

Atmospheric Analysis & Consulting, Inc.

Client : SWAPE.
Client Project Name : Bridgeton Sanitary Landfill Air Quality Assessment
Client Project No. : NA
AAC Project No. : 130650
Reporting Date : 06/07/2013

On May 30, 2013, Atmospheric Analysis & Consulting, Inc. received seven (7) Tubes for Sulfur Dioxide analysis by OSHA Method ID-200. Upon receipt each sample was assigned a unique Laboratory ID number as follows:

Client Sample ID	AAC Sample ID
BZ-1-SO2	130650-63205
BZ-2-SO2	130650-63214
U-1-SO2	130650-63223
U-2-SO2	130650-63232
D-1-SO2	130650-63241
D-2-SO2	130650-63250
Trip Blank-SO2	130650-63258


OSHA ID-200 Analysis – Up to a 5mL aliquot of the sample was injected into the DIONEX IC for analysis following OSHA ID-200 as specified in the SOW.

All sample values were blank corrected using the Trip Blank value for Sulfur Dioxide. The Trip Blank value was calculated using a sample volume of 13.0 Liters.

No other problems were encountered during receiving, preparation, and/or analysis of these samples. The test results included in this report meet all requirements of the NELAC Standards and/or AAC SOP OSHAID200.01.

I certify that this data is technically accurate, complete and in compliance with the terms and conditions of the contract. The Laboratory Director or his designee, as verified by the following signature, has authorized the release of the data contained in this hardcopy data package.

If you have any questions or require further explanation of data results, please contact the undersigned.


Marcus Hueppe
Laboratory Director

This report consists of 45 pages.



CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name:

SOIL / WATER AIR PROTECTION ENTERPRISE

Project Manager:

PAUL ROSENFELD, PH.D.

Address:

1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Project Name and Location:

BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By:

Paul Rosenfeld

Sample Signature:

Paul Rosenfeld

Telephone No. / Fax No.:
(310) 434-0110 / (310) 434-0011

REQUESTED TESTS / ANALYSES

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
63200	BZ-1 - Caulister	Can	5/21/13	12:09	X									X			
63201	-DNPH	Tube		11:57			X										
63202	-Acids			12:08				X									
63203	-HCL			11:59				X									
63204	-AMMONIA			12:02					X								
63205	-SO2			12:05						X							
63206	-HCN			12:01							X						
63207	-AMINES			12:09								X					
63208	-MERCURY			12:07											X		

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

Relinquished By:	<i>Paul Rosenfeld</i>	Date:	5/21/13	Time:	18:30	Received By:		Date:		Time:	
Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
Relinquished By:		Date:		Time:		Received By:	<i>W. J. 77</i>	Date:	5/30/13	Time:	14:15

Special Instructions / Conditions of Receipt

Date: 5/29/13 Page 1 of 1

AC# 1300007

SOIL / WATER / AIR PROTECTION ENTERPRISE

APC # 130650

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE
 Project Manager: PAUL ROSENFELD, PH.D.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401
 Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT
 Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011
 Date: 5/29/13 Page 1 of 1

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.
 QC Requirements: Provide Level IV QC Package for all Analyses.

Requested By: *Paul Rosenfeld* Date: 5/29/13 Time: 18:30
 Relinquished By: *Paul Rosenfeld* Date: 5/29/13 Time: 18:30
 Relinquished By: *Paul Rosenfeld* Date: 5/30/13 Time: 14:15

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	Requested By	Date	Time
63209	BZ-2-CANISTER	Can	5/29/13	16:23	X		
63210	-DNP4	TUBE		16:16	X		
63211	-ACIDS			16:19	X		
63212	-HCL			16:14	X		
63213	-AMMONIA			16:21	X		
63214	-SO2			16:22	X		
63215	-HEN			16:17	X		
63216	-AMINES			16:18	X		
63217	-MERURY			16:21	X		

Requested Tests / Analyses:
 VOCs - EPA TO-15
 Reduced Sulfur Compounds - ASTM D5504
 Aldehydes - EPA TO-11A
 Carboxylic Acids - Tube GC-MS
 HCL - NIOSH 7903
 Ammonia - OSHA ID-188
 SO2 - OSHA ID-200
 HCN - NIOSH 6010
 Amines - NIOSH 2010M
 Fixed Gases - EPA 3C
 PAHs / Dioxins EPA TO-13A / 9A
 Mercury - NIOSH 6009
 Odor Evaluation

Special Instructions / Conditions of Receipt

SOIL / WATER / AIR PROTECTION ENTERPRISE

AAE # 130650

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

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 Project Manager: PAUL ROSENFELD, PH.D.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401
 Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

Date: 5/29/13 Page 1 of 1

Requested Tests / Analyses

<input checked="" type="checkbox"/>	VOCS - EPA TO-15
<input checked="" type="checkbox"/>	Reduced Sulfur Compounds - ASTM D5504
<input checked="" type="checkbox"/>	Aldehydes - EPA TO-11A
<input checked="" type="checkbox"/>	Carboxylic Acids - Tube GC-MS
<input checked="" type="checkbox"/>	HCL - NIOSH 7903
<input checked="" type="checkbox"/>	Ammonia - OSHA ID-188
<input checked="" type="checkbox"/>	SO2 - OSHA ID-200
<input checked="" type="checkbox"/>	HCN - NIOSH 6010
<input checked="" type="checkbox"/>	Amines - NIOSH 2010M
<input checked="" type="checkbox"/>	Fixed Gases - EPA 3C
<input checked="" type="checkbox"/>	PAHs / Dioxins EPA TO-13A / 9A
<input checked="" type="checkbox"/>	Mercury - NIOSH 6009
<input checked="" type="checkbox"/>	Odor Evaluation

Special Instructions / Conditions of Receipt

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	Requested Tests / Analyses
63218	U-1 - Canister	Can	5/29/13	12:46	<input checked="" type="checkbox"/> VOCS - EPA TO-15 <input checked="" type="checkbox"/> Reduced Sulfur Compounds - ASTM D5504 <input checked="" type="checkbox"/> Aldehydes - EPA TO-11A <input checked="" type="checkbox"/> Carboxylic Acids - Tube GC-MS <input checked="" type="checkbox"/> HCL - NIOSH 7903 <input checked="" type="checkbox"/> Ammonia - OSHA ID-188 <input checked="" type="checkbox"/> SO2 - OSHA ID-200 <input checked="" type="checkbox"/> HCN - NIOSH 6010 <input checked="" type="checkbox"/> Amines - NIOSH 2010M <input checked="" type="checkbox"/> Fixed Gases - EPA 3C <input checked="" type="checkbox"/> PAHs / Dioxins EPA TO-13A / 9A <input checked="" type="checkbox"/> Mercury - NIOSH 6009 <input checked="" type="checkbox"/> Odor Evaluation
63219	-DNPH	Tube	5/29/13	12:42	<input checked="" type="checkbox"/> Aldehydes - EPA TO-11A
63220	-Acids	Tube	5/29/13	12:47	<input checked="" type="checkbox"/> Carboxylic Acids - Tube GC-MS
63221	-HEL	Tube	5/29/13	12:49	<input checked="" type="checkbox"/> HCL - NIOSH 7903
63222	-AMMONIA	Tube	5/29/13	12:50	<input checked="" type="checkbox"/> Ammonia - OSHA ID-188
63223	-SO2	Tube	5/29/13	12:46	<input checked="" type="checkbox"/> SO2 - OSHA ID-200
63224	-HEN	Tube	5/29/13	12:51	<input checked="" type="checkbox"/> HCN - NIOSH 6010
63225	-AMINES	Tube	5/29/13	12:45	<input checked="" type="checkbox"/> Amines - NIOSH 2010M
63226	-MERCURY	Tube	5/29/13	12:48	<input checked="" type="checkbox"/> Mercury - NIOSH 6009

Relinquished By: Rob Hesse Date: 5/29/13 Time: 18:30

Relinquished By: [Signature] Date: [] Time: []

Relinquished By: [Signature] Date: [] Time: []

Received By: [Signature] Date: 5/30/13 Time: 14:15

Received By: [Signature] Date: [] Time: []

Received By: [Signature] Date: [] Time: []

SOIL / WATER / AIR PROTECTION ENTERPRISE

Samples received @ 7.0 °C

File # 130650

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

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 Project Manager: PAUL ROSENFELD, PH.D.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401
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 Date: 5/29/13 Page 1 of 1

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.
 QC Requirements: Provide Level IV QC Package for all Analyses.

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	REQUESTED TESTS / ANALYSES										Special Instructions / Conditions of Receipt				
					VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C		PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation	
63227	0-2 - CANISER	CAN	5/21/13	16:46	X														
63228	- DIRT	DIRT	5/21/13	16:43			X												
63229	- ACIDS			16:41			X												
63230	- HCL			16:40				X											
63231	- AMMONIA			16:44				X											
63232	- SO2			16:45					X										
63233	- HCN			16:42						X									
63234	- AMINES			16:42							X								
63235	- MERCURY			16:39								X							

Relinquished By: *[Signature]* Date: 5/21/13 Time: 18:30
 Relinquished By: *[Signature]* Date: Date: Time: Received By: *[Signature]* Date: 5/30/13 Time: 17:15

SOIL / WATER / AIR PROTECTION ENTERPRISE

AAE # 130650

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE
 Project Manager: PAUL ROSENFELD, PH.D.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Date: 5/29/13 Page 1 of 1

REQUESTED TESTS / ANALYSES

Special Instructions / Conditions of Receipt

Sampled By: Paul Rosenfeld
 Sample Signature: Paul Rosenfeld

BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
03230	D-1 - CANISTER	CAN	5/29/13	13:20	X	X								X			
03237	- DNPH	TUBE		13:24			X										
03238	- ACIDS			13:26			X										
03239	- HCL			13:23				X									
03240	- AMMONIA			13:18					X								
03241	- SO2			13:20						X							
03242	- HCN			13:22							X						
03243	- AMINES			13:25								X					
03244	- MERCURY			13:21											X		

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

QC Requirements: Provide Level IV QC Package for all Analyses.

Relinquished By: Paul Rosenfeld	Date: 5/29/13	Time: 18:30	Received By: [Signature]	Date: 5/29/13	Time: 14:15
Relinquished By: [Signature]	Date:	Time:	Received By: [Signature]	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

SOIL / WATER / AIR PROTECTION ENTERPRISE

AAE# 130650

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE
 Project Manager: PAUL ROSENFELD, PH.D.
 Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401
 Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Requested Tests / Analyses
 Date: 5/29/13 Page 1 of 1

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By: Paul Rosenfeld
 Sampler Signature: Paul Rosenfeld

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C	PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation
63245	D-2 - CANISTER	Can	5/29/13	17:20	X	X								X			
63246	-DNPH	Tube		17:20		X											
63247	-AC105			17:21			X										
63248	-HCL			17:24				X									
63249	-AMMONIA			17:25					X								
63250	-SO2			17:22						X							
63251	-HCN			17:26							X						
63252	-AMINES			17:29								X					
63253	-MERCURY	Y		17:23									X				

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.
 OC Requirements: Provide Level IV QC Package for all Analyses.

Relinquished By: [Signature] Date: 5/29/13 Time: 10:30
 Received By: [Signature] Date: 5/30/13 Time: 14:15

SOIL / WATER / AIR PROTECTION ENTERPRISE

Special Instructions / Conditions of Receipt

AAE # 130650

CHAIN OF CUSTODY RECORD / ANALYTICAL REQUEST FORM

Bridgeton Sanitary Landfill Air Quality Assessment

Client Name: SOIL / WATER AIR PROTECTION ENTERPRISE
 Project Manager: PAUL ROSENFELD, PH.D.

Telephone No. / Fax No.: (310) 434-0110 / (310) 434-0011

Date: 5/29/12 Page 1 of 1

Address: 1640 FIFTH STREET, SUITE 204, SANTA MONICA, CA 90401

REQUESTED TESTS / ANALYSES

Project Name and Location: BRIDGETON SANITARY LANDFILL AIR QUALITY ASSESSMENT

Sampled By: Paul Rosenfeld
 Sampler Signature: Paul Rosenfeld

LAB ID	SAMPLE ID NUMBER	Type	Date	Time	REQUESTED TESTS / ANALYSES										Special Instructions / Conditions of Receipt					
					VOCS - EPA TO-15	Reduced Sulfur Compounds - ASTM D5504	Aldehydes - EPA TO-11A	Carboxylic Acids - Tube GC-MS	HCL - NIOSH 7903	Ammonia - OSHA ID-188	SO2 - OSHA ID-200	HCN - NIOSH 6010	Amines - NIOSH 2010M	Fixed Gases - EPA 3C		PAHs / Dioxins EPA TO-13A / 9A	Mercury - NIOSH 6009	Odor Evaluation		
03254	TRIP BLANK	-DIRTY	5/29/12	15:00			X													
03255		-ACIDS		15:30			X													
03256		-HCL						X												
03257		-AMMONIA							X											
03258		-SO2								X										
03259		-HCN									X									
03260		-AMINES										X								
03261		-Mercury												X						

Requested Turnaround Time: Standard turn-around for all analyses. If possible deliver report within 2 weeks.

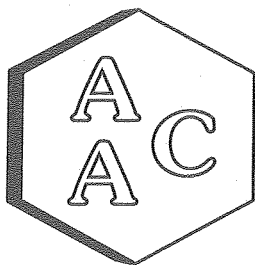
QC Requirements: Provide Level IV QC Package for all Analyses.

Relinquished By: ROB HESSER	Date: 5/29/12	Time: 18:30	Received By: [Signature]	Date: 5/30/12	Time: 12:15
Relinquished By: [Signature]	Date:	Time:	Received By: [Signature]	Date:	Time:
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

SOIL / WATER / AIR PROTECTION ENTERPRISE

Sample Name	Date	Parameter	Tube	Description	Location	Volume (liters)
D-1-DNPH Total	5/29/2013	Aldehydes	226-120	Off-site Ambient	Downwind; Virbac Front Lawn, North Corner	397
D-2-DNPH	5/29/2013	Aldehydes	226-120	Off-site Ambient	Downwind; Northwest Auto Body; NW Corner	161
U-1-DNPH	5/29/2013	Aldehydes	226-120	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	278
U-2-DNPH	5/29/2013	Aldehydes	226-120	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	238
BZ-1-DNPH	5/29/2013	Aldehydes	226-120	ONSITE Ambient	North of Flares; West of Parking Lot; Downwind	259
BZ-2-DNPH	5/29/2013	Aldehydes	226-120	ONSITE Ambient	Adjacent to Flares; Downwind of RCP Removal	249
D-1-Ammonia	5/29/2013	Ammonia	226-29	Off-site Ambient	Downwind; Virbac Front Lawn, North Corner	28.2
D-2-Ammonia	5/29/2013	Ammonia	226-29	Off-site Ambient	Downwind; Northwest Auto Body; NW Corner	23.3
U-1-Ammonia	5/29/2013	Ammonia	226-29	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	29.2
U-2-Ammonia	5/29/2013	Ammonia	226-29	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	24.1
BZ-1-Ammonia	5/29/2013	Ammonia	226-29	ONSITE Ambient	North of Flares; West of Parking Lot; Downwind	25.5
BZ-2-Ammonia	5/29/2013	Ammonia	226-29	ONSITE Ambient	Adjacent to Flares; Downwind of RCP Removal	23.7
D-1-HCL	5/29/2013	Hydrogen Chloride	226-10-03	Off-site Ambient	Downwind; Virbac Front Lawn, North Corner	100
D-2-HCL	5/29/2013	Hydrogen Chloride	226-10-03	Off-site Ambient	Downwind; Northwest Auto Body; NW Corner	78.8
U-1-HCL	5/29/2013	Hydrogen Chloride	226-10-03	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	103
U-2-HCL	5/29/2013	Hydrogen Chloride	226-10-03	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	81.8
BZ-1-HCL	5/29/2013	Hydrogen Chloride	226-10-03	ONSITE Ambient	North of Flares; West of Parking Lot; Downwind	96.7
BZ-2-HCL	5/29/2013	Hydrogen Chloride	226-10-03	ONSITE Ambient	Adjacent to Flares; Downwind of RCP Removal	91.4
D-1-SO2	5/29/2013	Sulfur Dioxide	226-80	Off-site Ambient	Downwind; Virbac Front Lawn, North Corner	15.3
D-2-SO2	5/29/2013	Sulfur Dioxide	226-80	Off-site Ambient	Downwind; Northwest Auto Body; NW Corner	11.9
U-1-SO2	5/29/2013	Sulfur Dioxide	226-80	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	14.9
U-2-SO2	5/29/2013	Sulfur Dioxide	226-80	Off-site Ambient	Upwind; FR Service Co., Front Lawn NW Corner	12.6
BZ-1-SO2	5/29/2013	Sulfur Dioxide	226-80	ONSITE Ambient	North of Flares; West of Parking Lot; Downwind	13.2
BZ-2-SO2	5/29/2013	Sulfur Dioxide	226-80	ONSITE Ambient	Adjacent to Flares; Downwind of RCP Removal	13.0

Results



Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Anion Analysis by IC

Client: : Swape
Client Project Name: : Bridgeton Sanitary Landfill Air Quality Assessment
AAC Project No. : 130650
Analyst : EG/HP
Units : ppbv

Sampling Date : 05/29/2013
Receiving Date : 05/30/2013
Analysis Date : 06/05/2013
Reporting Date : 06/07/2013

Sulfur Dioxide Analysis by OSHA Method ID-200

Client Sample ID	AAC Sample ID	Sample Volume (mL)	Analysis DF	Sulfur Dioxide Concentration (ppbv)	Sample Reporting Limit (ppbv)
BZ-1-SO2	130650-63205	10	1	<SRL	15.4
BZ-2-SO2	130650-63214	10	1	<SRL	15.7
U-1-SO2	130650-63223	10	1	<SRL	13.7
U-2-SO2	130650-63232	10	1	<SRL	16.2
D-1-SO2	130650-63241	10	1	<SRL	13.3
D-2-SO2	130650-63250	10	1	<SRL	17.1
Trip Blank-SO2	130650-63258	10	1	<SRL	15.7

<SRL-compound was analyzed for but not detected at or above the SRL (Sample Reporting Limit)

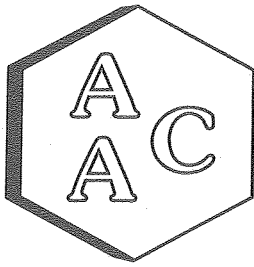
All sample values were blank corrected using the Trip Blank value for Sulfur Dioxide

The Trip Blank value was calculated using a sample volume of 13 Liters



Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

Laboratory Analysis Report

Anion Analysis by IC

Client: : Swape
 Client Project Name: : Bridgeton Sanitary Landfill Air Quality Assessment
 AAC Project No. : 130650
 Analyst : EG/HP
 Units : ug/sample and ug/m³

Sampling Date : 05/29/2013
 Receiving Date : 05/30/2013
 Analysis Date : 06/05/2013
 Reporting Date : 06/07/2013


Sulfur Dioxide Analysis by OSHA Method ID-200

Client Sample ID	AAC Sample ID	Sample Volume (mL)	Analysis DF	Sulfur Dioxide Concentration (ug/sample)	Sample Reporting Limit (ug/sample)	Sulfur Dioxide Concentration (ug/m ³)	Sample Reporting Limit (ug/m ³)
BZ-1-SO2	130650-63205	10	1	<SRL	0.534	<SRL	40.4
BZ-2-SO2	130650-63214	10	1	<SRL	0.534	<SRL	41.0
U-1-SO2	130650-63223	10	1	<SRL	0.534	<SRL	35.8
U-2-SO2	130650-63232	10	1	<SRL	0.534	<SRL	42.3
D-1-SO2	130650-63241	10	1	<SRL	0.534	<SRL	34.9
D-2-SO2	130650-63250	10	1	<SRL	0.534	<SRL	44.8
Trip Blank-SO2	130650-63258	10	1	<SRL	0.534	<SRL	41.0

<SRL-compound was analyzed for but not detected at or above the SRL (Sample Reporting Limit)

All sample values were blank corrected using the Trip Blank value for Sulfur Dioxide

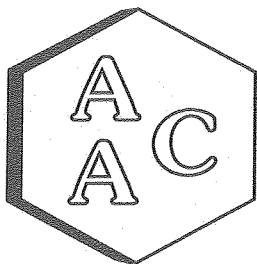
The Trip Blank value was calculated using a sample volume of 13 Liters



 Marcus Hueppe
 Laboratory Director



QA/QC Summary



Atmospheric Analysis & Consulting, Inc.

Quality Control/Quality Assurance Report OSHA Method ID-200


Analysis Date : 06/05/2013
Analyst : EG/HP

Instrument ID : DIONEX IC #1

Calibration Verification of the 04/25/2013 Calibration

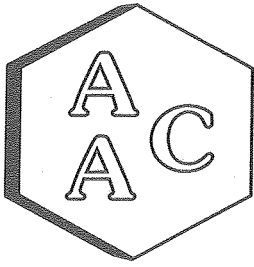
Sample ID	Analyte	Theoretical Concentration (ug/mL)	Practical Concentration (ug/mL)	Percent Recovery (%)*
Opening CV	Sulfate	25.0	24.7	98.6
Continuing CV	Sulfate	25.0	24.7	98.7
Continuing CV	Sulfate	25.0	24.4	97.4
Closing CV	Sulfate	25.0	24.4	97.6
Second Source	Sulfate	25.0	25.8	103

* Must be 85-115%



Marcus Hueppe
Laboratory Director





Atmospheric Analysis & Consulting, Inc.

QUALITY CONTROL/ASSURANCE REPORT

OSHA Method ID-200

Analysis Date : 06/05/2013
 Analyst : EG/HP

Instrument ID : DIONEX IC #1

Method Blank Analysis

Analyte	Concentration (ug/mL)	SRL (ug/mL)
Sulfate	0.000	0.100

Laboratory Control Spike Analysis

Analyte	Theoretical Sample Concentration (ug/mL)	Theoretical Spike Concentration (ug/mL)	Lab Spike Concentration (ug/mL)	Duplicate Lab Spike Concentration (ug/mL)	Spike Recovery (%)**	Duplicate Spike Recovery (%)**	% RPD****
Sulfate	0.000	12.5	12.1	11.8	96.4	94.6	1.9

Matrix Spike Analysis (Sample ID 130650-63258)

Analyte	Theoretical Sample Concentration (ug/mL)	Theoretical Spike Concentration (ug/mL)	Matrix Spike Concentration (ug/mL)	Duplicate Matrix Spike Concentration (ug/mL)	Spike Recovery (%)***	Duplicate Spike Recovery (%)***	% RPD****
Sulfate	0.000	12.5	12.7	12.0	101	95.7	5.7

Duplicate Sample Analysis

Sample ID	Analyte	Result (ug/mL)	Duplicate Result (ug/mL)	%RPD *	DF
130650-63256	Sulfate	0.250	0.240	4.1	1
130650-63230	Sulfate	0.280	0.270	3.6	1
130650-63258	Sulfate	<SRL	<SRL	NA	1


* Must be <5%

** Must be 85-115%

*** Must be 75-125%

**** Must be < 25%

SRL - Sample Reporting Limit


 Marcus Hueppe
 Laboratory Director

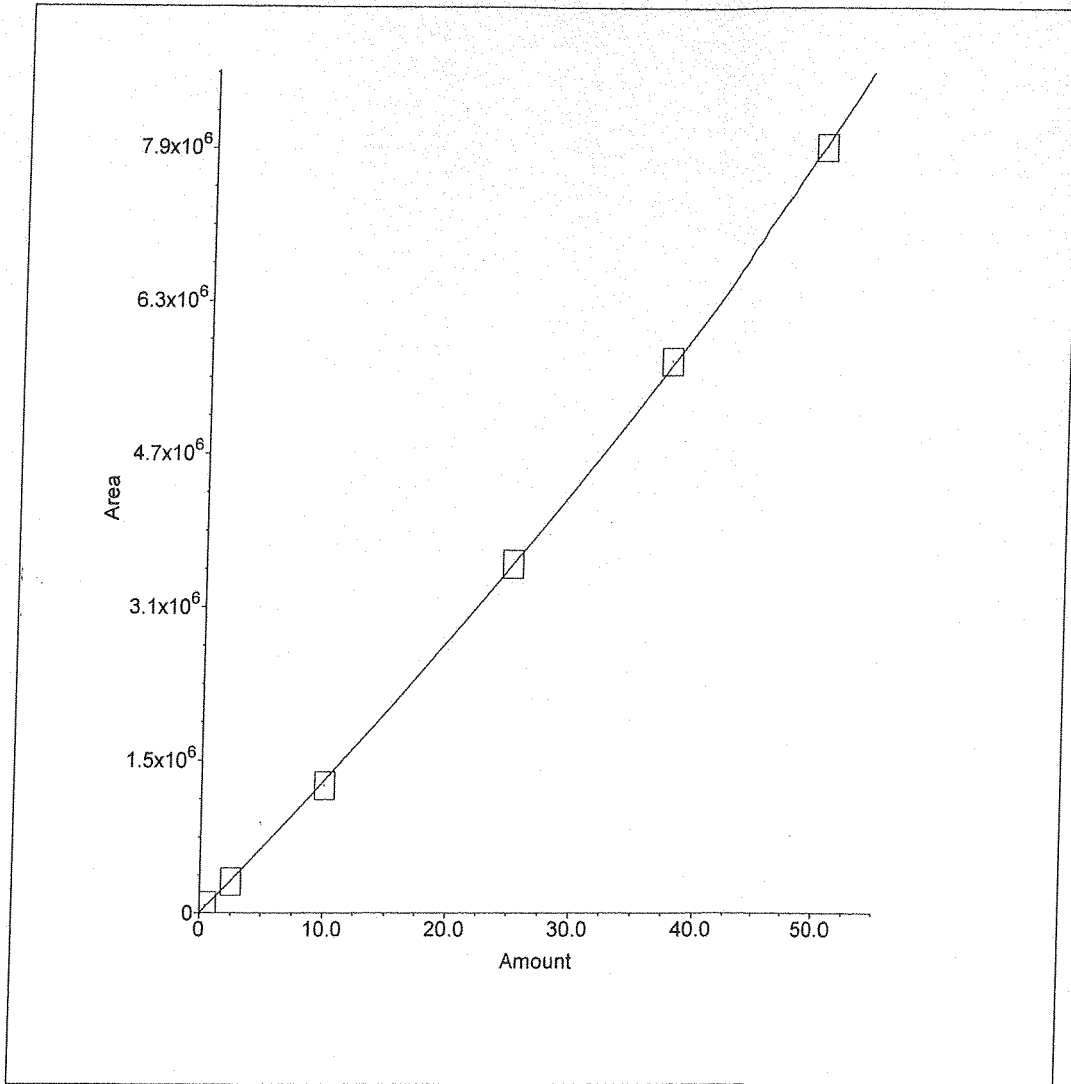


Calibration Summary

6. Component:Sulfate
Standard:External Fit Type:Quadratic
Origin:Force Calibration:Area
 $r^2=0.999890$
Amt=-1.492280e-013*Resp²+
7.479232e-006*Resp+0

PeakName

Method



Raw Data

Sample Analysis Report

Sample Name : DI Water Blank

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_001.DXD

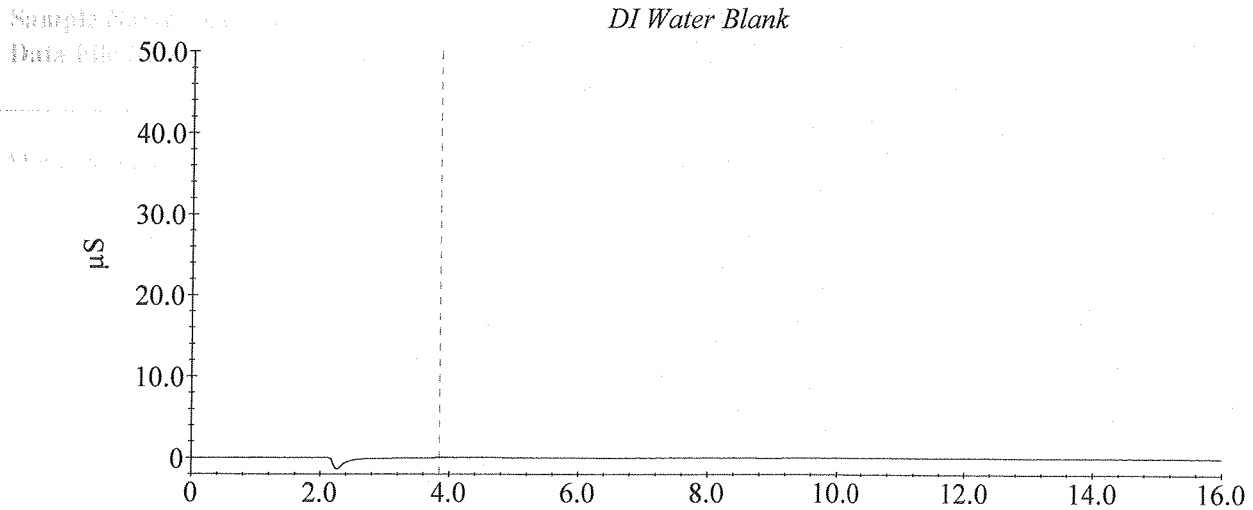
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 11:14:18 AM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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HP
06/05/13

Sample Analysis Report

Sample Name : CCV 25ug/mL SS0746x4

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONSIA_002.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

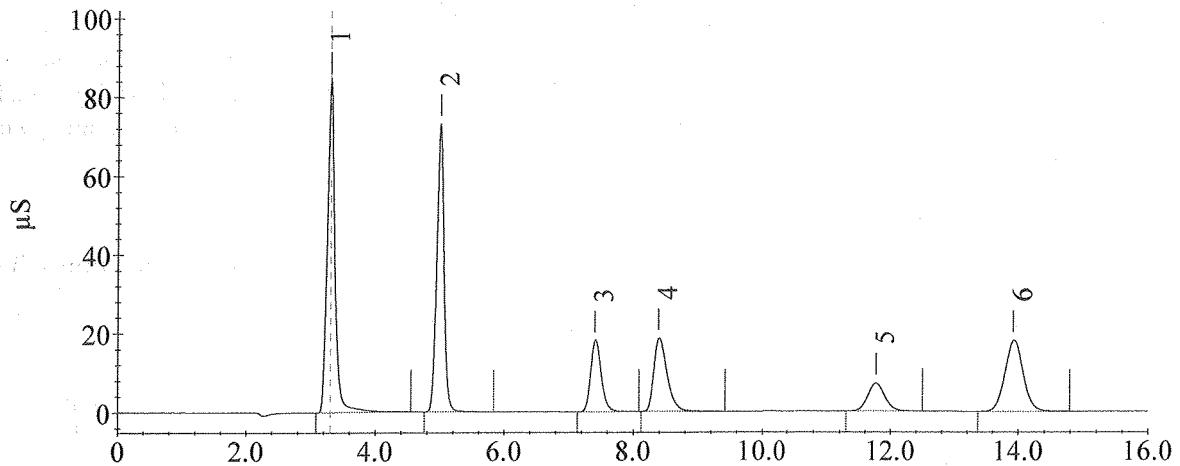
Date Time Collected : 6/5/2013 11:30:39 AM

System Operator : EG

Peak Information . All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.30	24.39	6855956	839072
2	Chloride	5.00	24.51	5584217	728561
3	Bromide	7.40	24.66	2087016	179281
4	Nitrate	8.38	24.91	2665145	184964
5	Phosphate	11.77	24.84	1335299	71197
6	Sulfate	13.92	24.66	3548124	178962

CCV 25ug/mL SS0746x4



Sample Analysis Report

Sample Name : SS 25ug/ml SS0664x4

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_003.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

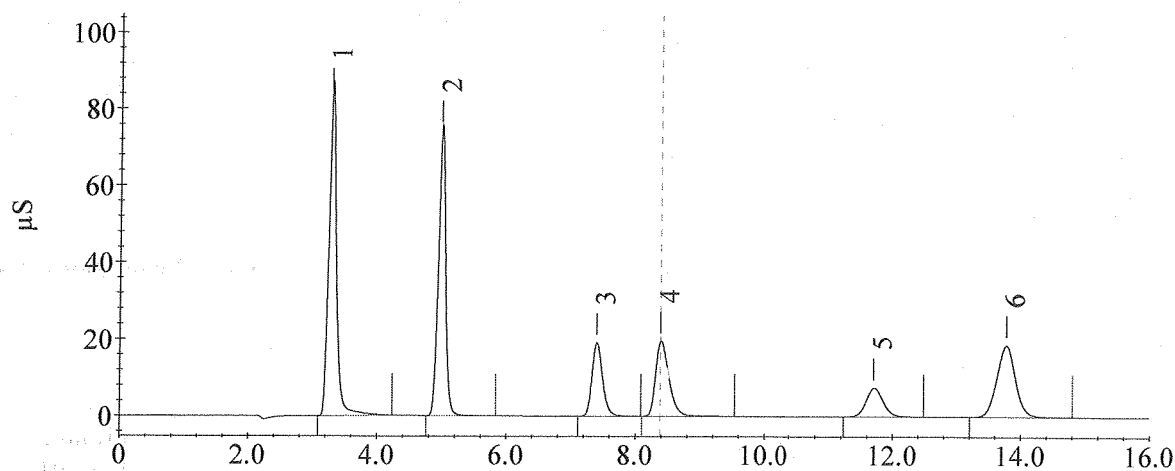
Date Time Collected : 6/5/2013 11:46:56 AM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.28	25.34	7110938	828125
2	Chloride	4.98	25.63	5859433	742704
3	Bromide	7.40	25.97	2206719	190856
4	Nitrate	8.38	26.04	2796217	194310
5	Phosphate	11.70	25.86	1394580	74964
6	Sulfate	13.77	25.78	3723073	185584

SS 25ug/ml SS0664x4



Sample Analysis Report

Sample Name : Method Blank

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_004.DXD

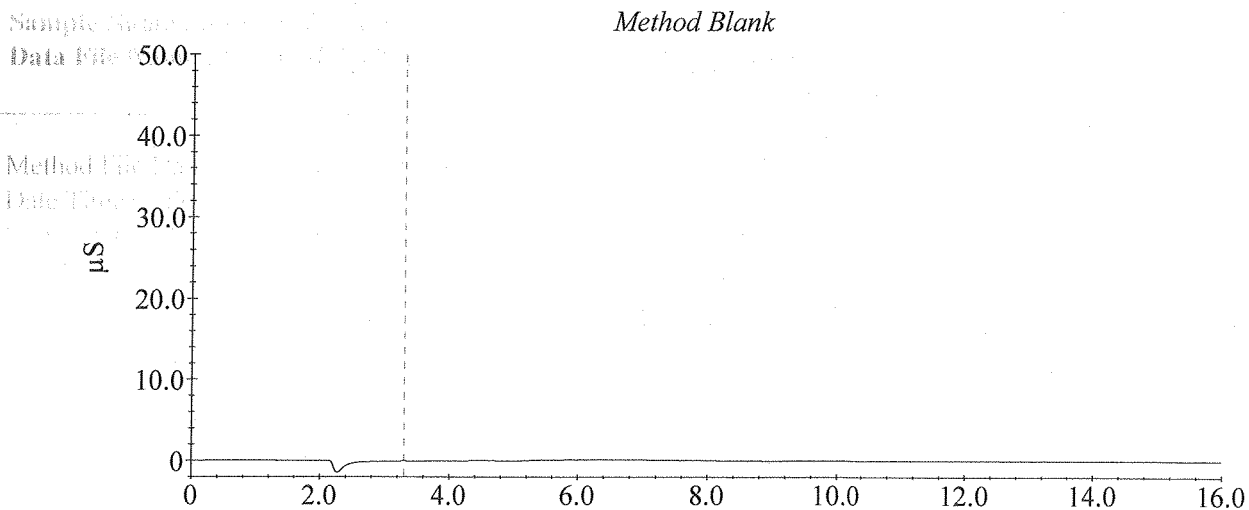
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 12:03:13 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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HP
06/05/13

Sample Analysis Report

Sample Name : LCS 12.5ug/ml SS0746x8

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_005.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

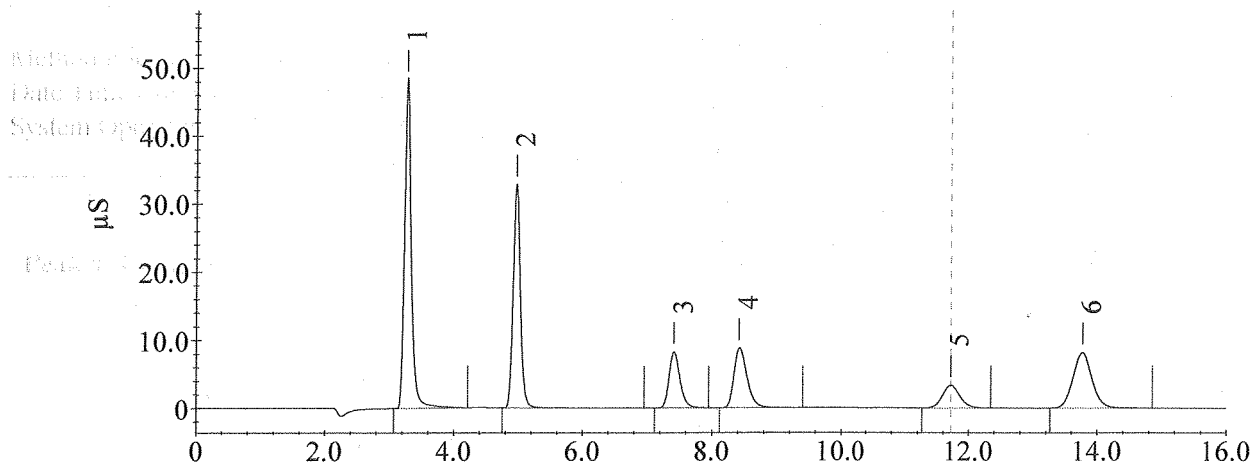
Date Time Collected : 6/5/2013 12:19:31 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.27	12.07	3474869	481689
2	Chloride	4.97	11.59	2547090	326904
3	Bromide	7.42	11.91	969865	82208
4	Nitrate	8.42	12.02	1237948	87466
5	Phosphate	11.72	12.25	634614	33437
6	Sulfate	13.77	12.05	1666189	81335

LCS 12.5ug/ml SS0746x8



Sample Analysis Report

Sample Name : LCSD 12.5ug/ml SS0746x8

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_006.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

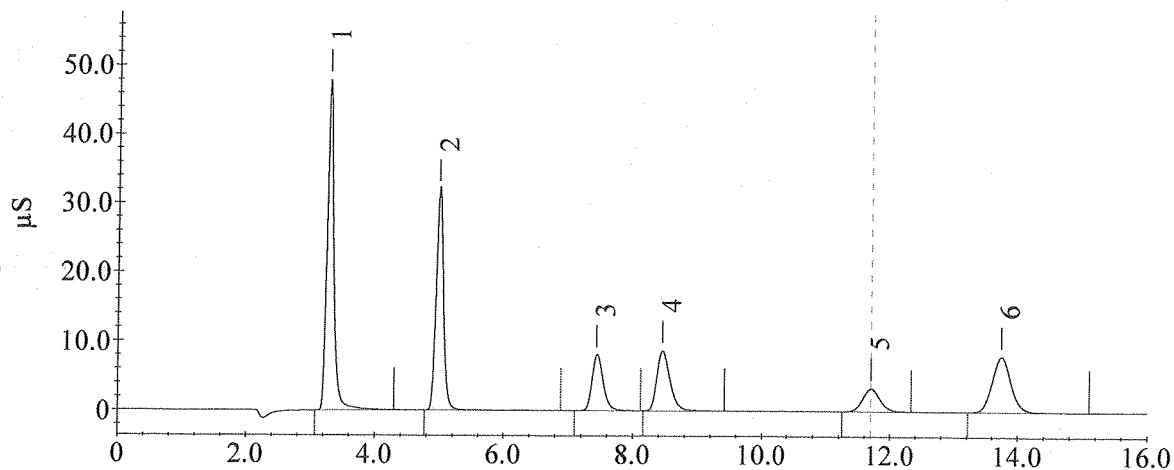
Date Time Collected : 6/5/2013 12:35:48 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.28	12.00	3455729	478107
2	Chloride	4.98	11.49	2526203	318347
3	Bromide	7.43	11.88	966910	79524
4	Nitrate	8.45	11.88	1222717	85981
5	Phosphate	11.70	12.07	625180	32922
6	Sulfate	13.73	11.82	1634207	79585

LCSD 12.5ug/ml SS0746x8



Sample Analysis Report

Sample Name : 130650-63256

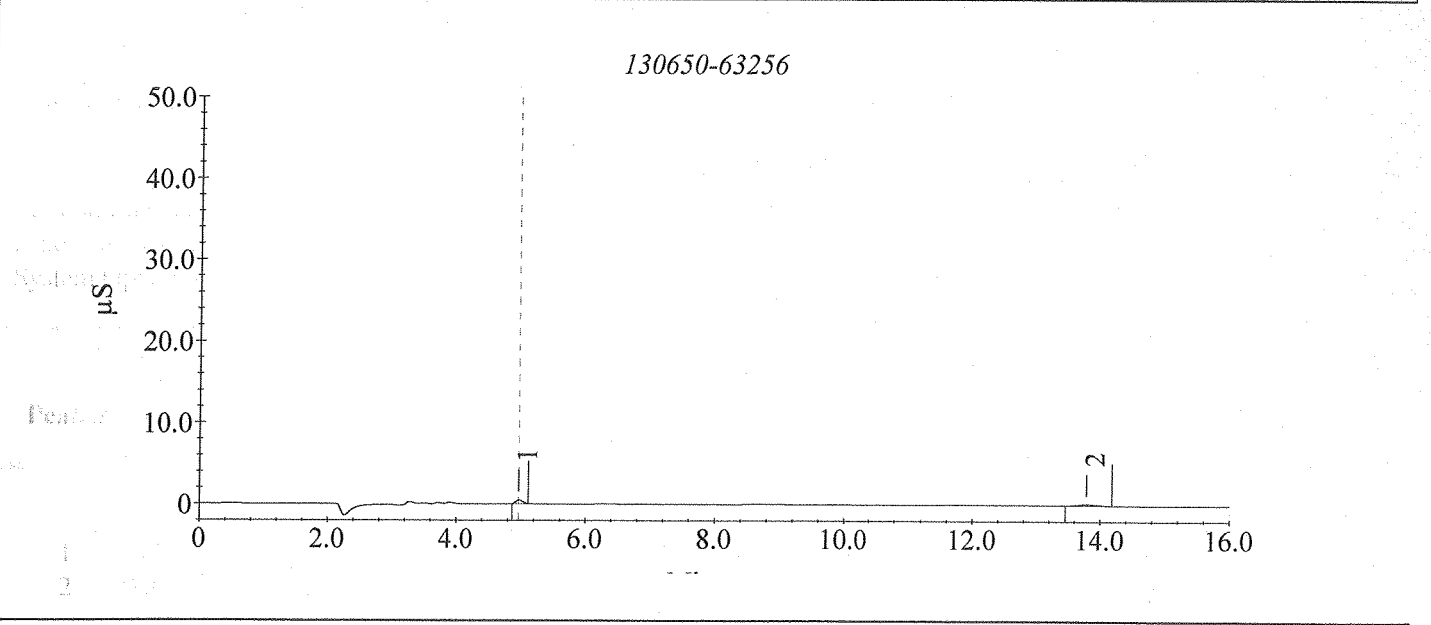
Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_009.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 1:24:41 PM

System Operator : EG

Peak Information All Peaks					
Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.97	0.15	32925	4434
2	Sulfate	13.78	0.25	33756	1723



HP
06/05/13

Sample Analysis Report

Sample Name : 130650-63256 dup

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_010.DXD

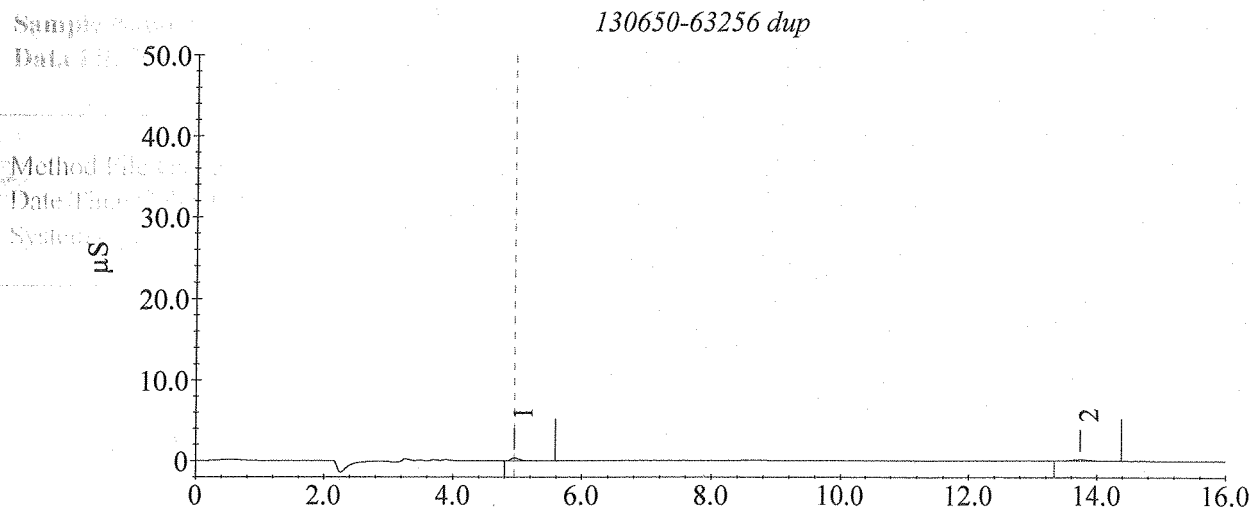
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 1:40:58 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.95	0.14	30387	3479
2	Sulfate	13.73	0.24	32664	1541



Sample Analysis Report

Sample Name : DI Water Blank

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_012.DXD

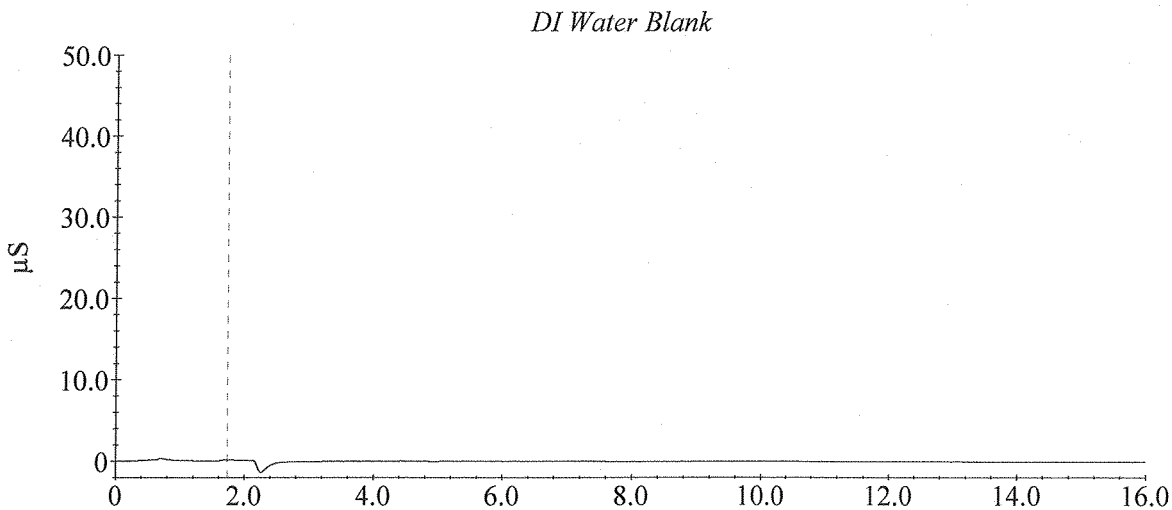
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 2:13:33 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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Sample Analysis Report

Sample Name : CCV 25ug/mL SS0746x4

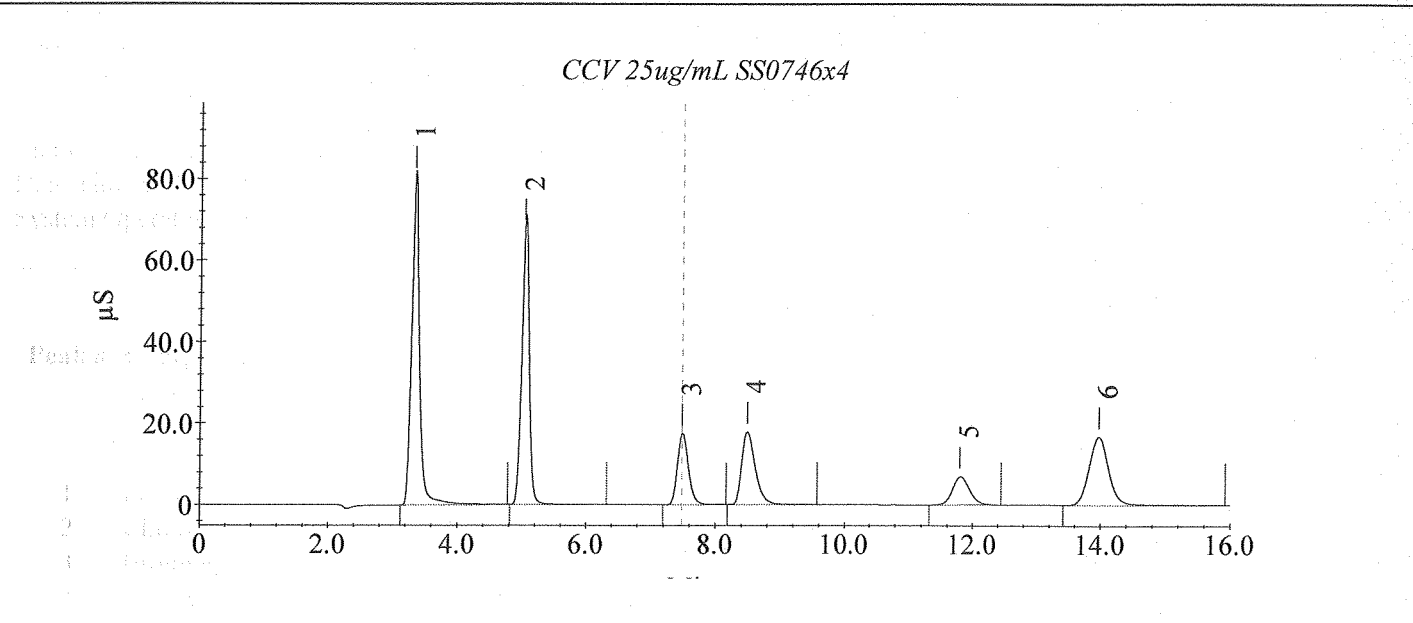
Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_013.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 2:29:50 PM

System Operator : EG

Peak Information All Peaks					
Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.33	24.25	6820124	806207
2	Chloride	5.03	24.45	5568783	676346
3	Bromide	7.48	24.28	2052065	173883
4	Nitrate	8.48	24.44	2611058	178249
5	Phosphate	11.80	24.42	1311332	68906
6	Sulfate	13.97	24.67	3549638	167225



HP
06/05/13

Sample Analysis Report

Sample Name : 130650-63230

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_014.DXD

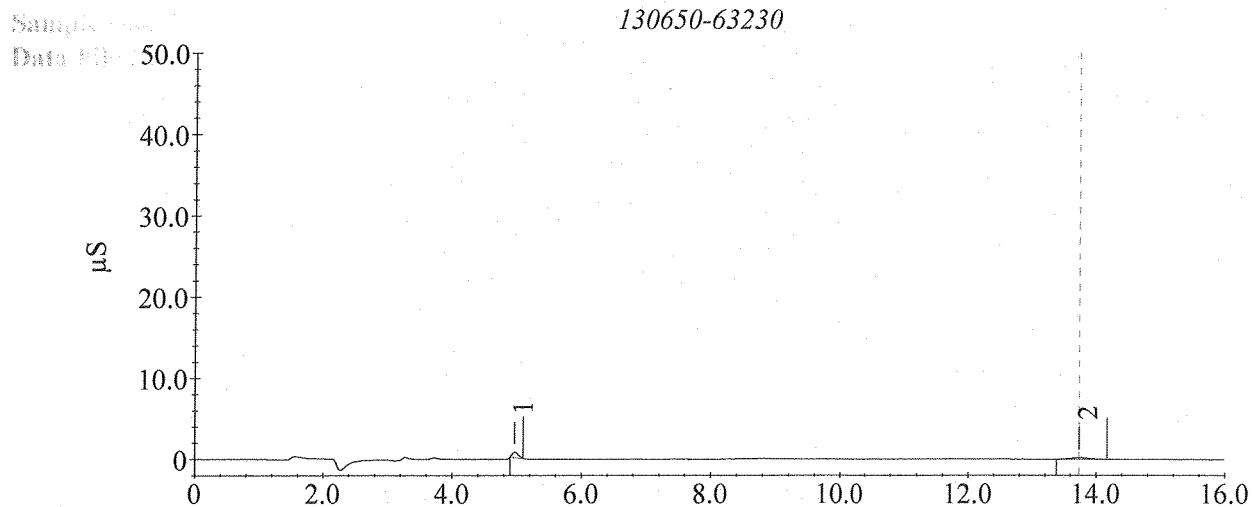
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 2:46:08 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.97	0.21	44971	6813
2	Sulfate	13.73	0.28	37077	1853



MP
06/07/13

Sample Analysis Report

Sample Name : 130650-63230 dup

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_015.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 3:02:25 PM

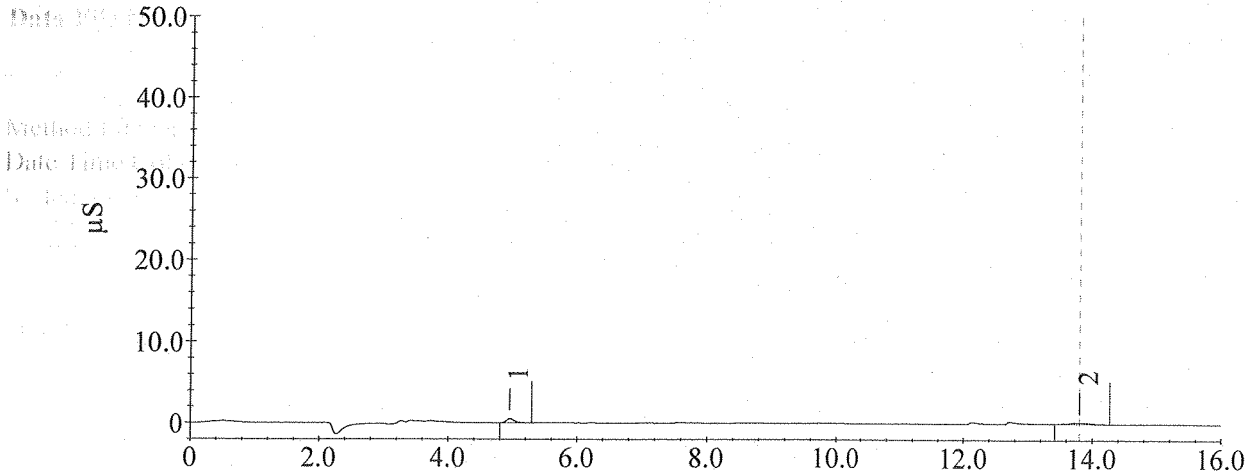
System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.95	0.21	44629	5291
2	Sulfate	13.80	0.27	36139	1702

Sample Name : 130650-63230 dup

130650-63230 dup



HP
06/07/13

Sample Analysis Report

Sample Name : MS 12.5 ug/ml (130650-63258)

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_020.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

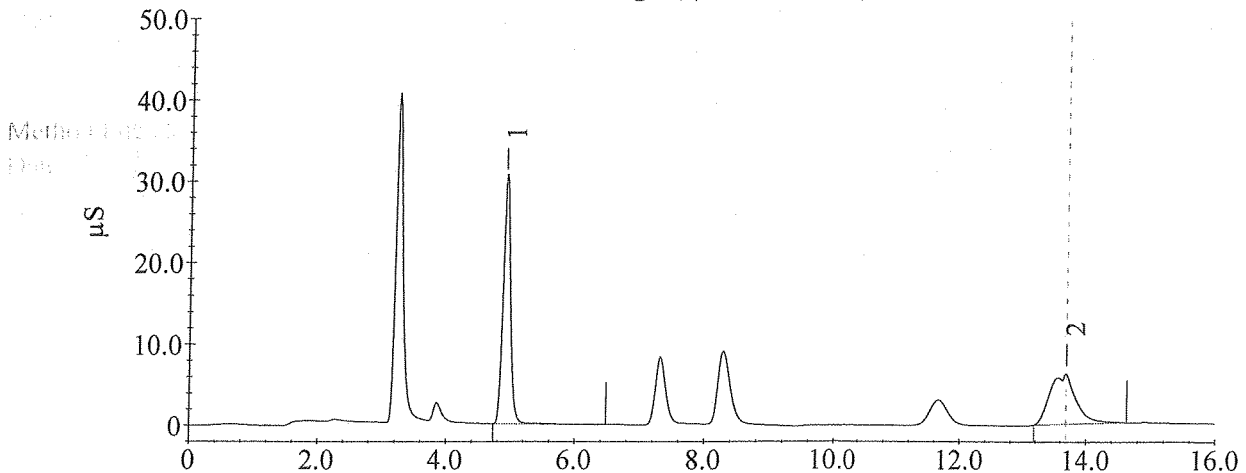
Date Time Collected : 6/5/2013 4:23:52 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.92	11.22	2465089	302299
2	Sulfate	13.68	12.66	1754621	61744

MS 12.5 ug/ml (130650-63258)



Sample Analysis Report

Sample Name : MSD 12.5 ug/ml (130650-63258)

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_021.DXD

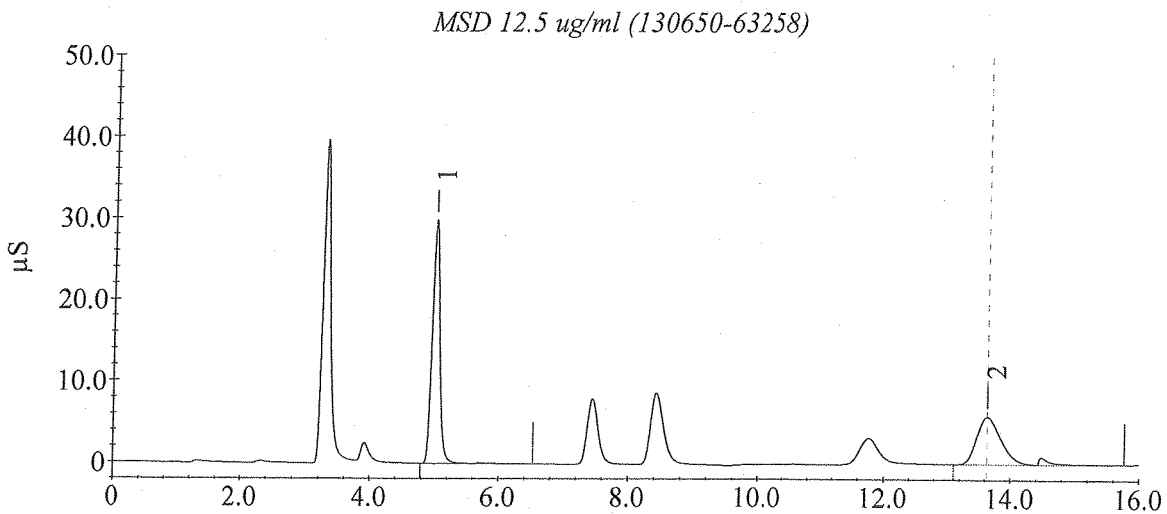
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 4:40:10 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	5.00	11.23	2465450	299231
2	Sulfate	13.63	11.96	1653096	58621



Sample Analysis Report

Sample Name : DI Water Blank

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_022.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 4:56:27 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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Sample Name

DI Water Blank

Data File

50.0

Method File

40.0

Date Time

30.0

System

20.0

10.0

0

μ S

0

2.0

4.0

6.0

8.0

10.0

12.0

14.0

16.0



Sample Analysis Report

Sample Name : CCV 25ug/mL SS0746x4

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_023.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 5:12:44 PM

System Operator : EG

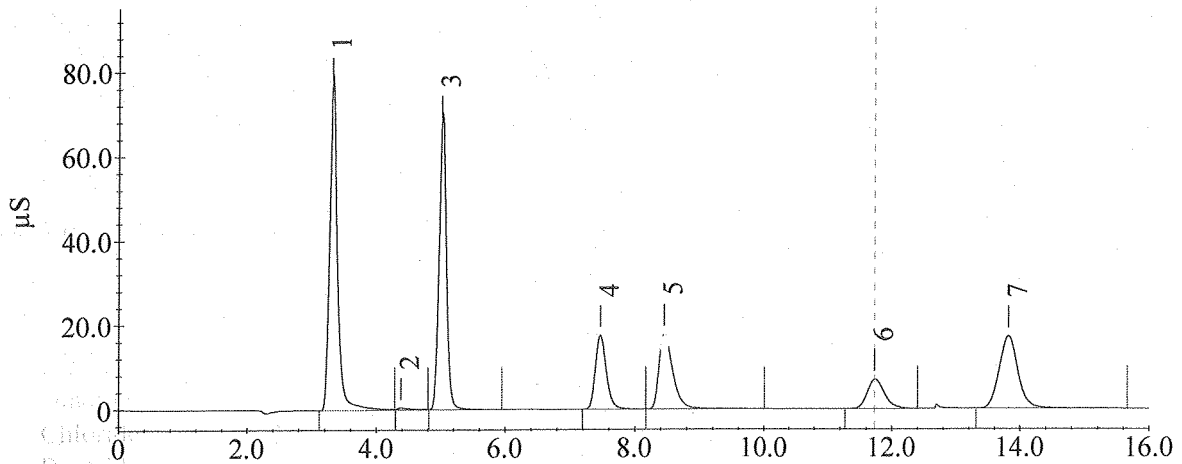
Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.32	23.68	6666811	763503
2	Unknown 1	4.38	0.00	76150	5274
3	Chloride	5.02	24.29	5530541	672118
4	Bromide	7.47	24.33	2056779	174525
5	Nitrate	8.45	24.59	2628309	177668
6	Phosphate	11.73	24.39	1309513	69253
7	Sulfate	13.82	24.36	3501540	171137

Sample Name

Retention Time

CCV 25ug/mL SS0746x4



3 Chloride
4 Bromide
5 Nitrate
6 Phosphate
7 Sulfate



Sample Analysis Report

Sample Name : 130650-63258

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_024.DXD

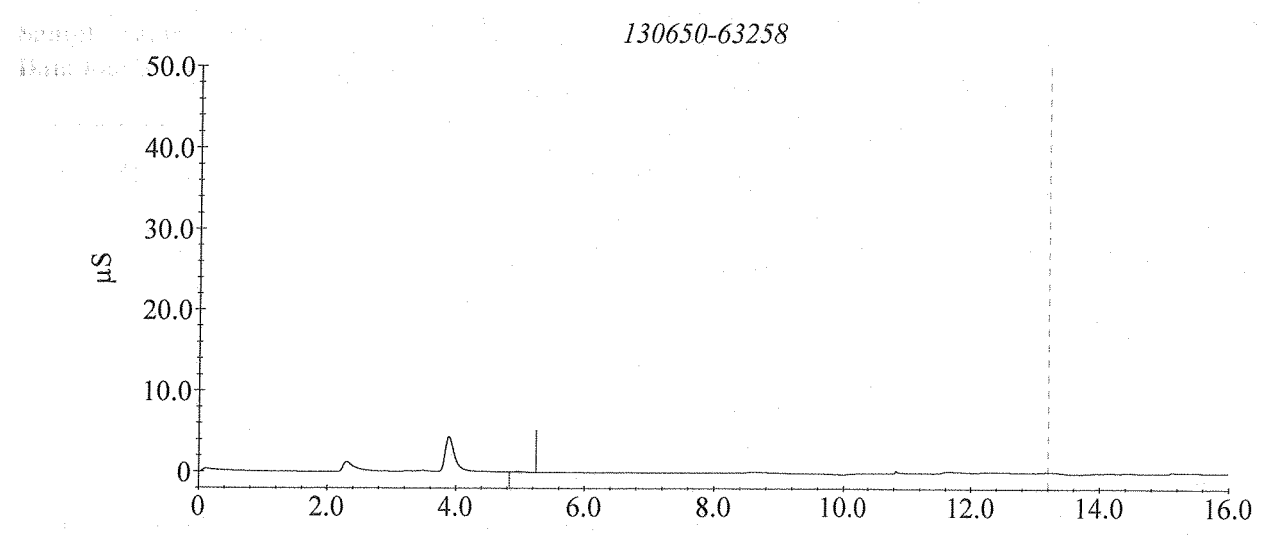
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 5:29:02 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.97	0.04	8732	1040



DS
06/07/13

Sample Analysis Report

Sample Name : 130650-63258 dup

Data File Name : C:\PEAKNET\DATA\2013\060513ANION 5\A_025.DXD

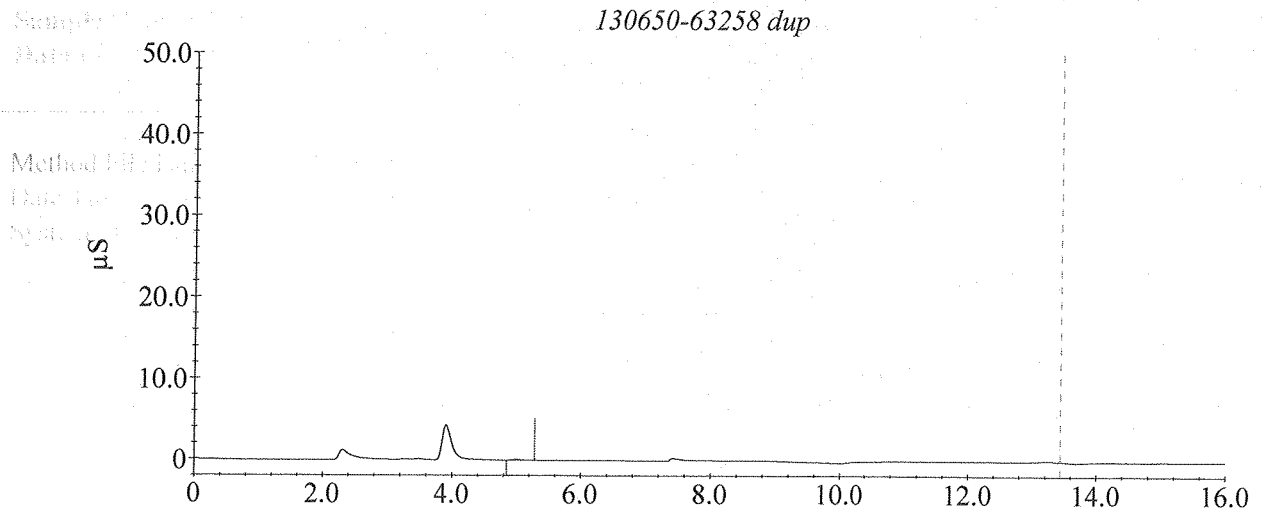
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 5:45:19 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Chloride	4.98	0.05	10518	1142



EG
6/7/13

Sample Analysis Report

Sample Name : 130650-63205

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_026.DXD

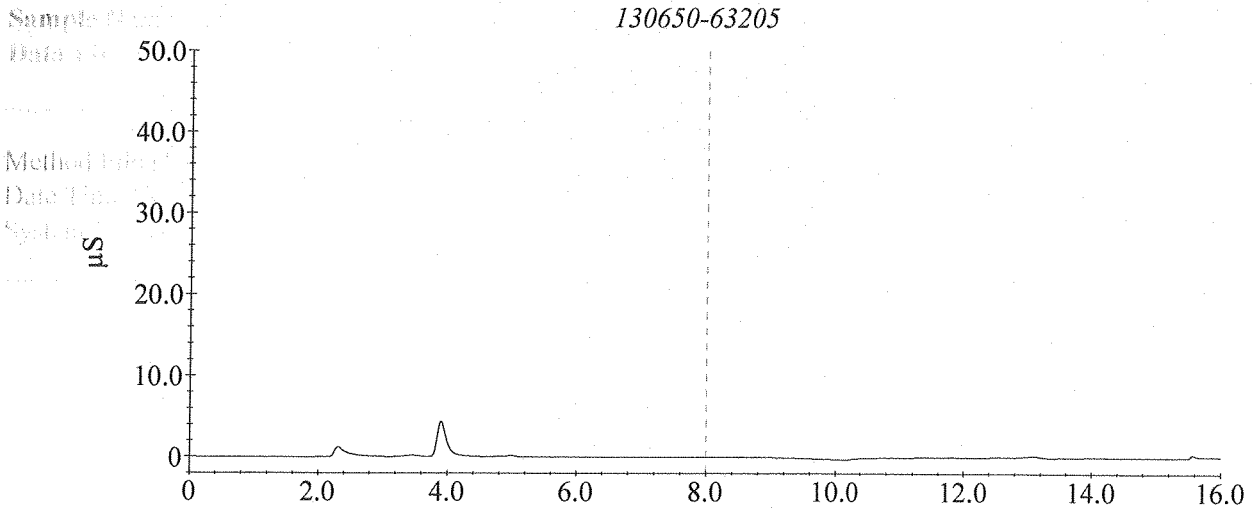
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 6:01:37 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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EG
CAGVA

Sample Analysis Report

Sample Name : 130650-63214

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_027.DXD

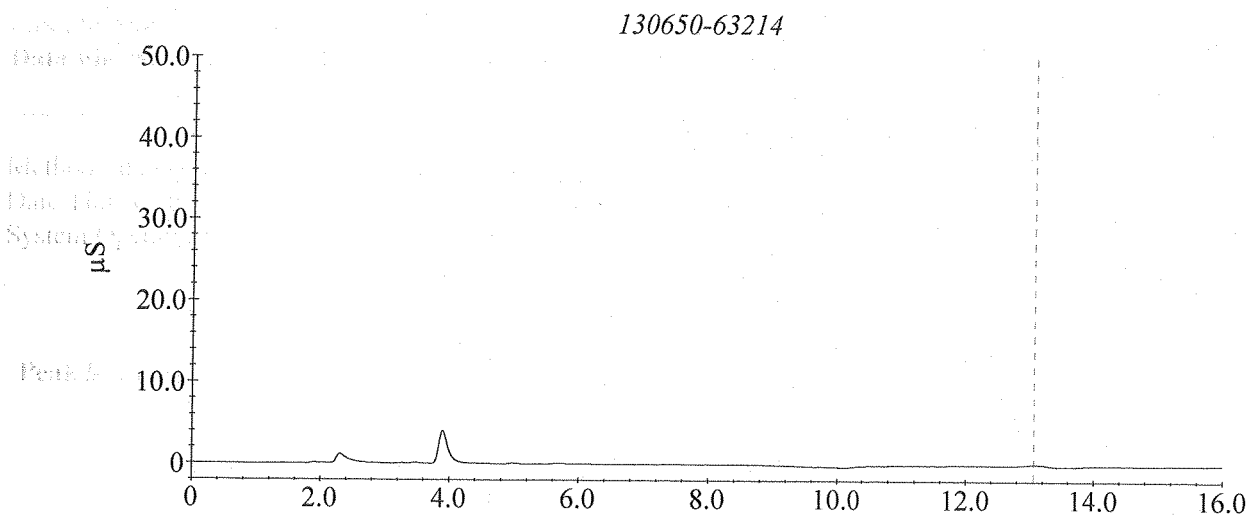
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 6:17:53 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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Sample Analysis Report

Sample Name : 130650-63223

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_028.DXD

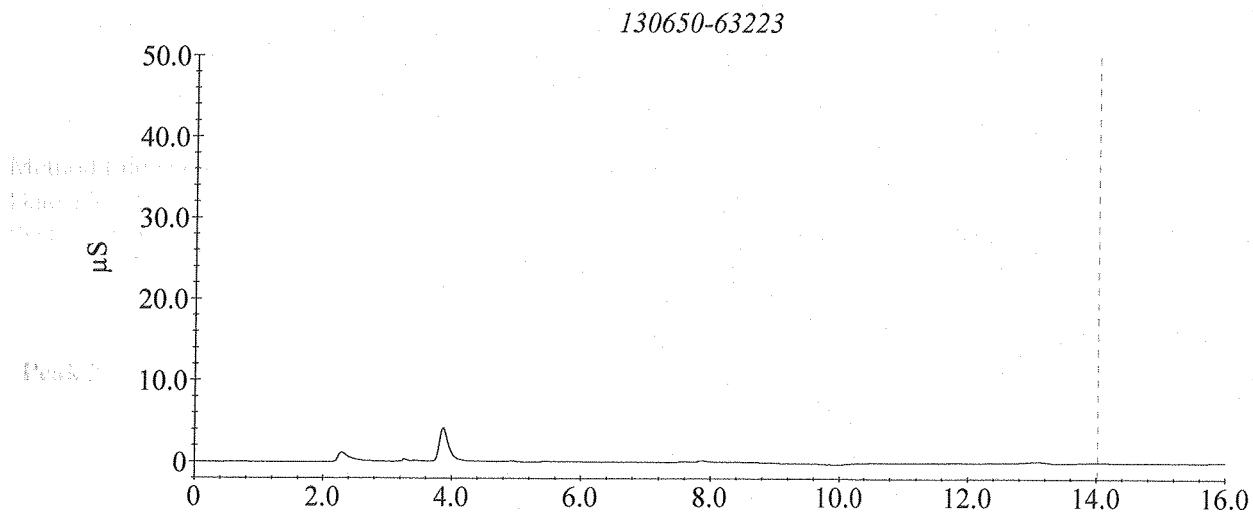
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 6:34:10 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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Sample Analysis Report

Sample Name : 130650-63232

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_029.DXD

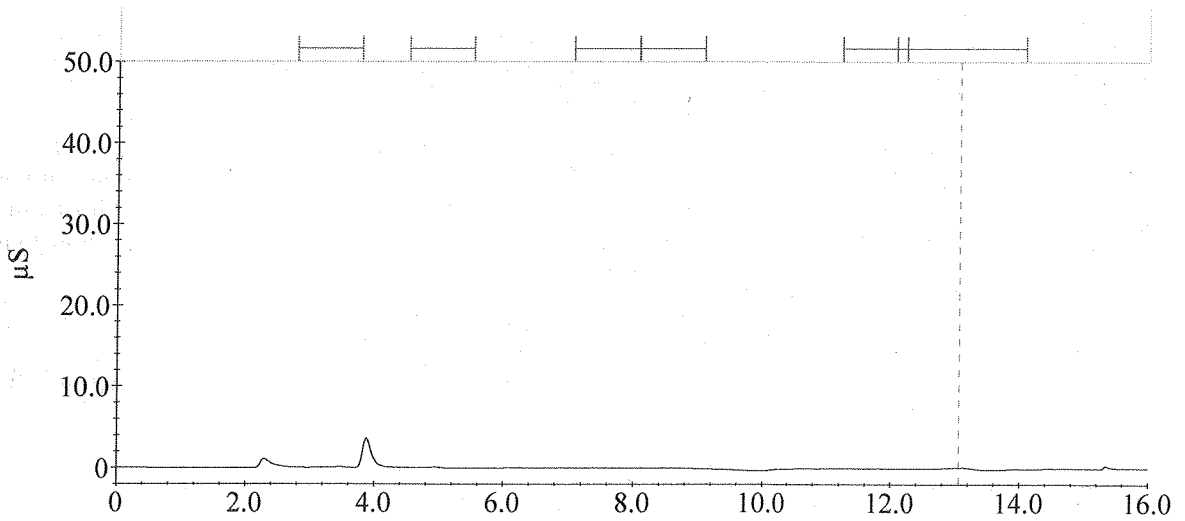
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 6:50:27 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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CS
C9167A3

Sample Analysis Report

Sample Name : 130650-63241

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_030.DXD

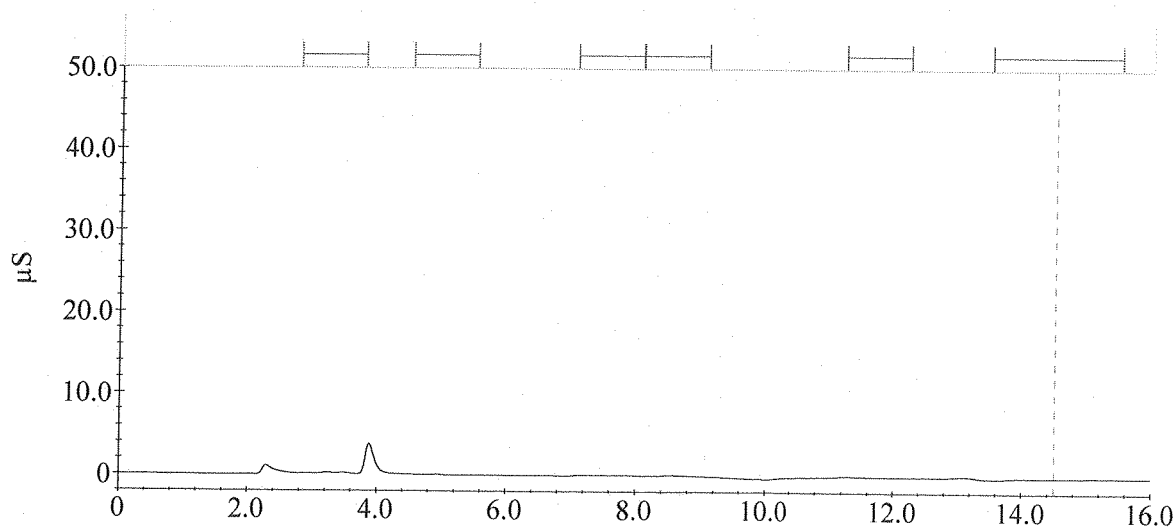
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 7:06:44 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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EG
C 06/05/13

Sample Analysis Report

Sample Name : 130650-63250

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_031.DXD

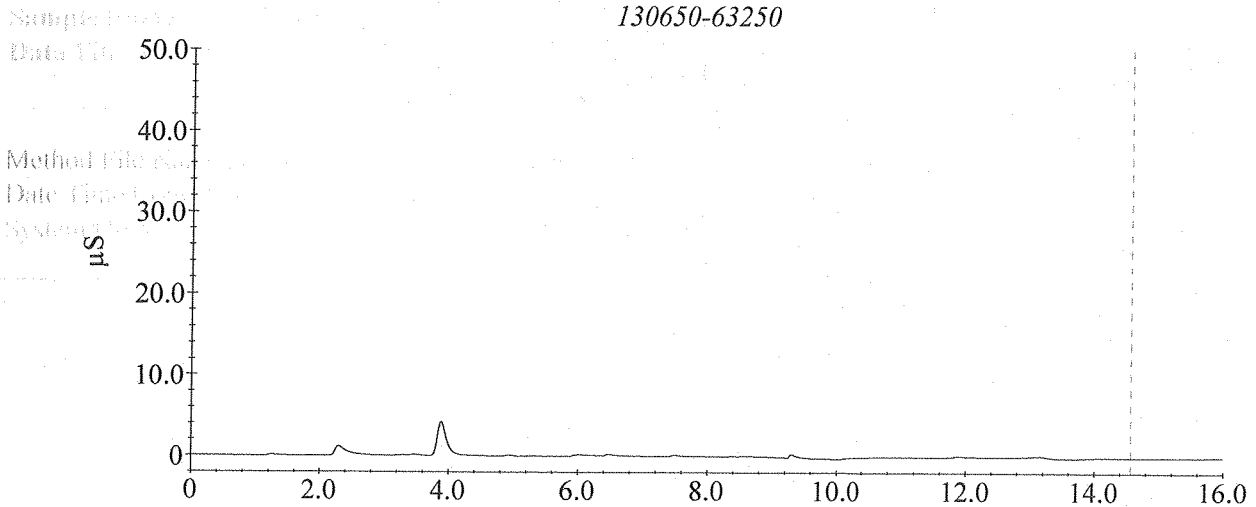
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 7:23:01 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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ES
06/07/13

Sample Analysis Report

Sample Name : DI Water Blank

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_032.DXD

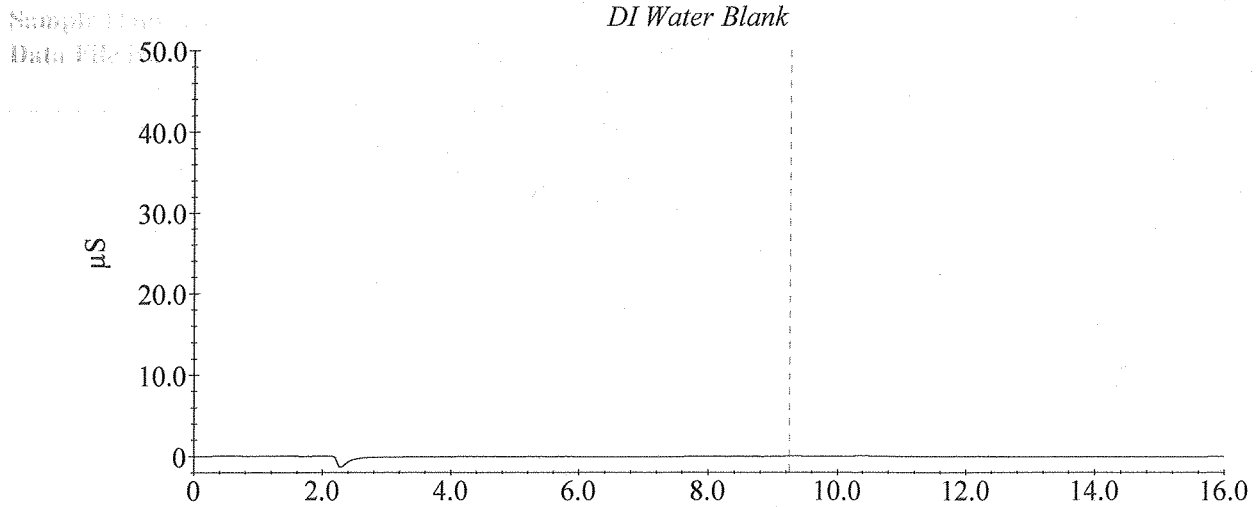
Method File Name : c:\peaknet\method\2013\anions-042513.met

Date Time Collected : 6/5/2013 7:39:18 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
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Sample Analysis Report

Sample Name : CCV 25ug/mL SS0746x4

Data File Name : C:\PEAKNET\DATA\2013\060513ANIONS\A_033.DXD

Method File Name : c:\peaknet\method\2013\anions-042513.met

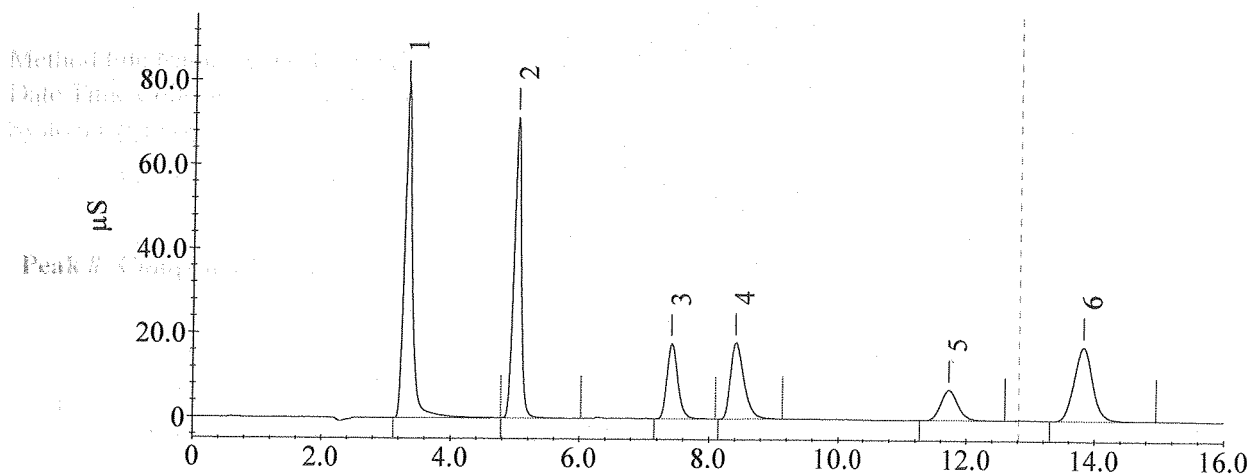
Date Time Collected : 6/5/2013 7:55:35 PM

System Operator : EG

Peak Information : All Peaks

Peak #	Component Name	Retention Time	Amount (ug/ml)	Peak Area	Peak Height
1	Fluoride	3.32	23.89	6721627	776429
2	Chloride	5.02	24.44	5565874	711979
3	Bromide	7.42	24.30	2053518	176576
4	Nitrate	8.40	24.47	2614888	179427
5	Phosphate	11.72	24.71	1327983	70980
6	Sulfate	13.82	24.40	3507897	174324

CCV 25ug/mL SS0746x4



Line	Sample	Sample Type	Level	Method	Data File	Dilution
1	DI Water Blank	Sample		anions-042513.met	a	1
2	CCV 25ug/mL SS0746x4	Sample		anions-042513.met	a	1
3	SS 25ug/ml SS0664x4	Sample		anions-042513.met	a	1
4	Method Blank	Sample		anions-042513.met	a	1
5	LCS 12.5ug/ml SS0746x8	Sample		anions-042513.met	a	1
6	LCSD 12.5ug/ml SS0746x8	Sample		anions-042513.met	a	1
7	MS 12.5 ug/ml (130650-63256)	Sample		anions-042513.met	a	1
8	MSD 12.5 ug/ml (130650-63256)	Sample		anions-042513.met	a	1
9	130650-63256	Sample		anions-042513.met	a	1
10	130650-63256 dup	Sample		anions-042513.met	a	1
11	130650-63221	Sample		anions-042513.met	a	1
12	DI Water Blank	Sample		anions-042513.met	a	1
13	CCV 25ug/mL SS0746x4	Sample		anions-042513.met	a	1
14	130650-63230	Sample		anions-042513.met	a	1
15	130650-63230 dup	Sample		anions-042513.met	a	1
16	130650-63239	Sample		anions-042513.met	a	1
17	130650-63248	Sample		anions-042513.met	a	1
18	130650-63203	Sample		anions-042513.met	a	1
19	130650-63212	Sample		anions-042513.met	a	1
20	MS 12.5 ug/ml (130650-63258)	Sample		anions-042513.met	a	1
21	MSD 12.5 ug/ml (130650-63258)	Sample		anions-042513.met	a	1
22	DI Water Blank	Sample		anions-042513.met	a	1
23	CCV 25ug/mL SS0746x4	Sample		anions-042513.met	a	1
24	130650-63258	Sample		anions-042513.met	a	1
25	130650-63258 dup	Sample		anions-042513.met	a	1
26	130650-63205	Sample		anions-042513.met	a	1
27	130650-63214	Sample		anions-042513.met	a	1
28	130650-63223	Sample		anions-042513.met	a	1
29	130650-63232	Sample		anions-042513.met	a	1
30	130650-63241	Sample		anions-042513.met	a	1
31	130650-63250	Sample		anions-042513.met	a	1
32	DI Water Blank	Sample		anions-042513.met	a	1
33	CCV 25ug/mL SS0746x4	Sample		anions-042513.met	a	1
34	End	Sample		stopgp40.met	a	1

Default Method Path: C:\PEAKNET\METHOD\2013
 Default Data Path: C:\PEAKNET\DATA
 Comment:

31
 130650-63250
 DI Water Blank

Default Method Path:
 Default Data Path: