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**STL**

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Knoxville, TN 37921

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ANALYTICAL REPORT

PROJECT NO. 142541

Focus/US Filter Westates 0061

Lot #: H6D030194

William Anderson

STL Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921-5947

SEVERN TRENT LABORATORIES, INC.

A handwritten signature in black ink, appearing to read "K. S. Woodcock".

Kevin S. Woodcock
Project Manager

April 14, 2006

ANALYTICAL METHODS SUMMARY

H6D030194

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Hexavalent Chromium	SW846 7199

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical
Methods", Third Edition, November 1986 and its updates.

SAMPLE SUMMARY

H6D030194

WO #	SAMPLE#	CLIENT	SAMPLE ID	SAMPLED DATE	SAMP TIME
H2HJV	001	G-2944-R1-METHOD	0061-0.5N KOH IMPINGERS COMPOSITE	03/28/06	
H2HJ0	002	G-2946-R1-METHOD	0061-0.5N KOH IMPINGER COMPOSITE FSD	03/30/06	
H2HJ6	003	G-2947-R1-METHOD	0061-0.5N KOH IMPINGER SOULTION RB	03/28/06	
H2HJ8	004	G-2948-R1-METHOD	0061-0.5N KOH IMPINGER SOULTION REAGENT SPIKE	03/30/06	
H2HKF	005	G-3054-R2-METHOD	0061-0.5N KOH IMPINGER COMPOSITE	03/29/06	
H2HKN	006	G-3138-R3-METHOD	0061-0.5N KOH IMPINGER COMPOSITE	03/30/06	
H2H16	007	G-2945-R1-METHOD	0061-0.5N KOH IMPINGER COMPOSITE FS	03/30/06	

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

PROJECT NARRATIVE H6D030194

The results reported herein are applicable to the samples submitted for analysis only.

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

The original chain of custody documentation is included with this report.

Sample Receipt

Custody seals were not present upon sample receipt at STL Knoxville; however, the samples were hand delivered.

The “Relinquished by” field on the chain of custody documentation did not contain a signature.

Quality Control

Unless otherwise noted, all holding times and QC criteria were met and the test results shown in this report meet all applicable NELAC requirements.

Samples were analyzed for hexavalent chromium (Cr^{+6}) by ion chromatography using SOP number KNOX-WC-0003 (based on EPA methods 0061 and 7199). All sample results were reported as total ug hexavalent chromium. Results were calculated using the following equation:

$$\text{Cr}^{+6}, \text{ug} = (\text{Cr}^{+6}, \text{ug} / \text{L}) * (\text{Sample Volume, L}) * \text{Bench Dilution}$$

The dilution factor reported on the sample result form is actually the combination of factors (not just a dilution factor) required by the method to convert the reporting limit and method detection limit from ug/L to total ug:

$$\text{Dilution Factor} = (\text{Sample Volume, L}) * \text{Bench Dilution}$$

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906 (SDWA, expires 6/24/05), Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, US Army Corps of Engineers, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

PROJECT NARRATIVE

H6D030194

Note: A sample volume of 100 mL was used to convert the results to total ug for the method blanks, laboratory control samples, and client reagent blanks in order to standardize the analyte sample total.

STL Knoxville maintains the following certifications, approvals and accreditations: Arkansas DEQ Cert. #05-043-0, California DHS ELAP Cert. #2423, Colorado DPHE, Connecticut DPH Cert. #PH-0223, Florida DOH Cert. #E87177, Georgia DNR Cert. #906 (SDWA, expires 6/24/05), Hawaii DOH, Illinois EPA Cert. #000687, Indiana DOH Cert. #C-TN-02, Iowa DNR Cert. #375, Kansas DHE Cert. #E-10349, Kentucky DEP Lab ID #90101, Louisiana DEQ Cert. #03079, Louisiana DOHH Cert. #LA030024, Maryland DHMH Cert. #277, Massachusetts DEP Cert. #M-TN009, Michigan DEQ Lab ID #9933, New Jersey DEP Cert. #TN001, New York DOH Lab #10781, North Carolina DPH Lab ID #21705, North Carolina DEHNR Cert. #64, Ohio EPA VAP Cert. #CL0059, Oklahoma DEQ ID #9415, Pennsylvania DEP Cert. #68-00576, South Carolina DHEC Lab ID #84001001, Tennessee DOH Lab ID #02014, Utah DOH Cert. # QUAN3, Virginia DGS Lab ID #00165, Washington DOE Lab #C120, West Virginia DEP Cert. #345, Wisconsin DNR Lab ID #998044300, US Army Corps of Engineers, Naval Facilities Engineering Service Center and USDA Soil Permit #S-46424. This list of approvals is subject to change and does not imply that laboratory certification is available for all parameters reported in this environmental sample data report.

Sample Data Summary

STL Knoxville - ACS

Client Sample ID: G-2944-R1-METHOD 0061-0.5N KOH IMPINGERS COMPOSITE

General Chemistry

Lot-Sample #...: H6D030194-001 Work Order #...: H2HJV Matrix.....: AIR
Date Sampled...: 03/28/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	5.6	0.70	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.4 MDL.....: 0.21

STL Knoxville - ACS

Client Sample ID: G-2946-R1-METHOD 0061-0.5N KOH IMPINGER COMPOSITE FSD

General Chemistry

Lot-Sample #...: H6D030194-002 Work Order #...: H2HJ0 Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	38.1	0.70	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.4 MDL.....: 0.21

STL Knoxville - ACS

Client Sample ID: G-2947-R1-METHOD 0061-0.5N KOH IMPINGER SOLUTION RB

General Chemistry

Lot-Sample #...: H6D030194-003 Work Order #...: H2HJ6 Matrix.....: AIR
Date Sampled...: 03/28/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	ND	0.050	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 0.1 MDL.....: 0.015

STL Knoxville - ACS

Client Sample ID: G-2948-R1-METHOD 0061-0.5N KOH IMPINGER SOLUTION REAGENT SPIKE

General Chemistry

Lot-Sample #...: H6D030194-004 Work Order #...: H2HJ8 Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	2.4	0.050	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 0.1 MDL.....: 0.015

STL Knoxville - ACS

Client Sample ID: G-3054-R2-METHOD 0061-0.5N KOH IMPINGER COMPOSITE

General Chemistry

Lot-Sample #...: H6D030194-005 Work Order #...: H2HKF Matrix.....: AIR
Date Sampled...: 03/29/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	5.9	0.83	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.66 MDL.....: 0.25

STL Knoxville - ACS

Client Sample ID: G-3138-R3-METHOD 0061-0.5N KOH IMPINGER COMPOSITE

General Chemistry

Lot-Sample #....: H6D030194-006 Work Order #....: H2HKN Matrix.....: AIR
Date Sampled....: 03/30/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	7.5	0.82	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.65 MDL.....: 0.25

STL Knoxville - ACS

Client Sample ID: G-2945-R1-METHOD 0061-0.5N KOH IMPINGER COMPOSITE FS

General Chemistry

Lot-Sample #...: H6D030194-007 Work Order #...: H2H16 Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	18.3	0.70	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.4 MDL.....: 0.21

METHOD BLANK REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	ND	0.050	ug	SW846 7199	04/07/06	6103131
		Dilution Factor: 0.1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	103	(90 - 110)	SW846 7199	04/07/06	6103131
		Dilution Factor: 1			

Work Order #: H26CF1AC LCS Lot-Sample#: H6D130000-131

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCNT</u> <u>RECVRY</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	1.00	1.03	ug	103	SW846 7199	04/07/06	6103131

Work Order #: H26CF1AC LCS Lot-Sample#: H6D130000-131
Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium						
	84	(75 - 125)		SW846 7199	04/07/06	6103131
	85	(75 - 125)	0.46 (0-10)	SW846 7199	04/07/06	6103131
			Dilution Factor: 1			

WO#: H2HJV1AC-MS/H2HJV1AD-MSD MS Lot-Sample #: H6D030194-001

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	5.6	5.60	10.3	ug	84		SW846 7199	04/07/06	6103131
	5.6	5.60	10.3	ug	85	0.46	SW846 7199	04/07/06	6103131

WO#: H2HJV1AC-MS/H2HJV1AD-MSD MS Lot-Sample #: H6D030194-001

Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	110	(75 - 125)	SW846 7199	04/07/06	6103131
		Dilution Factor: 1			

Work Order #...: H2HJ61AC MS Lot-Sample #: H6D030194-003

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	0.200	0.221	ug	110	SW846 7199	04/07/06	6103131

Work Order #...: H2HJ61AC MS Lot-Sample #: H6D030194-003
Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJV-SMP
H2HJV-DUP

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	5.6	5.3	ug	4.8	(0-10)	SD Lot-Sample #: H6D030194-001 SW846 7199	04/07/06	6103131

Dilution Factor: 1.4

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJ0-SMP
H2HJ0-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	38.1	36.2	ug	5.0	(0-10)	SD Lot-Sample #: H6D030194-002 SW846 7199	04/07/06	6103131
Dilution Factor: 1.4								

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJ6-SMP
H2HJ6-DUP

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	ND	ug	0	(0-10)	SD Lot-Sample #: H6D030194-003 SW846 7199	04/07/06	6103131

Dilution Factor: 0.1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJ8-SMP
H2HJ8-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	2.4	2.3	ug	2.9	(0-10)	SD Lot-Sample #: H6D030194-004 SW846 7199	04/07/06	6103131

Dilution Factor: 0.1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HKF-SMP
H2HKF-DUP

Matrix.....: AIR

Date Sampled...: 03/29/06

Date Received...: 04/02/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	5.9	6.0	ug	1.3	(0-10)	SD Lot-Sample #: H6D030194-005 SW846 7199	04/07/06	6103131
Dilution Factor: 1.66								

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HKN-SMP
H2HKN-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	7.5	7.6	ug	0.99	(0-10)	SD Lot-Sample #: H6D030194-006 SW846 7199	04/07/06	6103131
Dilution Factor: 1.65								

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2H16-SMP
H2H16-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	18.3	18.8	ug	2.8	(0-10)	SD Lot-Sample #: H6D030194-007	04/07/06	6103131

Dilution Factor: 1.4

Sample Receipt Documentation

Request for Analysis/Chain-of-Custody – RFA/COC #020 [Method 0061 Cr⁺⁶]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

STL Knoxville Lot Number: 440020194

STL Knoxville Project Number: 142541

NOTE: After Log-In, please give the original completed RFA/COC to Patti Carswell.

Project Identification:		Westates Carbon CPT	
STL Knoxville Project Number:		142541	
STL Contact:		Ms. Patti Carswell (865) 291-3010	
STL - ACS Project Manager:		Dr. William C. Anderson (865) 291-3080	
Analytical Testing QC Requirements: The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, and "PDS" = Post Digestion Spike			
Project Deliverables: Report analytical results on R-02 Reports and in data packages. Include "Field Number", "Sample Type", and "Run Number" on all R-02 Reports.			
Holding Time Requirements:			
Hexavalent Chromium		14 Days to Analysis.	
Laboratory Deliverable Turnaround Requirements:			
Analytical Due Date:		21 Days from Lab Receipt (Review-Released Data)	
Data Package Due Date:		21 Days from Lab Receipt	
Laboratory Destination:		STL Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000	
Courier:		Federal Express	

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Require- ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
✓ G-2944-R1- Method 0061-0.5N KOH Impinger Composite	3-28-06	MS/MSD	1 Liter High Density Polyethylene Bottle	0.5N KOH Impinger Composite Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶) Analysis	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-2945-R1- Method 0061-0.5N KOH Impinger Composite FS	3-30-06	Field Spike	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Field Spike, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-2946-R1- Method 0061-0.5N KOH Impinger Composite FSD	3-30-06	Field Spike Duplicate	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Field Spike Duplicate, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-2947-R1- Method 0061-0.5N KOH Impinger Solution RB	3-28-06	Reagent Blank	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Reagent Blank, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.

Request for Analysis/Chain-of-Custody – RFA/COC #020 [Method 0061 Cr⁺⁶]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Require- ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
✓ G-2948-R1- Method 0061-0.5N KOH Impinger Solution Reagent Spike	3-30-06	Reagent Spike	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Reagent Spike, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-3054-R2- Method 0061-0.5N KOH Impinger Composite 5138	3-29-06	(3) 3-30-06	500 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Run #2 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶) Analysis	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-3155-R3- Method 0061-0.5N KOH Impinger Composite TW 3-30-06			500 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Run #3 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶) Analysis	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.

**Request for Analysis/Chain-of-Custody – RFA/COC #020 [Method 0061 Cr⁺⁶]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona**

H6D030194

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:

Comments

(Please write "NONE" if no comment applicable)

- (1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.

G-2945

- (2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:

5°C

- (3) Record any apparent sample loss/breakage.

NONE

- (4) Record any unidentified samples transported with this shipment of samples:

NONE

- (5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):

HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

Relinquished By:

Name	Company	Date/Time
<i>Stephen Johnson</i>	SIL	4-3-06 16:45
Name	Company	Date/Time

Relinquished By:

Name	Company	Date/Time
Name	Company	Date/Time

Accepted By:

Name	Company	Date/Time
Name	Company	Date/Time

Relinquished By:

Name	Company	Date/Time
Name	Company	Date/Time

Accepted By:

Name	Company	Date/Time
Name	Company	Date/Time

Relinquished By:

Name	Company	Date/Time
Name	Company	Date/Time

Accepted By:

Name	Company	Date/Time
Name	Company	Date/Time

STL KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Client: STL KNOXVILLE

Project: WESTATES CARBON CPT

Lot Number: HWD03D194

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	☒			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	<u>14A</u> <u>SB, G-2945 MA 4-3-06</u>
2. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C; NC, 1668, 1613B: 0-4 °C; VOST: 10 °C; MA: 2-6 °C)	☒			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____	
3. Were samples received with correct chemical preservative (excluding Encore)?			☒	☐ 3a Sample preservative = _____	
4. Were custody seals present/intact on cooler and/or containers?			☒	☒ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	☒		☒ <u>NA</u> <u>430</u>	☐ 5a Samples received-not on COC ☒ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	☒			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?	☒		☒	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	☒		☒	☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?			☒	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	☒			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?			☒	☐ Incomplete information	
12. For SOG water samples (1613B, 1668A, 8290, LR PAHs), do samples have visible solids present?			☒	If yes & appears to be >1%, was SOG notified? _____	
13. Are the shipping containers intact?	☒			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	☒		☒	☒ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	☒			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	☒			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	☒			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	☒			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?		☒			

Quote #: 64351

PM Instructions: _____

Sample Receiving Associate: Dwight Danner

Date: 4-3-06

QA026R18.doc, 1/30/06

Wet Chemistry

Sample Summary

STL Knoxville - ACS

Client Sample ID: G-2944-R1-METHOD 0061-0.5N KOH IMPINGERS COMPOSITE

General Chemistry

Lot-Sample #...: H6D030194-001 Work Order #...: H2HJV Matrix.....: AIR
Date Sampled...: 03/28/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	5.6	0.70	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.4 MDL.....: 0.21

STL Knoxville - ACS

Client Sample ID: G-2946-R1-METHOD 0061-0.5N KOH IMPINGER COMPOSITE FSD

General Chemistry

Lot-Sample #...: H6D030194-002 Work Order #...: H2HJ0 Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	38.1	0.70	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.4 MDL.....: 0.21

STL Knoxville - ACS

Client Sample ID: G-2947-R1-METHOD 0061-0.5N KOH IMPINGER SOLUTION RB

General Chemistry

Lot-Sample #...: H6D030194-003 Work Order #...: H2HJ6 Matrix.....: AIR
Date Sampled...: 03/28/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	ND	0.050	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 0.1 MDL.....: 0.015

STL Knoxville - ACS

Client Sample ID: G-2948-R1-METHOD 0061-0.5N KOH IMPINGER SOLUTION REAGENT SPIKE

General Chemistry

Lot-Sample #...: H6D030194-004 Work Order #...: H2HJ8 Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	2.4	0.050	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 0.1

MDL.....: 0.015

STL Knoxville - ACS

Client Sample ID: G-3054-R2-METHOD 0061-0.5N KOH IMPINGER COMPOSITE

General Chemistry

Lot-Sample #...: H6D030194-005 Work Order #...: H2HKF Matrix.....: AIR
Date Sampled...: 03/29/06 Date Received...: 04/02/06

<u>PARAMETER</u>	<u>RESULT</u>	<u>RL</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	5.9	0.83	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.66

MDL.....: 0.25

STL Knoxville - ACS

Client Sample ID: G-3138-R3-METHOD 0061-0.5N KOH IMPINGER COMPOSITE

General Chemistry

Lot-Sample #...: H6D030194-006 Work Order #...: H2HKN Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	7.5	0.82	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.65

MDL.....: 0.25

STL Knoxville - ACS

Client Sample ID: G-2945-R1-METHOD 0061-0.5N KOH IMPINGER COMPOSITE FS

General Chemistry

Lot-Sample #...: H6D030194-007 Work Order #...: H2H16 Matrix.....: AIR
Date Sampled...: 03/30/06 Date Received...: 04/02/06

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	18.3	0.70	ug	SW846 7199	04/07/06	6103131

Dilution Factor: 1.4 MDL.....: 0.21

QC Summary

METHOD BLANK REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	ND	0.050	ug	SW846 7199	04/07/06	6103131
		Dilution Factor: 0.1				

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	103	(90 - 110)	SW846 7199	04/07/06	6103131
		Dilution Factor: 1			

Work Order #: H26CF1AC LCS Lot-Sample#: H6D130000-131

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCNT</u> <u>RECVRY</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	1.00	1.03	ug	103	SW846 7199	04/07/06	6103131

Work Order #: H26CF1AC LCS Lot-Sample#: H6D130000-131
Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium			WO#:	H2HJV1AC-MS/H2HJV1AD-MSD	MS Lot-Sample #:	H6D030194-001
	84	(75 - 125)		SW846 7199	04/07/06	6103131
	85	(75 - 125)	0.46 (0-10)	SW846 7199	04/07/06	6103131
			Dilution Factor: 1			

NOTE (S) :

 Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	5.6	5.60	10.3	ug	84		SW846 7199	04/07/06	6103131
	5.6	5.60	10.3	ug	85	0.46	SW846 7199	04/07/06	6103131

WO#: H2HJV1AC-MS/H2HJV1AD-MSD MS Lot-Sample #: H6D030194-001

Dilution Factor: 1

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>	<u>PREPARATION- ANALYSIS DATE</u>	<u>PREP BATCH #</u>
Hexavalent Chromium	110	(75 - 125)	SW846 7199	04/07/06	6103131
		Dilution Factor: 1			

Work Order #...: H2HJ61AC MS Lot-Sample #: H6D030194-003

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: H6D030194

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	ND	0.200	0.221	ug	110	SW846 7199	04/07/06	6103131

Work Order #...: H2HJ61AC MS Lot-Sample #: H6D030194-003
Dilution Factor: 1

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJV-SMP
H2HJV-DUP

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	5.6	5.3	ug	4.8	(0-10)	SD Lot-Sample #: H6D030194-001 SW846 7199	04/07/06	6103131

Dilution Factor: 1.4

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJ0-SMP
H2HJ0-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

<u>PARAM</u>	<u>RESULT</u>	<u>DUPLICATE</u> <u>RESULT</u>	<u>UNITS</u>	<u>RPD</u> <u>RPD</u>	<u>RPD</u> <u>LIMIT</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>PREP</u> <u>BATCH #</u>
Hexavalent Chromium	38.1	36.2	ug	5.0	(0-10)	SD Lot-Sample #: H6D030194-002 SW846 7199	04/07/06	6103131

Dilution Factor: 1.4

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJ6-SMP
H2HJ6-DUP

Matrix.....: AIR

Date Sampled...: 03/28/06

Date Received...: 04/02/06

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium					SD Lot-Sample #: H6D030194-003		
ND	ND	ug	0	(0-10)	SW846 7199	04/07/06	6103131

Dilution Factor: 0.1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HJ8-SMP
H2HJ8-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	2.4	2.3	ug	2.9	(0-10)	SW846 7199	04/07/06	6103131

SD Lot-Sample #: H6D030194-004

Dilution Factor: 0.1

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HKF-SMP
H2HKF-DUP

Matrix.....: AIR

Date Sampled...: 03/29/06

Date Received...: 04/02/06

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	5.9	6.0	ug	1.3	(0-10)	SW846 7199	04/07/06	6103131

SD Lot-Sample #: H6D030194-005
Dilution Factor: 1.66

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2HKN-SMP
H2HKN-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

PARAM RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	7.5	7.6	ug	0.99 (0-10)	SD Lot-Sample #: H6D030194-006 SW846 7199	04/07/06	6103131

Dilution Factor: 1.65

SAMPLE DUPLICATE EVALUATION REPORT

General Chemistry

Client Lot #...: H6D030194

Work Order #...: H2H16-SMP
H2H16-DUP

Matrix.....: AIR

Date Sampled...: 03/30/06

Date Received...: 04/02/06

PARAM	RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD	PREPARATION- ANALYSIS DATE	PREP BATCH #
Hexavalent Chromium	18.3	18.8	ug	2.8	(0-10)	SW846 7199	04/07/06	6103131

SD Lot-Sample #: H6D030194-007

Dilution Factor: 1.4

Raw Data

Hexavalent Chromium

STL Knoxville Cr⁺⁶ Data Review / Narrative Checklist

Methods: SW-846 0061 and 7199, SOP: KNOX-WC-0003, Rev. 1

Page 1 of 1

Lot Number(s)		Analysis Date / File ID:		ICAL Date / File ID:	
HE0030194		4-7-06		DOTA-ICAL-0410706	
Review Items	1 st Level			If No, why is data reportable?	2 nd Level
	NA	Y	N		
1. Were PM checklists (L40), Lot Summary and any applicable QAS reviewed?		✓			✓
2. Does ICAL consist of at least 3 levels of Cr ⁺⁶ ?		✓			✓
3. Is low level ICAL standard concentration ≤ RL?		✓			✓
4. Is the ICAL r ² ≥ 0.998?		✓			✓
5. Was the QCS/ICV/LCS within control limits (90-110% R)?		✓		☐ [lcs3] LCS%R > upper limit; sample results < RL.*	✓
6. LCS done per batch?		✓			✓
7. ICB/CCBs < RL?		✓			✓
8. Were CCVs/CCBs run after every 10 analyses and end?		✓			✓
9. Is each CCV ≤ 10% D?		✓			✓
10. If CCV failed, was it rerun only once?	✓				N/A
11. Method blank done per batch?		✓			✓
12. Method blank < RL? If no, list blank ID:		✓		☐ [mb3] No analyte > RL in associated samples.* ☐ [mb7] Sample results > 10x higher than blank.	✓
13. MS done per batch?		✓			✓
14. Matrix spikes within control limits? If no, list MS ID:		✓		☐ [ms3] LCS acceptable indicating matrix effects. ☐ [ms4] Native analyte > 4x spike level.	✓
15. Was each sample analyzed in duplicate?		✓			✓
16. DUP RPD < 10%? If no, list ID:		✓			✓
17. Were MS run #'s assigned correctly?		✓			✓
18. Was pH ≥ 8.5 for all samples? If no, list samples:		✓		☐ Project manager notified. ☐ Reagent or Field Blank pH < 8.5; pH adjusted.	✓
19. Sample analyses done within holding time? If no, list samples:		✓		☐ [ht1] HT expired upon receipt. ☐ [ht2] Analysis requested after HT expired.*	✓
20. Are positive results within calibration range?		✓			✓
21. Is integration acceptable for all samples, QC samples and standards?		✓			✓
22. For manual integrated standards and QC samples, are before/after chromatograms provided with initials/date/reason?	✓			Reasons: S=Split peak, U=Undetected peak, I=Incorrect peak integration, B=Baseline correction, W=Wrong peak chosen by data system	N/A
23. Calculations checked for error? (Document manual calculation checks.)		✓			✓
24. Final report/T6 correct? (Verify results, RLs, units, qualifiers, DFs, dates, spikes.)		✓			✓
25. Are all nonconformances documented/discussed in narrative?	✓			NCM#	N/A
26. Appropriate autotext selected for narrative?		✓		☒ [cr6] Hexavalent chromium autotext.	✓

Analyst: <u>Dawkins</u>		Date: <u>4/13/06</u>
Comments: <u>(linear) HZ HJV</u>		
<u>y = 8 + 0.000034 (3.969 ug/L) 3.969 ug/L (1.400L) = 5.556 ug</u>		
<u>y = 8.00013 (peak area) ✓</u>		
2 nd Level Reviewer: <u>CWK</u>		Date: <u>4/13/06</u>
Comments:		

NOTE: Nonconformance memos are required for **bold** and *italicized* [autotext] statements: **Bold** = deficiency, *italicized* = anomaly.

* Such action must be taken in consultation with client.

WC064R5DOC, 9/27/05

STL Knoxville
Dionex IC Runlog Cover Page

60

Analyst: <u>AW</u>	Date: <u>4/7/00</u>	Sequence ID: <u>D07R-CR6-040706</u>
Instrument: ☒ DX-600 ☐ ICS-1500 ☐ DX-320	Method: ☒ KNOX-WC-0003, SW-846 0061/7199 ☐ KNOX-WC-0005, ☐ SW-846 9056 ☐ EPA 300.0 ☐ SW-846 9057-Mod ☐ EPA 26A-Mod ☐ KNOX-WC-0014, EPA 314.0	

Preventive Maintenance	Instrument Conditions
Daily: ☒ Check pump and gas pressure ☒ Check all lines for crimping, leaks and discoloration As Needed: ☐ Change column and guard column ☐ Change column and/or guard column bed support ☐ Clean conductivity cell ☐ De-gas pump head when flow is erratic ☐ Check/replace eluant end line filter	Flow Rate = <u>1.50</u> mL/min Pressure = <u>~ 2370</u> psi Conductance = <u>N/A</u> μ S Suppressor Current = <u>N/A</u> mA Eluent Generator = <u>N/A</u> mM KOH <u>UV/VIS w/ VIS @ 530 nm</u>

MS/MSD Spike Information

WO #	Compound	Spike ID	Parent Conc.	Spike Added (mL)	Final Volume (mL)	Final Conc.
<u>H2HJV</u>	<u>Hex Chromium</u>	<u>ICWT-8278</u>	<u>1000. ppb</u>	<u>0.04</u>	<u>10. (1.400L)</u>	<u>4 ppb (5.6 ug)</u>
<u>H2HJ6 (MS)</u>	<u>" "</u>	<u>" "</u>	<u>" "</u>	<u>0.02</u>	<u>10. (1.100L)</u>	<u>2 ppb (0.2 ug)</u>

Comments: Hexavalent Chromium analysis on air impingers

(Batch # 6103131)

☐ Sodium Thiosulfate added to NaOH impinger samples.

Sequence: D07A_CR6_040706
Operator: wheelerd

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Printed: 4/13/2006 10:32:12 AM

Title:
Datasource: Aragorn_net
Location: IC_ARAGORN
Timebase: IC_Aragorn
#Samples: 29

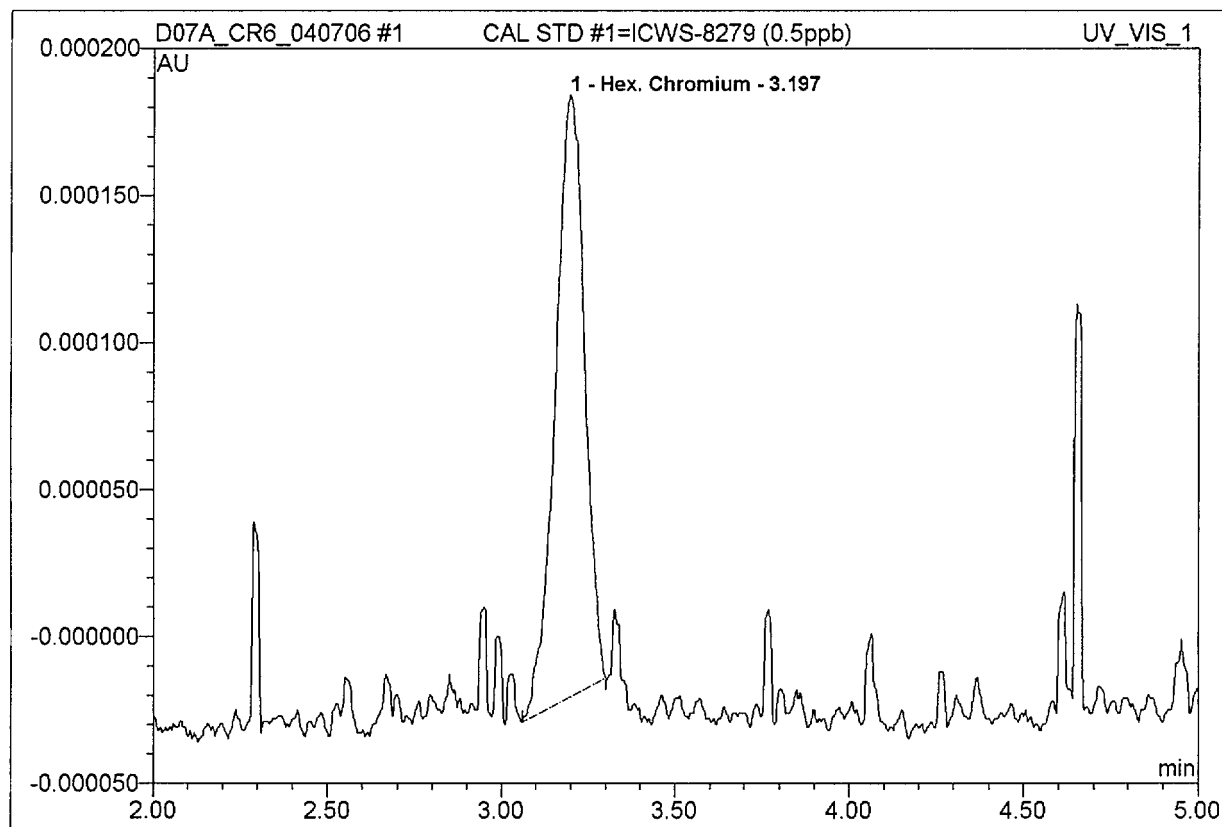
Created: 4/7/2006 11:36:02 AM by wheelerd
Last Update: 4/13/2006 10:31:59 AM by wheelerd

DFW
4/13/06

No.	Name	Sample ID	Inj. Vol.	Inj. Date/Time	Dil. Factor	*Multiplier [Liters]	Weight
1	CAL STD #1=ICWS-8279 (0.5ppb)		250.0	4/7/2006 12:32:58 PM	1.0000		1.0000
2	CAL STD #2=ICWS-8280 (1.0ppb)		250.0	4/7/2006 12:40:22 PM	1.0000		1.0000
3	CAL STD #3=ICWS-8281 (5.0ppb)		250.0	4/7/2006 12:47:46 PM	1.0000		1.0000
4	CAL STD #4=ICWS-8282 (10ppb)		250.0	4/7/2006 12:55:11 PM	1.0000		1.0000
5	CAL STD #5=ICWS-8283 (25ppb)		250.0	4/7/2006 1:02:35 PM	1.0000		1.0000
6	CAL STD #6=ICWS-8284 (50ppb)		250.0	4/7/2006 1:09:59 PM	1.0000		1.0000
7	ICV/QCS/LCS@10ppb=ICWS-8286		250.0	4/7/2006 1:28:48 PM	1.0000	0.100	1.0000
8	METHOD BLANK		250.0	4/7/2006 1:36:12 PM	1.0000	0.100	1.0000
9	H6D030194-H2HJ6		250.0	4/7/2006 1:43:37 PM	1.0000	0.100	1.0000
10	H6D030194-H2HJ6-DUP		250.0	4/7/2006 1:51:01 PM	1.0000	0.100	1.0000
11	H6D030194-H2HJV		250.0	4/7/2006 1:58:25 PM	1.0000	1.400	1.0000
12	H6D030194-H2HKF		250.0	4/7/2006 2:05:49 PM	1.0000	1.660	1.0000
13	H6D030194-H2HKN		250.0	4/7/2006 2:13:13 PM	1.0000	1.650	1.0000
14	H6D030194-H2HJV-DUP		250.0	4/7/2006 2:20:38 PM	1.0000	1.400	1.0000
15	H6D030194-H2HKF-DUP		250.0	4/7/2006 2:28:03 PM	1.0000	1.660	1.0000
16	H6D030194-H2HKN-DUP		250.0	4/7/2006 2:35:27 PM	1.0000	1.650	1.0000
17	CCV@25ppb= ICWS-8283		250.0	4/7/2006 2:42:51 PM	1.0000		1.0000
18	CCB		250.0	4/7/2006 2:50:15 PM	1.0000		1.0000
19	H6D030194-H2HJV-MS@4ppb		250.0	4/7/2006 2:57:39 PM	1.0000	1.400	1.0000
20	H6D030194-H2HJV-MSD@4ppb		250.0	4/7/2006 3:05:03 PM	1.0000	1.400	1.0000
21	H6D030194-H2HJ6-MS@2ppb		250.0	4/7/2006 3:12:28 PM	1.0000	0.100	1.0000
22	H6D030194-H2HJ8		250.0	4/7/2006 3:21:45 PM	1.0000	0.100	1.0000
23	H6D030194-H2HJ8-DUP		250.0	4/7/2006 3:29:10 PM	1.0000	0.100	1.0000
24	H6D030194-H2HJ0		250.0	4/7/2006 3:36:34 PM	1.0000	1.400	1.0000
25	H6D030194-H2HJ0-DUP		250.0	4/7/2006 3:43:59 PM	1.0000	1.400	1.0000
26	H6D030194-H2H16		250.0	4/7/2006 3:51:23 PM	1.0000	1.400	1.0000
27	H6D030194-H2H16-DUP		250.0	4/7/2006 3:58:47 PM	1.0000	1.400	1.0000
28	CCV@50ppb= ICWS-8284		250.0	4/7/2006 4:06:12 PM	1.0000		1.0000
29	CCB		250.0	4/7/2006 4:13:36 PM	1.0000		1.0000

1 CAL STD #1=ICWS-8279 (0.5ppb)

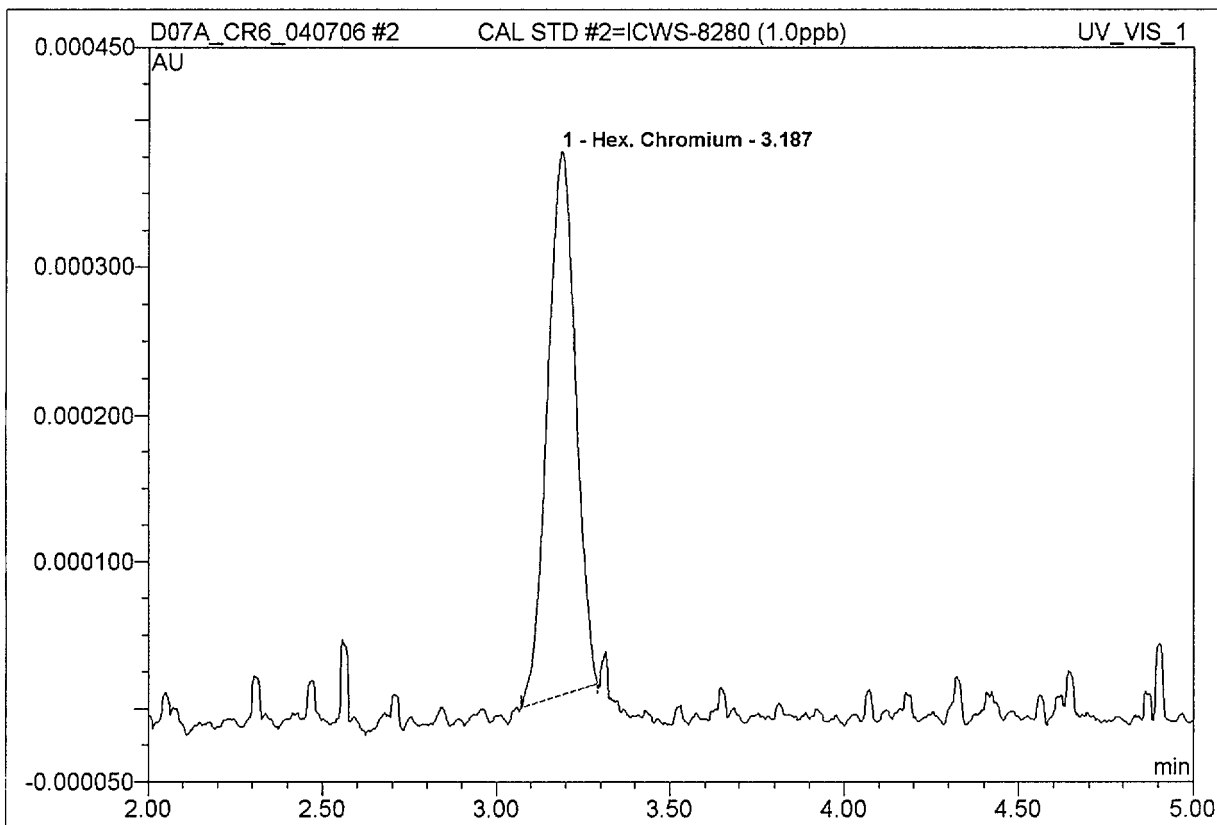
Sample Name:	CAL STD #1=ICWS-8279 (0.5ppb)	Injection Volume:	250.0
Vial Number:	41	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 12:32	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.20	Hex. Chromium	0.00002	0.5866		n.a.	BMB

2 CAL STD #2=ICWS-8280 (1.0ppb)

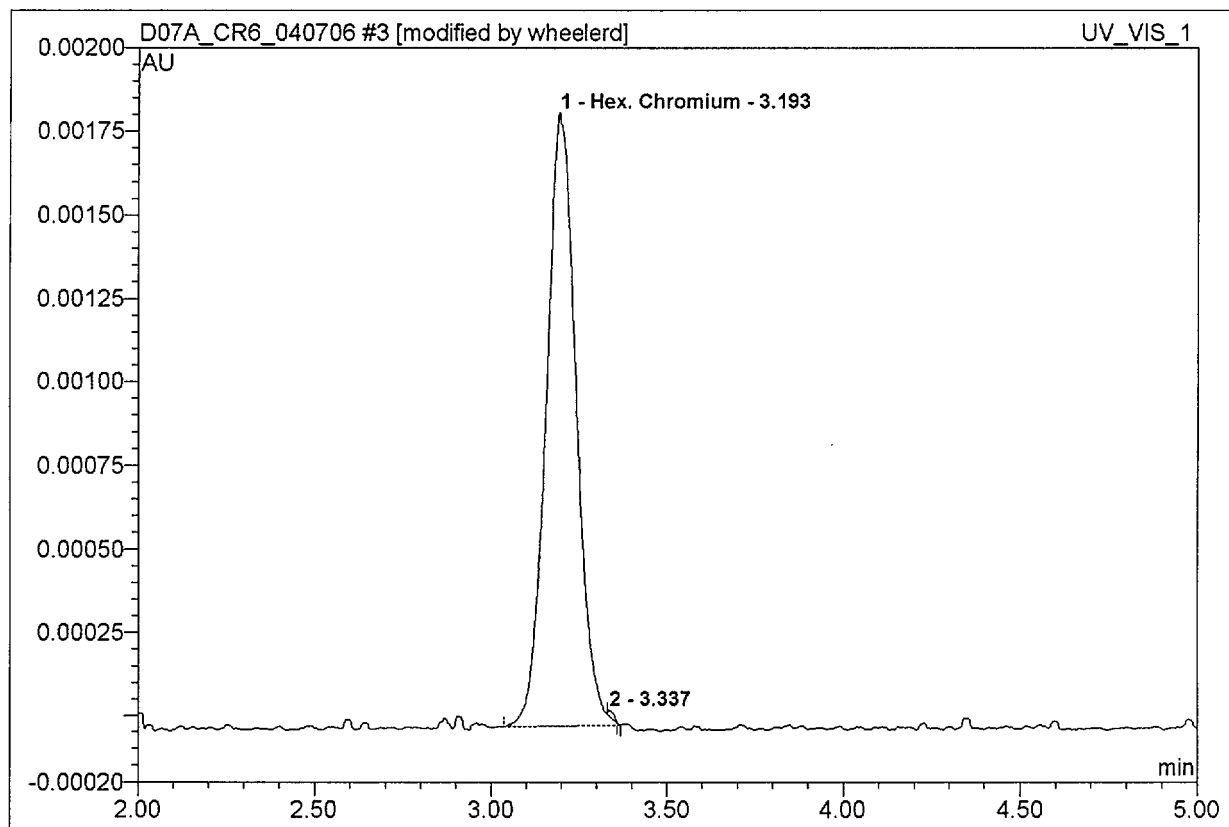
Sample Name:	CAL STD #2=ICWS-8280 (1.0ppb)	Injection Volume:	250.0
Vial Number:	42	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 12:40	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00003	1.0207		n.a.	BMB

3 CAL STD #3=ICWS-8281 (5.0ppb)

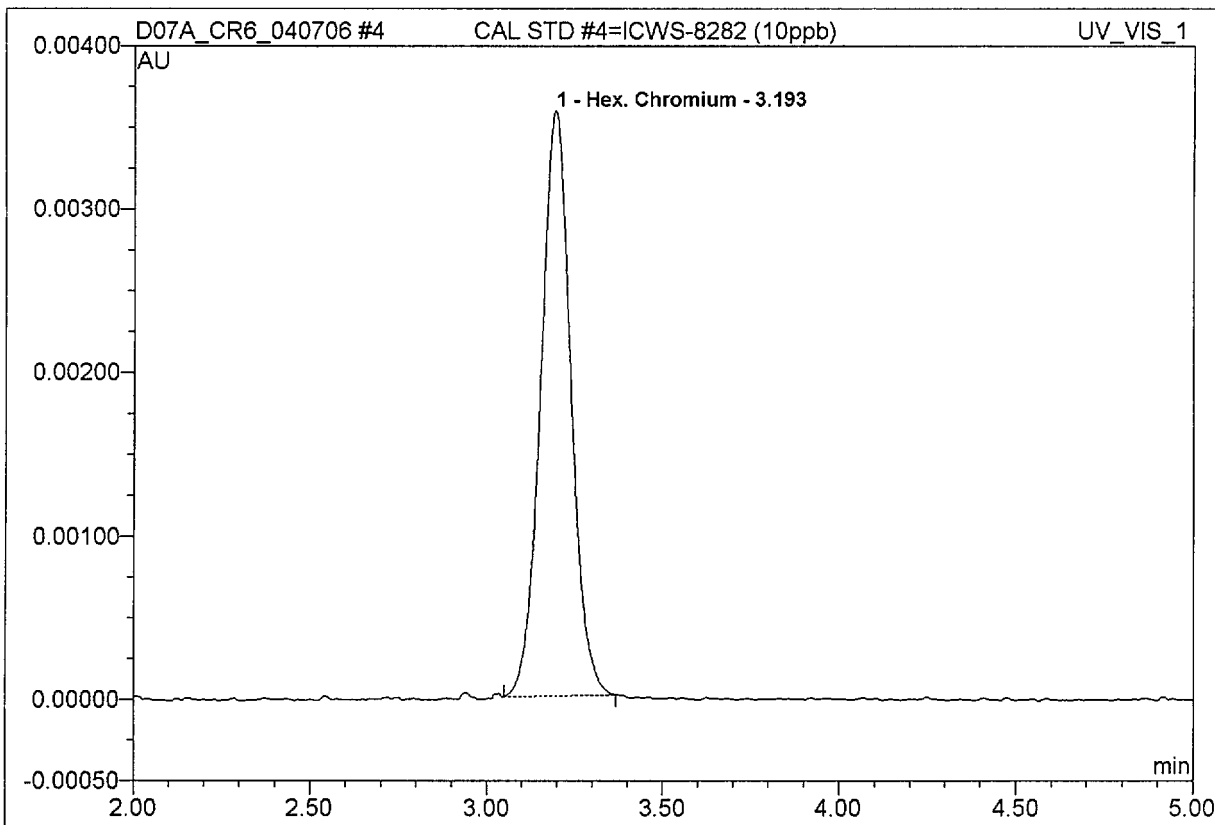
Sample Name:	CAL STD #3=ICWS-8281 (5.0ppb)	Injection Volume:	250.0
Vial Number:	43	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 12:47	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00018	5.3333		n.a.	BMB*
2	3.34	n.a.	0.00000	n.a.		n.a.	Rd*

4 CAL STD #4=ICWS-8282 (10ppb)

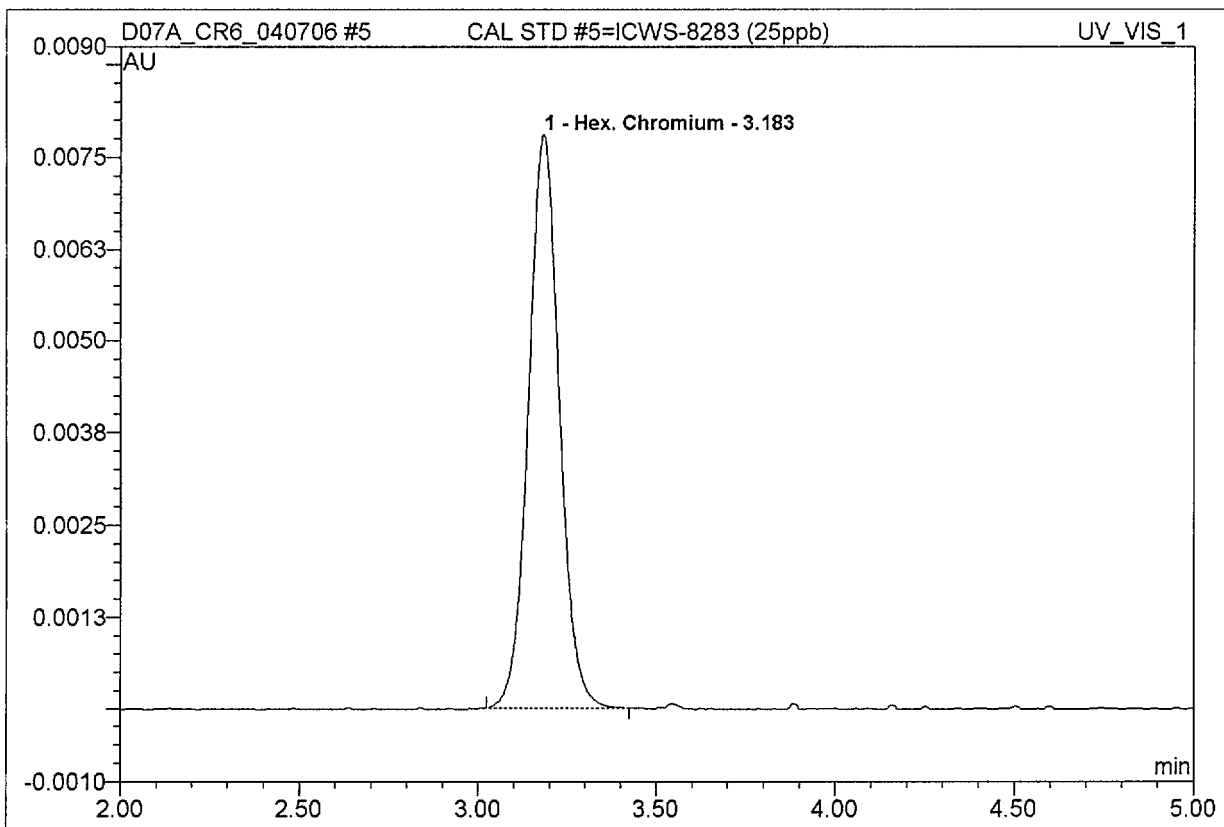
Sample Name:	CAL STD #4=ICWS-8282 (10ppb)	Injection Volume:	250.0
Vial Number:	44	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 12:55	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00036	10.4923		n.a.	BMB

5 CAL STD #5=ICWS-8283 (25ppb)

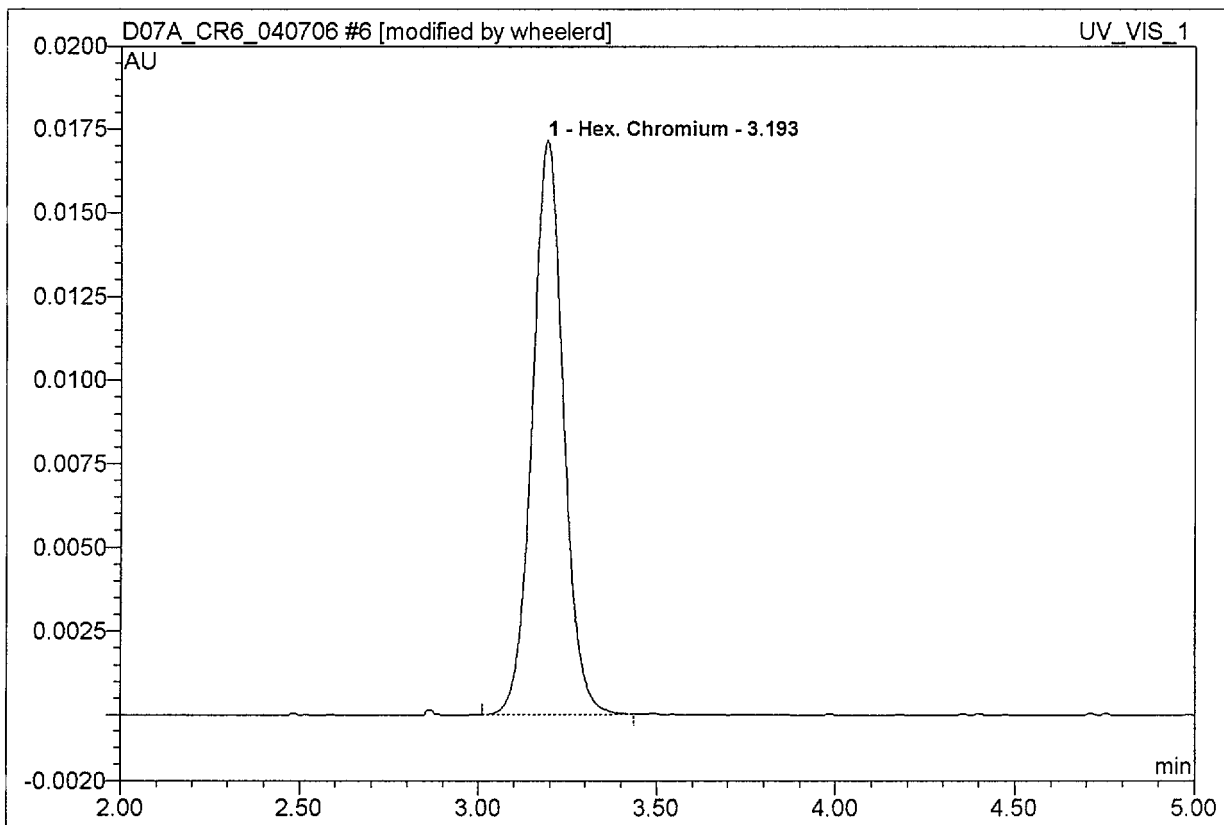
Sample Name:	CAL STD #5=ICWS-8283 (25ppb)	Injection Volume:	250.0
Vial Number:	45	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 13:02	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.18	Hex. Chromium	0.00078	23.0308		n.a.	BMB

6 CAL STD #6=ICWS-8284 (50ppb)

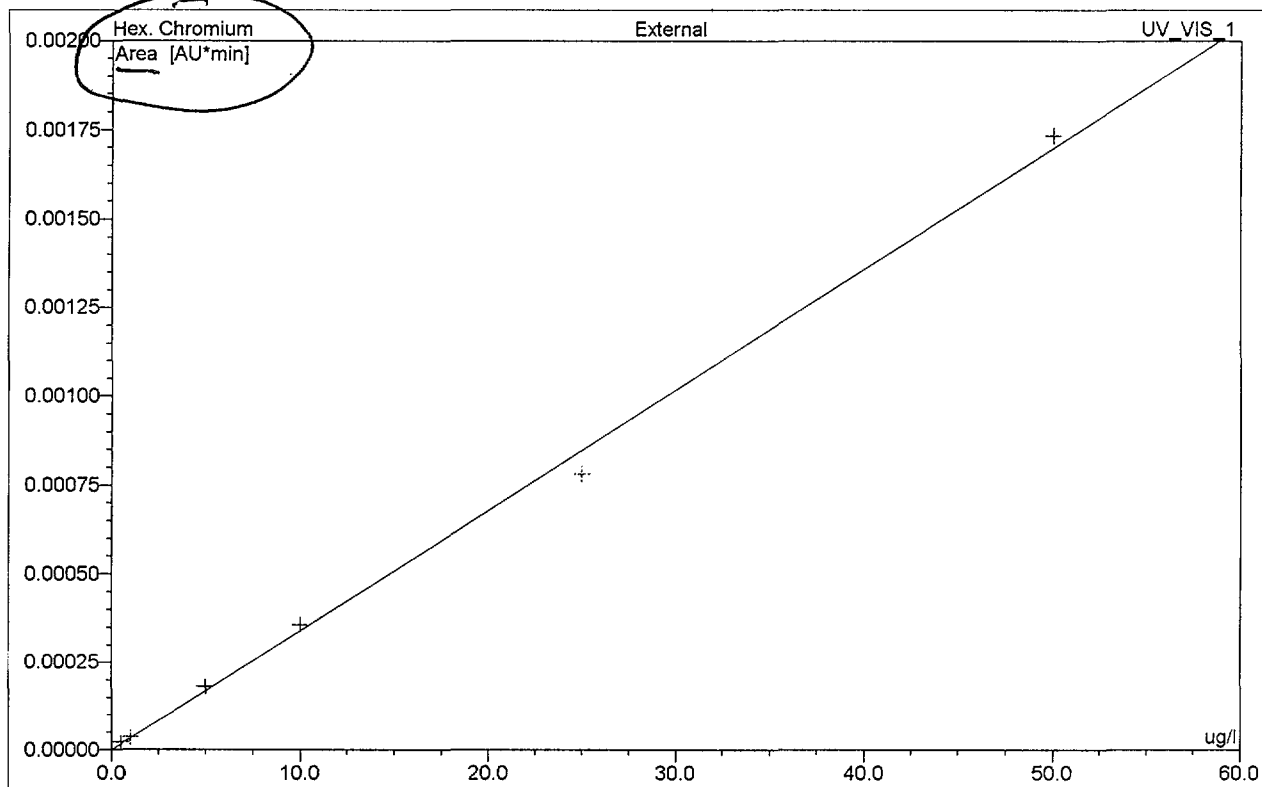
Sample Name:	CAL STD #6=ICWS-8284 (50ppb)	Injection Volume:	250.0
Vial Number:	46	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 13:09	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00173	51.0364		n.a.	BMB

5 ~~CAL STD #5=ICWS-8283 (25ppb)~~DFW
4/13/06

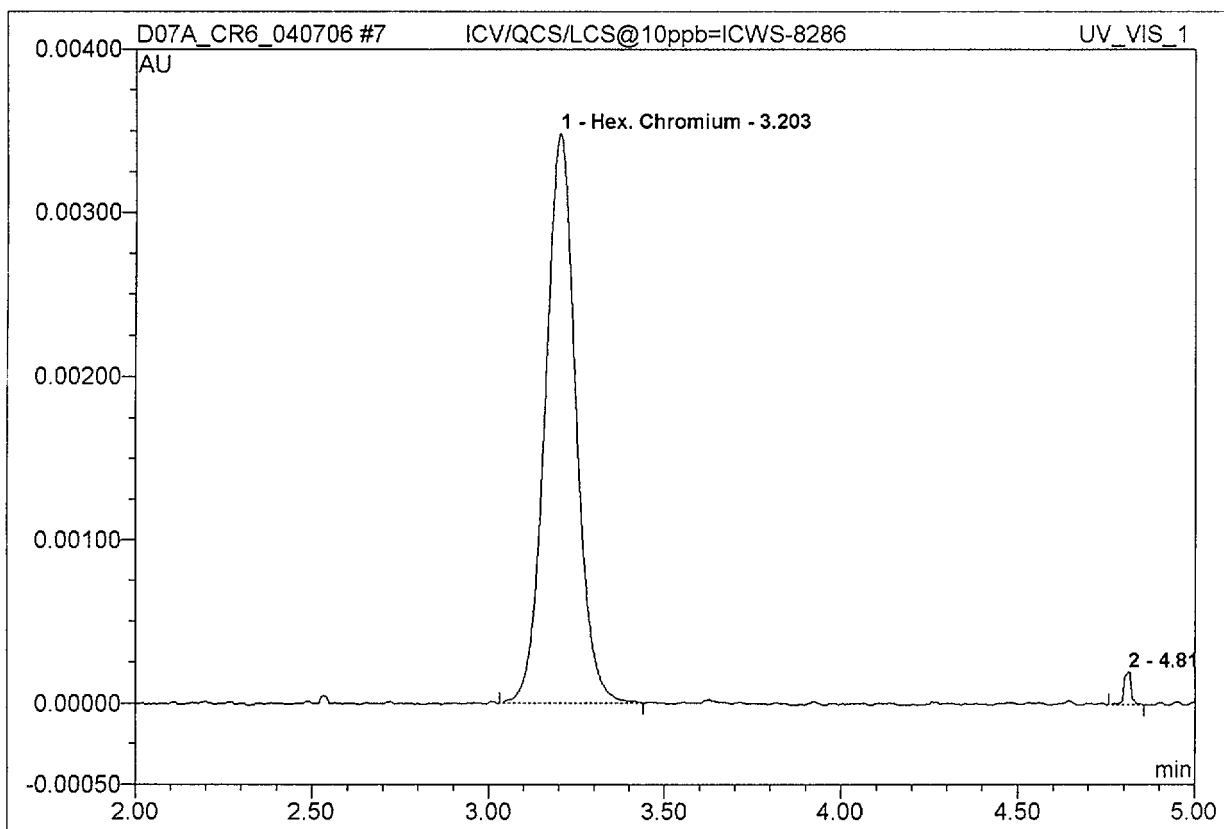
Sample Name:	CAL STD #5=ICWS-8283 (25ppb)	Injection Volume:	250.0
Vial Number:	45	Channel:	UV_VIS_1
Sample Type:	standard	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 13:02	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret.Time min	Peak Name	Cal.Type	Points	Corr.Coeff. (R)	Offset	Slope	Curve
1	3.18	Hex. Chromium	XLin	6	0.9986	0.0000	0.000034	0.000000
Average:					✓ 0.9986	0.0000	0.0000	0.0000

7 ICV/QCS/LCS@10ppb=ICWS-8286

Sample Name:	ICV/QCS/LCS@10ppb=ICWS-8286	Injection Volume:	250.0
Vial Number:	47	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 13:28	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



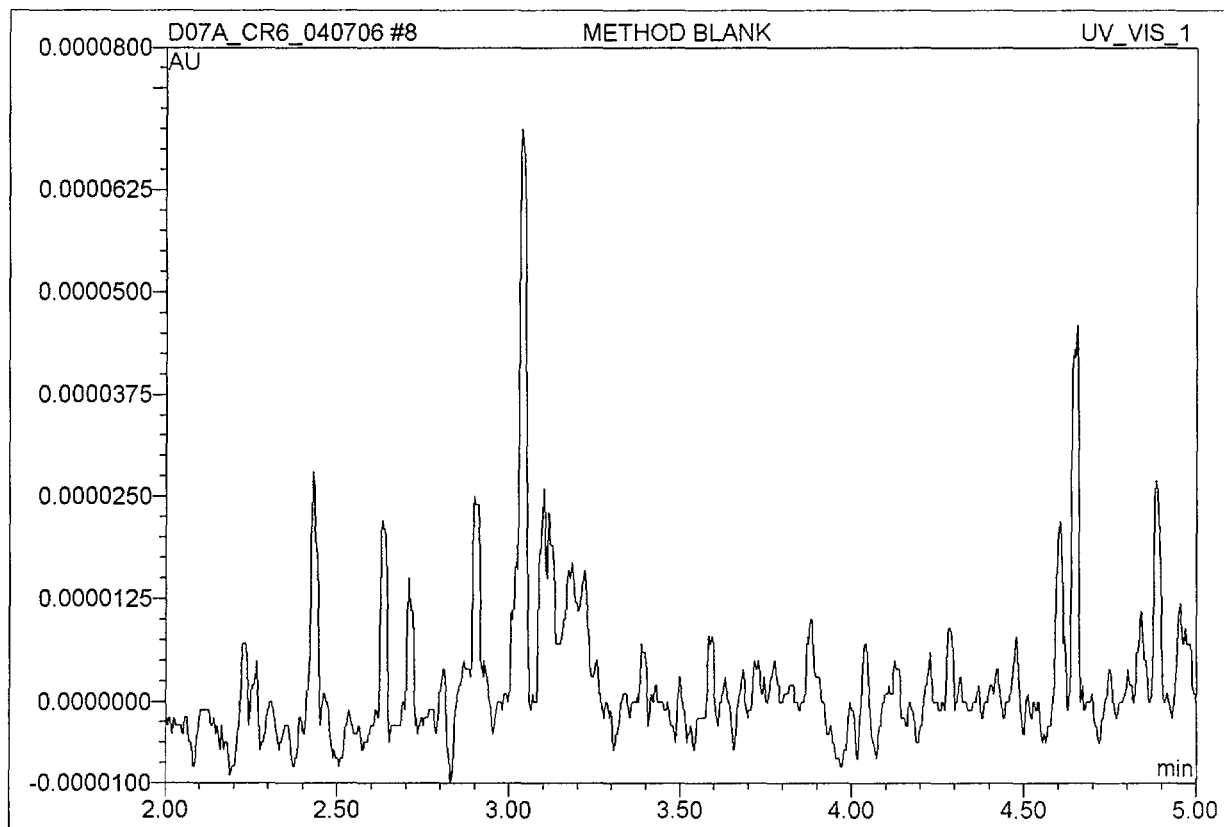
No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.20	Hex. Chromium	0.00035	10.3398	0.100	1.03398	BMB
2	4.81	n.a.	0.00000	n.a.	0.100	n.a.	BMB

H26CFIAC

8 METHOD BLANK

Sample Name: METHOD BLANK
Vial Number: 48
Sample Type: unknown
Control Program: HEX_CHROM
Quantif. Method: HEX_CHROM
Recording Time: 4/7/2006 13:36
Run Time (min): 5.00

Injection Volume: 250.0
Channel: UV_VIS_1
Wavelength: n.a.
Bandwidth: n.a.
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000



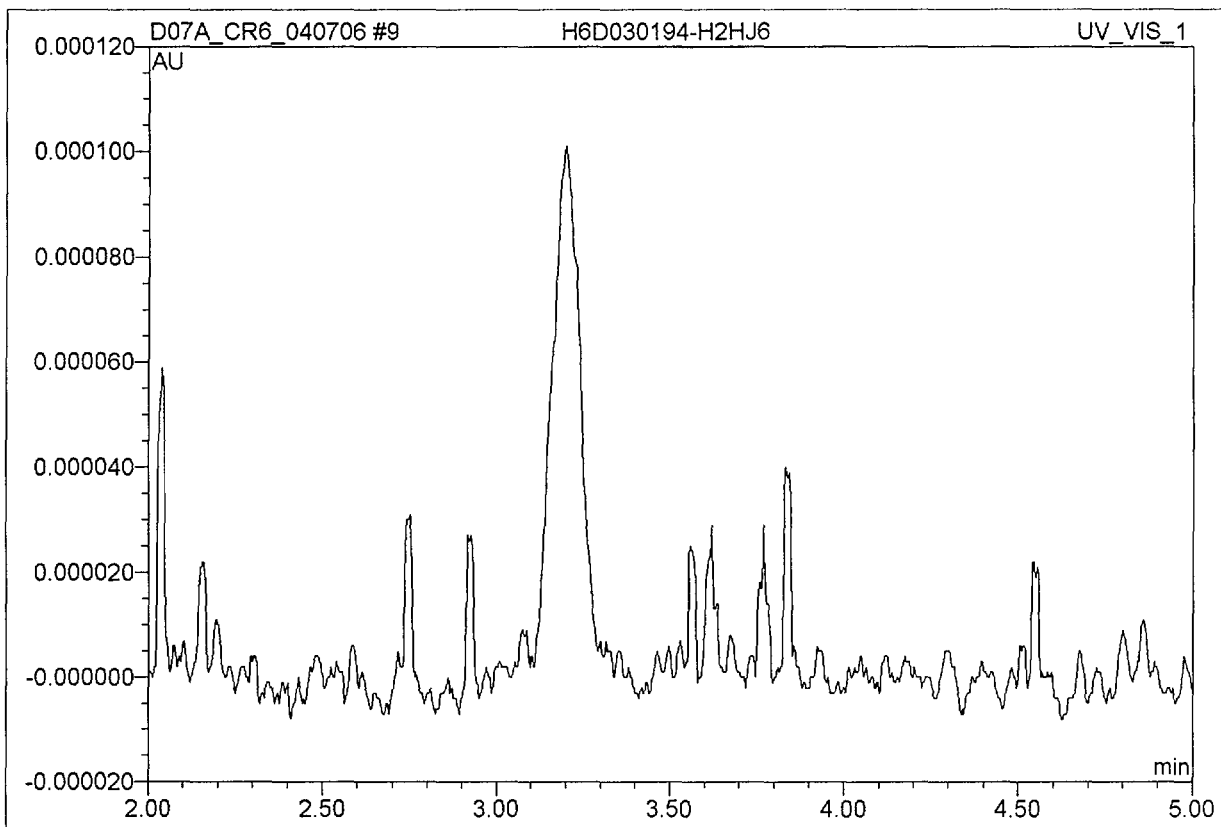
No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
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NDH26CF1AA

9 H6D030194-H2HJ6

Sample Name: H6D030194-H2HJ6
Vial Number: 49
Sample Type: unknown
Control Program: HEX_CHROM
Quantif. Method: HEX_CHROM
Recording Time: 4/7/2006 13:43
Run Time (min): 5.00

Injection Volume: 250.0
Channel: UV_VIS_1
Wavelength: n.a.
Bandwidth: n.a.
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000



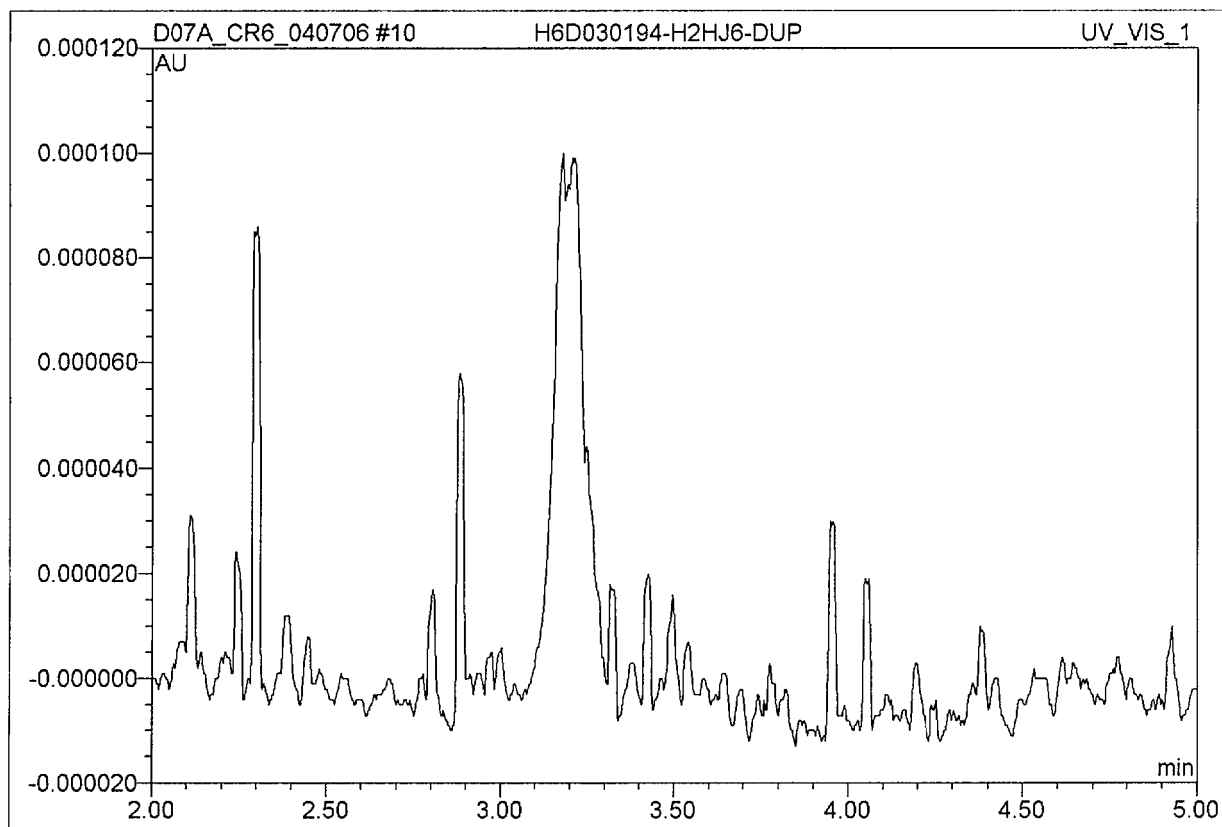
No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
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(ND)

10 H6D030194-H2HJ6-DUP

Sample Name: H6D030194-H2HJ6-DUP
Vial Number: 50
Sample Type: unknown
Control Program: HEX_CHROM
Quantif. Method: HEX_CHROM
Recording Time: 4/7/2006 13:51
Run Time (min): 5.00

Injection Volume: 250.0
Channel: UV_VIS_1
Wavelength: n.a.
Bandwidth: n.a.
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000



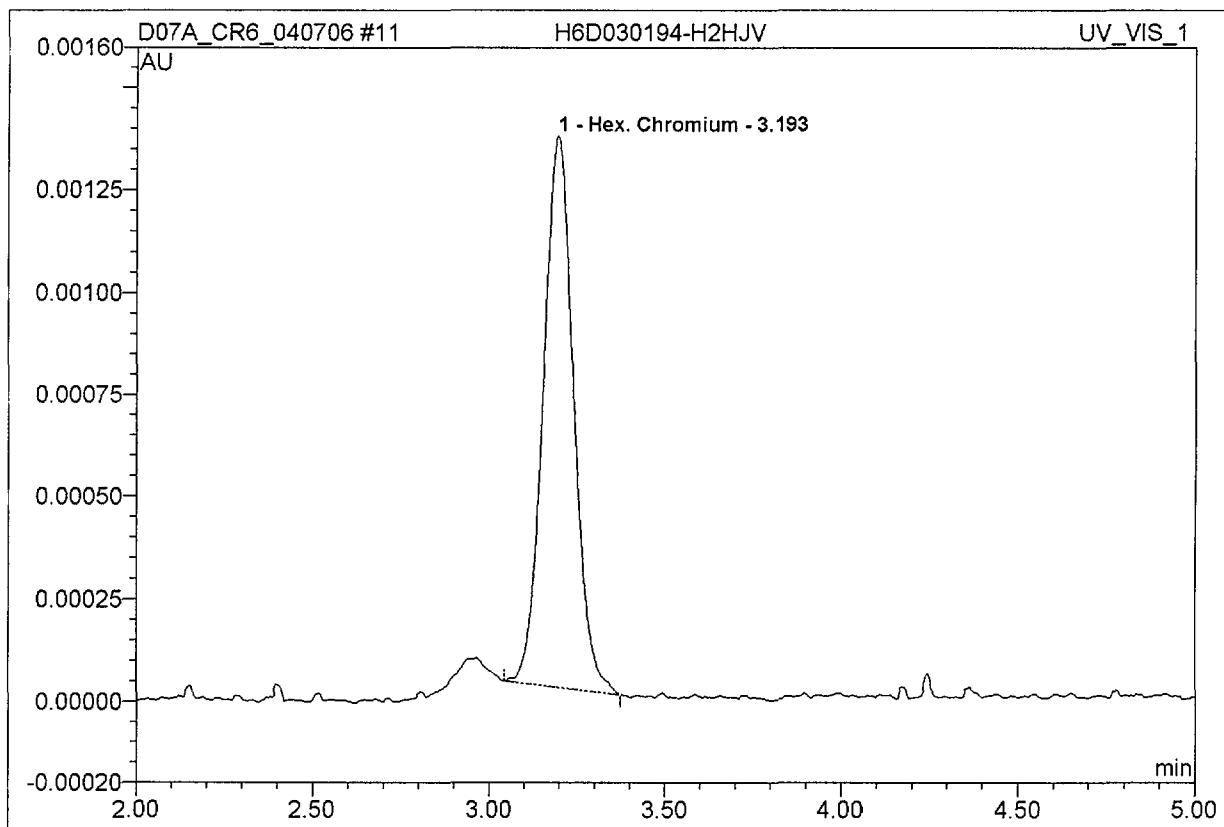
No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
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ND

11 H6D030194-H2HJV

Sample Name: H6D030194-H2HJV
Vial Number: 51
Sample Type: unknown
Control Program: HEX_CHROM
Quantif. Method: HEX_CHROM
Recording Time: 4/7/2006 13:58
Run Time (min): 5.00

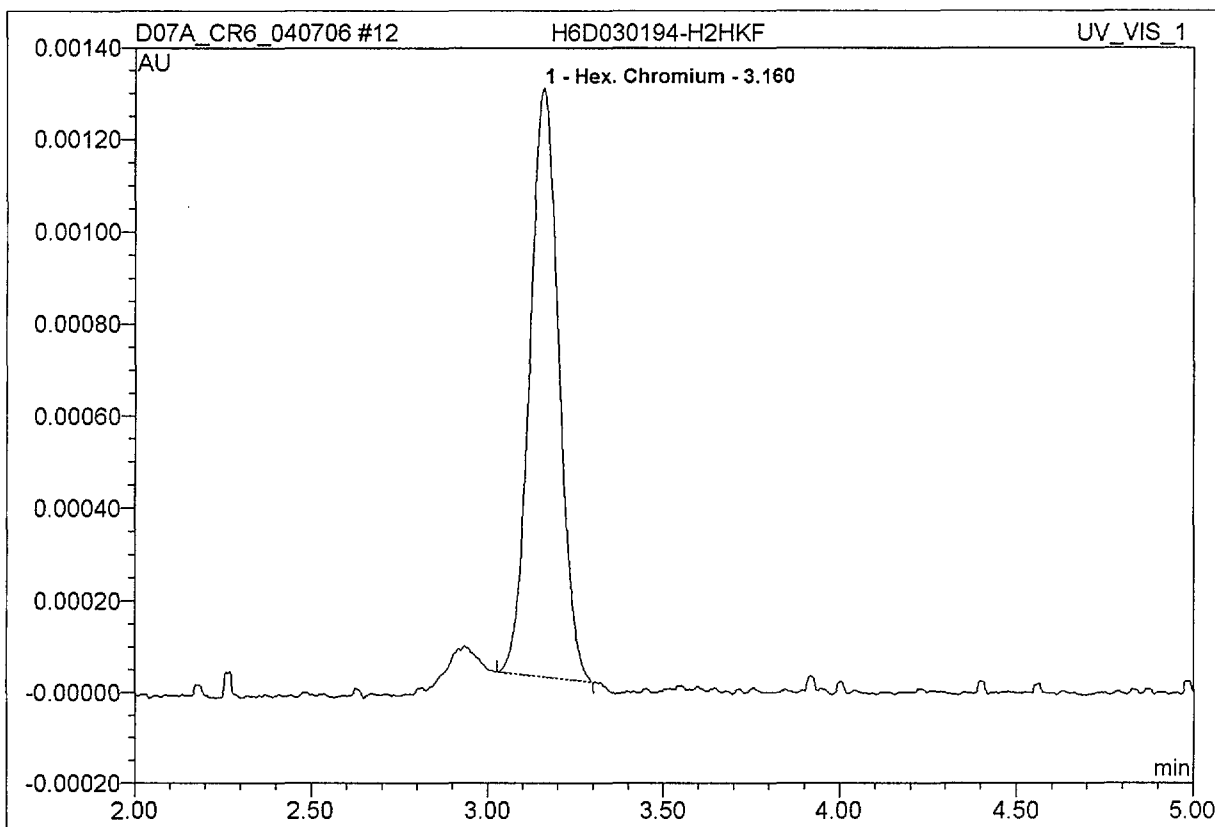
Injection Volume: 250.0
Channel: UV_VIS_1
Wavelength: n.a.
Bandwidth: n.a.
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00013	3.9690	1.400	5.55655	BMB

12 H6D030194-H2HKF

Sample Name:	H6D030194-H2HKF	Injection Volume:	250.0
Vial Number:	61	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 14:05	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

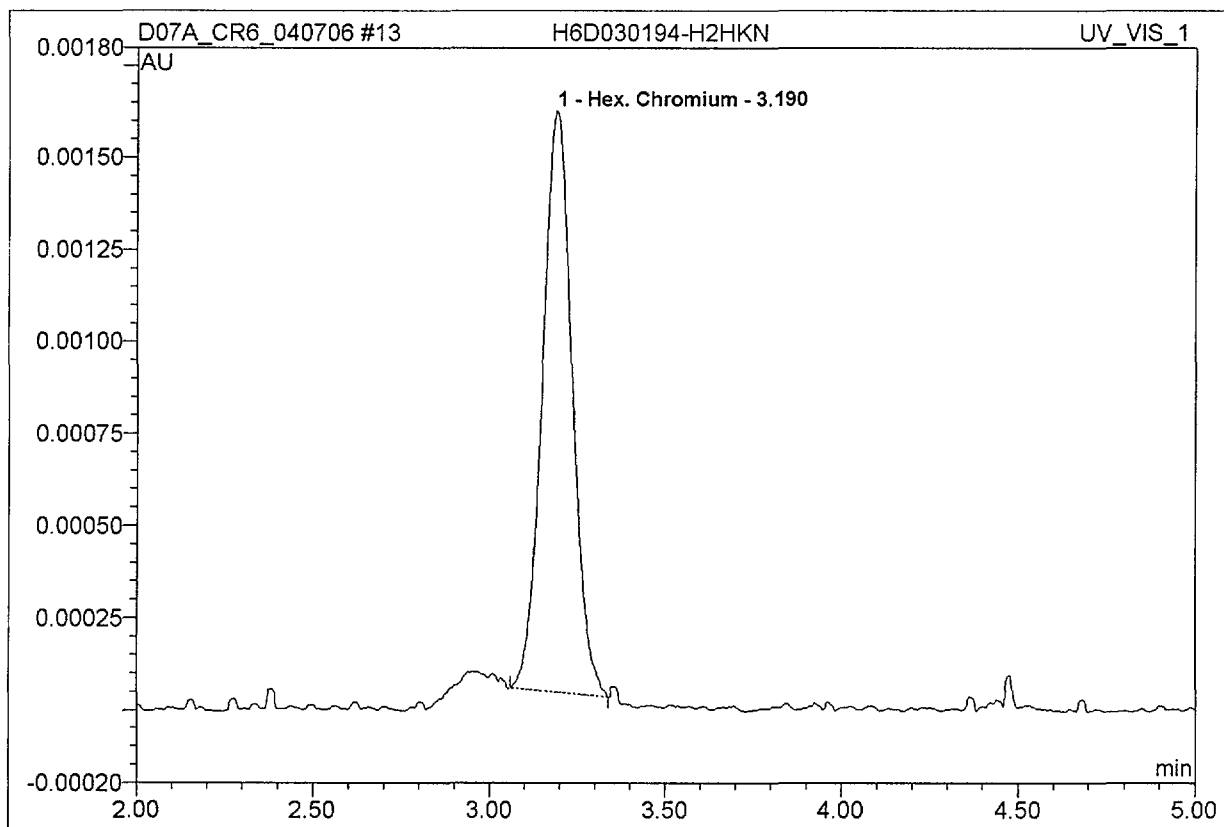


No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.16	Hex. Chromium	0.00012	3.5831	1.660	5.94799	BMB

13 H6D030194-H2HKN

Sample Name: H6D030194-H2HKN
Vial Number: 62
Sample Type: unknown
Control Program: HEX_CHROM
Quantif. Method: HEX_CHROM
Recording Time: 4/7/2006 14:13
Run Time (min): 5.00

Injection Volume: 250.0
Channel: UV_VIS_1
Wavelength: n.a.
Bandwidth: n.a.
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000

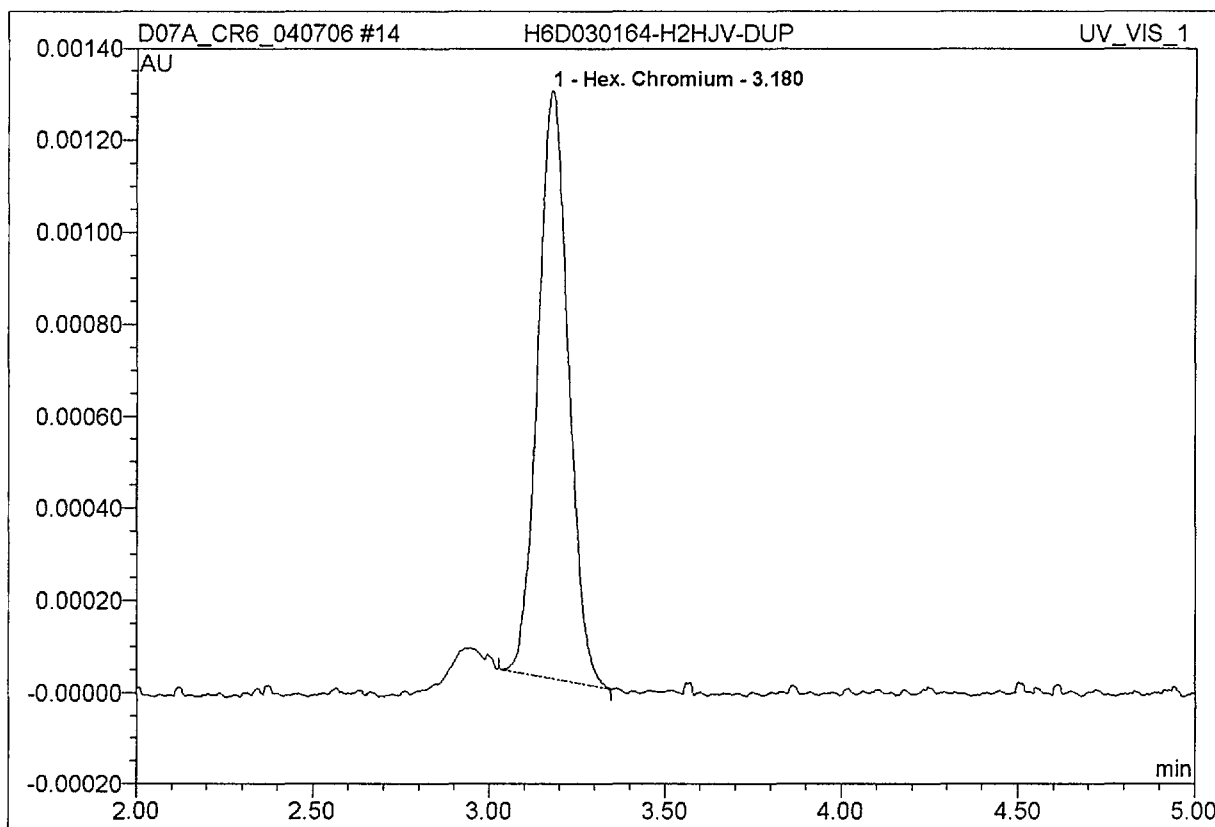


No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00016	4.5676	1.650	7.53657	BMB

9 *DFW*
4/13/06

14 H6D030164-H2HJV-DUP

Sample Name:	H6D030164-H2HJV-DUP	Injection Volume:	250.0
Vial Number:	63	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 14:20	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



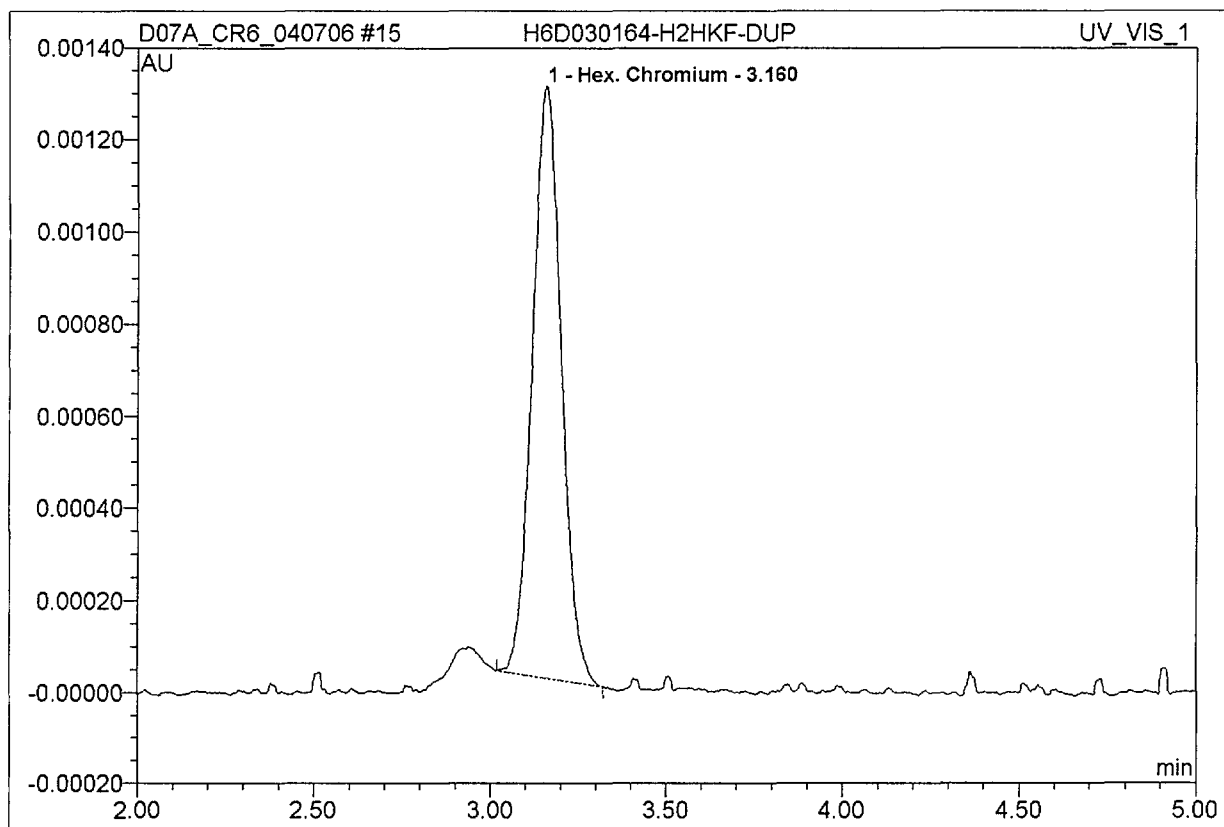
No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.18	Hex. Chromium	0.00013	3.7835	1.400	5.29687	BMB

9 D.W.
4/13/06

15 H6D030164-H2HKF-DUP

Sample Name: H6D030164-H2HKF-DUP
 Vial Number: 64
 Sample Type: unknown
 Control Program: HEX_CHROM
 Quantif. Method: HEX_CHROM
 Recording Time: 4/7/2006 14:28
 Run Time (min): 5.00

Injection Volume: 250.0
 Channel: UV_VIS_1
 Wavelength: n.a.
 Bandwidth: n.a.
 Dilution Factor: 1.0000
 Sample Weight: 1.0000
 Sample Amount: 1.0000

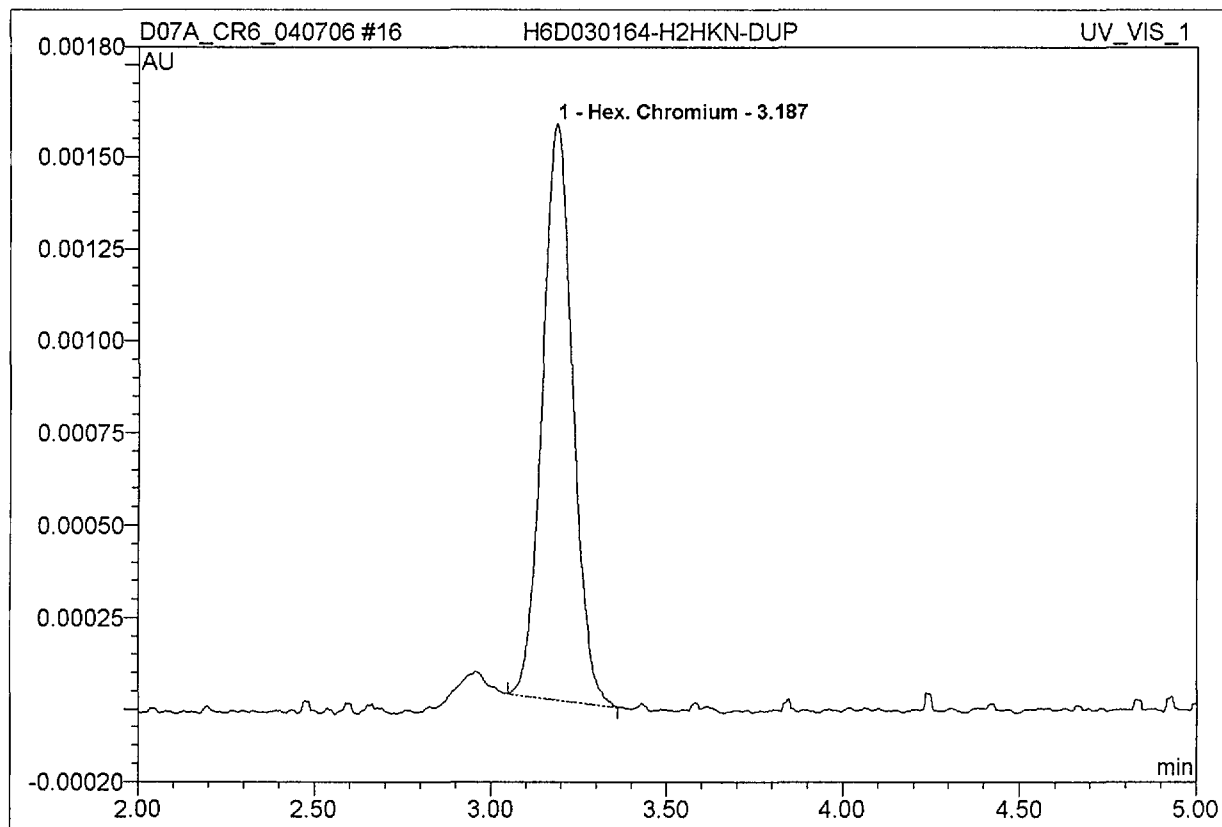


No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.16	Hex. Chromium	0.00012	3.6290	1.660	6.02407	BMB

9 *DPW*
4/13/06

16 H6D030164-H2HKN-DUP

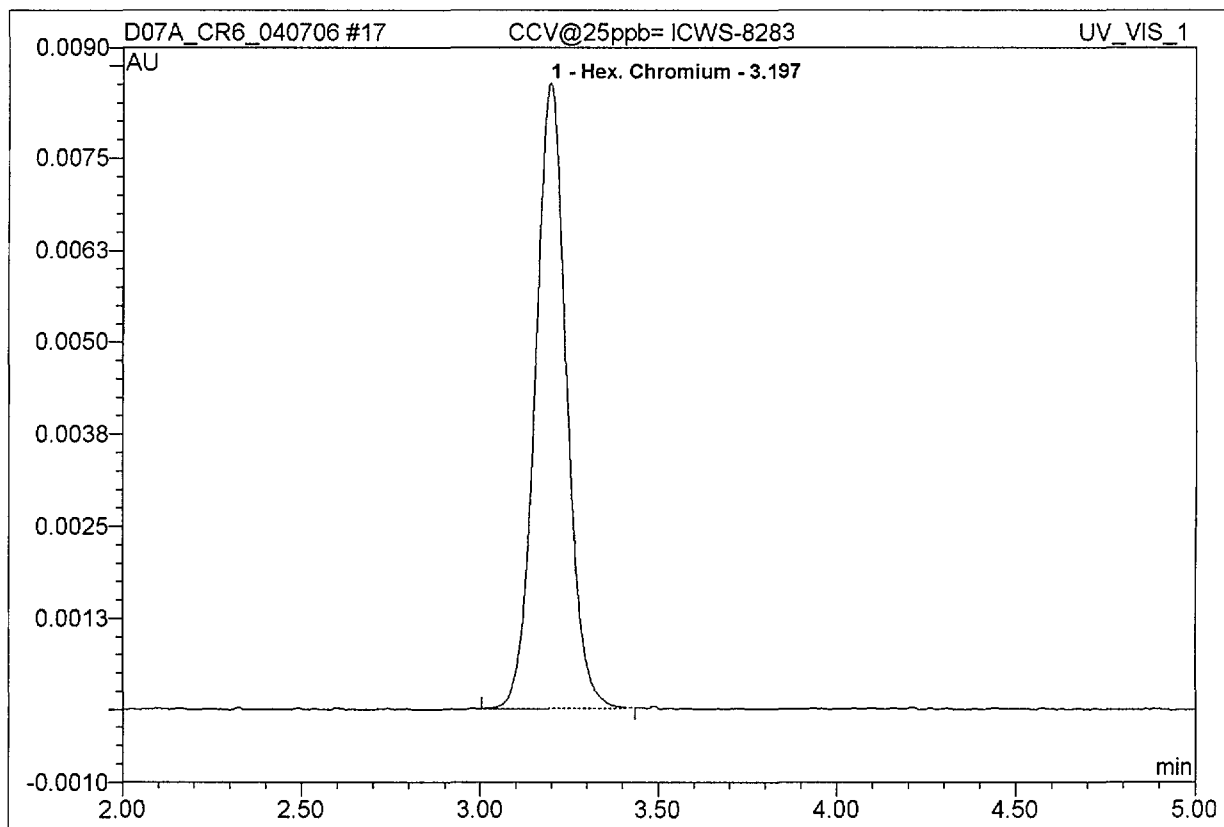
Sample Name:	H6D030164-H2HKN-DUP	Injection Volume:	250.0
Vial Number:	64	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 14:35	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00016	4.6132	1.650	7.61170	BMB

17 CCV@25ppb= ICWS-8283

Sample Name:	CCV@25ppb= ICWS-8283	Injection Volume:	250.0
Vial Number:	66	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 14:42	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

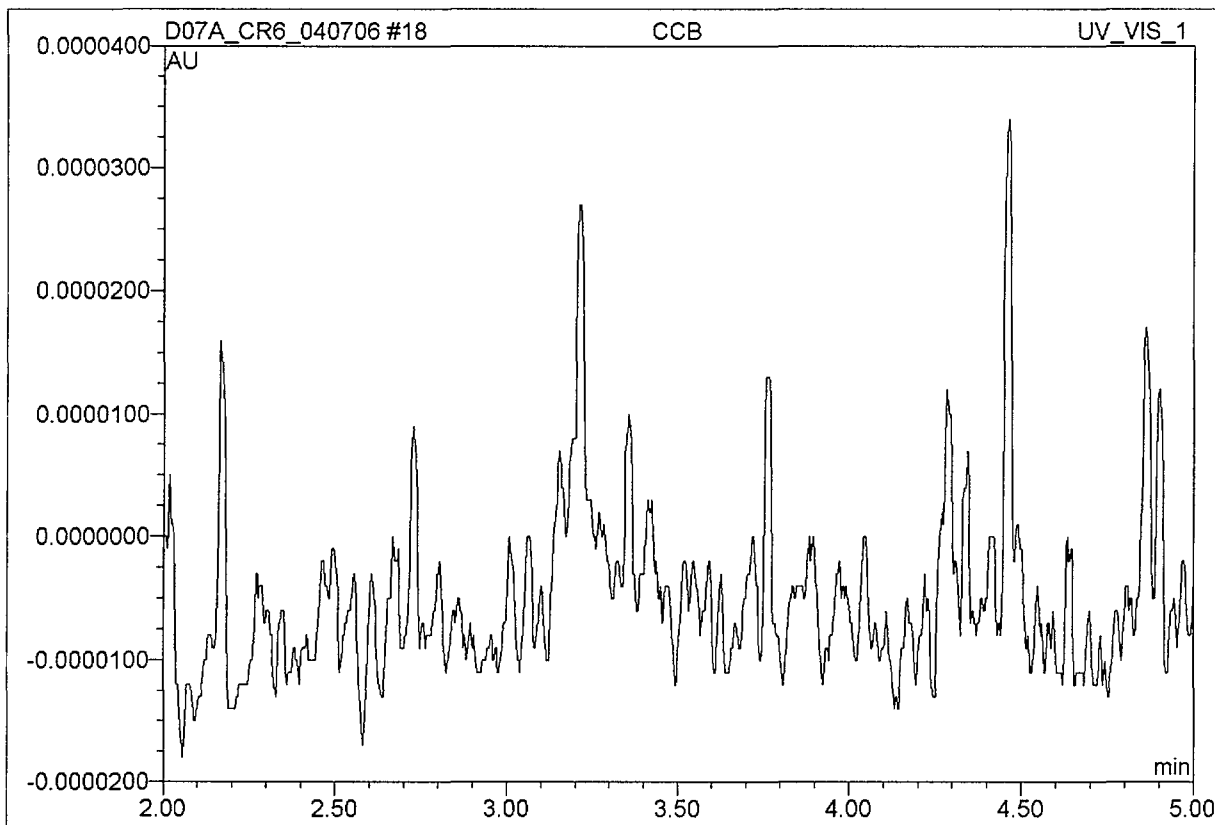


No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.20	Hex. Chromium	0.00086	25.3816		n.a.	BMB

(25 ppb $\pm$ 10%)

18 CCB

Sample Name:	CCB	Injection Volume:	250.0
Vial Number:	67	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 14:50	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

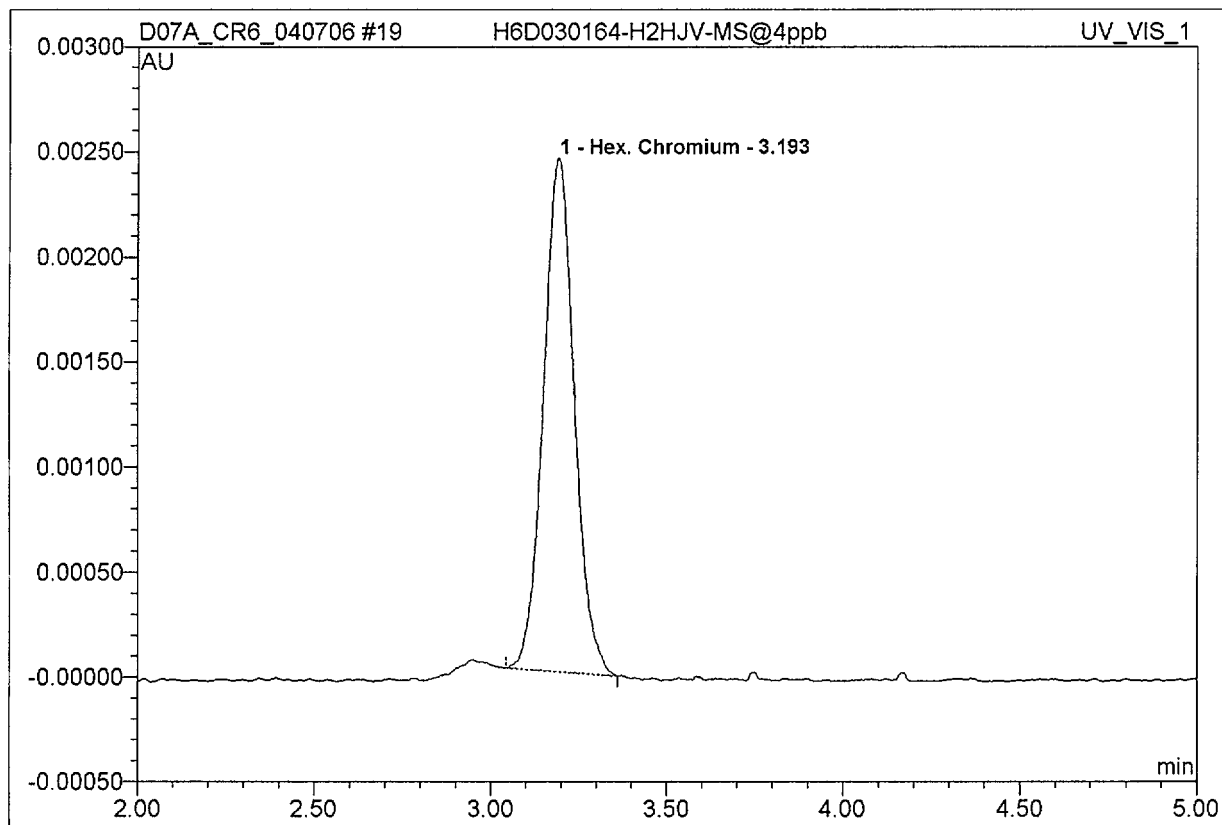


No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
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9
19 H6D030164-H2HJV-MS@4ppb

Sample Name:	H6D030164-H2HJV-MS@4ppb	Injection Volume:	250.0
Vial Number:	68	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 14:57	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

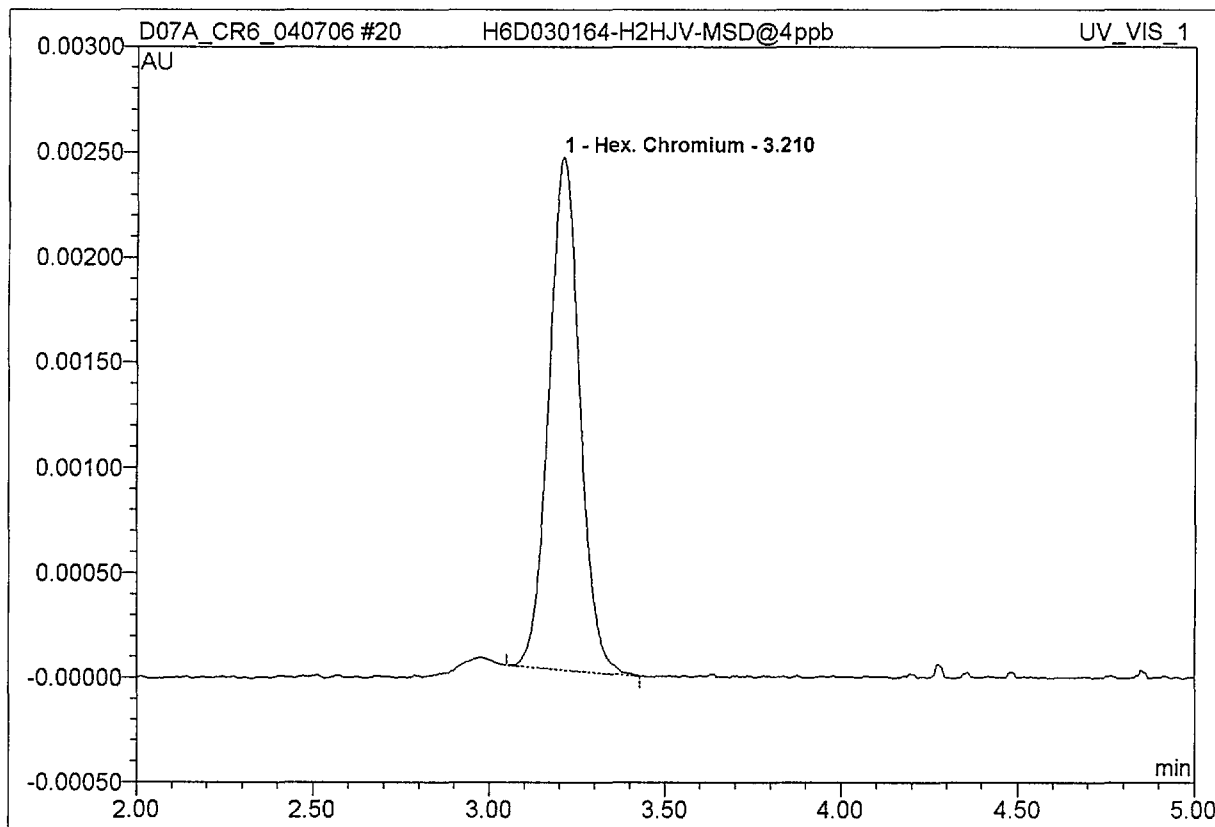


No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.19	Hex. Chromium	0.00025	7.3239	1.400	10.25342	BMB

9 *DFW*
4/13/06

20 H6D030164-H2HJV-MSD@4ppb

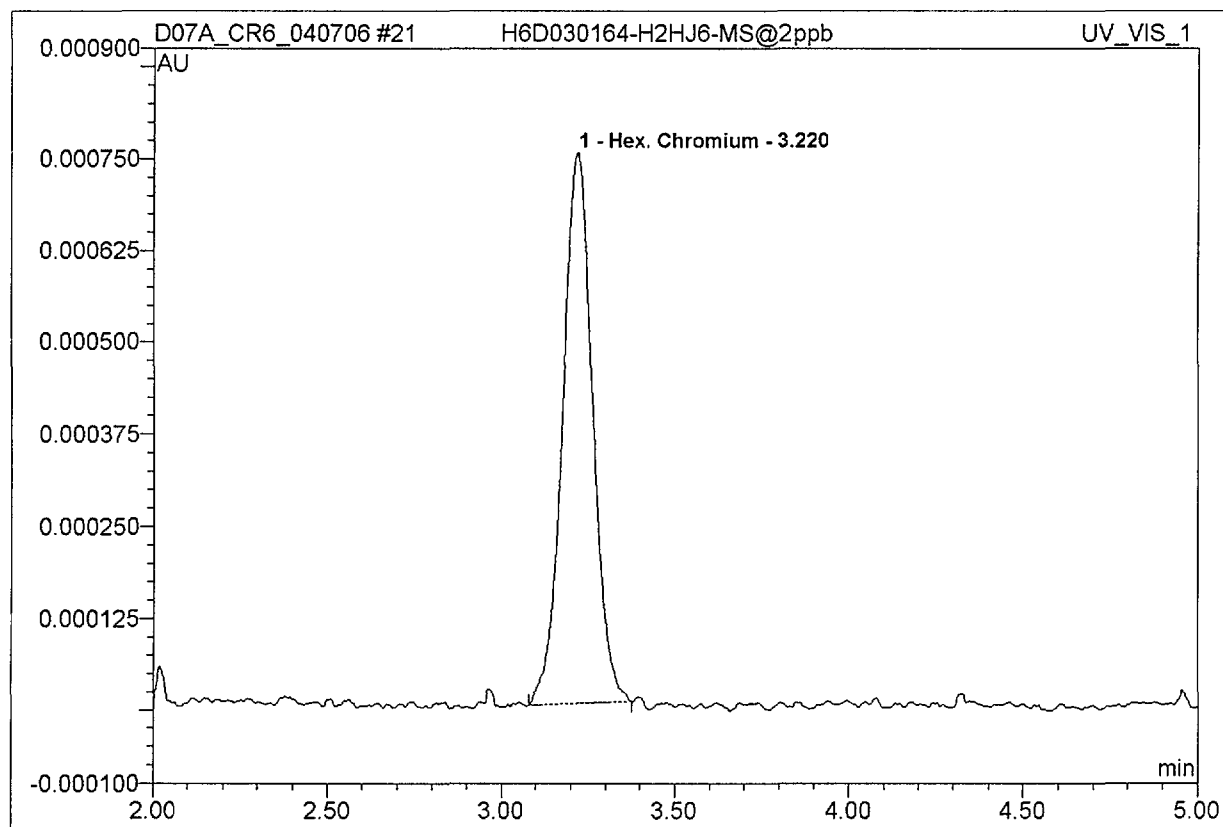
Sample Name:	H6D030164-H2HJV-MSD@4ppb	Injection Volume:	250.0
Vial Number:	69	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:05	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.21	Hex. Chromium	0.00025	7.3578	1.400	10.30096	BMB

9 *DFW 4/13/06*
21 H6D030164-H2HJ6-MS@2ppb

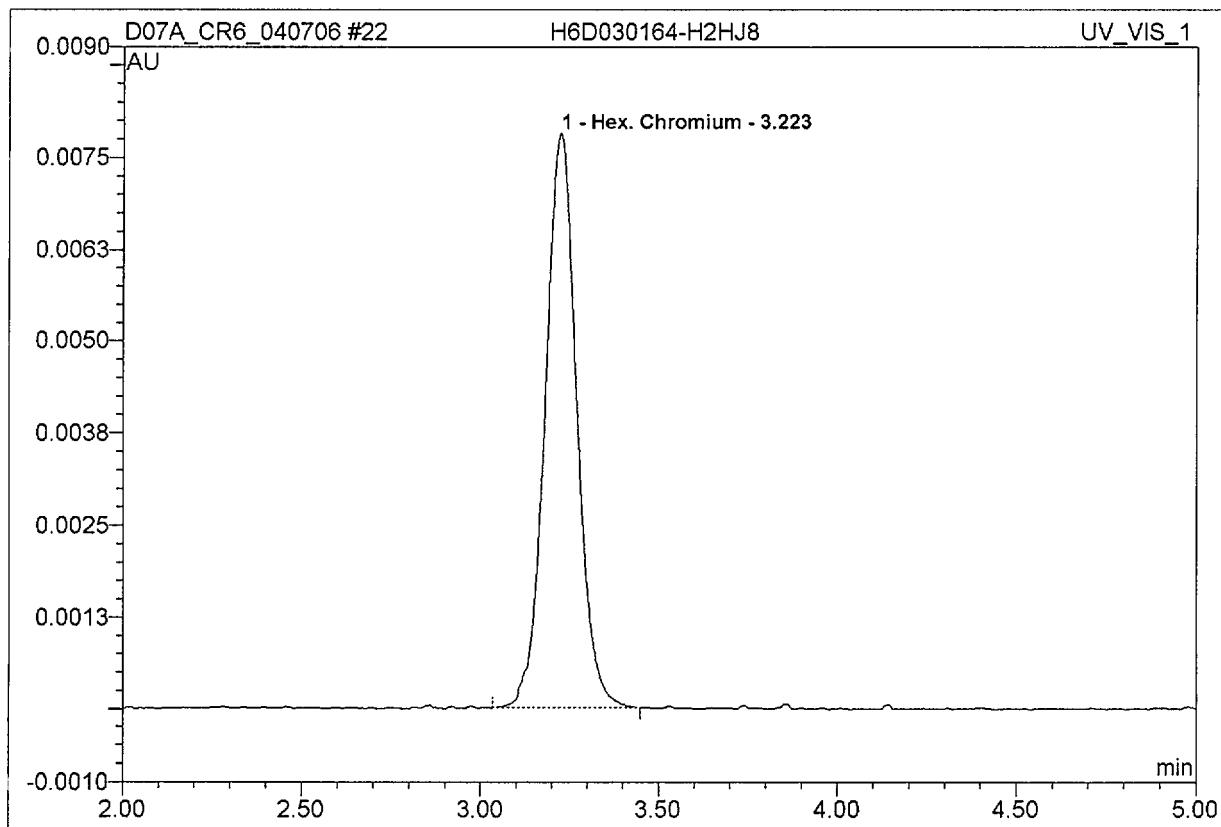
Sample Name:	H6D030164-H2HJ6-MS@2ppb	Injection Volume:	250.0
Vial Number:	74	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:12	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.22	Hex. Chromium	0.00008	2.2100	0.100	0.22100	BMB

9 D07A
4/13/06
22 H6D030164-H2HJ8

Sample Name:	H6D030164-H2HJ8	Injection Volume:	250.0
Vial Number:	83	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:21	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

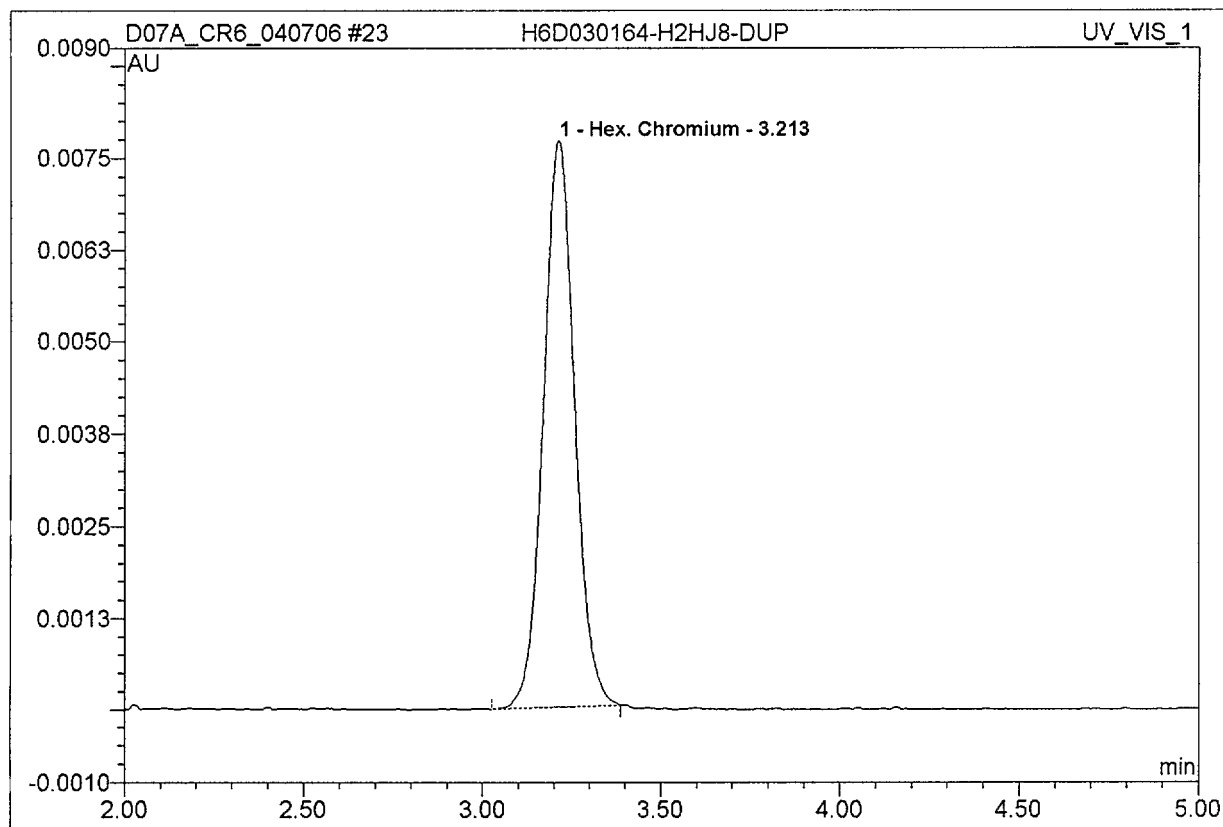


No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.22	Hex. Chromium	0.00080	23.6901	0.100	2.36901	BMB

6
DPA
4/13/06

23 H6D030164-H2HJ8-DUP

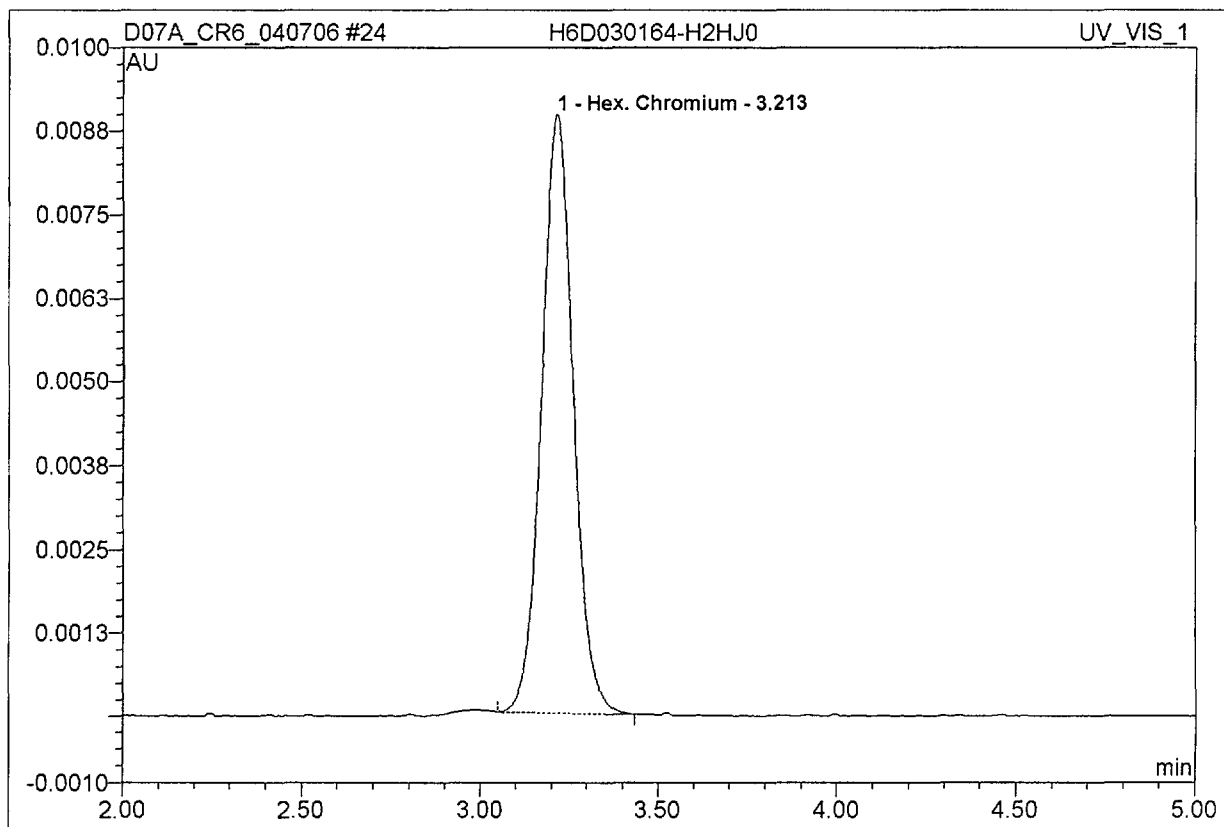
Sample Name:	H6D030164-H2HJ8-DUP	Injection Volume:	250.0
Vial Number:	84	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:29	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.21	Hex. Chromium	0.00078	23.0097	0.100	2.30097	BMB

9 *DFW*
4/13/06
24 H6D030164-H2HJ0

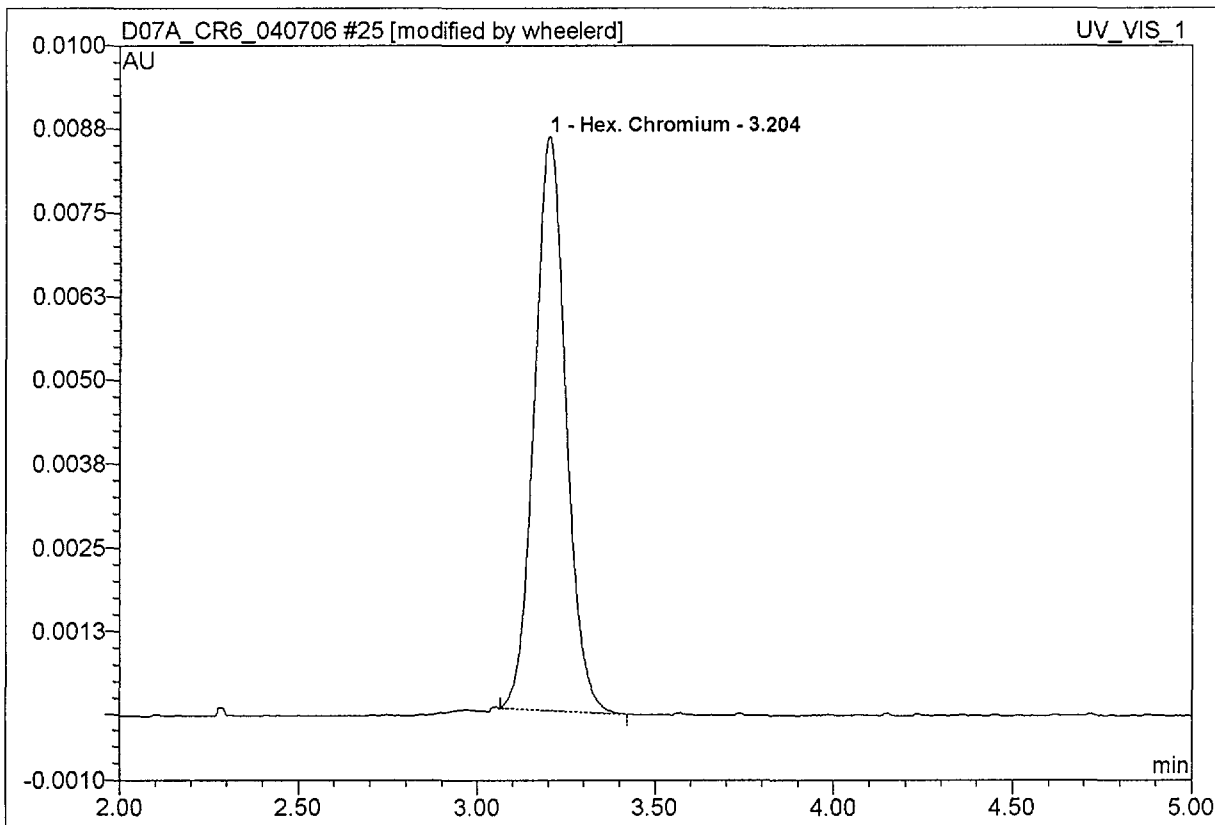
Sample Name:	H6D030164-H2HJ0	Injection Volume:	250.0
Vial Number:	85	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:36	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.21	Hex. Chromium	0.00092	27.2071	1.400	38.08990	BMB

9
4/13/06
25 H6D030164-H2HJ0-DUP

Sample Name:	H6D030164-H2HJ0-DUP	Injection Volume:	250.0
Vial Number:	86	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:43	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

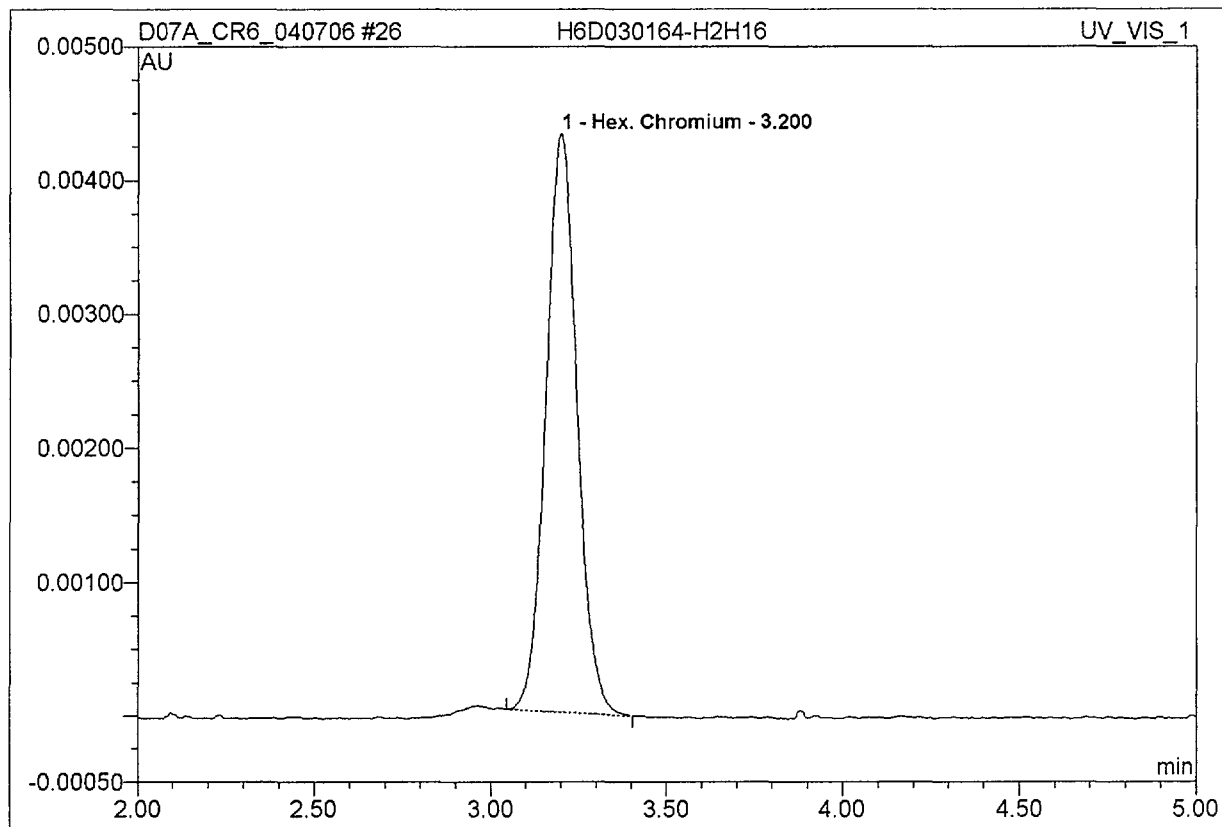


No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.20	Hex. Chromium	0.00088	25.8893	1.400	36.24509	BMB

9 *OPEN*
4/13/06
26 H6D030164-H2H16

Sample Name: H6D030164-H2H16
Vial Number: 87
Sample Type: unknown
Control Program: HEX_CHROM
Quantif. Method: HEX_CHROM
Recording Time: 4/7/2006 15:51
Run Time (min): 5.00

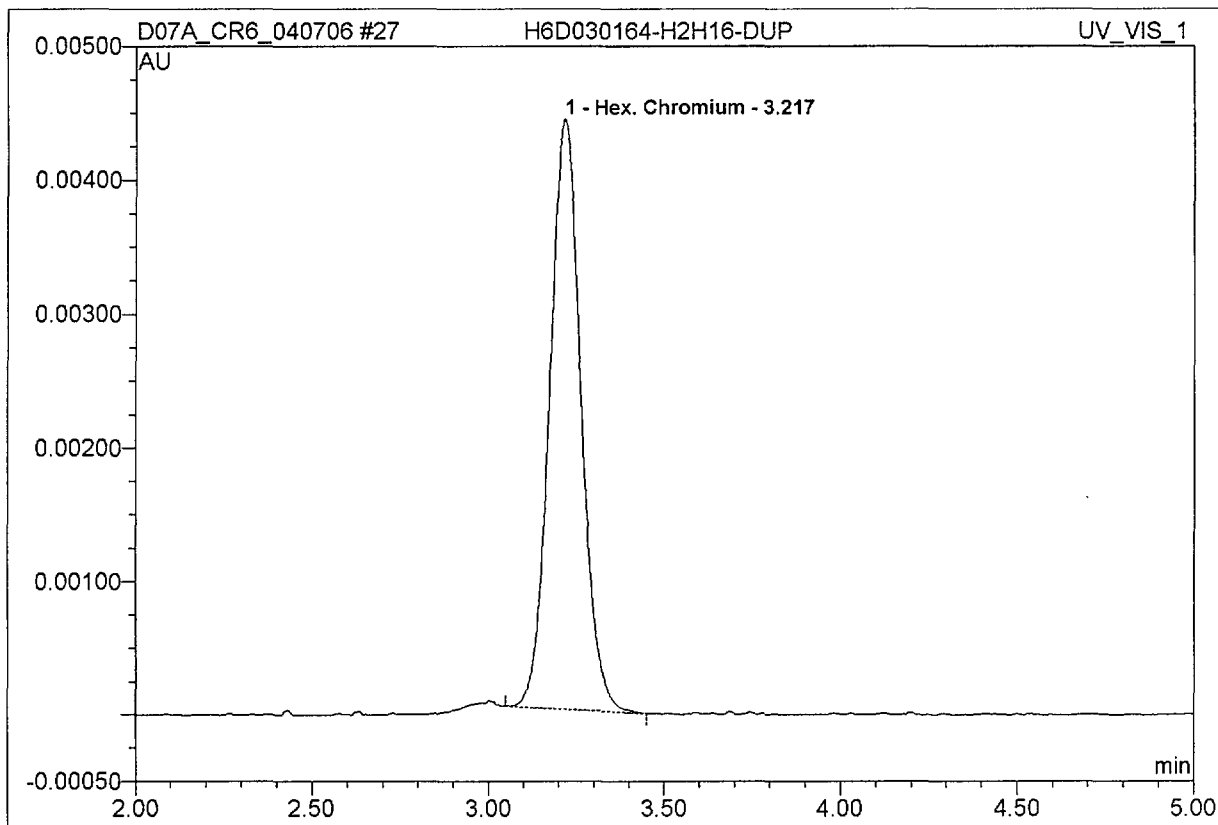
Injection Volume: 250.0
Channel: UV_VIS_1
Wavelength: n.a.
Bandwidth: n.a.
Dilution Factor: 1.0000
Sample Weight: 1.0000
Sample Amount: 1.0000



No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.20	Hex. Chromium	0.00044	13.0369	1.400	18.25163	BMB

9 ^{DP}
4/13/06
27 H6D030164-H2H16-DUP

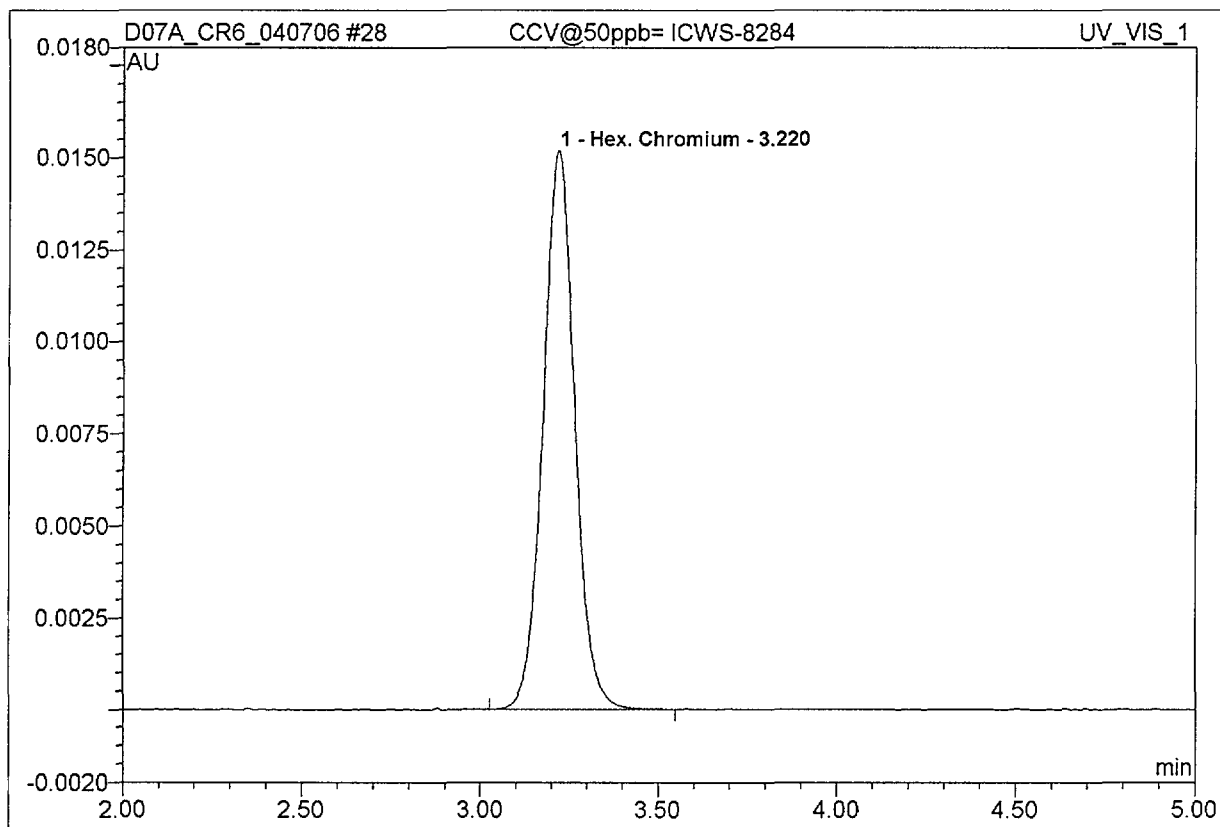
Sample Name:	H6D030164-H2H16-DUP	Injection Volume:	250.0
Vial Number:	88	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 15:58	Sample Weight:	1.0000
Run Time (min):	4.99	Sample Amount:	1.0000



No.	Ret.Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.22	Hex. Chromium	0.00046	13.4129	1.400	18.77806	BMB

28 CCV@50ppb= ICWS-8284

Sample Name:	CCV@50ppb= ICWS-8284	Injection Volume:	250.0
Vial Number:	89	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 16:06	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000

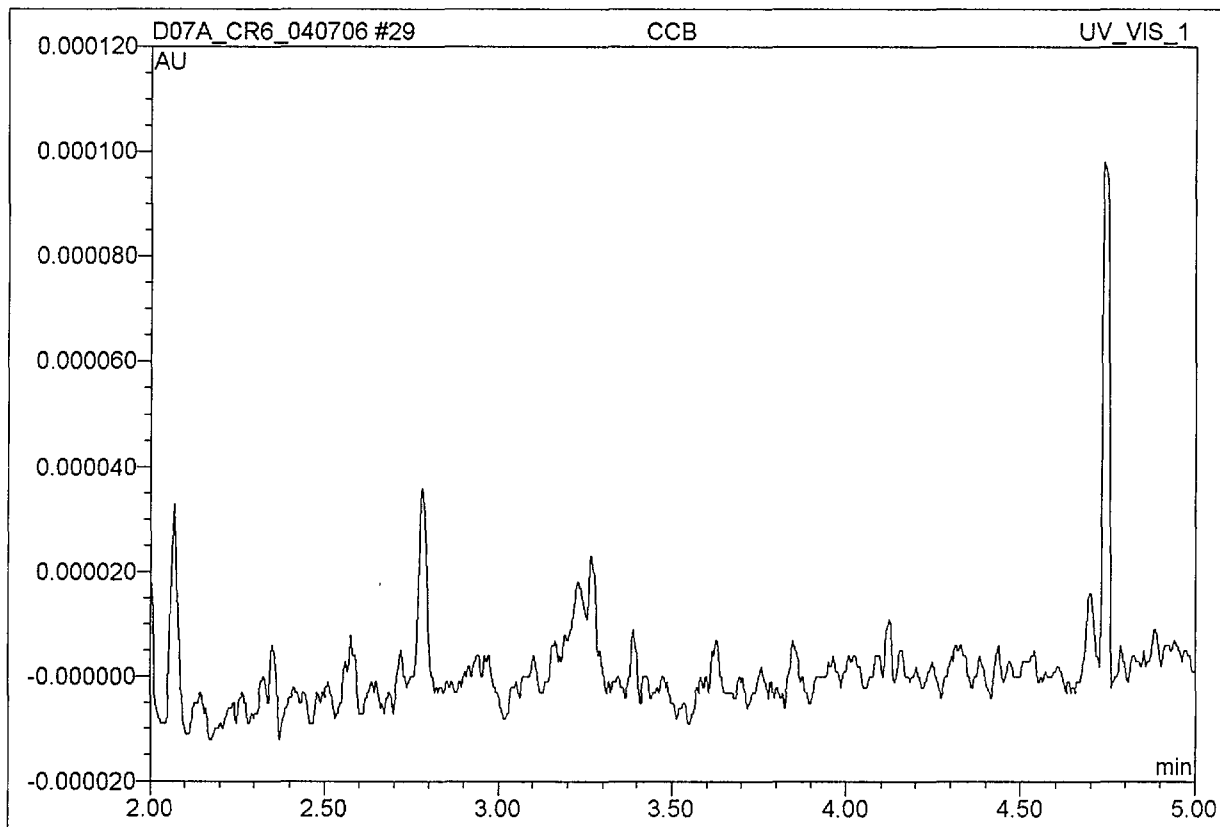


No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
1	3.22	Hex. Chromium	0.00156	46.0461		n.a.	BMB

(50 ppb $\pm$ 10%)

29 CCB

Sample Name:	CCB	Injection Volume:	250.0
Vial Number:	90	Channel:	UV_VIS_1
Sample Type:	unknown	Wavelength:	n.a.
Control Program:	HEX_CHROM	Bandwidth:	n.a.
Quantif. Method:	HEX_CHROM	Dilution Factor:	1.0000
Recording Time:	4/7/2006 16:13	Sample Weight:	1.0000
Run Time (min):	5.00	Sample Amount:	1.0000



No.	Ret. Time (min)	Peak Name	Area AU*min	Amount (ug/L)	*Multiplier (Liters)	Amount (ug)	Peak Type
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(ND)

STL KNOXVILLE
PREPARATION OF FINAL WORKING STANDARD SOLUTIONS FROM VENDOR PREPARED STOCKS
WET CHEMISTRY

Date: 4/7/06 Chemist: DFW Expiration Date: 4/8/06

ID Number	Compound Name	Parent Lot Number	Parent Source	Parent Exp. Date	Parent Conc.	Aliquot Volume (ml)	Dilution Volume (ml)	Final Conc.
1. ICWI-8277	Hex Chrom Intermed (A)	09073.4	ERA	1/31/03	1000 ppm	1.	100.	10,000 ppb
2. ICWI-8278	Hex Chrom Intermed (B)	"	"	"	" "	0.100	"	1000 ppb
3. ICWS-8279	Hex.	ICWI-8278		4/8/04	1000 ppb	0.100	200	0.5 ppb
4. " - 8280	Chrom					0.200	"	1. "
5. " - 8281	Calib.					0.500	100	5. "
6. " - 8282	Stds.	ICWI-8277			10,000 ppb	0.100		10. "
7. " - 8283						0.250		25. "
8. " - 8284						0.500		50. "
9. ICWI-8285	Hex Chrom Intermed (C)	506709	Environ. Express	12/31/06	1000 ppm	1.	100	10,000 ppb
10. ICWS-8286	QC/ICU/CS	ICWI-8285		4/8/06	10,000 ppb	0.100	100	10 ppb
11.								
12.								
13.								
14.								

NOTE: Hex. Chrom. Calibration standards & ICU/CS were prepared with a 10X of 0.5N Potassium Hydroxide (KOH) solution.

Reviewed By: _____

WC031R3.DOC, 8/28/03

STL Knoxville

Source Air Analysis Sample Information

[illegible]

Comments: ⊛ Reagent Blank = 100 mL volume

Sample Receipt Documentation

**Request for Analysis/Chain-of-Custody – RFA/COC #020 [Method 0061 Cr⁺⁶]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona**

STL Knoxville Lot Number: 44020194

STL Knoxville Project Number: 142541

NOTE: After Log-In, please give the original completed RFA/COC to Patti Carswell.

Project Identification: Westates Carbon CPT		Laboratory Deliverable Turnaround Requirements:	
STL Knoxville Project Number:	142541	Analytical Due Date:	21 Days from Lab Receipt (Review-Released Data)
STL Contact:	Ms. Patti Carswell (865) 291-3010	Data Package Due Date:	21 Days from Lab Receipt
STL - ACS Project Manager:	Dr. William C. Anderson (865) 291-3080	Laboratory Destination: STL Knoxville 5815 Middlebrook Pike Knoxville, Tennessee 37921 (865) 291-3000	
Analytical Testing QC Requirements: The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, and "PDS" = Post Digestion Spike		Courier: Federal Express	
Project Deliverables: Report analytical results on R-02 Reports and in data packages. Include "Field Number", "Sample Type", and "Run Number" on all R-02 Reports.			
Holding Time Requirements:			
Hexavalent Chromium		14 Days to Analysis.	

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Require- ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
G-2944-R1- Method 0061-0.5N KOH Impinger Composite	3-28-06	MS/MSD	1 Liter High Density Polyethylene Bottle	0.5N KOH Impinger Composite Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶) Analysis	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
G-2945-R1- Method 0061-0.5N KOH Impinger Composite FS	3-30-06	Field Spike	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Field Spike, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
G-2946-R1- Method 0061-0.5N KOH Impinger Composite FSD	3-30-06	Field Spike Duplicate	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Field Spike Duplicate, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
G-2947-R1- Method 0061-0.5N KOH Impinger Solution RB	3-28-06	Reagent Blank	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Reagent Blank, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.

Request for Analysis/Chain-of-Custody – RFA/COC #020 [Method 0061 Cr⁺⁶]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona

Field Sample No./ Sample Coding ID	Sample Collection Date	Project QC Require- ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
✓ G-2948-R1- Method 0061-0.5N KOH Impinger Solution Reagent Spike	3-30-06	Reagent Spike	250 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Reagent Spike, Run #1 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶)	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-3054-R2- Method 0061-0.5N KOH Impinger Composite 3138	3-29-06	(3) 3-30-06	500 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Run #2 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶) Analysis	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.
✓ G-3155-R3- Method 0061-0.5N KOH Impinger Composite TW 3-30-06			500 mL High Density Polyethylene Bottle	0.5N KOH Impinger Composite Run #3 Method 0061 Train Hexavalent Chromium (Cr ⁺⁶) Analysis	Prepare and analyze the sample for Hexavalent Chromium by ion chromatography Method 7199.

**Request for Analysis/Chain-of-Custody – RFA/COC #020 [Method 0061 Cr⁺⁶]
Focus/US Filter Westates Carbon
Comprehensive Performance Test at Parker, Arizona**

H62030194

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:

Comments

(Please write "NONE" if no comment applicable)

- (1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.

G-2945

- (2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:

5°C

- (3) Record any apparent sample loss/breakage.

NONE

- (4) Record any unidentified samples transported with this shipment of samples:

NONE

- (5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):

HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

Relinquished By:

Name	Company	Date/Time
<i>Stephen Johnson</i>	SIL	4-2-06 16:25
Name	Company	Date/Time

Relinquished By:

Name	Company	Date/Time
Name	Company	Date/Time

Accepted By:

Name	Company	Date/Time
Name	Company	Date/Time

Relinquished By:

Name	Company	Date/Time
Name	Company	Date/Time

Accepted By:

Name	Company	Date/Time
Name	Company	Date/Time

Relinquished By:

Name	Company	Date/Time
Name	Company	Date/Time

Accepted By:

Name	Company	Date/Time
Name	Company	Date/Time

STL KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Client: STL KNOXVILLE

Project: WESTATES CARBON CPT

Lot Number: HWD030194

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Do sample container labels match COC? (IDs, Dates, Times)	☒			☐ 1a Do not match COC ☐ 1b Incomplete information ☐ 1c Marking smeared ☐ 1d Label torn ☐ 1e No label ☐ 1f COC not received ☐ 1g Other:	<u>14A</u> <u>SB, G-2945 ASD 4-3-06</u>
2. Is the cooler temperature within limits? (> freezing temp. of water to 6°C; NC, 1668, 1613B: 0-4°C; VOST: 10°C; MA: 2-6°C)	☒			☐ 2a Temp Blank = _____ ☐ 2b Cooler Temp = _____	
3. Were samples received with correct chemical preservative (excluding Encore)?			☒	☐ 3a Sample preservative = _____	
4. Were custody seals present/intact on cooler and/or containers?			☒	☒ 4a Not present ☐ 4b Not intact ☐ 4c Other:	
5. Were all of the samples listed on the COC received?	☒		☒	☐ 5a Samples received-not on COC ☒ 5b Samples not received-on COC	
6. Were all of the sample containers received intact?	☒			☐ 6a Leaking ☐ 6b Broken	
7. Were VOA samples received without headspace?	☒		☒	☐ 7a Headspace (VOA only)	
8. Were samples received in appropriate containers?	☒			☐ 8a Improper container	
9. Did you check for residual chlorine, if necessary?	☒		☒	☐ 9a Could not be determined due to matrix interference	
10. Were samples received within holding time?	☒			☐ 10a Holding time expired	
11. For rad samples, was sample activity info. provided?	☒		☒	☐ Incomplete information	
12. For SOG water samples (1613B, 1668A, 8290, LR PAHs), do samples have visible solids present?	☒		☒	If yes & appears to be >1%, was SOG notified? _____	
13. Are the shipping containers intact?	☒			☐ 13a Leaking ☐ 13b Other:	
14. Was COC relinquished? (Signed/Dated/Timed)	☒		☒	☒ 14a Not relinquished	
15. Are tests/parameters listed for each sample?	☒			☐ 15a Incomplete information	
16. Is the matrix of the samples noted?	☒			☐ 15a Incomplete information	
17. Is the date/time of sample collection noted?	☒			☐ 15a Incomplete information	
18. Is the client and project name/# identified?	☒			☐ 15a Incomplete information	
19. Was the sampler identified on the COC?	☒				

Quote #: 64351

PM Instructions: _____

Sample Receiving Associate: *Myra Cannon*

Date: 4-3-06

QA026R18.doc, 1/30/06