A-F-06 **Extracts Received:** _____

Reviewed By:	**Date:**

Preparation Information Benchsheet

Prep Run#: 182167 **Prep WorkFlow:** OrgExtDW(14/28) **Status:** Draft
Team: Semivoa GC **Prep Method:** Method **Prep Date/Time:** 5/3/13 07:26 AM
Number of Copies to make: 2

	Lab Code	Client ID	B#	√	Test	Matrix	Amt Ext.	pH	Int Vol	Final Vol	Surr Added	Spike Added
	K1303913-001	MW-4-1	.01	X	521/Nitrosamines	Water						
	K1303913-002	MW-17-4	.01	X	521/Nitrosamines	Water						
	K1303964-001	M001-IXBF	.01	X	521/Nitrosamines	Water						

Comments: used Lab ID only

Surrogate ID: _____ Spike ID: _____

Witnessed By: _____

Analyst: _____ Assisted By: _____

Injection Log

Directory: J:\MS16\DATA\050313-521

ine	Vial	FileName	Multiplier		SampleName	Misc Info	Injected
		0503.D	1.		DCM		03 May 2013 27:2
	1	0503001.D	1.	C1	DWSTD06-47J CCV @1 NOMAL RE		03 May 2013 28:1
	11	0503002.D	1.		K1303913-001 RE for NOMA		03 May 2013 28:5
	12	0503003.D	1.		K1303913-002		03 May 2013 29:3
	13	0503004.D	1.		K1303964-001		03 May 2013 30:1
	14	0503005.D	1.		K1303964-001MS	KWG1304578	03 May 2013 31:0
	15	0503006.D	1.		K1303964-001DMS		03 May 2013 31:4
	2	0503007.D	1.	C5	DWSTD06-46C CCV @ 5 ✓	CAL 12363	03 May 2013 32:2
	16	0503008.D	1.		050313 LCS ✓		03 May 2013 33:0
0	17	0503009.D	1.		050313 MB ✓		03 May 2013 33:4
1	3	0503010.D	1.	C7	DWSTD06-44E CCV @10		03 May 2013 34:3

07 May 2013 18:44

Injection Log

Directory: J:\ms16\data\050713-521

ine	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
		0507.D	1.	DCM		
	1	0507001.D	1.	DWSTD06-47J CCV @1		07 May 2013 31:0
	11	0507002.D	1.	K1303913-001		07 May 2013 31:4
	12	0507003.D	1.	K1303913-002		07 May 2013 32:2
	13	0507004.D	1.	K1303964-001		07 May 2013 33:0
	14	0507005.D	1.	K1303964-001MS	KW1304579	07 May 2013 33:4
	15	0507006.D	1.	K1303964-001DMS	KAL 12363	07 May 2013 34:3
	2	0507007.D	1.	DWSTD06-46C CCV @ 5		07 May 2013 35:1
						07 May 2013 35:5

08 May 2013 20:54

May 22, 2013 Analytical Report for Service Request No: K1304120

David Conner
Battelle
4800 Oak Grove Dr.
M/S 180-801
Pasadena, CA 91109

RE: JPL-Pasadena CA/100016516

Dear David:

Enclosed are the results of the samples submitted to our laboratory on May 04, 2013. For your reference, these analyses have been assigned our service request number K1304120.

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. The test results meet requirements of the current NELAP standards, where applicable, and except as noted in the laboratory case narrative provided. For a specific list of NELAP-accredited analytes, refer to the certifications section at www.alsglobal.com. All results are intended to be considered in their entirety, and ALS Group USA Corp. dba ALS Environmental (ALS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3364. You may also contact me via Email at Howard.Holmes@alsglobal.com.

Respectfully submitted,

ALS Group USA Corp. dba ALS Environmental

Howard Holmes
Project Manager

HH/mj

ADDRESS 1317 S. 13th Avenue, Kelso, WA 98626 USA PHONE +1 360 577 7222 FAX +1 360 636 1068
Columbia Analytical Services, Inc. Part of the ALS Group An ALS Limited Company
Environmental www.alsglobal.com
RIGHT SOLUTIONS RIGHT PARTNER

Acronyms

ASTM	American Society for Testing and Materials
A2LA	American Association for Laboratory Accreditation
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
LOD	Limit of Detection
LOQ	Limit of Quantitation
LUFT	Leaking Underground Fuel Tank
M	Modified
MCL	Maximum Contaminant Level is the highest permissible concentration of a substance allowed in drinking water as established by the USEPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
NA	Not Applicable
NC	Not Calculated
NCASI	National Council of the Paper Industry for Air and Stream Improvement
ND	Not Detected
NIOSH	National Institute for Occupational Safety and Health
PQL	Practical Quantitation Limit
RCRA	Resource Conservation and Recovery Act
SIM	Selected Ion Monitoring
TPH	Total Petroleum Hydrocarbons
tr	Trace level is the concentration of an analyte that is less than the PQL but greater than or equal to the MDL.

Inorganic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
E	The result is an estimate amount because the value exceeded the instrument calibration range.
J	The result is an estimated value.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.
H	The holding time for this test is immediately following sample collection. The samples were analyzed as soon as possible after receipt by the laboratory.

Metals Data Qualifiers

#	The control limit criteria is not applicable. See case narrative.
J	The result is an estimated value.
E	The percent difference for the serial dilution was greater than 10%, indicating a possible matrix interference in the sample.
M	The duplicate injection precision was not met.
N	The Matrix Spike sample recovery is not within control limits. See case narrative.
S	The reported value was determined by the Method of Standard Additions (MSA).
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
W	The post-digestion spike for furnace AA analysis is out of control limits, while sample absorbance is less than 50% of spike absorbance.
i	The MRL/MDL or LOQ/LOD is elevated due to a matrix interference.
X	See case narrative.
+	The correlation coefficient for the MSA is less than 0.995.
Q	See case narrative. One or more quality control criteria was outside the limits.

Organic Data Qualifiers

*	The result is an outlier. See case narrative.
#	The control limit criteria is not applicable. See case narrative.
A	A tentatively identified compound, a suspected aldol-condensation product.
B	The analyte was found in the associated method blank at a level that is significant relative to the sample result as defined by the DOD or NELAC standards.
C	The analyte was qualitatively confirmed using GC/MS techniques, pattern recognition, or by comparing to historical data.
D	The reported result is from a dilution.
E	The result is an estimated value.
J	The result is an estimated value.
N	The result is presumptive. The analyte was tentatively identified, but a confirmation analysis was not performed.
P	The GC or HPLC confirmation criteria was exceeded. The relative percent difference is greater than 40% between the two analytical results.
U	The analyte was analyzed for, but was not detected ("Non-detect") at or above the MRL/MDL. *DOD-QSM 4.2 definition* : Analyte was not detected and is reported as less than the LOD or as defined by the project. The detection limit is adjusted for dilution.
i	The MRL/MDL or LOQ/LOD is elevated due to a chromatographic interference.
X	See case narrative.
Q	See case narrative. One or more quality control criteria was outside the limits.

Additional Petroleum Hydrocarbon Specific Qualifiers

F	The chromatographic fingerprint of the sample matches the elution pattern of the calibration standard.
L	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of lighter molecular weight constituents than the calibration standard.
H	The chromatographic fingerprint of the sample resembles a petroleum product, but the elution pattern indicates the presence of a greater amount of heavier molecular weight constituents than the calibration standard.
O	The chromatographic fingerprint of the sample resembles an oil, but does not match the calibration standard.
Y	The chromatographic fingerprint of the sample resembles a petroleum product eluting in approximately the correct carbon range, but the elution pattern does not match the calibration standard.
Z	The chromatographic fingerprint does not resemble a petroleum product.

ALS Group USA Corp. dba ALS Environmental (ALS) - Kelso
State Certifications, Accreditations, and Licenses

Agency	Web Site	Number
Alaska DEC UST	http://dec.alaska.gov/applications/eh/ehllabreports/USTLabs.aspx	UST-040
Arizona DHS	http://www.azdhs.gov/lab/license/env.htm	AZ0339
Arkansas - DEQ	http://www.adeq.state.ar.us/techsvs/labcert.htm	88-0637
California DHS (ELAP)	http://www.cdph.ca.gov/certlic/labs/Pages/ELAP.aspx	2286
DOD ELAP	http://www.denix.osd.mil/edqw/Accreditation/AccreditedLabs.cfm	L12-28
Florida DOH	http://www.doh.state.fl.us/lab/EnvLabCert/WaterCert.htm	E87412
Georgia DNR	http://www.gaepd.org/Documents/techguide_pcb.html#cel	881
Hawaii DOH	Not available	-
Idaho DHW	http://www.healthandwelfare.idaho.gov/Health/Labs/CertificationDrinkingWaterLabs/tabid/1833/Default.aspx	-
Indiana DOH	http://www.in.gov/isdh/24859.htm	C-WA-01
ISO 17025	http://www.pjlabs.com/	L12-27
Louisiana DEQ	http://www.deq.louisiana.gov/portal/DIVISIONS/PublicParticipationandPermitSupport/LouisianaLaboratoryAccreditationProgram.aspx	3016
Maine DHS	Not available	WA0035
Michigan DEQ	http://www.michigan.gov/deq/0,1607,7-135-3307_4131_4156---,00.html	9949
Minnesota DOH	http://www.health.state.mn.us/accreditation	053-999-368
Montana DPHHS	http://www.dphhs.mt.gov/publichealth/	CERT0047
Nevada DEP	http://ndep.nv.gov/bsdw/labservice.htm	WA35
New Jersey DEP	http://www.nj.gov/dep/oqa/	WA005
North Carolina DWQ	http://www.dwqlab.org/	605
Oklahoma DEQ	http://www.deq.state.ok.us/CSDnew/labcert.htm	9801
Oregon – DEQ (NELAP)	http://public.health.oregon.gov/LaboratoryServices/EnvironmentalLaboratoryAccreditation/Pages/index.aspx	WA200001
South Carolina DHEC	http://www.scdhec.gov/environment/envserv/	61002
Texas CEQ	http://www.tceq.texas.gov/field/qa/env_lab_accreditation.html	T104704427-08-TX
Washington DOE	http://www.ecy.wa.gov/programs/eap/labs/lab-accreditation.html	C1203
Wisconsin DNR	http://dnr.wi.gov/	998386840
Wyoming (EPA Region 8)	http://www.epa.gov/region8/water/dwhome/wyomingdi.html	-
Kelso Laboratory Website	www.alsglobal.com	NA

Analyses were performed according to our laboratory's NELAP-approved quality assurance program. A complete listing of specific NELAP-certified analytes, can be found in the certification section at www.caslab.com or at the accreditation bodies web site

Please refer to the certification and/or accreditation body's web site if samples are submitted for compliance purposes. The states highlighted above, require the analysis be listed on the state certification if used for compliance purposes and if the method/anlayte is offered by that state.

Case Narrative

ALS ENVIRONMENTAL

Client:	Battelle	**Service Request No.:**	K1304120
Project:	JPL-Pasadena CA	**Date Received:**	05/04/13
Sample Matrix:	Water		

Case Narrative

All analyses were performed consistent with the quality assurance program of ALS Environmental. This report contains analytical results for samples designated for Tier IV validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Three water samples were received for analysis at ALS Environmental on 05/04/13. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Nitrosamines by EPA Method 521

Initial Calibration Exceptions:
Due to calculation discrepancies in software the data reporting system is flagging the COD evaluation result for N-Nitrsosdimehtylamine-d6 in calibration CAL12363. The COD is within criteria in the data quantitation software. Method 521 does not require a COD evaluation. No further corrective action was necessary.

No other anomalies associated with the analysis of these samples were observed.

Approved by Howard Holmes

Chain of Custody

ALS Environmental-Kelso

1317 South 13th, Kelso, WA 98626 (360) 577-7222 FAX (360) 636-1068

SR# K1304120

PAGE 1 OF 1

Project Name: JPL - Pasadena CA **Project Number:** 100016516

Project Manager: David Conner **Company:** Battelle

Company/Address: 505 King Ave. **Phone:** 619-726-7311

City, State, Zip: Columbus, OH 43201 **FAX:** 614-458-6641

Sampler's Signature:

Sample I.D.	Date	Time	LAB ID	Matrix	Number of Containers	Analysis Requested: NDMA (521)					REMARKS
MW-24-1	4-30-13	1420		GQ	1	X					
MW-13	5-2-13	0835		↓	1	X					
MW-16	5-3-13	1100		↓	1	X					

TURNAROUND REQUIREMENTS

____ 24 hr ____ 48 hr ____ 5 day

_X_ Standard (21 days)

____ Provide FAX Preliminary Results

Requested Report Date:_____

REPORT REQUIREMENTS

_X_ I. Routine Report: Results, Method Blank, Surrogate, as required

_x_ II. Report Dup., MS, MSD as required

_x_ III. Data Validation Report (includes raw data)

____ IV. CLP Deliverable Report

_X_ V. EDD

Comments/Special Instructions:

Reid: [signature] 5/4/13 930

BTobin ALS

Invoice Information

P.O. # 345443

Bill to: Ben Headington

505 King Ave., Columbus, OH

RELINQUISHED BY:

Signature: [signature]

Printed Name: Andy Wolff

Firm: BTS

Date/Time: 5-3-13 ~~1015~~ 1515

RECEIVED BY:

Signature: Nicole

Printed Name: Nicole

Firm: BTS

Date/Time: 5/3/13 1515

RELINQUISHED BY:

Signature: Nicole

Printed Name: Nicole

Firm: BTS

Date/Time: 5/3/13 1601

RECEIVED BY:

Signature: FEDEX

Printed Name:

Firm: FEDEX

Date/Time: 5/3/13 1600

PC ###

Cooler Receipt and Preservation Form

Client / Project: Battelle Service Request *K13* 04120

Received: 5/4/13 Opened: 5/4/13 By: BST Unloaded: 5/4/13 By: BT

1. Samples were received via? *Mail* (*Fed Ex*) *UPS* *DHL* *PDX* *Courier* *Hand Delivered*
2. Samples were received in: (circle) (*Cooler*) *Box* *Envelope* *Other* _____ *NA*
3. Were custody seals on coolers? NA (Y) N If yes, how many and where? 1 front
   If present, were custody seals intact? (Y) N If present, were they signed and dated? (Y) N

Raw Temp	Corr. Temp	Raw Blank	Corr. Blank	Corr. Factor	Thermometer ID	Cooler/COC ID (NA)	Tracking Number NA	Filed
0.6	0.6	1.8	1.8	0	304		7996 7804 2347	

7. Packing material: *Inserts* *Baggies* (*Bubble Wrap*) *Gel Packs* (*Wet Ice*) *Dry Ice* *Sleeves* _____
8. Were custody papers properly filled out (ink, signed, etc.)? NA (Y) N
9. Did all bottles arrive in good condition (unbroken)? *Indicate in the table below.* NA (Y) N
10. Were all sample labels complete (i.e analysis, preservation, etc.)? NA (Y) N
11. Did all sample labels and tags agree with custody papers? *Indicate major discrepancies in the table on page 2.* NA (Y) N
12. Were appropriate bottles/containers and volumes received for the tests indicated? NA (Y) N
13. Were the pH-preserved bottles (*see SMO GEN SOP*) received at the appropriate pH? *Indicate in the table below* (NA) Y N
14. Were VOA vials received without headspace? *Indicate in the table below.* (NA) Y N
15. Was C12/Res negative? (NA) Y N

Sample ID on Bottle	Sample ID on COC	Identified by:

Sample ID	Bottle Count Bottle Type	Out of Temp	Head-space	Broke	pH	Reagent	Volume added	Reagent Lot Number	Initials	Time

Notes, Discrepancies, & Resolutions: _____

Nitroaromatics and Nitramines

Organic Analysis:
Nitrosamines by EPA 521

Summary Package

Sample and QC Results

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120

Cover Page - Organic Analysis Data Package
Nitrosamines by EPA 521

Sample Name	Lab Code	Date Collected	Date Received
MW-24-1	K1304120-001	04/30/2013	05/04/2013
MW-13	K1304120-002	05/02/2013	05/04/2013
MW-16	K1304120-003	05/03/2013	05/04/2013

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed in the case narrative. Release of the data contained in this hardcopy data package and in the computer-readable data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Lon E Rutherford

Name: Lon Rutherford

Date: 5/21/13

Title:

Analytical Results

Client:	Battelle	**Service Request:**	K1304120
Project:	JPL-Pasadena CA/100016516	**Date Collected:**	04/30/2013
Sample Matrix:	Water	**Date Received:**	05/04/2013

Nitrosamines by EPA 521

Sample Name:	MW-24-1	**Units:**	ng/L
Lab Code:	K1304120-001	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	78	70-130	05/14/13	Acceptable

Comments:

Analytical Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Collected: 05/02/2013
Date Received: 05/04/2013

Nitrosamines by EPA 521

Sample Name: MW-13
Lab Code: K1304120-002

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	74	70-130	05/14/13	Acceptable

Comments:

Analytical Results

Client:	Battelle	**Service Request:**	K1304120
Project:	JPL-Pasadena CA/100016516	**Date Collected:**	05/03/2013
Sample Matrix:	Water	**Date Received:**	05/04/2013

Nitrosamines by EPA 521

Sample Name:	MW-16	**Units:**	ng/L
Lab Code:	K1304120-003	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	72	70-130	05/14/13	Acceptable

Comments:

Analytical Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304453-3

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	05/14/13	Acceptable

Comments:

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120

Surrogate Recovery Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1
MW-24-1	K1304120-001	78
MW-13	K1304120-002	74
MW-16	K1304120-003	72
Method Blank	KWG1304453-3	84
Lab Control Sample	KWG1304453-1	76
Duplicate Lab Control Sample	KWG1304453-2	87

Surrogate Recovery Control Limits (%)

Sur1 =	N-Nitrosodimethylamine-d6	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

QA/QC Report

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Extracted: 05/10/2013
Date Analyzed: 05/14/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1304453

	Lab Control Sample KWG1304453-1 Lab Control Spike			Duplicate Lab Control Sample KWG1304453-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	1.14	2.00	57	1.16	2.00	58	50-150	2	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

QA/QC Report

Client:	Battelle	**Service Request:**	K1304120
Project:	JPL-Pasadena CA/100016516	**Date Extracted:**	05/10/2013
Sample Matrix:	Water	**Date Analyzed:**	05/14/2013
		Time Analyzed:	18:31

Method Blank Summary
Nitrosamines by EPA 521

Sample Name:	Method Blank	**Instrument ID:**	MS16
Lab Code:	KWG1304453-3	**File ID:**	J:\MS16\DATA\051413-521\0514007.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521	**Extraction Lot:**	KWG1304453

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-24-1	K1304120-001	J:\MS16\DATA\051413-521\0514002.D	05/14/13	15:00
MW-13	K1304120-002	J:\MS16\DATA\051413-521\0514003.D	05/14/13	15:42
MW-16	K1304120-003	J:\MS16\DATA\051413-521\0514004.D	05/14/13	16:24
Lab Control Sample	KWG1304453-1	J:\MS16\DATA\051413-521\0514005.D	05/14/13	17:06
Duplicate Lab Control Sample	KWG1304453-2	J:\MS16\DATA\051413B-521\0514B002.D	05/14/13	22:03

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Extracted: 05/10/2013
Date Analyzed: 05/14/2013
Time Analyzed: 17:06

Lab Control Sample Summary
Nitrosamines by EPA 521

Sample Name: Lab Control Sample
Lab Code: KWG1304453-1

Extraction Method: METHOD
Analysis Method: 521

Instrument ID: MS16
File ID: J:\MS16\DATA\051413-521\0514005.D

Level: Low
Extraction Lot: KWG1304453

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-24-1	K1304120-001	J:\MS16\DATA\051413-521\0514002.D	05/14/13	15:00
MW-13	K1304120-002	J:\MS16\DATA\051413-521\0514003.D	05/14/13	15:42
MW-16	K1304120-003	J:\MS16\DATA\051413-521\0514004.D	05/14/13	16:24
Method Blank	KWG1304453-3	J:\MS16\DATA\051413-521\0514007.D	05/14/13	18:31

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Level ID	File ID
A	J:\MS16\DATA\040413-521ICAL\0404001.D
B	J:\MS16\DATA\040413-521ICAL\0404002.D
C	J:\MS16\DATA\040413-521ICAL\0404003.D
D	J:\MS16\DATA\040413-521ICAL\0404004.D
E	J:\MS16\DATA\040413-521ICAL\0404005.D
F	J:\MS16\DATA\040413-521ICAL\0404006.D
G	J:\MS16\DATA\040413-521ICAL\0404007.D
H	J:\MS16\DATA\040413-521ICAL\0404008.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
N-Nitrosodimethylamine-d6	A	0.50	2.46	B	1.0	2.54	C	2.0	3.01	D	5.0	3.19	E	7.0	3.51
	F	10	4.01	G	15	3.25	H	20	4.45						
N-Nitrosodimethylamine				B	1.0	2.47	C	2.0	3.24	D	5.0	3.00	E	7.0	3.62
	F	10	4.15	G	15	3.54	H	20	3.76						

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
N-Nitrosodimethylamine-d6	SURR	Quadratic(0,0)	COD	0.979	*	≥ 0.99	3.30		
N-Nitrosodimethylamine	MS	Quadratic(0,0)	COD	0.990		≥ 0.99	3.40		

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

QA/QC Results

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Calibration Date: 04/04/2013
Date Analyzed: 04/05/2013

Second Source Calibration Verification
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration ID: CAL12363
Units: ug/L

File ID: J:\MS16\DATA\040413-521ICAL\0404009.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine	10	11	3.40	4.03	NA	10	± 30 %	uadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304649
Units: ug/L

File ID: J:\MS16\DATA\051413-521\0514001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	1.0		3.30	2.89	NA	4	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.78		3.40	2.82	NA	-22	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304649
Units: ug/L

File ID: J:\MS16\DATA\051413-521\0514008.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	6.1		3.30	3.88	NA	22	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	5.2		3.40	3.77	NA	4	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304650
Units: ug/L

File ID: J:\MS16\DATA\051413B-521\0514B001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	1.1		3.30	2.95	NA	6	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.79		3.40	2.83	NA	-21	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304650
Units: ug/L

File ID: J:\MS16\DATA\051413B-521\0514B003.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	5.9		3.30	3.75	NA	19	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	4.7		3.40	3.43	NA	-5	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120

Analysis Run Log
Nitrosamines by EPA 521

Analysis Method: 521

Analysis Lot: KWG1304649
Instrument ID: MS16

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
521\0514.D	GC/MS Tuning - Decafluorotriphenylp	KWG1304649-1	5/14/2013	13:35		5/14/2013	14:02
\0514001.D	Continuing Calibration Verification	KWG1304649-2	5/14/2013	14:18		5/14/2013	14:45
\0514002.D	MW-24-1	K1304120-001	5/14/2013	15:00		5/14/2013	15:27
\0514003.D	MW-13	K1304120-002	5/14/2013	15:42		5/14/2013	16:09
\0514004.D	MW-16	K1304120-003	5/14/2013	16:24		5/14/2013	16:51
\0514005.D	Lab Control Sample	KWG1304453-1	5/14/2013	17:06		5/14/2013	17:33
\0514007.D	Method Blank	KWG1304453-3	5/14/2013	18:31		5/14/2013	18:58
\0514008.D	Continuing Calibration Verification	KWG1304649-3	5/14/2013	19:13		5/14/2013	19:40

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120

Analysis Run Log
Nitrosamines by EPA 521

Analysis Method: 521

Analysis Lot: KWG1304650
Instrument ID: MS16

File ID	Sample Name	Lab Code	Date Analysis Started	Start Time	Q	Date Analysis Finished	Finish Time
21\0514B.D	GC/MS Tuning - Decafluorotriphenylp	KWG1304650-1	5/14/2013	20:38		5/14/2013	21:05
0514B001.D	Continuing Calibration Verification	KWG1304650-2	5/14/2013	21:21		5/14/2013	21:48
0514B002.D	Duplicate Lab Control Sample	KWG1304453-2	5/14/2013	22:03		5/14/2013	22:30
0514B003.D	Continuing Calibration Verification	KWG1304650-3	5/14/2013	22:45		5/14/2013	23:12

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

QA/QC Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Extracted: 05/10/2013

Extraction Prep Log
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Extraction Lot: KWG1304453
Level: Low

Sample Name	Lab Code	Date Collected	Date Received	Sample Amount	Final Volume	% Solids	Note
MW-24-1	K1304120-001	04/30/13	05/04/13	500ml	1ml	NA	
MW-13	K1304120-002	05/02/13	05/04/13	500ml	1ml	NA	
MW-16	K1304120-003	05/03/13	05/04/13	500ml	1ml	NA	
Method Blank	KWG1304453-3	NA	NA	500ml	1ml	NA	
Lab Control Sample	KWG1304453-1	NA	NA	500ml	1ml	NA	
Duplicate Lab Control Sample	KWG1304453-2	NA	NA	500ml	1ml	NA	

Results flagged with an asterisk (*) indicate the holding time was exceeded for the analysis

Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Organic Analysis:
Nitrosamines by EPA 521

Validation Package

QC Reports

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120

Surrogate Recovery Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: Percent
Level: Low

Sample Name	Lab Code	Sur1
MW-24-1	K1304120-001	78
MW-13	K1304120-002	74
MW-16	K1304120-003	72
Method Blank	KWG1304453-3	84
Lab Control Sample	KWG1304453-1	76
Duplicate Lab Control Sample	KWG1304453-2	87

Surrogate Recovery Control Limits (%)

Sur1 =	N-Nitrosodimethylamine-d6	70-130

Results flagged with an asterisk (*) indicate values outside control criteria.
Results flagged with a pound (#) indicate the control criteria is not applicable.

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Extracted: 05/10/2013
Date Analyzed: 05/14/2013

Lab Control Spike/Duplicate Lab Control Spike Summary
Nitrosamines by EPA 521

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA
Level: Low
Extraction Lot: KWG1304453

	Lab Control Sample KWG1304453-1 Lab Control Spike			Duplicate Lab Control Sample KWG1304453-2 Duplicate Lab Control Spike					
Analyte Name	**Result**	**Spike Amount**	**%Rec**	**Result**	**Spike Amount**	**%Rec**	**%Rec Limits**	**RPD**	**RPD Limit**
N-Nitrosodimethylamine	1.14	2.00	57	1.16	2.00	58	50-150	2	50

Results flagged with an asterisk (*) indicate values outside control criteria.

Percent recoveries and relative percent differences (RPD) are determined by the software using values in the calculation which have not been rounded.

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Extracted: 05/10/2013
Date Analyzed: 05/14/2013
Time Analyzed: 18:31

Method Blank Summary
Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304453-3

Extraction Method: METHOD
Analysis Method: 521

Instrument ID: MS16
File ID: J:\MS16\DATA\051413-521\0514007.D

Level: Low
Extraction Lot: KWG1304453

This Method Blank applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-24-1	K1304120-001	J:\MS16\DATA\051413-521\0514002.D	05/14/13	15:00
MW-13	K1304120-002	J:\MS16\DATA\051413-521\0514003.D	05/14/13	15:42
MW-16	K1304120-003	J:\MS16\DATA\051413-521\0514004.D	05/14/13	16:24
Lab Control Sample	KWG1304453-1	J:\MS16\DATA\051413-521\0514005.D	05/14/13	17:06
Duplicate Lab Control Sample	KWG1304453-2	J:\MS16\DATA\051413B-521\0514B002.D	05/14/13	22:03

QA/QC Report

Client:	Battelle	**Service Request:**	K1304120
Project:	JPL-Pasadena CA/100016516	**Date Extracted:**	05/10/2013
Sample Matrix:	Water	**Date Analyzed:**	05/14/2013
		Time Analyzed:	17:06

Lab Control Sample Summary
Nitrosamines by EPA 521

Sample Name:	Lab Control Sample	**Instrument ID:**	MS16
Lab Code:	KWG1304453-1	**File ID:**	J:\MS16\DATA\051413-521\0514005.D
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521	**Extraction Lot:**	KWG1304453

This Lab Control Sample applies to the following analyses:

Sample Name	Lab Code	File ID	Date Analyzed	Time Analyzed
MW-24-1	K1304120-001	J:\MS16\DATA\051413-521\0514002.D	05/14/13	15:00
MW-13	K1304120-002	J:\MS16\DATA\051413-521\0514003.D	05/14/13	15:42
MW-16	K1304120-003	J:\MS16\DATA\051413-521\0514004.D	05/14/13	16:24
Method Blank	KWG1304453-3	J:\MS16\DATA\051413-521\0514007.D	05/14/13	18:31

Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Raw Data

Analytical Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Collected: 04/30/2013
Date Received: 05/04/2013

Nitrosamines by EPA 521

Sample Name: MW-24-1
Lab Code: K1304120-001

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	78	70-130	05/14/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\051413-521\0514002.D
Lab ID: K1304120-001
RunType: SMPL
Matrix: WATER

Date Acquired: 05/14/2013 15:00
Date Quantitated: 05/14/2013 20:22
Batch ID: KWG1304649
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NAR

Primary Review: 05/15/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514002.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 15:00	**Quant Date:**	05/14/2013 20:22	**Vial:**	11
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1304120-001			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	04/30/2013	**Receive Date:**	05/04/2013

Analysis Lot:	KWG1304649	**Prep Lot:**	KWG1304453	**Report Group:**	K1304120
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/10/2013		
Prep Ref:	1235344				

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\051413-521\0514.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\051413-521\0514007.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	13083	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	6819	7.84	78	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	0.01	0.00	47	113	0.1200	0.32	U	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (Not Reviewed)

Data File : J:\MS16\DATA\051413-521\0514002.D Vial: 11
Acq On : 14 May 13 15:00 Operator: SVO-DW
Sample : K1304120-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:19:34 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

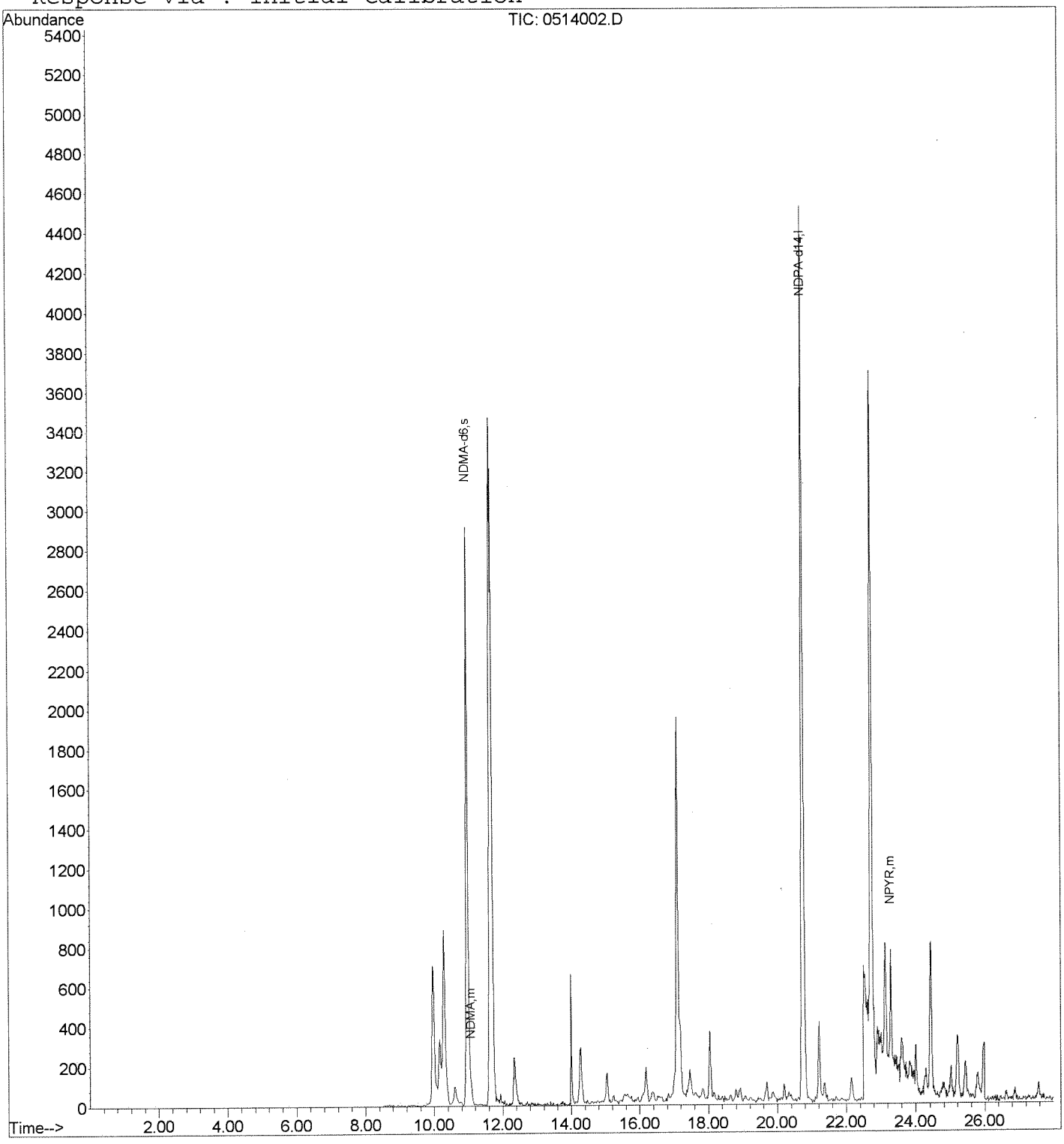
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13083	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	6819	7.84	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	113	0.12	ug/L	75
8) NPYR	23.29	55	791	0.64	ug/L	96

(#) = qualifier out of range (m) = manual integration
0514002.D 040413_D14.M Tue May 14 20:22:44 2013 Page 1

Quantitation Report (Not Reviewed)

Data File : J:\MS16\DATA\051413-521\0514002.D Vial: 11
Acq On : 14 May 13 15:00 Operator: SVO-DW
Sample : K1304120-001 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:22 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client:	Battelle	**Service Request:**	K1304120
Project:	JPL-Pasadena CA/100016516	**Date Collected:**	05/02/2013
Sample Matrix:	Water	**Date Received:**	05/04/2013

Nitrosamines by EPA 521

Sample Name:	MW-13	**Units:**	ng/L
Lab Code:	K1304120-002	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	74	70-130	05/14/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\051413-521\0514003.D
Lab ID: K1304120-002
RunType: SMPL
Matrix: WATER

Date Acquired: 05/14/2013 15:42
Date Quantitated: 05/14/2013 20:22
Batch ID: KWG1304649
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MRL

Primary Review: 5/15/13

Secondary Review:

Printed: 05/15/2013 21:32:20
u:\Stealth\Crystal.rpt\except2.rpt

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514003.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 15:42	**Quant Date:**	05/14/2013 20:22	**Vial:**	12
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1304120-002			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	05/02/2013	**Receive Date:**	05/04/2013

Analysis Lot:	KWG1304649	**Prep Lot:**	KWG1304453	**Report Group:**	K1304120
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1235345	**Prep Date:**	05/10/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\051413-521\0514.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\051413-521\0514007.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	13375	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.97	0.01	0.00	50	6514	7.40	74	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine				47	0		0.32	U	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514003.D Vial: 12
Acq On : 14 May 13 15:42 Operator: SVO-DW
Sample : K1304120-002 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:19:35 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

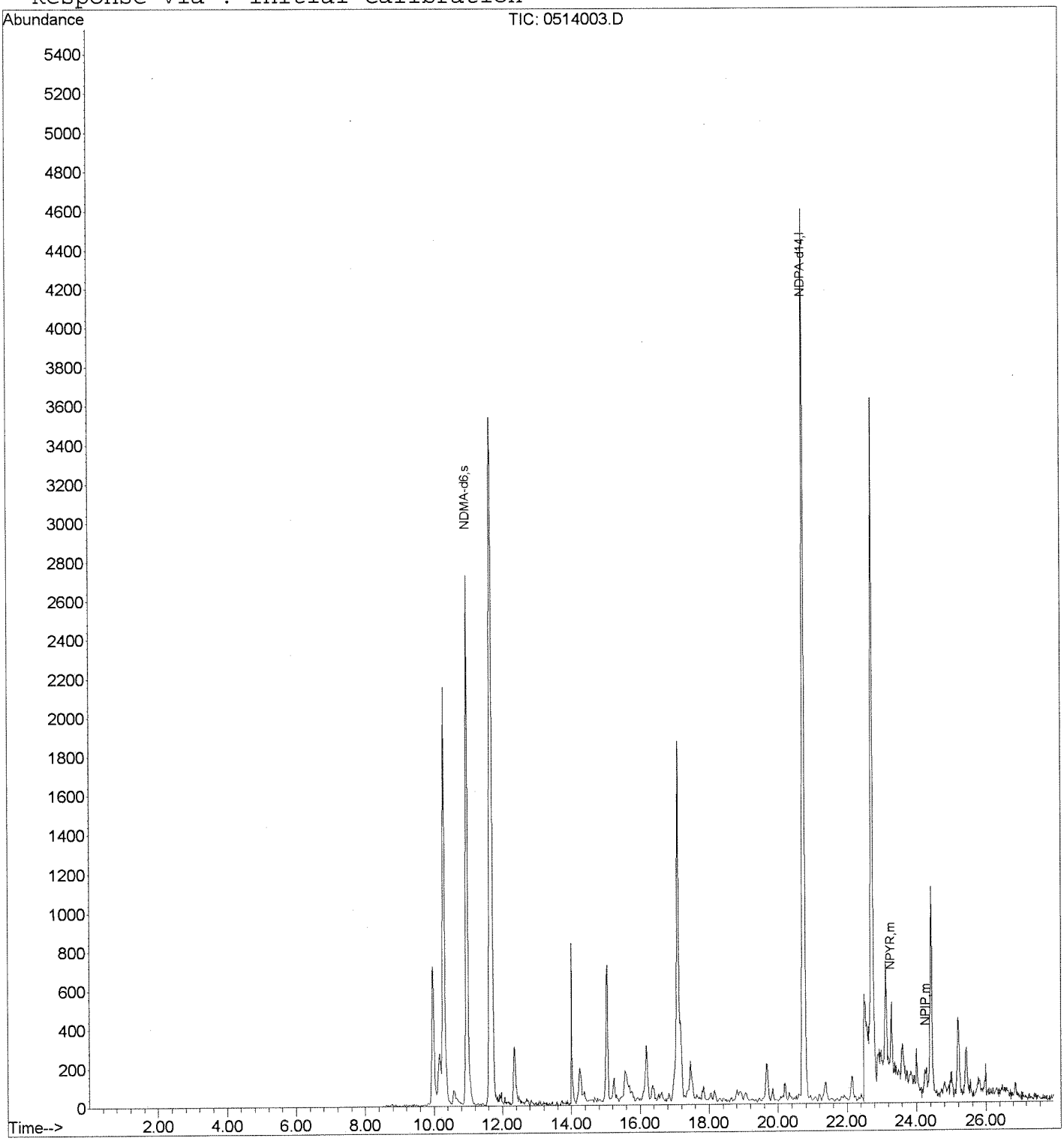
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13375	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.97	50	6514	7.40	ug/L	-0.02
Target Compounds						Qvalue
8) NPYR	23.28	55	508	0.49	ug/L	96
9) NPIP	24.27	69	124	0.20	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514003.D 040413_D14.M Tue May 14 20:22:44 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514003.D Vial: 12
Acq On : 14 May 13 15:42 Operator: SVO-DW
Sample : K1304120-002 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:22 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Collected: 05/03/2013
Date Received: 05/04/2013

Nitrosamines by EPA 521

Sample Name: MW-16
Lab Code: K1304120-003

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	72	70-130	05/14/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\051413-521\0514004.D
Lab ID: K1304120-003
RunType: SMPL
Matrix: WATER

Date Acquired: 05/14/2013 16:24
Date Quantitated: 05/14/2013 20:22
Batch ID: KWG1304649
Analysis Method: 521
ListJoinID: LJ14385

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
Preparation Holding Time	NA	NA	NA	x	
Pre-Preparation Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA	x	
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Method Blank	NA	NA	NA	x	
MB Surrogate Recovery	NA	NA	NA	x	
Lab Control Spike	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NARR

Primary Review: DD 5/15/13

Secondary Review: RJ

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514004.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 16:24	**Quant Date:**	05/14/2013 20:22	**Vial:**	13
Run Type:	SMPL			**Dilution:**	1.0
Lab ID:	K1304120-003			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**	IV	**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**	05/03/2013	**Receive Date:**	05/04/2013

Analysis Lot:	KWG1304649	**Prep Lot:**	KWG1304453	**Report Group:**	K1304120
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1235343	**Prep Date:**	05/10/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:	Nitrosamines by EPA 521	**Report List ID:**	LJ14385
Tune Ref:	J:\MS16\DATA\051413-521\0514.D	**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\051413-521\0514007.D	**Quant based on Report List**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	13525	50.00	OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	6373	7.20	72	70-130	OK

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10	0.03	0.00	47	103	0.1100	0.32	U	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514004.D Vial: 13
Acq On : 14 May 13 16:24 Operator: SVO-DW
Sample : K1304120-003 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:19:35 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

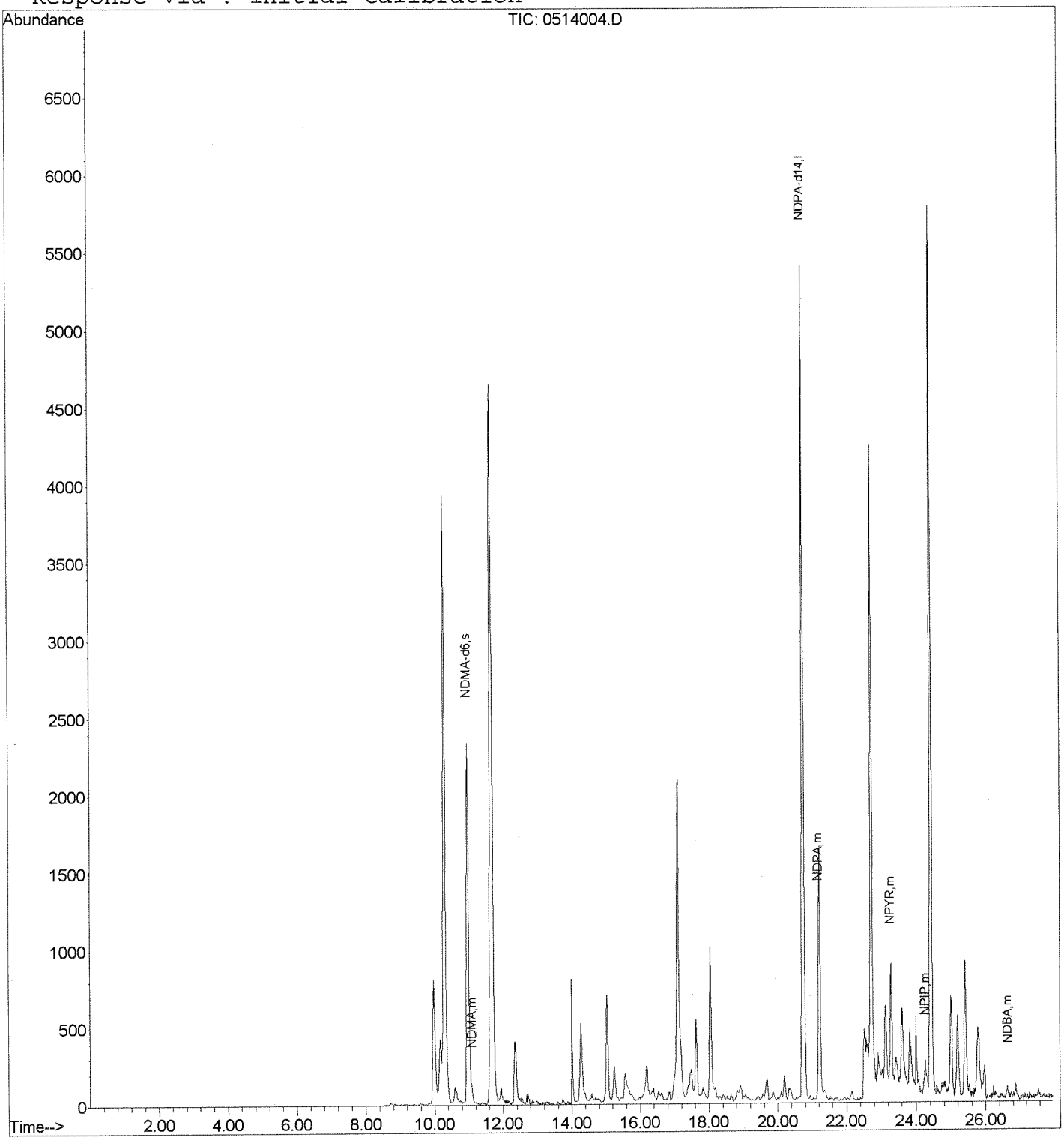
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13525	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	6373	7.20	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.10	47	103	0.11	ug/L	98
7) NDPA	21.19	89	120	1.50	ug/L	100
8) NPYR	23.28	55	1221	0.84	ug/L	96
9) NPIP	24.26	69	160	0.21	ug/L	100
10) NDBA	26.64	57	136	0.63	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514004.D 040413_D14.M Tue May 14 20:22:45 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514004.D Vial: 13
Acq On : 14 May 13 16:24 Operator: SVO-DW
Sample : K1304120-003 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:22 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Method Blank
Lab Code: KWG1304453-3

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	ND	U	2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	84	70-130	05/14/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\051413-521\0514007.D
Lab ID: KWG1304453-3
RunType: MB
Matrix: WATER

Date Acquired: 05/14/2013 18:31
Date Quantitated: 05/14/2013 20:22
Batch ID: KWG1304649
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MARG NA/NF
	N-Nitrosodiethylamine	0.9866	0.99	NA	
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	
Continuing Calibration Recovery	N-Nitrosodi-n-propylamine	-100.0	NA	50	

Primary Review: 3/15/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514007.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 18:31	**Quant Date:**	05/14/2013 20:22	**Vial:**	16
Run Type:	MB			**Dilution:**	1.0
Lab ID:	KWG1304453-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/10/2013

Analysis Lot:	KWG1304649	**Prep Lot:**	KWG1304453	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
Prep Ref:	1235348	**Prep Date:**	05/10/2013		

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\051413-521\0514.D	**Method ID:**	MJ808
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	13699	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96	0.00	0.00	50	7720	8.37	84	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine				47	0		0.32	U	
1	N-Nitrosomethylethylamine				61	0		0.50	U	
1	N-Nitrosodiethylamine				75	0		0.76	U	
1	N-Nitrosodi-n-propylamine				89	0		0.76	U	
1	N-Nitrosopyrrolidine	23.30	-0.10	0.00	55	586	0.5300	1.06	J	
1	N-Nitrosopiperidine				69	0		0.55	U	
1	N-Nitrosodi-n-butylamine				57	0		0.77	U	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514007.D Vial: 16
Acq On : 14 May 13 18:31 Operator: SVO-DW
Sample : 051013 MB Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:19:36 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

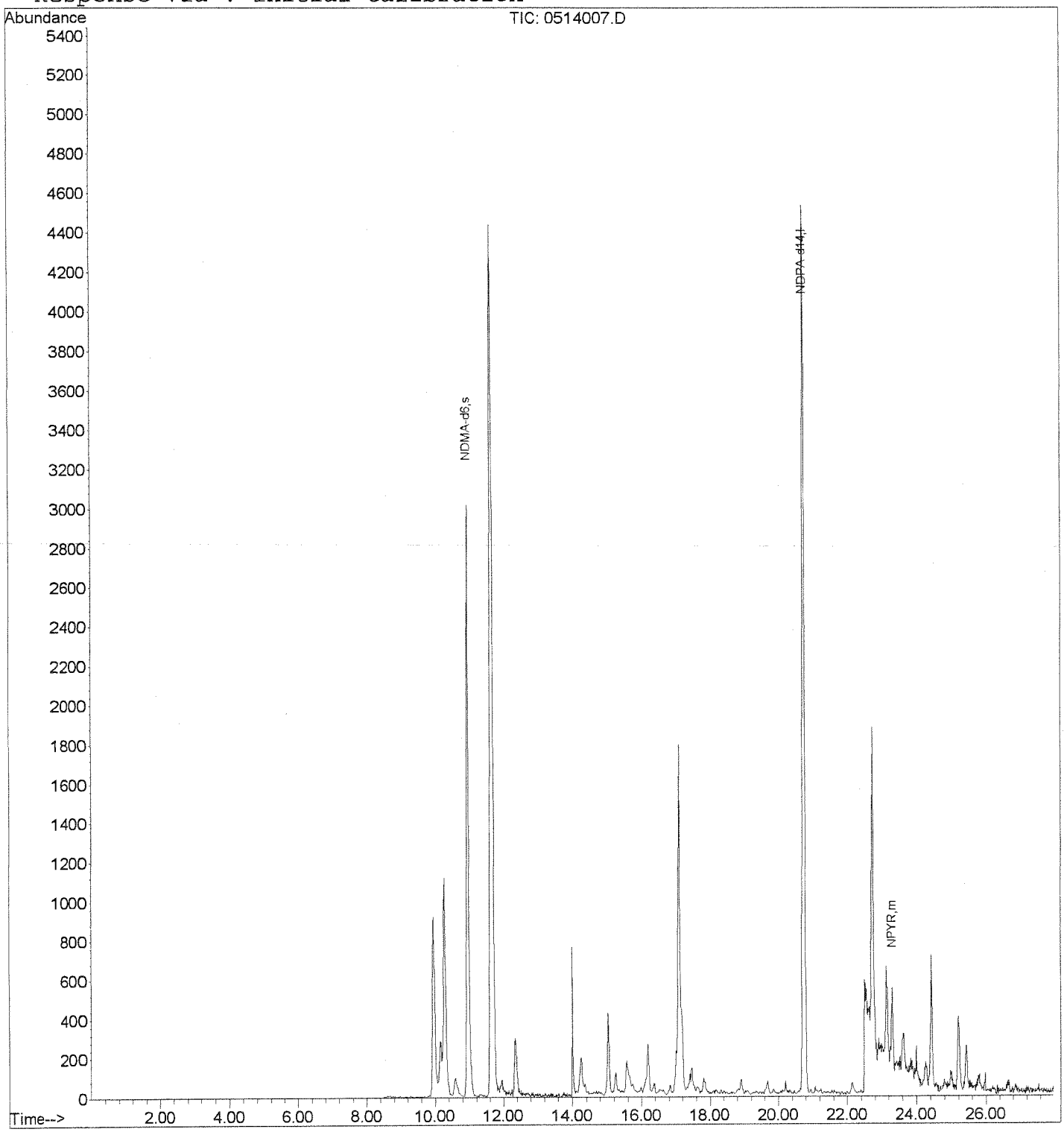
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13699	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.96	50	7720	8.37	ug/L	-0.02
Target Compounds						Qvalue
8) NPYR	23.30	55	586	0.53	ug/L	96

(#) = qualifier out of range (m) = manual integration
0514007.D 040413_D14.M Tue May 14 20:22:46 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514007.D Vial: 16
Acq On : 14 May 13 18:31 Operator: SVO-DW
Sample : 051013 MB Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:22 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client: Battelle
Project: JPL-Pasadena CA/100016516
Sample Matrix: Water

Service Request: K1304120
Date Collected: NA
Date Received: NA

Nitrosamines by EPA 521

Sample Name: Lab Control Sample
Lab Code: KWG1304453-1

Extraction Method: METHOD
Analysis Method: 521

Units: ng/L
Basis: NA

Level: Low

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**1.14**		2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	76	70-130	05/14/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\051413-521\0514005.D
Lab ID: KWG1304453-1
RunType: LCS
Matrix: WATER

Date Acquired: 05/14/2013 17:06
Date Quantitated: 05/14/2013 20:22
Batch ID: KWG1304649
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA/RL
	N-Nitrosodiethylamine	0.9866	0.99	NA	NA/NT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	↓
Continuing Calibration Recovery	N-Nitrosodi-n-propylamine	-100.0	NA	50	NT

Primary Review: 05/15/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514005.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 17:06	**Quant Date:**	05/14/2013 20:22	**Vial:**	14
Run Type:	LCS			**Dilution:**	1.0
Lab ID:	KWG1304453-1			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/10/2013

Analysis Lot:	KWG1304649	**Prep Lot:**	KWG1304453	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/10/2013		
Prep Ref:	1235346				

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\051413-521\0514.D			**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\051413-521\0514007.D			**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	13702	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.99	0.03	0.00	50	6889	7.60	76	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.10	0.03	0.00	47	562	0.5700	1.14	J	
1	N-Nitrosomethylethylamine	13.72	0.01	0.00	61	532	0.4700	0.940	J	
1	N-Nitrosodiethylamine	15.84	0.02	0.00	75	131	0.8000	1.60	J	
1	N-Nitrosodi-n-propylamine	21.05	21.05	1.02	89	157	1.71	3.42		
1	N-Nitrosopyrrolidine	23.41	0.01	0.00	55	1774	1.10	2.20		
1	N-Nitrosopiperidine	24.36	0.02	0.00	69	3215	0.9400	1.88	J	
1	N-Nitrosodi-n-butylamine	26.63		0.00	57	966	1.00	2.00		

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514005.D Vial: 14
Acq On : 14 May 13 17:06 Operator: SVO-DW
Sample : 051013 LCS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:19:35 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

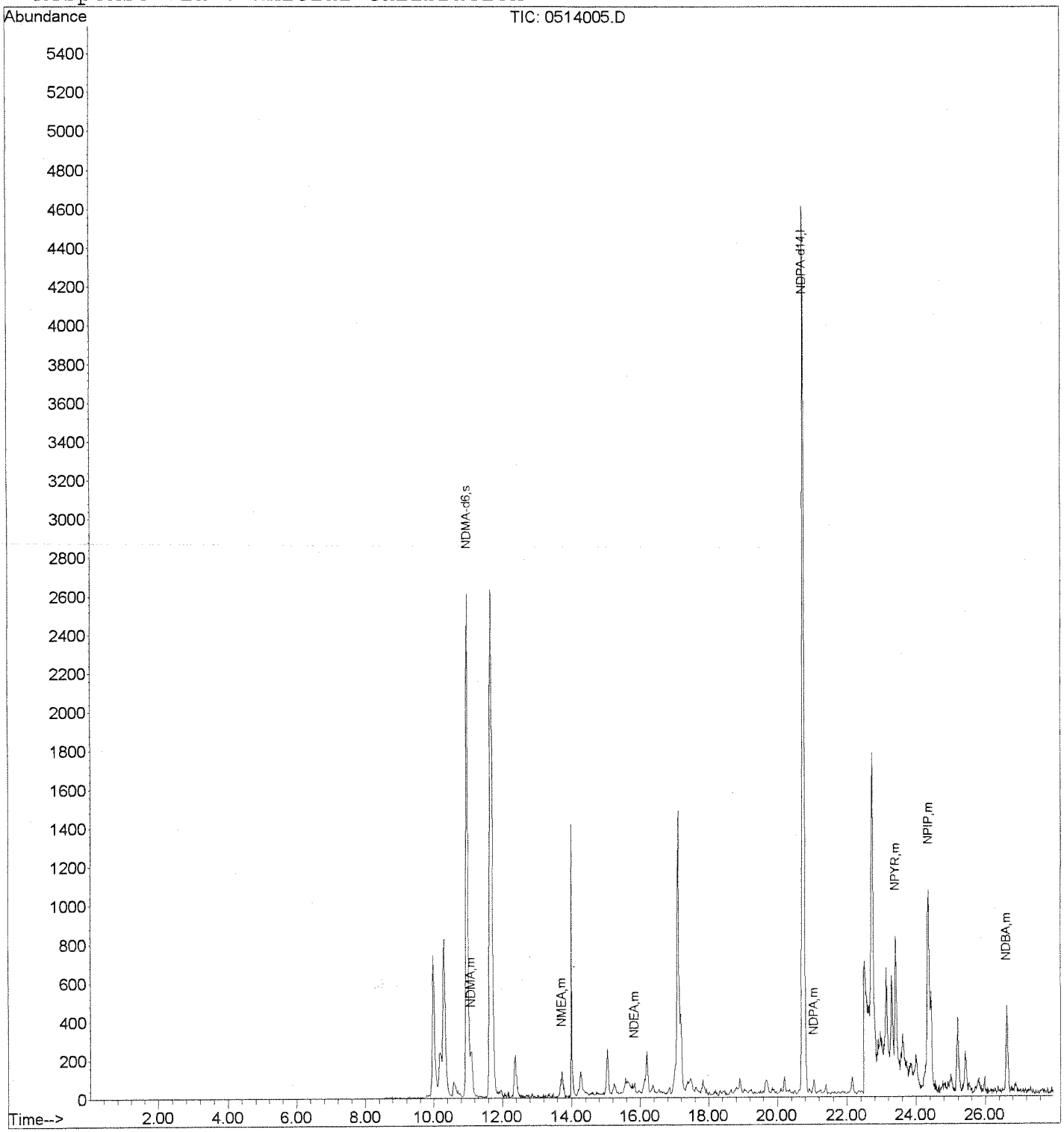
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	13702	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.99	50	6889	7.60	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	562	0.57	ug/L	75
5) NMEA	13.72	61	532	0.47	ug/L	99
6) NDEA	15.84	75	131	0.80	ug/L	100
7) NDPA	21.05	89	157	1.71	ug/L	100
8) NPYR	23.41	55	1774	1.10	ug/L	96
9) NPIP	24.36	69	3215	0.94	ug/L	100
10) NDBA	26.63	57	966	1.00	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514005.D 040413_D14.M Tue May 14 20:22:46 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514005.D Vial: 14
Acq On : 14 May 13 17:06 Operator: SVO-DW
Sample : 051013 LCS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:22 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Analytical Results

Client:	Battelle	**Service Request:**	K1304120
Project:	JPL-Pasadena CA/100016516	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

Nitrosamines by EPA 521

Sample Name:	Duplicate Lab Control Sample	**Units:**	ng/L
Lab Code:	KWG1304453-2	**Basis:**	NA
Extraction Method:	METHOD	**Level:**	Low
Analysis Method:	521		

Analyte Name	Result	Q	MRL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Note
N-Nitrosodimethylamine	**1.16**		2.0	1	05/10/13	05/14/13	KWG1304453	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
N-Nitrosodimethylamine-d6	87	70-130	05/14/13	Acceptable

Comments:

Exception Report

Data File: J:\MS16\DATA\051413B-521\0514B002.D
Lab ID: KWG1304453-2
RunType: DLCS
Matrix: WATER

Date Acquired: 05/14/2013 22:03
Date Quantitated: 05/14/2013 23:57
Batch ID: KWG1304650
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
Analytical Holding Time	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Calibration Verification Pass/Fail	NA	NA	NA	x	
Continuing Calibration Recovery	NA	NA	NA		x
Continuing Calibration Minimum RF	NA	NA	NA	x	
Continuing Calibration SPCC/CCC	NA	NA	NA	x	
Continuing Calibration Recovery (Closing)	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Surrogates	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Relative Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Std MRL Unsupported by ICAL	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	
Overdiluted Analysis	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	
	N-Nitrosodiethylamine	0.9866	0.99	NA	
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	
Continuing Calibration Recovery	N-Nitrosodi-n-propylamine	63.0	NA	50	

Primary Review: 3/15/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\051413B-521\0514B002.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 22:03	**Quant Date:**	05/14/2013 23:57	**Vial:**	15
Run Type:	DLCS			**Dilution:**	1.0
Lab ID:	KWG1304453-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	WATER
Prod Code:	521 Nitrosamine	**Collect Date:**		**Receive Date:**	05/10/2013

Analysis Lot:	KWG1304650	**Prep Lot:**	KWG1304453	**Report Group:**	
Analysis Method:	521	**Prep Method:**	METHOD		
		Prep Date:	05/10/2013		
Prep Ref:	1235347				

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\051413B-521\0514B.D			**Method ID:**	MJ808
MB Ref:	J:\MS16\DATA\051413-521\0514007.D			**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	0.00	97	11733	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.94	-0.02	0.00	50	6953	8.72	87	70-130	OK	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08	0.01	0.00	47	492	0.5800	1.16	J	
1	N-Nitrosomethylethylamine	13.70	0.01	0.00	61	660	0.6800	1.36	J	
1	N-Nitrosodiethylamine	15.84	0.02	0.00	75	144	1.03	2.06		
1	N-Nitrosodi-n-propylamine	21.03	-0.03	0.00	89	108	1.53	3.06		
1	N-Nitrosopyrrolidine	23.40	-0.02	0.00	55	1818	1.27	2.54		
1	N-Nitrosopiperidine	24.33	-0.01	0.00	69	3153	1.06	2.12		
1	N-Nitrosodi-n-butylamine	26.63		0.00	57	712	0.9400	1.88	J	

Prep Amount:	500 ml	**Dilution:**	1.0
Prep Final Vol:	1 ml	**Unit Factor:**	1000

Final Concentration = ((Soln Conc x Prep Final Vol x Dilution) / Prep Amount) x Unit Factor

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413B-521\0514B002.D Vial: 15
Acq On : 14 May 13 22:03 Operator: SVO-DW
Sample : 051013 DLCS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 23:55:17 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

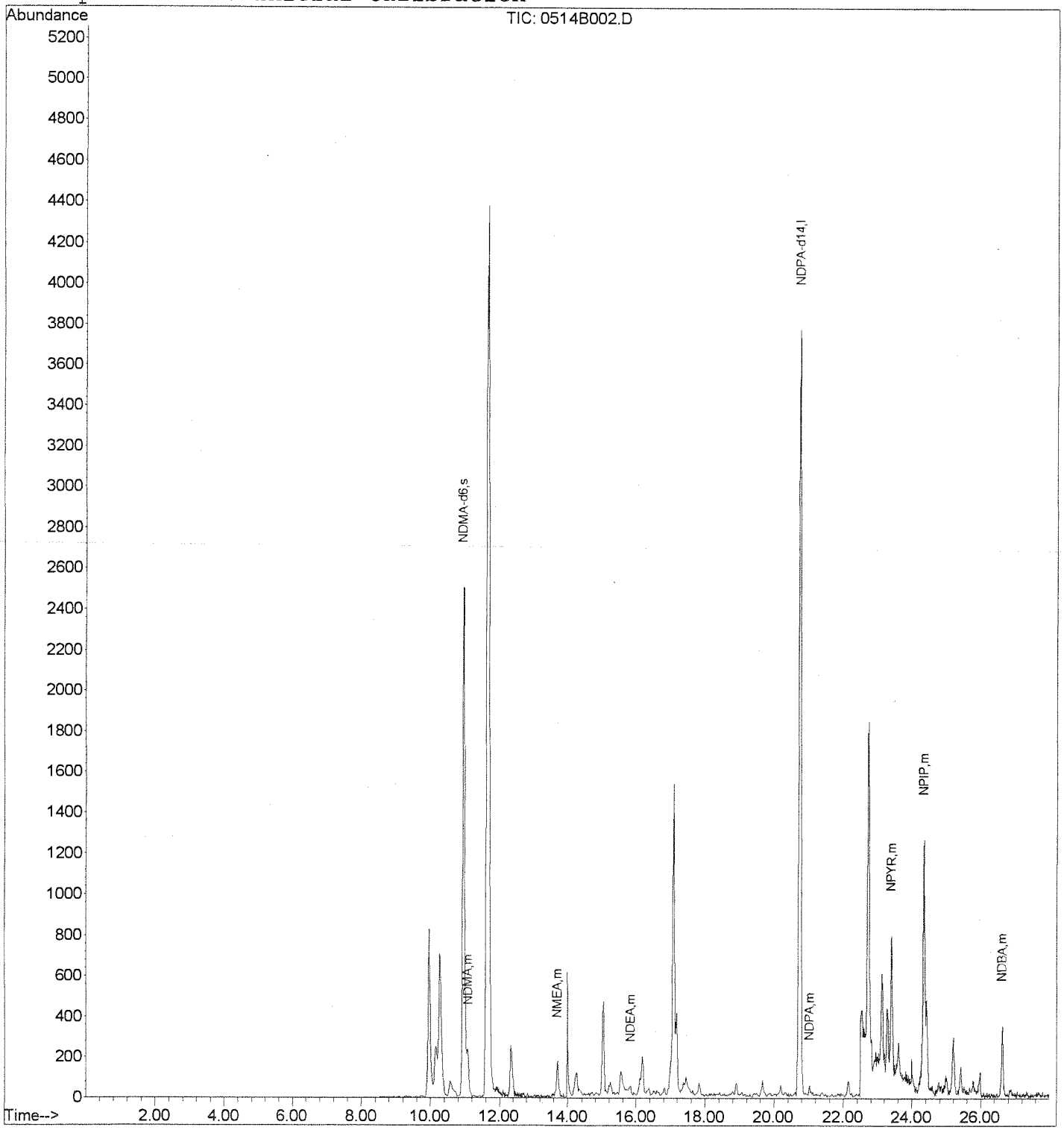
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	11733	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.94	50	6953	8.72	ug/L	-0.04
Target Compounds						Qvalue
4) NDMA	11.08	47	492	0.58	ug/L	75
5) NMEA	13.70	61	660	0.68	ug/L	99
6) NDEA	15.84	75	144	1.03	ug/L	100
7) NDPA	21.03	89	108	1.53	ug/L	100
8) NPYR	23.40	55	1818	1.27	ug/L	97
9) NPIP	24.33	69	3153	1.06	ug/L	100
10) NDBA	26.63	57	712	0.94	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514B002.D 040413_D14.M Tue May 14 23:57:38 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413B-521\0514B002.D Vial: 15
Acq On : 14 May 13 22:03 Operator: SVO-DW
Sample : 051013 DLCS Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 23:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Standards Data

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Level ID	File ID
A	J:\MS16\DATA\040413-521ICAL\0404001.D
B	J:\MS16\DATA\040413-521ICAL\0404002.D
C	J:\MS16\DATA\040413-521ICAL\0404003.D
D	J:\MS16\DATA\040413-521ICAL\0404004.D
E	J:\MS16\DATA\040413-521ICAL\0404005.D
F	J:\MS16\DATA\040413-521ICAL\0404006.D
G	J:\MS16\DATA\040413-521ICAL\0404007.D
H	J:\MS16\DATA\040413-521ICAL\0404008.D

Analyte Name	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF	Level ID	Amt	RRF
N-Nitrosodimethylamine-d6	A	0.50	2.46	B	1.0	2.54	C	2.0	3.01	D	5.0	3.19	E	7.0	3.51
	F	10	4.01	G	15	3.25	H	20	4.45						
N-Nitrosodimethylamine				B	1.0	2.47	C	2.0	3.24	D	5.0	3.00	E	7.0	3.62
	F	10	4.15	G	15	3.54	H	20	3.76						

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Calibration Date: 04/04/2013

Initial Calibration Summary
Nitrosamines by EPA 521

Calibration ID: CAL12363
Instrument ID: MS16

Column: MS

Analyte Name	Compound Type	Calibration Evaluation					RRF Evaluation		
		Fit Type	Eval.	Eval. Result	Q	Control Criteria	Average RRF	Q	Minimum RRF
N-Nitrosodimethylamine-d6	SURR	Quadratic(0,0)	COD	0.979	*	≥ 0.99	3.30		
N-Nitrosodimethylamine	MS	Quadratic(0,0)	COD	0.990		≥ 0.99	3.40		

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Calibration Date: 04/04/2013
Date Analyzed: 04/05/2013

Second Source Calibration Verification
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration ID: CAL12363
Units: ug/L

File ID: J:\MS16\DATA\040413-521ICAL\0404009.D

Analyte Name	Expected	Result	Average RF	SSV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine	10	11	3.40	4.03	NA	10	± 30 %	uadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Directory: J:\MS16\DATA\040413-521ICAL

Line	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
1		0404.D	1.	DCM		04 Apr 2013 32:2
2	1	0404001.D	1.	DWSTD06-44J@0.5ppb		04 Apr 2013 33:1
3	2	0404002.D	1.	DWSTD06-44I@1.0ppb		04 Apr 2013 33:5
4	3	0404003.D	1.	DWSTD06-44H@2.0ppb		04 Apr 2013 34:4
5	4	0404004.D	1.	DWSTD06-44G@5.0ppb		04 Apr 2013 35:2
6	5	0404005.D	1.	DWSTD06-44F@7.0ppb	CAL12363	05 Apr 2013 12:0
7	6	0404006.D	1.	DWSTD06-44E@ 10ppb		05 Apr 2013 12:4
8	7	0404007.D	1.	DWSTD06-44D@ 15ppb		05 Apr 2013 13:3
9	8	0404008.D	1.	DWSTD06-44C@ 20ppb		05 Apr 2013 14:1
10	9	0404009.D	1.	DWSTD06-36F ICV@10p		05 Apr 2013 14:5

4/5/13

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

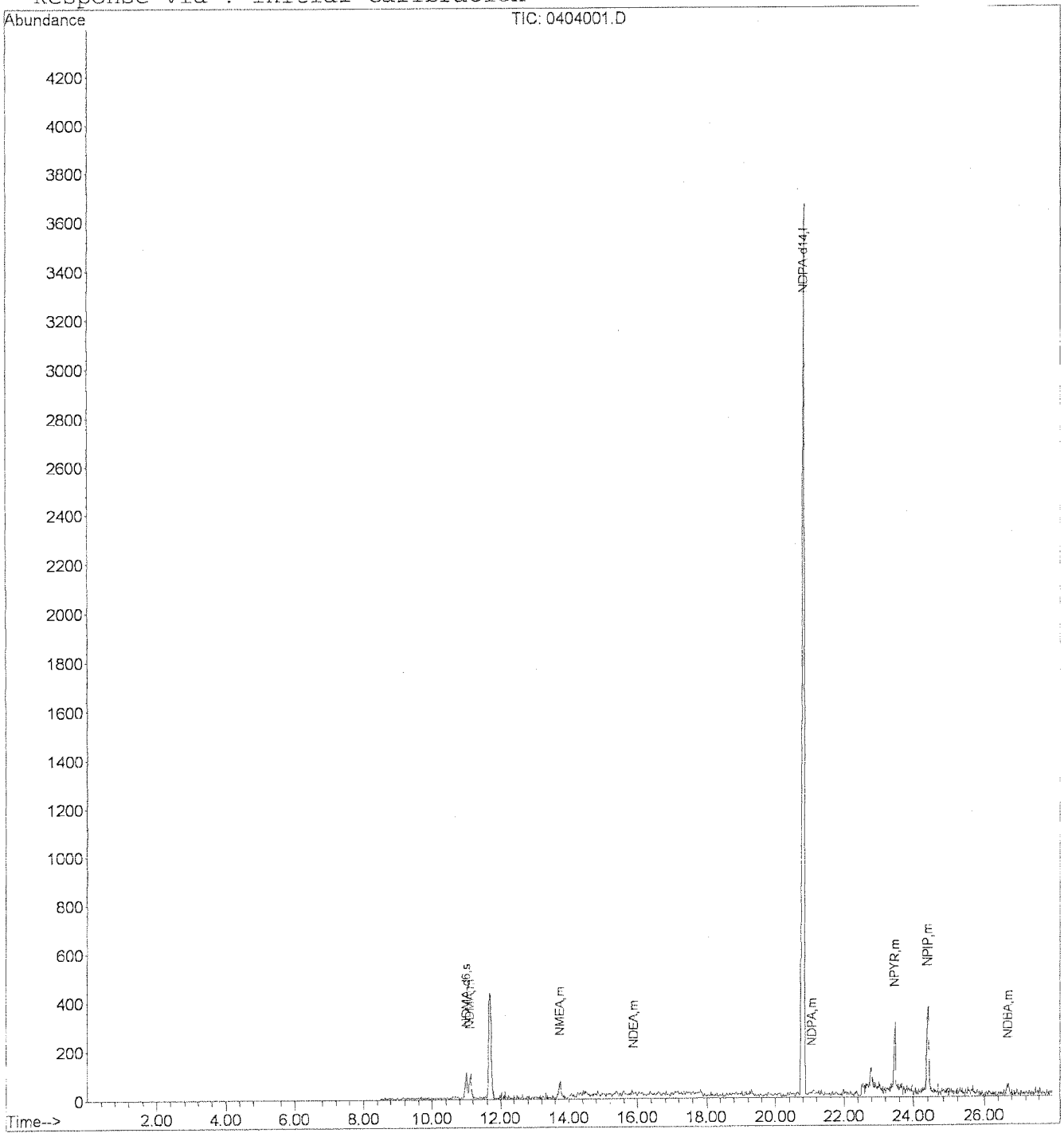
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.77	97	10903	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	11.00	50	268	0.45	ug/L	0.02
Target Compounds						Qvalue
4) NDMA	11.12	47	272	0.34	ug/L	75
5) NMEA	13.74	61	315	0.35	ug/L	99
6) NDEA	15.89	75	29m	0.23	ug/L	
7) NDPA	21.07	89	29m	0.35	ug/L	
8) NPYR	23.46	55	744	0.70	ug/L	96
9) NPIP	24.39	69	1234	0.65	ug/L	100
10) NDBA	26.69	57	105	0.63	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404001.D 040413_D14.M Fri Apr 05 13:32:05 2013 Page 1

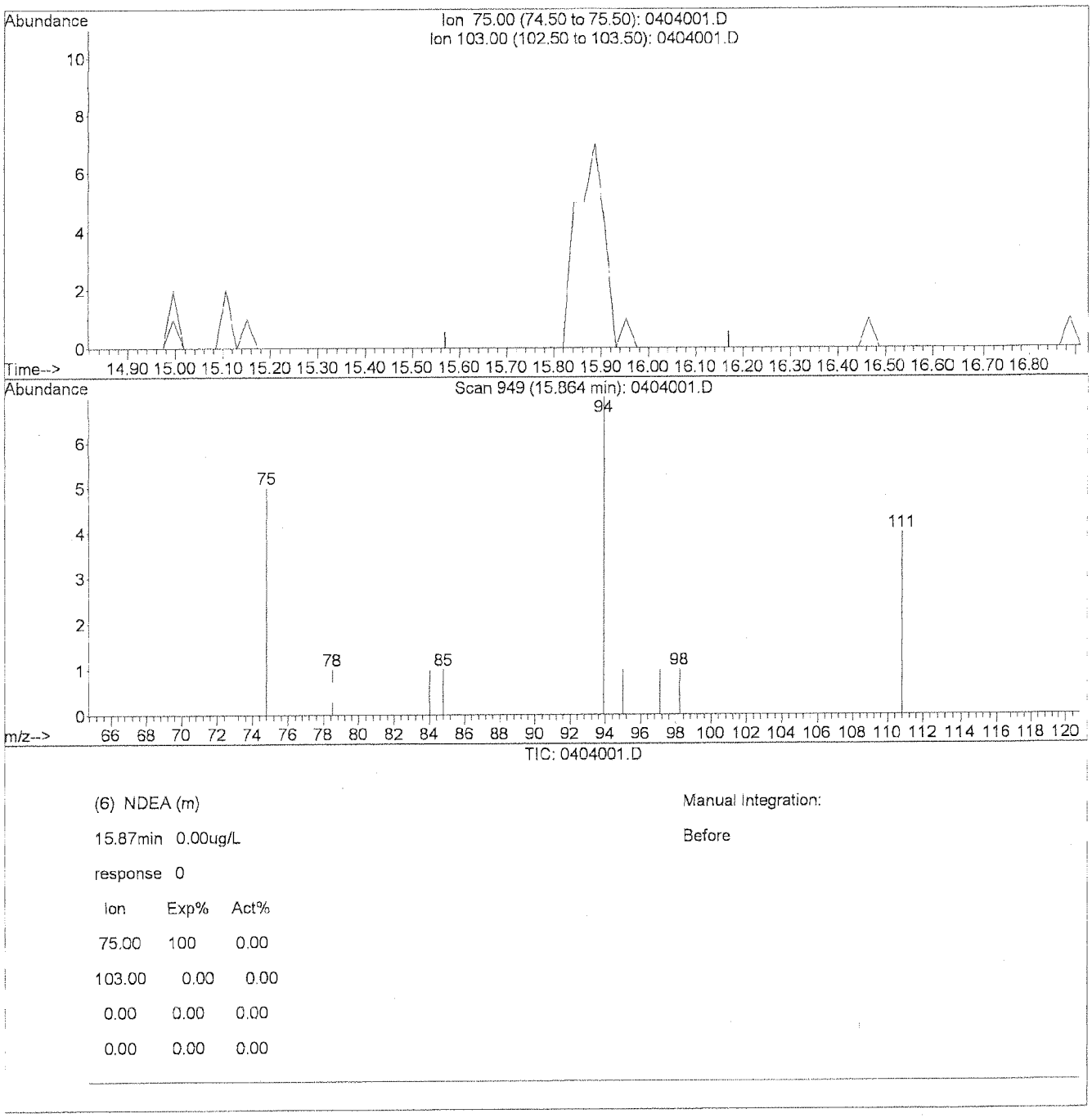
Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



(6) NDEA (m)

15.87min 0.00ug/L

response 0

Ion	Exp%	Act%
75.00	100	0.00
103.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

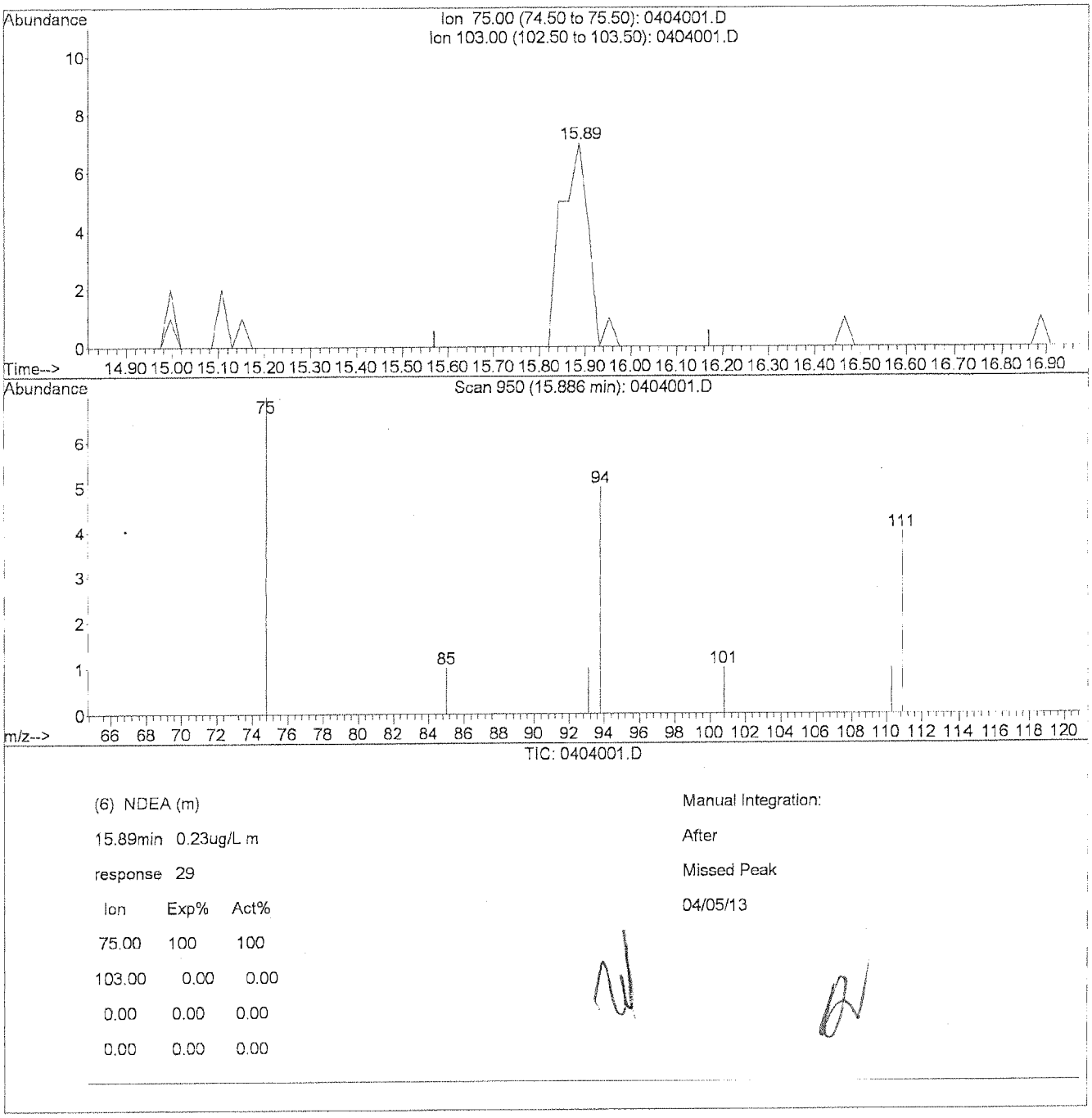
Manual Integration:

Before

0404001.D 040413_D14.M Fri Apr 05 13:05:59 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



(6) NDEA (m)

15.89min 0.23ug/L m

response 29

Ion	Exp%	Act%
75.00	100	100
103.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

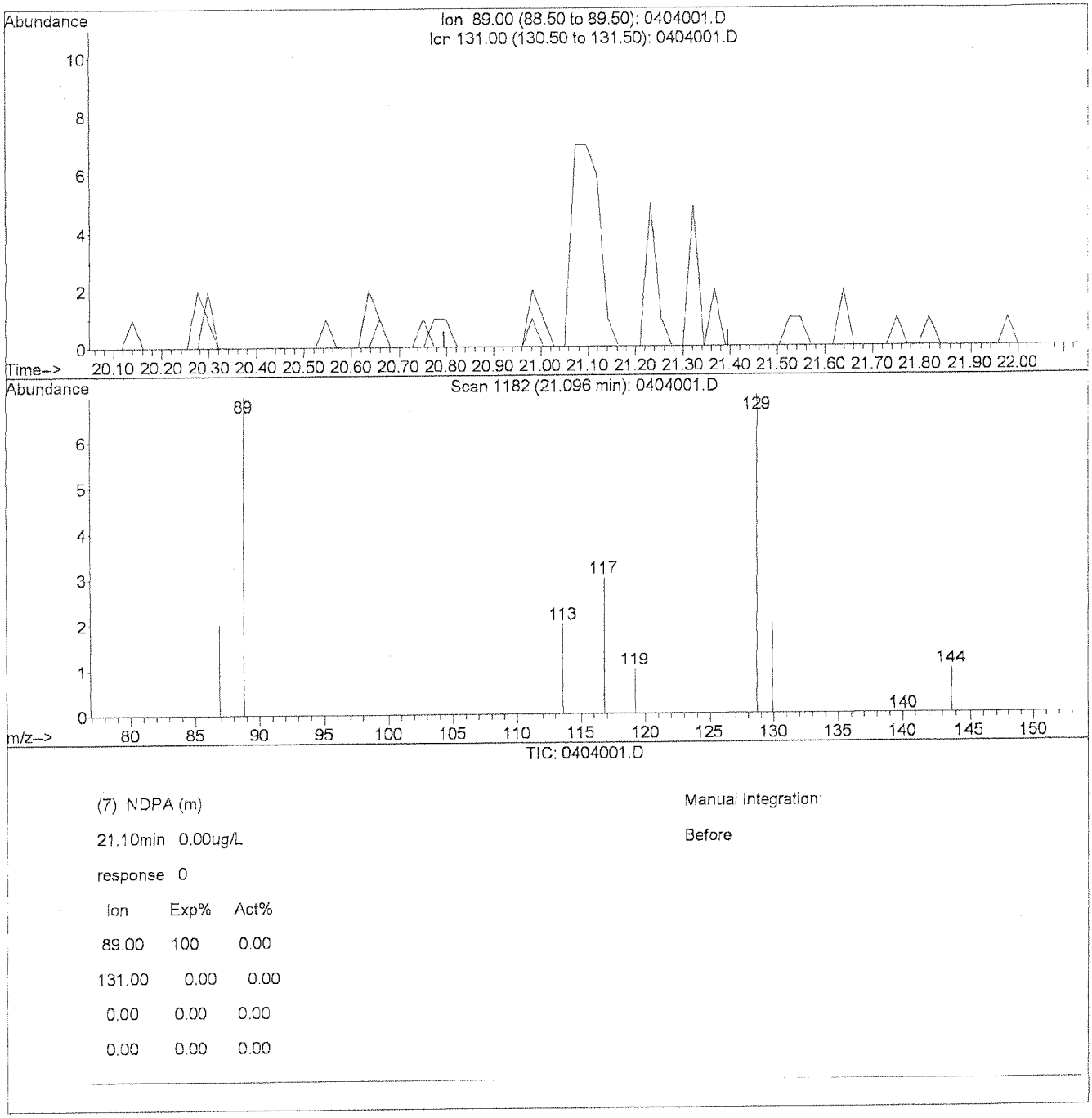
Missed Peak

04/05/13

0404001.D 040413_D14.M Fri Apr 05 13:06:12 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

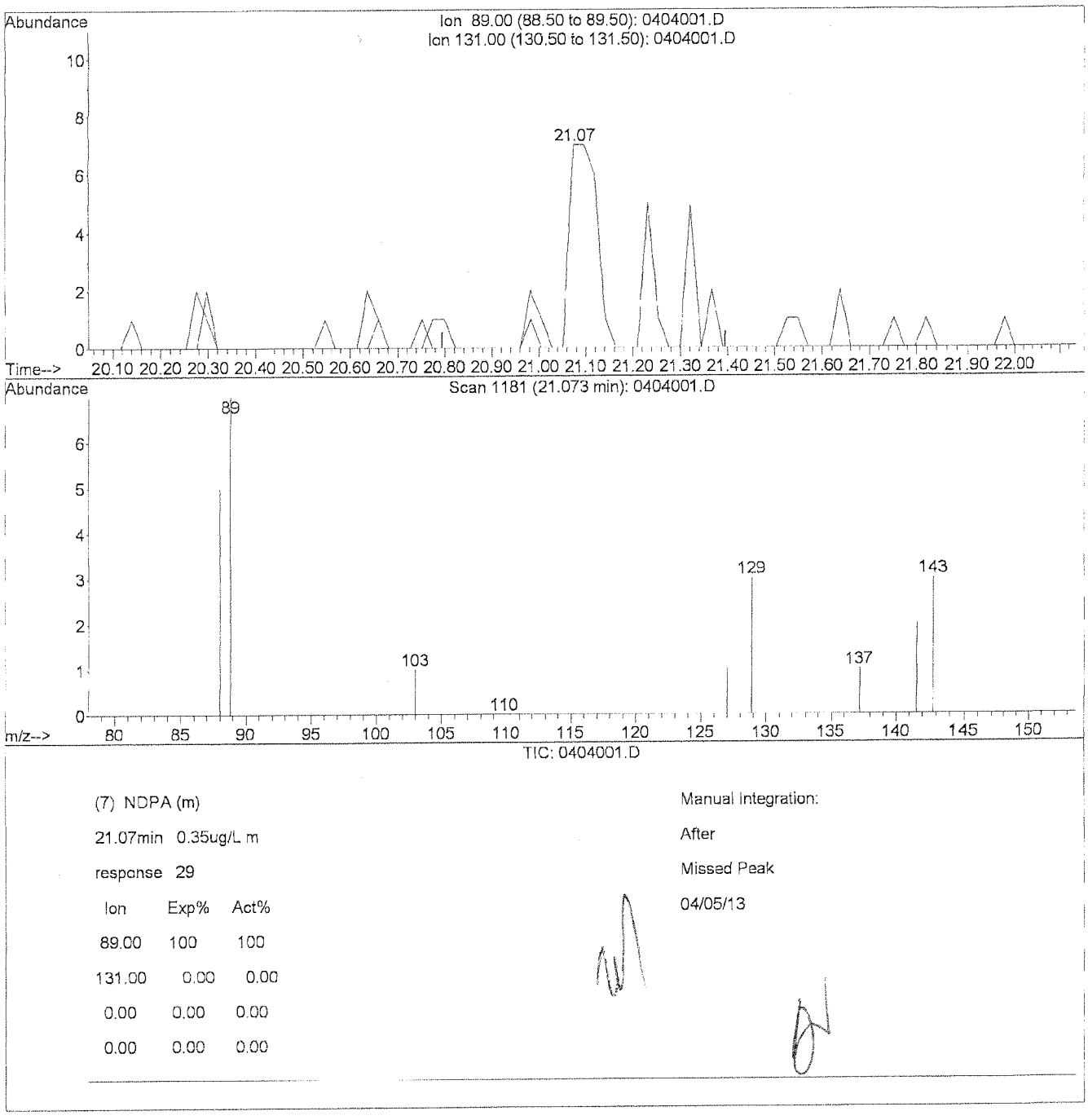
Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



0404001.D 040413_D14.M Fri Apr 05 13:06:15 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404001.D Vial: 1
Acq On : 04 Apr 13 21:17 Operator: SVO-DW
Sample : DWSTD06-44J@0.5ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



0404001.D 040413_D14.M Fri Apr 05 13:06:21 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

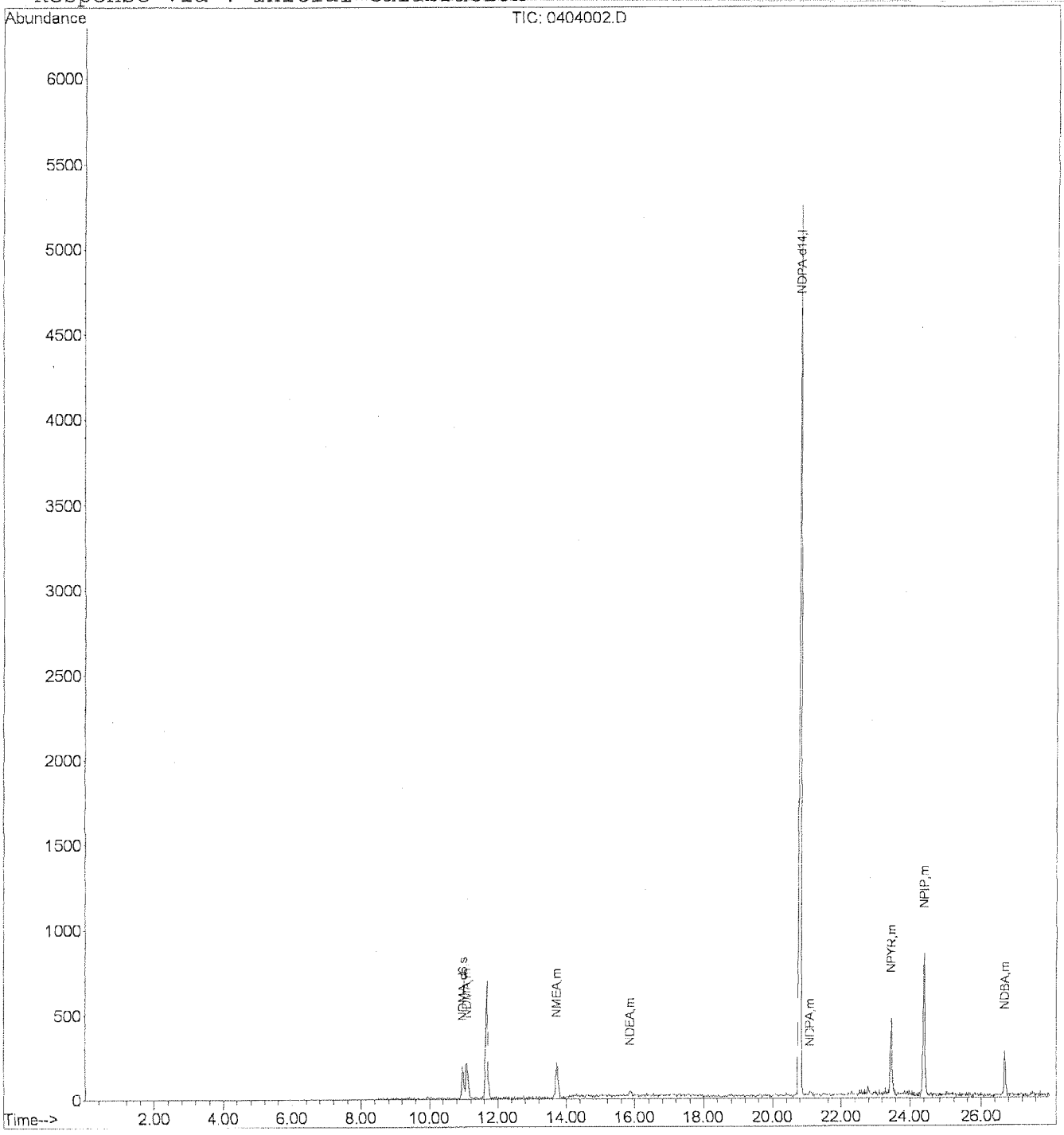
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	11737	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	596	0.92	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	580	0.68	ug/L	82
5) NMEA	13.72	61	953	0.97	ug/L	100
6) NDEA	15.86	75	123	0.90	ug/L	100
7) NDPA	21.10	89	39m	0.44	ug/L	
8) NPYR	23.47	55	1116	0.87	ug/L	96
9) NPIP	24.39	69	2357	0.92	ug/L	100
10) NDBA	26.69	57	506	0.83	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404002.D 040413_D14.M Fri Apr 05 13:32:06 2013 Page 1

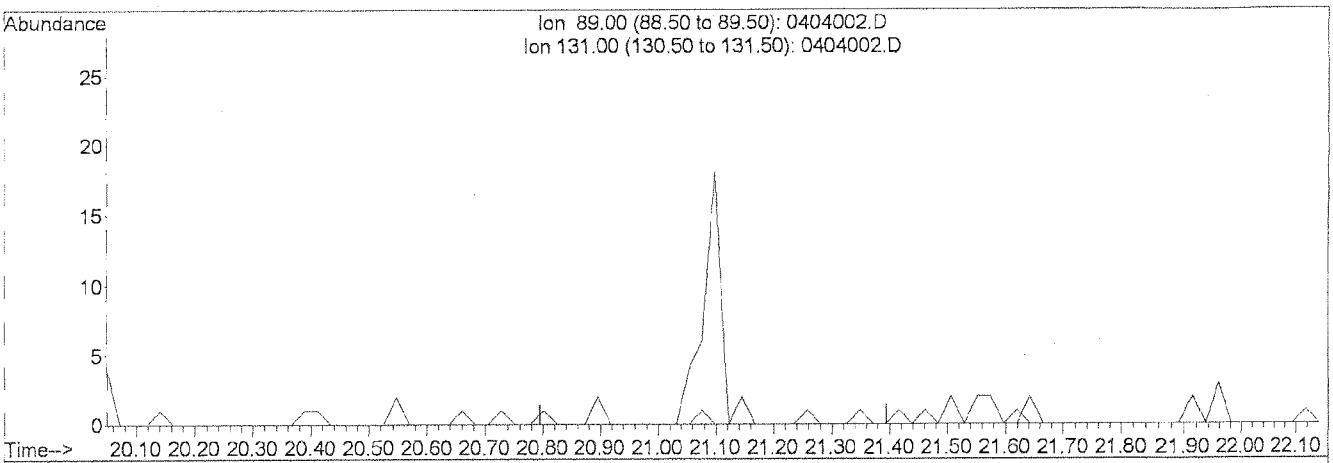
Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: 040413_D14.R

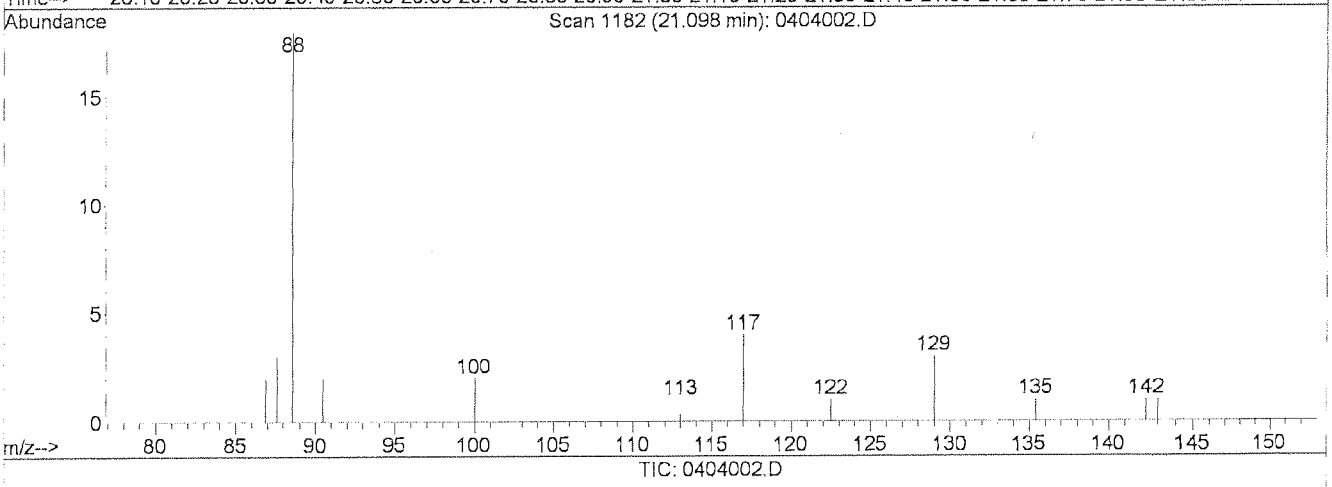
Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration





TIC: 0404002.D

(7) NDPA (m)

21.10min 0.00ug/L

response 0

Ion	Exp%	Act%
89.00	100	0.00
131.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

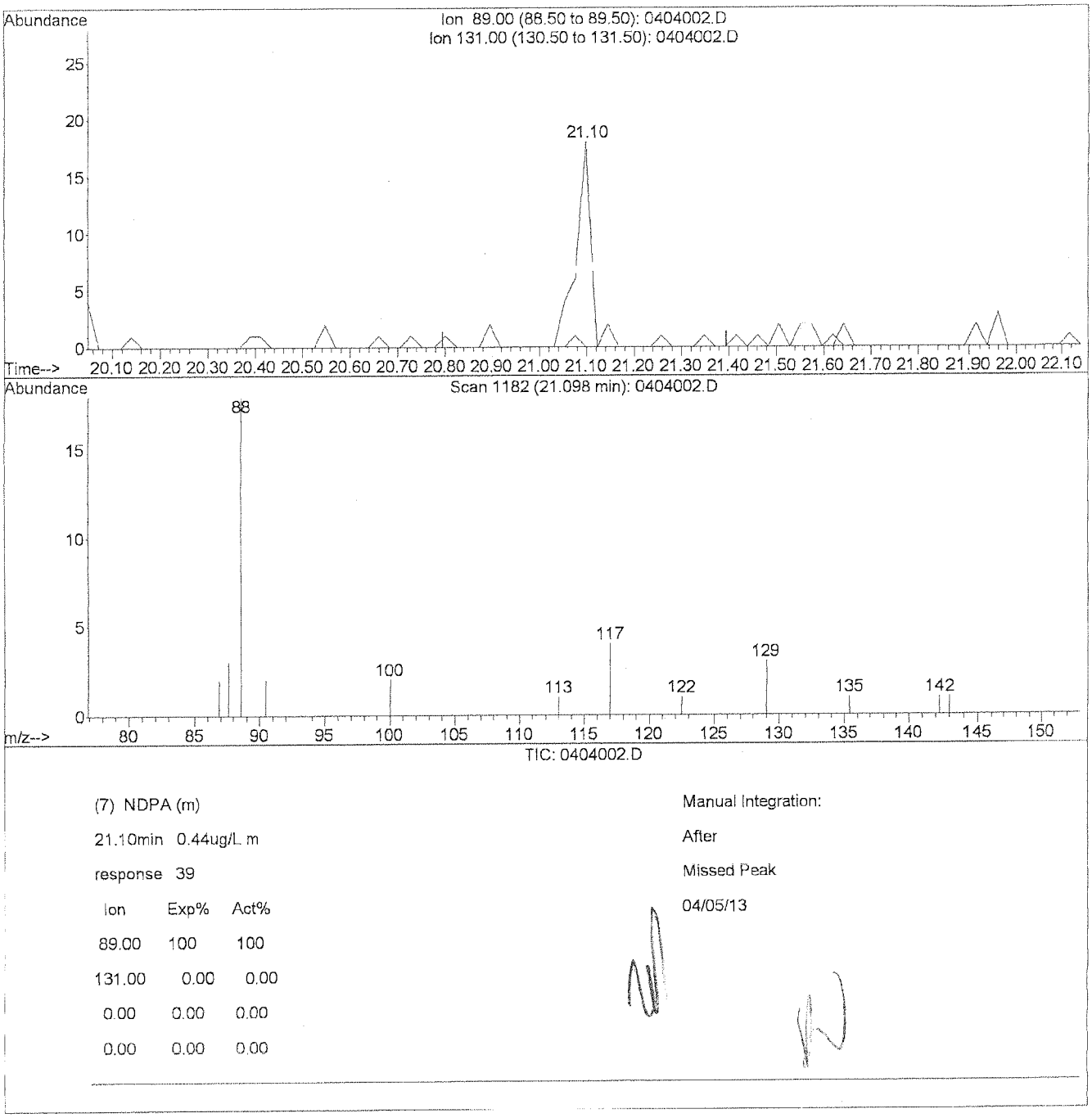
Manual Integration:

Before

0404002.D 040413_D14.M Fri Apr 05 13:06:44 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404002.D Vial: 2
Acq On : 04 Apr 13 21:59 Operator: SVO-DW
Sample : DWSTD06-44I@1.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:08 2013 Quant Results File: temp.res

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Multiple Level Calibration



(7) NDPA (m)

21.10min 0.44ug/L m

response 39

Ion	Exp%	Act%
89.00	100	100
131.00	0.00	0.00
0.00	0.00	0.00
0.00	0.00	0.00

Manual Integration:

After

Missed Peak

04/05/13

0404002.D 040413_D14.M Fri Apr 05 13:06:53 2013

Data File : J:\MS16\DATA\040413-521ICAL\0404003.D Vial: 3
Acq On : 04 Apr 13 22:41 Operator: SVO-DW
Sample : DWSTD06-44H@2.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

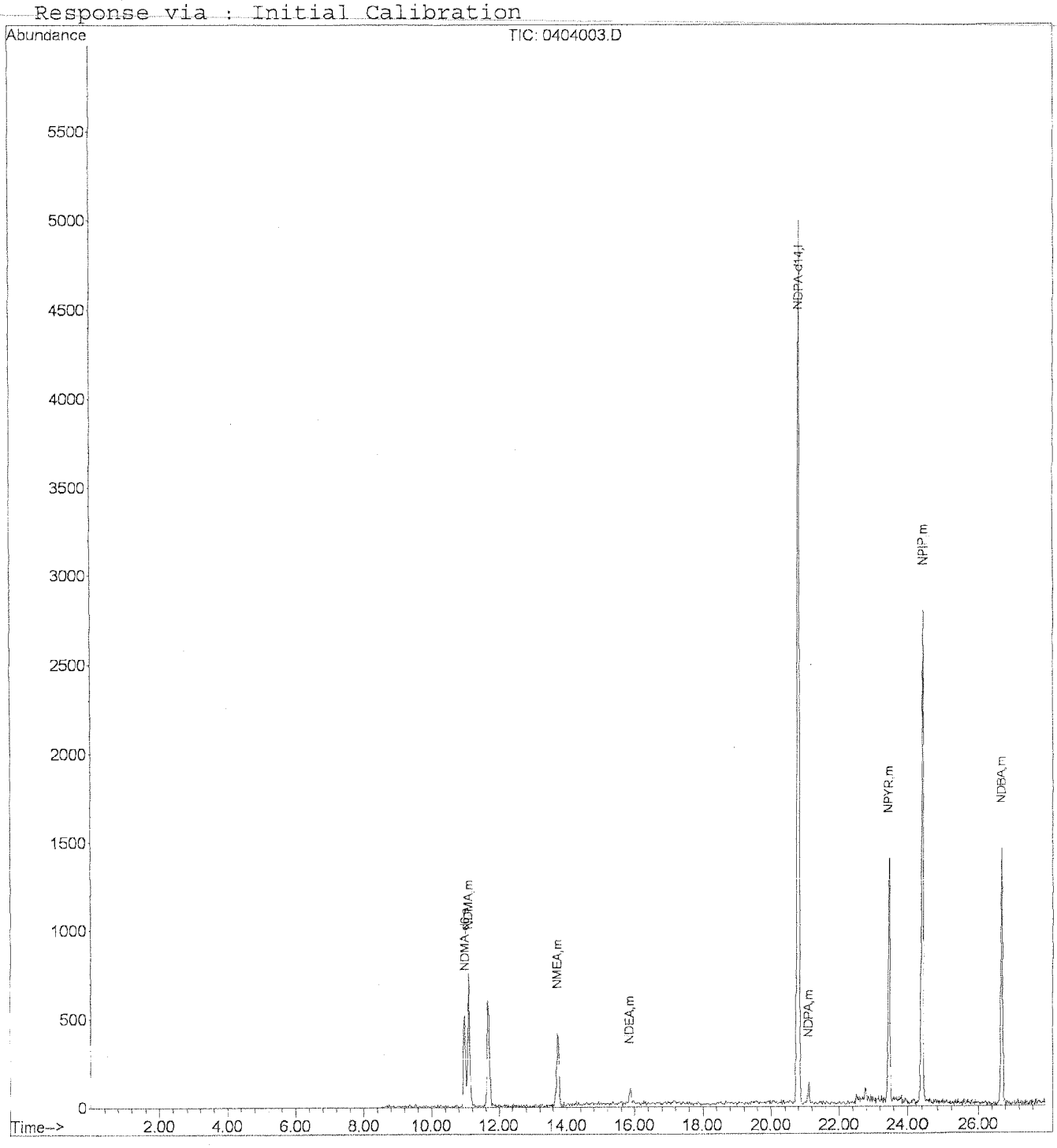
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	12543	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	1508	2.11	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	1624	1.78	ug/L	75
5) NMEA	13.72	61	1948	1.84	ug/L	99
6) NDEA	15.86	75	263	1.78	ug/L	100
7) NDPA	21.10	89	196	1.82	ug/L	100
8) NPYR	23.46	55	3682	2.16	ug/L	96
9) NPIP	24.39	69	8008	2.27	ug/L	100
10) NDBA	26.68	57	2601	1.85	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404003.D 040413_D14.M Fri Apr 05 13:32:08 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404003.D Vial: 3
Acq On : 04 Apr 13 22:41 Operator: SVO-DW
Sample : DWSTD06-44H@2.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404004.D Vial: 4
Acq On : 04 Apr 13 23:24 Operator: SVO-DW
Sample : DWSTD06-44G@5.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

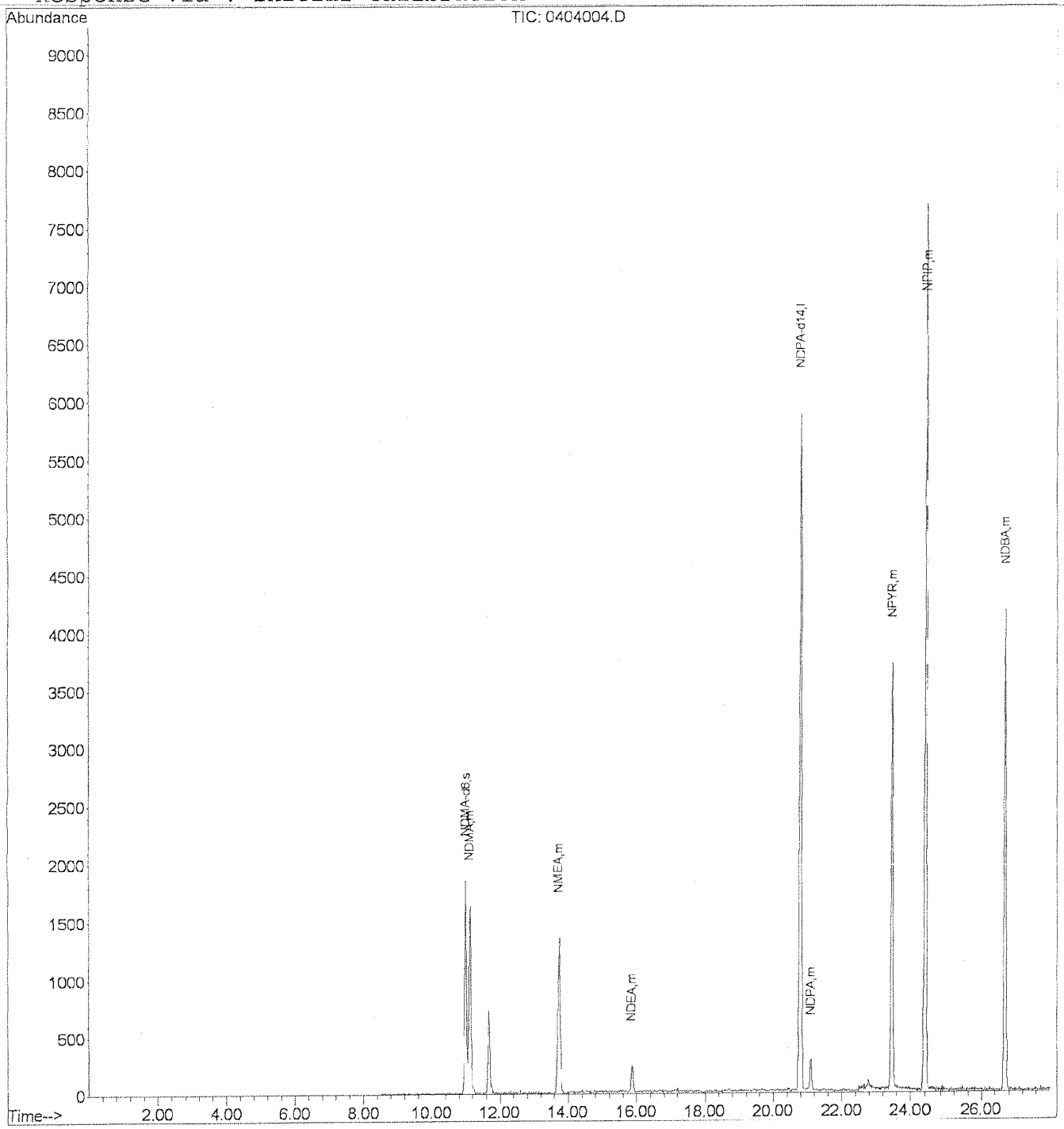
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	14495	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	4625	5.14	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.12	47	4355	4.13	ug/L	77
5) NMEA	13.73	61	5848	4.62	ug/L	99
6) NDEA	15.86	75	811	4.59	ug/L	100
7) NDPA	21.10	89	652	4.35	ug/L	100
8) NPYR	23.46	55	10726	4.93	ug/L	96
9) NPIP	24.39	69	21389	4.78	ug/L	100
10) NDBA	26.68	57	8713	4.27	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404004.D 040413_D14.M Fri Apr 05 13:32:10 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404004.D Vial: 4
Acq On : 04 Apr 13 23:24 Operator: SVO-DW
Sample : DWSTD06-44G@5.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404005.D Vial: 5
Acq On : 05 Apr 2013 00:06 Operator: SVO-DW
Sample : DWSTD06-44F@7.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:28 2013 Quant Results File: 040413_D14.RES

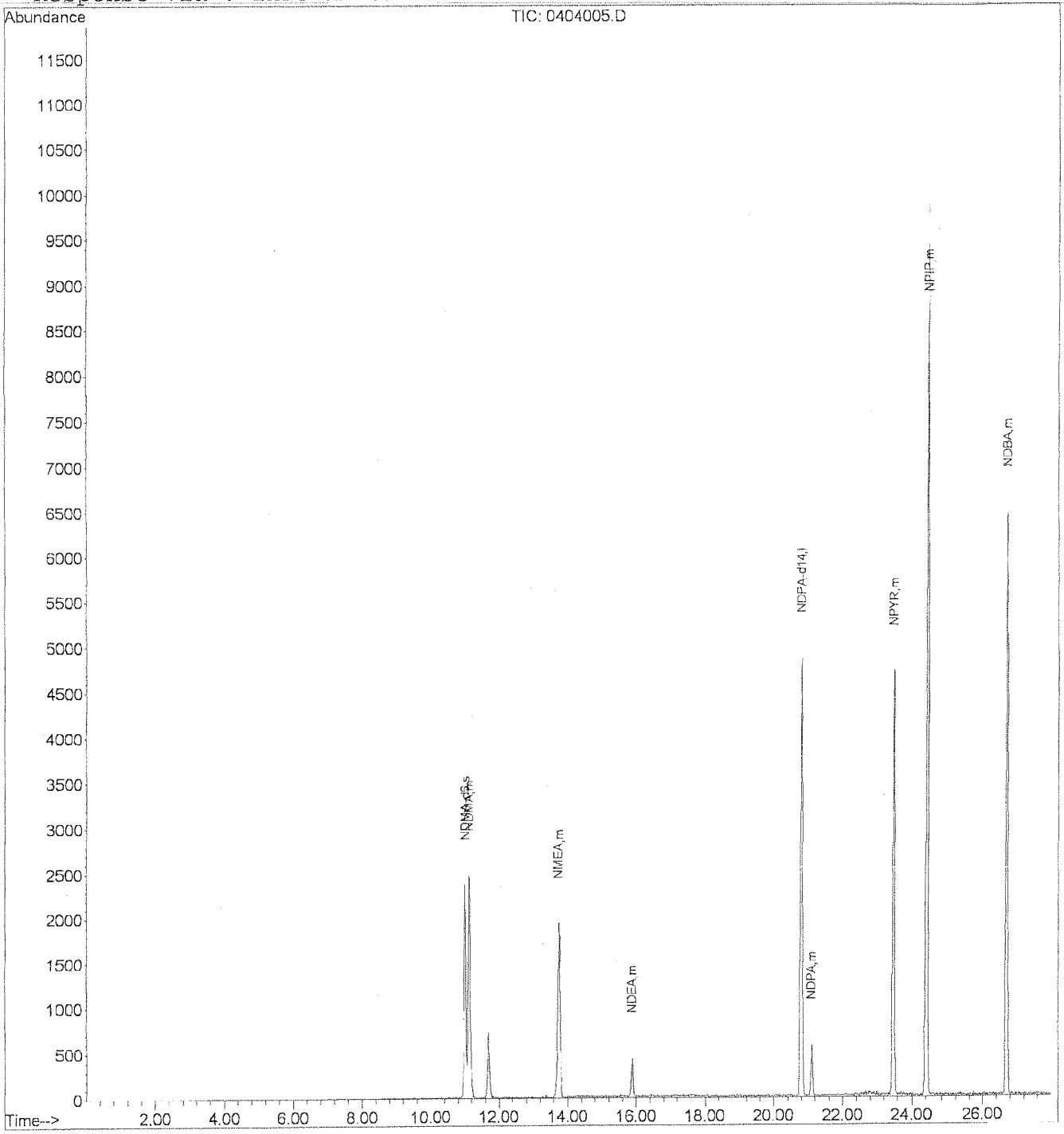
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	12659	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	6228	7.47	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	6414	6.93	ug/L	79
5) NMEA	13.73	61	8398	7.36	ug/L	99
6) NDEA	15.87	75	1227	7.65	ug/L	100
7) NDPA	21.10	89	1267	7.83	ug/L	100
8) NPYR	23.47	55	12630	6.45	ug/L	96
9) NPIP	24.40	69	25551	6.37	ug/L	100
10) NDBA	26.69	57	14909	7.75	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404005.D 040413_D14.M Fri Apr 05 13:32:11 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404005.D Vial: 5
Acq On : 05 Apr 2013 00:06 Operator: SVO-DW
Sample : DWSTD06-44F@7.0ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404006.D Vial: 6
Acq On : 05 Apr 2013 00:48 Operator: SVO-DW
Sample : DWSTD06-44E@ 10ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:29 2013 Quant Results File: 040413_D14.RES

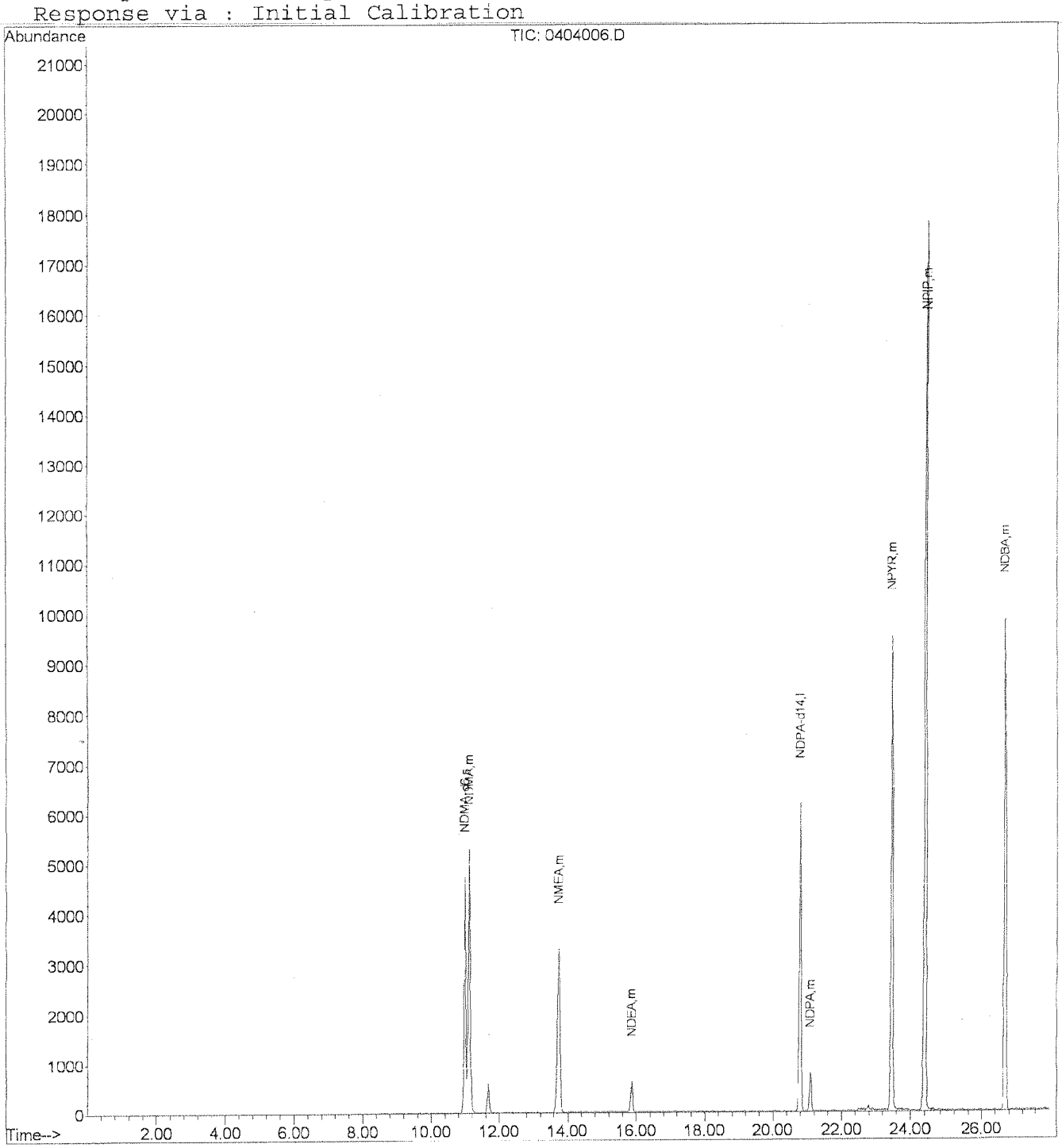
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	15387	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	12352	11.15	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	12774	11.28	ug/L	76
5) NMEA	13.73	61	15098	10.50	ug/L	99
6) NDEA	15.86	75	1979	9.88	ug/L	100
7) NDPA	21.08	89	2445	10.73	ug/L	100
8) NPYR	23.46	55	25977	10.29	ug/L	96
9) NPIP	24.39	69	52695	10.33	ug/L	100
10) NDBA	26.67	57	24974	10.39	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404006.D 040413_D14.M Fri Apr 05 13:32:13 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404006.D Vial: 6
Acq On : 05 Apr 2013 00:48 Operator: SVO-DW
Sample : DWSTD06-44E@ 10ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404007.D Vial: 7
Acq On : 05 Apr 2013 01:30 Operator: SVO-DW
Sample : DWSTD06-44D@ 15ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:29 2013 Quant Results File: 040413_D14.RES

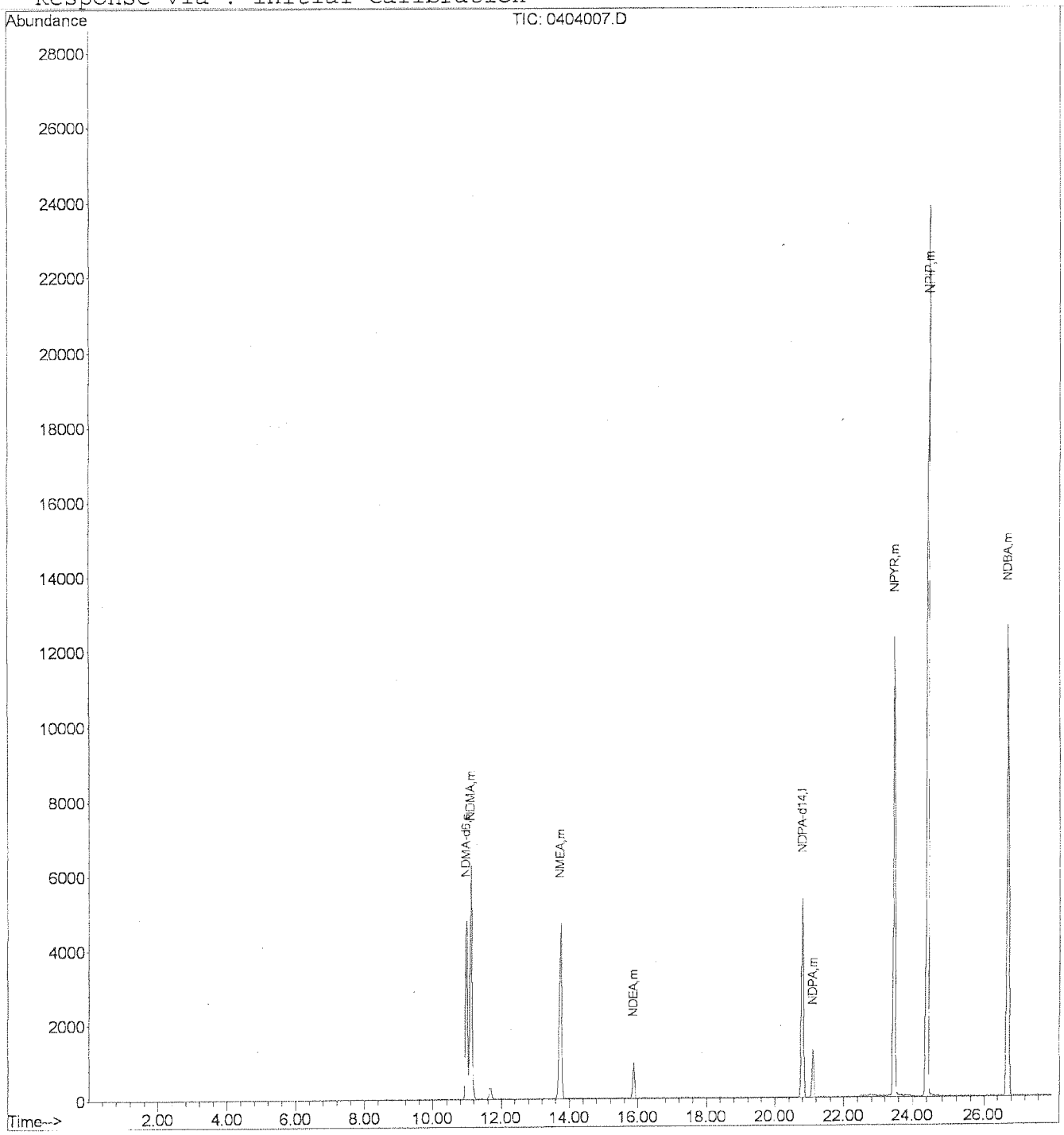
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	13694	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.97	50	13343	12.99	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.11	47	14540	14.36	ug/L	77
5) NMEA	13.73	61	20415	15.15	ug/L	99
6) NDEA	15.86	75	3137	16.35	ug/L	100
7) NDPA	21.10	89	3469	14.51	ug/L	100
8) NPYR	23.46	55	36357	15.22	ug/L	96
9) NPIP	24.39	69	72626	15.36	ug/L	100
10) NDBA	26.68	57	33302	15.08	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404007.D 040413_D14.M Fri Apr 05 13:32:14 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404007.D Vial: 7
Acq On : 05 Apr 2013 01:30 Operator: SVO-DW
Sample : DWSTD06-44D@ 15ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404008.D Vial: 8
Acq On : 05 Apr 2013 02:12 Operator: SVO-DW
Sample : DWSTD06-44C@ 20ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:03:29 2013 Quant Results File: 040413_D14.RES

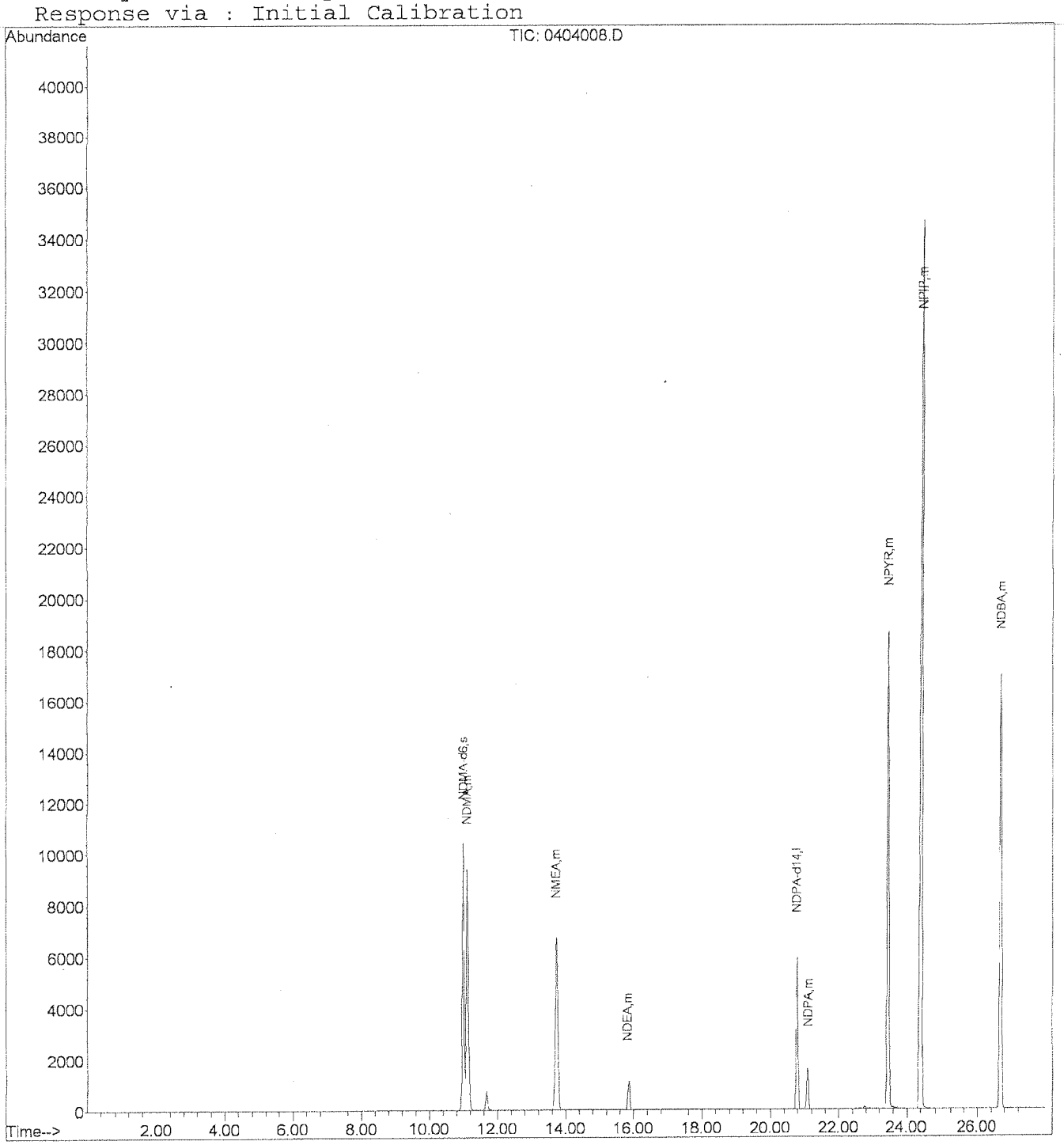
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:03:03 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	14954	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	10.98	50	26606	20.40	ug/L	0.00
Target Compounds						Qvalue
4) NDMA	11.10	47	22507	20.17	ug/L	79
5) NMEA	13.71	61	30340	19.67	ug/L	100
6) NDEA	15.84	75	4104	19.02	ug/L	100
7) NDPA	21.10	89	4230	15.55	ug/L	100
8) NPYR	23.45	55	54625	19.88	ug/L	96
9) NPIP	24.39	69	105526	19.81	ug/L	100
10) NDBA	26.68	57	48567	19.70	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404008.D 040413_D14.M Fri Apr 05 13:32:16 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404008.D Vial: 8
Acq On : 05 Apr 2013 02:12 Operator: SVO-DW
Sample : DWSTD06-44C@ 20ppb Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:05 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Data File : J:\MS16\DATA\040413-521ICAL\0404009.D Vial: 9
Acq On : 05 Apr 2013 02:55 Operator: SVO-DW
Sample : DWSTD06-36F ICV@10p Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 05 13:31:30 2013 Quant Results File: 040413_D14.RES

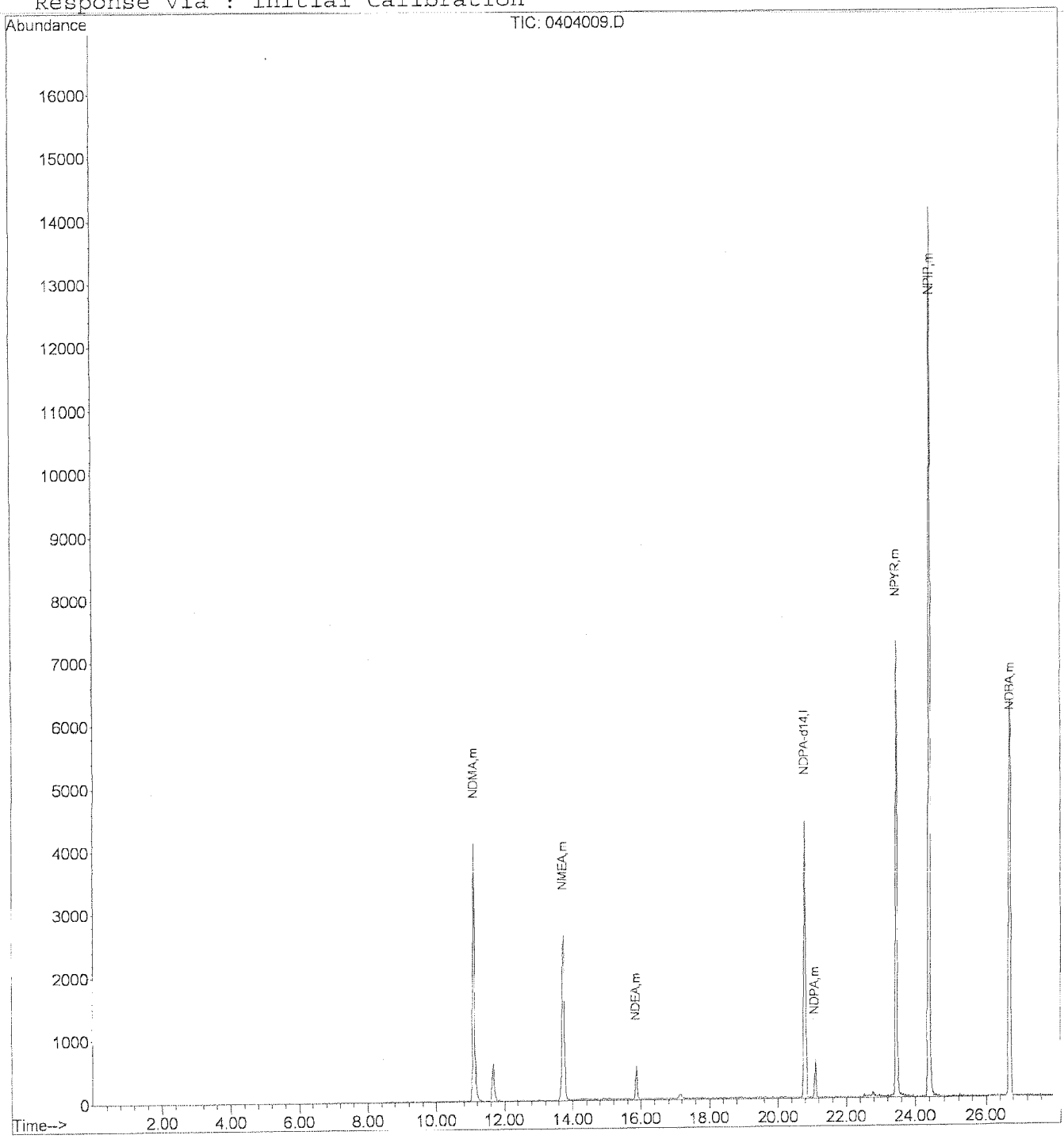
Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:26:01 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.78	97	11468	50.00	ug/L	0.00
System Monitoring Compounds						
3) NDMA-d6	0.00	50	0	0.00	ug/L	
Target Compounds						Qvalue
4) NDMA	11.10	47	9246	10.98	ug/L	80
5) NMEA	13.73	61	12049	11.16	ug/L	100
6) NDEA	15.86	75	1863	12.16	ug/L	100
7) NDPA	21.08	89	1840	10.79	ug/L	100
8) NPYR	23.45	55	20284	10.72	ug/L	97
9) NPIP	24.40	69	38938	10.52	ug/L	100
10) NDBA	26.70	57	17269	9.70	ug/L	100

(#) = qualifier out of range (m) = manual integration
0404009.D 040413_D14.M Fri Apr 05 13:32:17 2013 Page 1

Data File : J:\MS16\DATA\040413-521ICAL\0404009.D Vial: 9
Acq On : 05 Apr 2013 02:55 Operator: SVO-DW
Sample : DWSTD06-36F ICV@10p Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: Apr 5 13:33 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL
Last Update : Fri Apr 05 13:29:17 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304649
Units: ug/L

File ID: J:\MS16\DATA\051413-521\0514001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	1.0		3.30	2.89	NA	4	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.78		3.40	2.82	NA	-22	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† **SPCC Compound** ‡ **CCC Compound**

Exception Report

Data File: J:\MS16\DATA\051413-521\0514001.D
Lab ID: KWG1304649-2
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/14/2013 14:18
Date Quantitated: 05/14/2013 16:13
Batch ID: KWG1304649
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA		x
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA RC
	N-Nitrosodiethylamine	0.9866	0.99	NA	NT
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	"
Internal Standards	N-Nitrosodi-n-propylamine-d14	16607	8215.9	15258.1	NA/ISTD PK
	N-Nitrosodiethylamine-d10	0	0	0	"

Primary Review: AN 5/15/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514001.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 14:18	**Quant Date:**	05/14/2013 16:13	**Vial:**	1
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304649-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/15/2013

Analysis Lot:	KWG1304649	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\051413-521\0514.D			**Method ID:**	MJ808
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	16607	50.00	*
1	N-Nitrosodiethylamine-d10			81	0		*

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	N-Nitrosodimethylamine-d6	10.96			50	959	1.04		70-130	NA

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.07			47	937	0.7800			
1	N-Nitrosomethylethylamine	13.71			61	1331	0.9600			
1	N-Nitrosodiethylamine	15.82			75	136	0.6900			
1	N-Nitrosodi-n-propylamine				89	0				
1	N-Nitrosopyrrolidine	23.40			55	1931	1.01			
1	N-Nitrosopiperidine	24.34			69	4448	1.05			
1	N-Nitrosodi-n-butylamine	26.63			57	1177	1.01			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514001.D Vial: 1
Acq On : 14 May 13 14:18 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 16:10:48 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

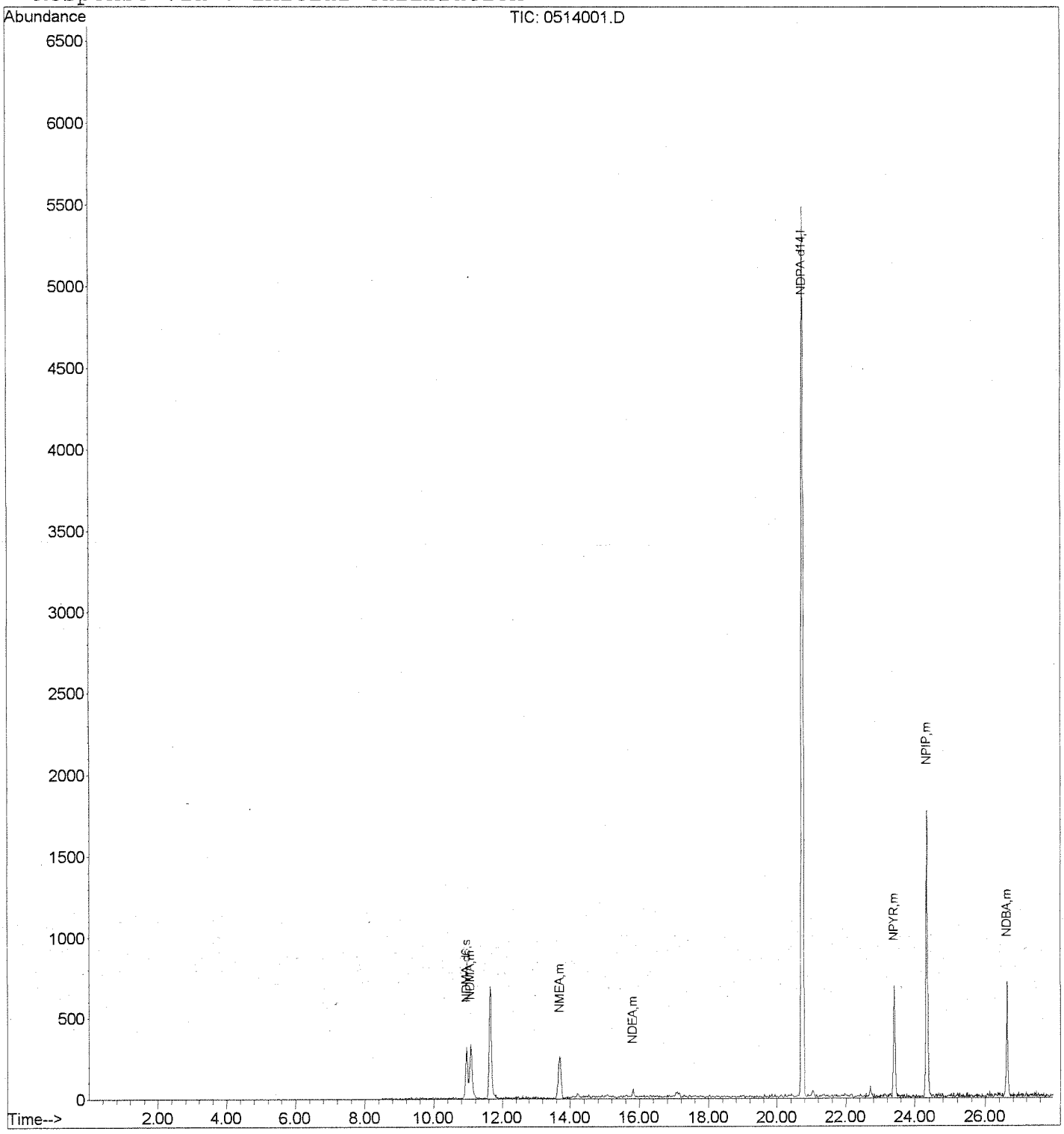
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	16607	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	959	1.04	ug/L	-0.03
Target Compounds						Qvalue
4) NDMA	11.07	47	937	0.78	ug/L	75
5) NMEA	13.71	61	1331	0.96	ug/L	99
6) NDEA	15.82	75	136	0.69	ug/L	100
8) NPYR	23.40	55	1931	1.01	ug/L	96
9) NPIP	24.34	69	4448	1.05	ug/L	100
10) NDBA	26.63	57	1177	1.01	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514001.D 040413_D14.M Tue May 14 20:22:37 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514001.D Vial: 1
Acq On : 14 May 13 14:18 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 16:13 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304649
Units: ug/L

File ID: J:\MS16\DATA\051413-521\0514008.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	6.1		3.30	3.88	NA	22	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	5.2		3.40	3.77	NA	4	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Exception Report

Data File: J:\MS16\DATA\051413-521\0514008.D
Lab ID: KWG1304649-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/14/2013 19:13
Date Quantitated: 05/14/2013 20:22
Batch ID: KWG1304649
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	MARL
	N-Nitrosodiethylamine	0.9866	0.99	NA	MT MA
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	1

Primary Review: MN 5/15/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\051413-521\0514008.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 19:13	**Quant Date:**	05/14/2013 20:22	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304649-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/15/2013

Analysis Lot:	KWG1304649	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M	**Calibration ID:**	CAL12363
Title:			
Tune Ref:	J:\MS16\DATA\051413-521\0514.D	**Method ID:**	MJ808
MB Ref:		**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	14965	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits	Rpt?
1	N-Nitrosodimethylamine-d6	10.96			50	5806	6.10		70-130	NA

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08			47	5644	5.19			
1	N-Nitrosomethylethylamine	13.70			61	7052	5.35			
1	N-Nitrosodiethylamine	15.82			75	1107	5.88			
1	N-Nitrosodi-n-propylamine	21.05			89	1272	6.61			
1	N-Nitrosopyrrolidine	23.42			55	12518	5.50			
1	N-Nitrosopiperidine	24.34			69	24448	5.32			
1	N-Nitrosodi-n-butylamine	26.63			57	9272	4.38			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514008.D Vial: 2
Acq On : 14 May 13 19:13 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:19:36 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

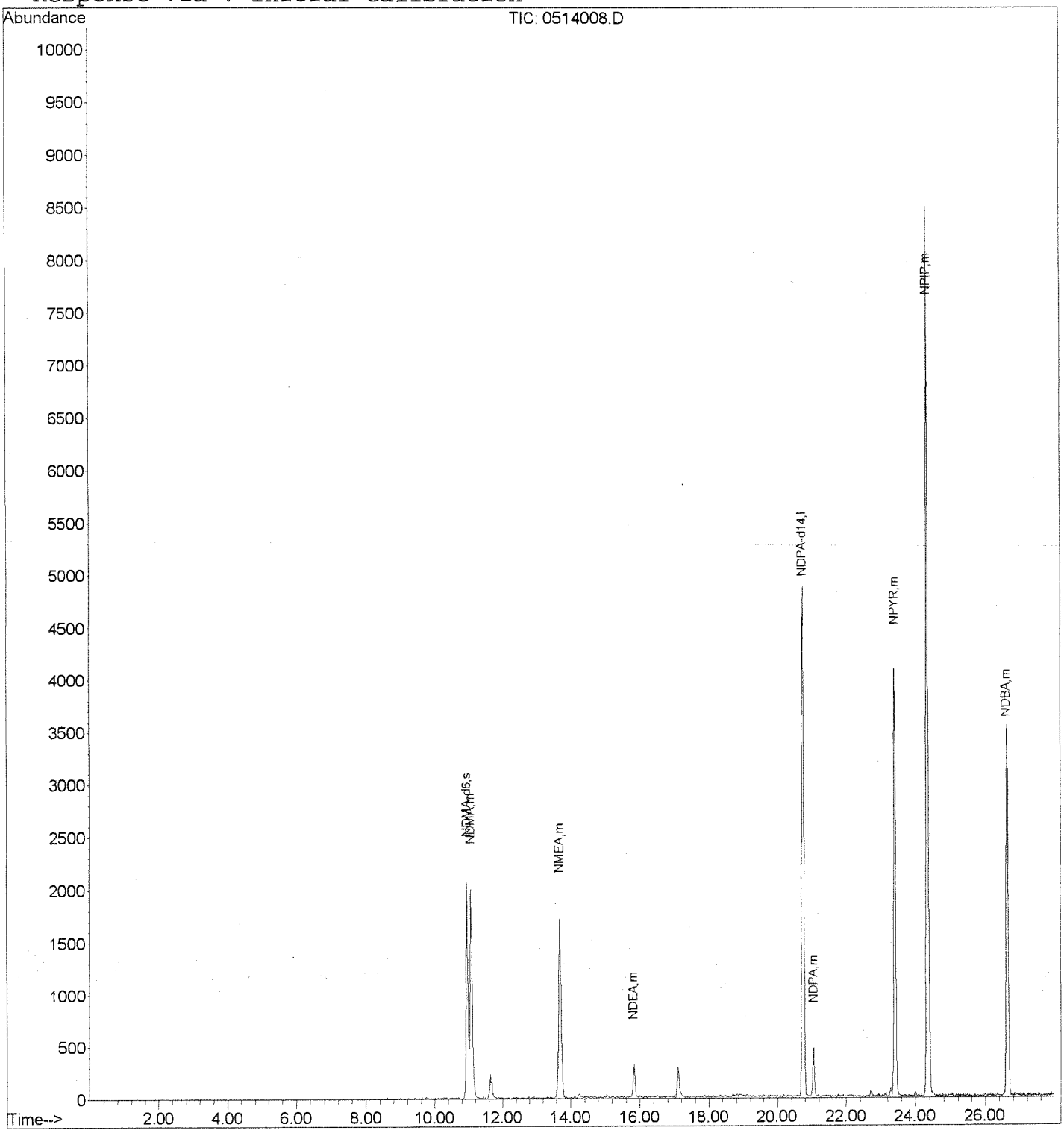
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	14965	50.00	ug/L	-0.05
System Monitoring Compounds						
3) NDMA-d6	10.96	50	5806	6.10	ug/L	-0.02
Target Compounds						Qvalue
4) NDMA	11.08	47	5644	5.19	ug/L	75
5) NMEA	13.70	61	7052	5.35	ug/L	100
6) NDEA	15.82	75	1107	5.88	ug/L	100
7) NDPA	21.05	89	1272	6.61	ug/L	100
8) NPYR	23.42	55	12518	5.50	ug/L	96
9) NPIP	24.34	69	24448	5.32	ug/L	100
10) NDBA	26.63	57	9272	4.38	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514008.D 040413_D14.M Tue May 14 20:22:47 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413-521\0514008.D Vial: 2
Acq On : 14 May 13 19:13 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 20:22 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304650
Units: ug/L

File ID: J:\MS16\DATA\051413B-521\0514B001.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	1.0	1.1		3.30	2.95	NA	6	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	1.0	0.79		3.40	2.83	NA	-21	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Exception Report

Data File: J:\MS16\DATA\051413B-521\0514B001.D
Lab ID: KWG1304650-2
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/14/2013 21:21
Date Quantitated: 05/14/2013 23:57
Batch ID: KWG1304650
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA KL
	N-Nitrosodiethylamine	0.9866	0.99	NA	NA KL
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	

Primary Review: 5/15/13

Secondary Review:

Quantitation Report

Data File:	J:\MS16\DATA\051413B-521\0514B001.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 21:21	**Quant Date:**	05/14/2013 23:57	**Vial:**	1
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304650-2			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/15/2013

Analysis Lot:	KWG1304650	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\051413B-521\0514B.D			**Method ID:**	MJ808
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	14617	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.96			50	861	1.06		70-130	NA	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.07			47	828	0.7900			
1	N-Nitrosomethylethylamine	13.69			61	1334	1.09			
1	N-Nitrosodiethylamine	15.82			75	174	1.00			
1	N-Nitrosodi-n-propylamine	21.06			89	153	1.63			
1	N-Nitrosopyrrolidine	23.42			55	2075	1.18			
1	N-Nitrosopiperidine	24.34			69	3844	1.04			
1	N-Nitrosodi-n-butylamine	26.63			57	969	0.9800			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413B-521\0514B001.D Vial: 1
Acq On : 14 May 13 21:21 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 23:55:17 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

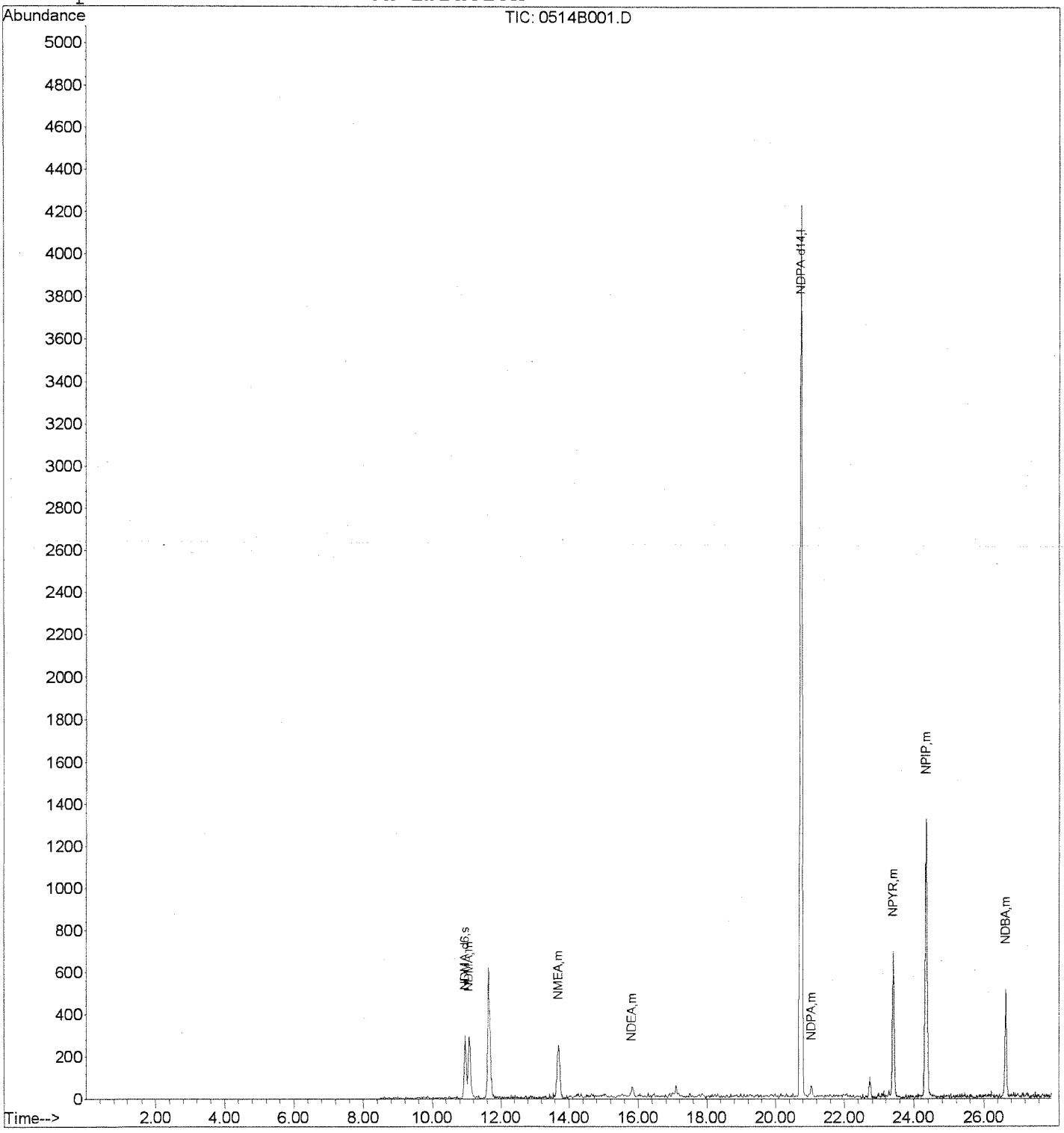
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	14617	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.96	50	861	1.06	ug/L	-0.03
Target Compounds						Qvalue
4) NDMA	11.07	47	828	0.79	ug/L	75
5) NMEA	13.69	61	1334	1.09	ug/L	99
6) NDEA	15.82	75	174	1.00	ug/L	100
7) NDPA	21.06	89	153	1.63	ug/L	100
8) NPYR	23.42	55	2075	1.18	ug/L	96
9) NPIP	24.34	69	3844	1.04	ug/L	100
10) NDBA	26.63	57	969	0.98	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514B001.D 040413_D14.M Tue May 14 23:57:35 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413B-521\0514B001.D Vial: 1
Acq On : 14 May 13 21:21 Operator: SVO-DW
Sample : DWSTD06-47J CCV @1 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 23:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Client: Battelle
Project: JPL-Pasadena CA/100016516

Service Request: K1304120
Date Analyzed: 05/14/2013

Continuing Calibration Verification Summary
Nitrosamines by EPA 521

Calibration Type: Internal Standard
Analysis Method: 521

Calibration Date: 04/04/2013
Calibration ID: CAL12363
Analysis Lot: KWG1304650
Units: ug/L

File ID: J:\MS16\DATA\051413B-521\0514B003.D

Analyte Name	Expected	Result	Min RF	Average RF	CCV RF	%D	%Drift	Criteria	Curve Fit
N-Nitrosodimethylamine-d6	5.0	5.9		3.30	3.75	NA	19	± 50 %	Quadratic(0,(
N-Nitrosodimethylamine	5.0	4.7		3.40	3.43	NA	-5	± 50 %	Quadratic(0,(

Results flagged with an asterisk (*) indicate values outside control criteria.

† SPCC Compound ‡ CCC Compound

Exception Report

Data File: J:\MS16\DATA\051413B-521\0514B003.D
Lab ID: KWG1304650-3
RunType: CCV
Matrix: NOT APPLICABLE

Date Acquired: 05/14/2013 22:45
Date Quantitated: 05/14/2013 23:57
Batch ID: KWG1304650
Analysis Method: 521
MethodJoinID: MJ808

Sample Exceptions

Exception Categories	Result	Low Limit	High Limit	Pass	Fail
Tune Window	NA	NA	NA	x	
ICAL Pass/Fail	NA	NA	NA	x	
ICAL Analyte Recovery	NA	NA	NA		x
Initial Calibration Minimum RF	NA	NA	NA	x	
Initial Calibration SPCC/CCC	NA	NA	NA	x	
Second Source ICAL Verification	NA	NA	NA	x	
Internal Standards	NA	NA	NA	x	
Analyte Co-elution	NA	NA	NA	x	
Retention Time	NA	NA	NA	x	
Below Lowest ICAL Level	NA	NA	NA	x	
Above Highest ICAL Level	NA	NA	NA	x	
Enviroquant/Stealth Calibration Check	NA	NA	NA	x	

Analyte Exceptions

Exception Categories	Analyte Name	Result	Low Limit	High Limit	Corrective Action
ICAL Analyte Recovery	N-Nitrosodimethylamine-d6	0.9785	0.99	NA	NA R
	N-Nitrosodiethylamine	0.9866	0.99	NA	NA JSR
	N-Nitrosodi-n-propylamine	0.9889	0.99	NA	↓

Primary Review: 5/15/13

Secondary Review: _____

Quantitation Report

Data File:	J:\MS16\DATA\051413B-521\0514B003.D			**Instrument:**	MS16
Acqu Date:	05/14/2013 22:45	**Quant Date:**	05/14/2013 23:57	**Vial:**	2
Run Type:	CCV			**Dilution:**	1.0
Lab ID:	KWG1304650-3			**Soln Conc. Units:**	ug/L

Bottle ID:		**Tier:**		**Matrix:**	NOT APPLICABLE
Prod Code:	521 NITROSAMINE	**Collect Date:**		**Receive Date:**	05/15/2013

Analysis Lot:	KWG1304650	**Prep Lot:**		**Report Group:**	
Analysis Method:	521	**Prep Method:**			
Prep Ref:		**Prep Date:**			

Quant Method:	J:\MS16\METHODS\040413_D14.M			**Calibration ID:**	CAL12363
Title:					
Tune Ref:	J:\MS16\DATA\051413B-521\0514B.D			**Method ID:**	MJ808
MB Ref:				**Quant based on Method**	

Internal Standard Compounds

IS Ref	Parameter Name	RT	RT Dev	Quant Mass	Response	Solution Conc	Area Criteria
1	N-Nitrosodi-n-propylamine-d14	20.73	-0.05	97	16240	50.00	OK
1	N-Nitrosodiethylamine-d10			81	0		OK

Surrogate Compounds

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	Quant Mass	Response	Solution Conc	%Rec	%Rec Limits		Rpt?
1	N-Nitrosodimethylamine-d6	10.94			50	6098	5.93		70-130	NA	

Target Compounds

Final Conc. Units: ng/L

IS Ref	Parameter Name	RT	RT Dev	RRT Dev	QuantMass	Response	Solution Conc	Final Conc	Q	Rpt?
1	N-Nitrosodimethylamine	11.08			47	5567	4.73			
1	N-Nitrosomethylethylamine	13.68			61	8699	6.03			
1	N-Nitrosodiethylamine	15.82			75	1157	5.67			
1	N-Nitrosodi-n-propylamine	21.03			89	1324	6.41			
1	N-Nitrosopyrrolidine	23.40			55	13081	5.32			
1	N-Nitrosopiperidine	24.34			69	26010	5.23			
1	N-Nitrosodi-n-butylamine	26.62			57	9817	4.29			

U: Undetected at or above MDL
J: Analyte detected above MDL, but below MRL
B: Hit above MRL also found in Method Blank
E: Analyte concentration above high point of ICAL
N: Presumptive evidence of compound

D: Result from dilution
m: Manual integration performed
d: Compound manually deleted
NR: Analyte not reported from this analysis

*: Result fails acceptance criteria
#: Acceptance criteria not applicable
?: Insufficient information to determine acceptance
e: Result >= MRL, but MRL less than low point of ICAL
c: check for co-elution

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413B-521\0514B003.D Vial: 2
Acq On : 14 May 13 22:45 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 23:55:18 2013 Quant Results File: 040413_D14.RES

Quant Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration
DataAcq Meth : 521.M

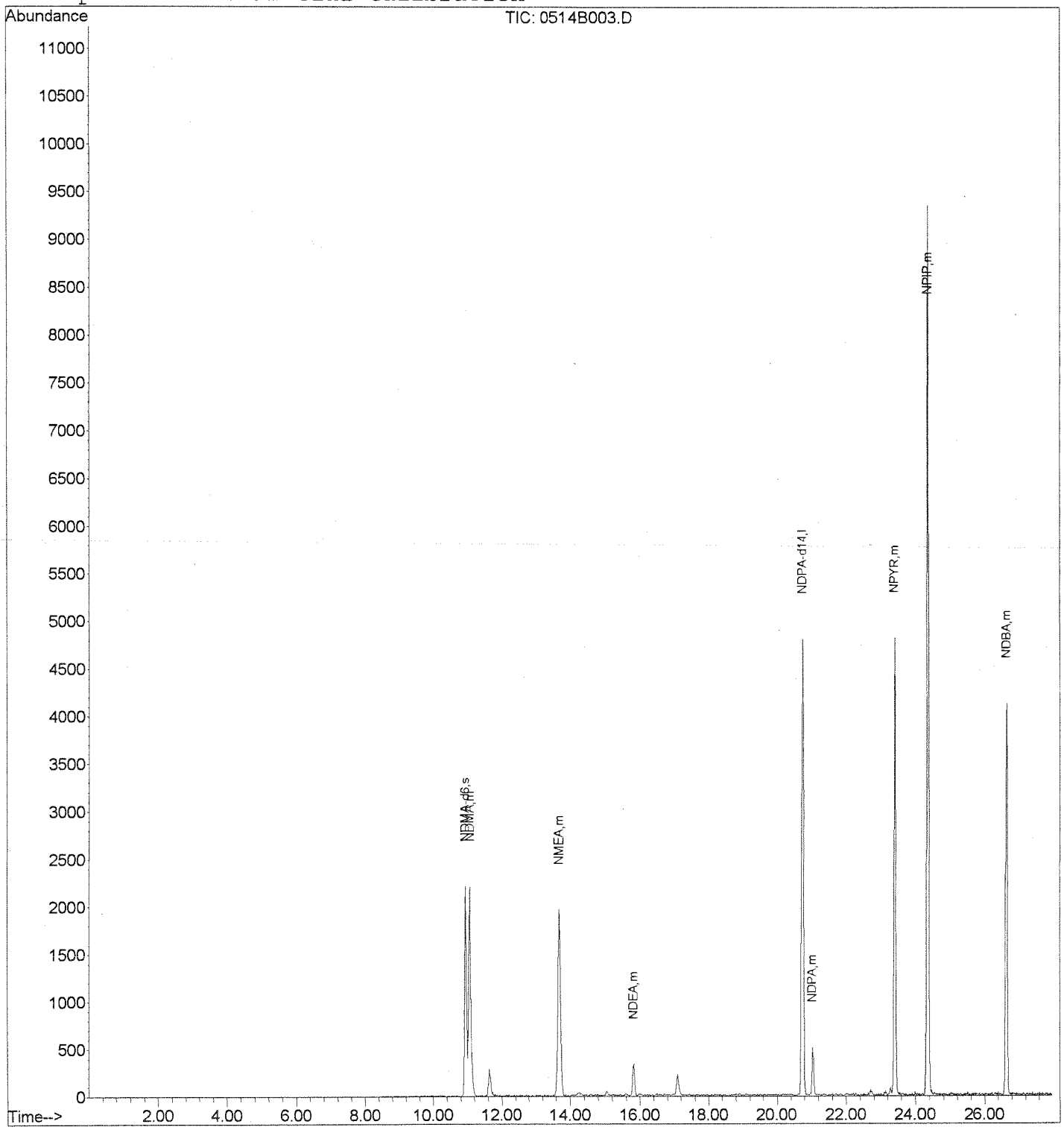
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) NDPA-d14	20.73	97	16240	50.00	ug/L	-0.04
System Monitoring Compounds						
3) NDMA-d6	10.94	50	6098	5.93	ug/L	-0.05
Target Compounds						Qvalue
4) NDMA	11.08	47	5567	4.73	ug/L	77
5) NMEA	13.68	61	8699	6.03	ug/L	99
6) NDEA	15.82	75	1157	5.67	ug/L	100
7) NDPA	21.03	89	1324	6.41	ug/L	100
8) NPYR	23.40	55	13081	5.32	ug/L	96
9) NPIP	24.34	69	26010	5.23	ug/L	100
10) NDBA	26.62	57	9817	4.29	ug/L	100

(#) = qualifier out of range (m) = manual integration
0514B003.D 040413_D14.M Tue May 14 23:57:38 2013 Page 1

Quantitation Report (QT Reviewed)

Data File : J:\MS16\DATA\051413B-521\0514B003.D Vial: 2
Acq On : 14 May 13 22:45 Operator: SVO-DW
Sample : DWSTD06-46C CCV @ 5 Inst : MS16
Misc : Multiplr: 1.00
MS Integration Params: RTEINT.P
Quant Time: May 14 23:57 2013 Quant Results File: 040413_D14.R

Method : J:\MS16\METHODS\040413_D14.M (RTE Integrator)
Title : 040413_D14.m MJ808 CAL12363
Last Update : Fri Apr 05 14:11:11 2013
Response via : Initial Calibration



Organic Analysis:
Nitrosamines by EPA 521

Validation Package

Sample Prep and Screen Data

Preparation Information

Group ID:	KWG1304453	**Prep Method:**	METHOD	**Prep Date:**	05/10/13 08:00
Department:	Semivoa GC				

Lab Code	Client ID	Product	Matrix	Amt. Ext.	Final Vol.
K1304120-001	MW-24-1	521 Nitrosamines	WATER	500ml	1ml
K1304120-002	MW-13	521 Nitrosamines	WATER	500ml	1ml
K1304120-003	MW-16	521 Nitrosamines	WATER	500ml	1ml
KWG1304453-1	Lab Control Sample	521 Nitrosamines	WATER	500ml	1ml
KWG1304453-2	Duplicate Lab Control Sampl	521 Nitrosamines	WATER	500ml	1ml
KWG1304453-3	Method Blank	521 Nitrosamines	WATER	500ml	1ml

Lab Code	Prep Event ID	Surrogate Solution ID	Amount Added	Spike Solution ID	Amount Added	Witness
K1304120-001	1235344	DWSTD06-21 F	10uL			
K1304120-002	1235345	DWSTD06-21 F	10uL			
K1304120-003	1235343	DWSTD06-21 F	10uL			
KWG1304453-1	1235346	DWSTD06-21 F	10uL	DWSTD06-51 C	10uL	
KWG1304453-2	1235347	DWSTD06-21 F	10uL	DWSTD06-51 C	10uL	
KWG1304453-3	1235348	DWSTD06-21 F	10uL			

Comments:

Started By: RHayes Assisted By:

Completed By: RHayes Assisted By:

Reviewed By: Date: 5/20/13 Storage: 215A-F-06

Training: Yes / ~~No~~ (No)

Yes / No

Chain of Custody

Relinquished By: Date: 5/10/13

Received By: Date: 5/13/13

~~Extracts Examined~~ Yes / No

COLUMBIA ANALYTICAL SERVICES, INC.

Service Request No.: As Listed **Date Extracted:** 5-10-13

Analyst: Rob Hayes **Method:** EPA 521

StarLims Run :

Nitrosoamines in Water

Lab ID	Client ID	Sample Volume (mL)	Surr (uL)	MS (uL)	Residual Chlorine (ppm)	Final Volume (mL)
K1304120-001		500	10		<0.1	1
-002		500	10		<0.1	1
-003		500	10		<0.1	1
MB		500	10		<0.1	1
LCS		500	10	10	<0.1	1
DLCS		500	10	10	<0.1	1

Comments: Insufficient sample for QC

DCM Lot # DG1663 **MeOH Lot #** DH379 **Sulfate Lot #** 2/21/13 - 120356

SPE Cartridge Lot # 100154-EM

Surrogate ID: Dustmo1-21E 1ppm XP 7-9-13

Spike ID : Dustmo6-51C 100ppb XP 11-10-13 5-10-13 EE

Vial: Amber **Extract Storage:** ~~10 INST~~ 215A-F-06 **Extracts Received:**

Reviewed By:	**Date:**

Preparation Information Benchsheet

Prep Run#: 182659 **Prep WorkFlow:** OrgExtDW(14/28) **Status:** Draft

Team: Semivoa GC **Prep Method:** Method **Prep Date/Time:** 5/10/13 07:35 AM

Number of Copies to make: 1

#	Lab Code	Client ID	B#	√	Test	Matrix	Amt Ext.	pH	Int Vol	Final Vol	Surr Added	Spike Added
1	K1304120-001	MW-24-i	.01		521/Nitrosamines	Water						
2	K1304120-002	MW-13	.01		521/Nitrosamines	Water						
3	K1304120-003	MW-16	.01		521/Nitrosamines	Water						

Comments: used for ID only

Surrogate ID: _____ Spike ID: _____

Witnessed By: _____

Analyst: _____ Assisted By: _____

Injection Log

Directory: J:\MS16\DATA\051413-521

.ine	Vial	FileName	Multiplier	SampleName	Misc Info	Injected
		0514.D	1.	DCM		14 May 2013 25:3
	1	0514001.D	1.	c3 DWSTD06-47J CCV @1 ✓		14 May 2013 26:1
	11	0514002.D	1.	K1304120-001 ✓		14 May 2013 27:0
	12	0514003.D	1.	K1304120-002 ✓	CAL 12363	14 May 2013 27:4
	13	0514004.D	1.	K1304120-003 ✓		14 May 2013 28:2
	14	0514005.D	1.	051013 LCS ✓	Run #340354	14 May 2013 29:0
	15	0514006.D	1.	NR 051013 DLCS RR EST D		14 May 2013 29:4
	16	0514007.D	1.	051013 MB ✓	KWG1304649	14 May 2013 30:3
	2	0514008.D	1.	c5 DWSTD06-46C CCV @ 5 ✓		14 May 2013 31:1

14 May 2013 20:19