This document was too large to scan as a whole document, therefore it required breaking into smaller sections.

Document number: SD-WM-DP-054

Section 2 **of** 7

Title: Grout Product Test for Tank 241AP102, 5day & 90day Runs (Ansi Section)

Date: 1-14-94 **Revision:** A000

Originator: A.P. Hammitt, RA St. Denis T.L. Welsh
Co: WHC

Recipient:
Co:

References: EDT-140726

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5-DAY - METALS ANALYSES

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WESTINGHOUSE HANFORD COMPANY

WHC-SD-WM-DP-054 REV 0

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No. G-733	Customer ID: TCLP S
Analysis:	Sample Prep:

Instrument:	Procedure/ Rev:
Technologist:	Date:
Starting Time: 0800	Temperature 95%
Ending Time: 1510	Chemist:

Comments:

	Description	Lab ID		Description	Lab ID
1	STD	G [illegible]	11		
2	BLK	G 121 [illegible]	12		
3	[illegible]	G [illegible]	13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
STD	[illegible]			[illegible]

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A-6000-881 (03/92)

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

Benzene

METHOD: | DATE START: | TIME START:

PREPARED BY: | DATE COMPLETE: | TIME COMPLETE:

SPL NAME	SPL ID	g/L or DF RESULT	g or mL SAMPLE SIZE	mL FINAL VOL.	STD, SPL, DUP, SPK REMARKS
STD	G726-8505	20	2.5	50	STD ID: Y3MWHCINC-25 → 50 uL
BLK	G-727-8605	N/A	N/A	50	50 mL total volume
LAM	G-727-8705	10	5	50	5 → 50 mL
				NOTE:	This is part of a batch on pg. 7, run on 10/25/93

NARRATIVE: ✓ NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARATIONS FOR THIS BATCH:

BEST AVAILABLE COPY

ACID DIGESTION ANALYSIS

Serial No	Sample Point	Date	Time Issued	Priority
G 726.-8505	102-TCLP	10-22-93	8:33	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-156	% RECOVERY	D44B3	1

Sample Size	Customer ID
2.5 ml → 50 ml	[illegible]

Remarks Calculations Results

[illegible] YS MWHCD210

DF: $\frac{50\,ml}{2.5\,ml} = 20$

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
Date	Time Completed	Lab Unit Mgr		
11-12-93	1530	11-12-93 Bertha Griffin II		

54-6800-061 (R-12-83)

Serial No.	Sample Point	Date	Time Issued	Priority
G 727.-8605	102-TCLP	10-22-93	8:37	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	1

Sample Size	Customer ID
? 50 ml total volume	BLK

Remarks Calculations Results

REAGENT BLANK
VOLUME ON COMPLETION 50 ml

RERUN

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
Date	Time Completed	Lab Unit Mgr		
11-12-93	1500	11-12-93 Bertha Griffin II		

54-6800-061 (R-12-83)

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ACID DIGESTION ANALYSIS

Serial No	Sample Point	Date	Time Issued	Priority
G' 733.-8705	102-TCLP	10-22-93	8:41	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACID DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
5 mL → 50 mL	[illegible]

Remarks Calculations Results

D.F. $\frac{50\ mL}{5\ mL} = 10$

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
Date 11-12-93	Time Completed 1530	Date 11-12-93		

54-6BOC-DET (F 10 82)

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WESTINGHOUSE HANFORD COMPANY Batch 3002

222-S LABORATORY

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH

Lab Segment Serial No.	Customer ID:
Analysis: Acid Digest	Sample Prep:

Instrument: N/A	Procedure/ Rev: /A-3
Technologist:	Date:
Starting Time:	Temperature
Ending Time:	Chemist:

Comments:

	Description	Lab ID		Description	Lab ID
1			11	Sample	0124-8705
2		-8705	12		
3		-8705	13		
4		-8705	14		
5		-8705	15		
6		-8705	16		
7			17		
8		-8705	18		
9		-8705	19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
	~~Lot~~			
	Lot gH 11-18-93			

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A-6000-881 (03/92)

ANALYTICAL BATCH SUMMARY SHEET

Rerun: O

S.P. 102-TCLP

METHOD:	DATE START:	TIME START:
LA-505-159 / 4-5	10-28-93	[illegible]
PREPARED BY:	**DATE COMPLETE:**	**TIME COMPLETE:**
L.H. Standley	10-28-93	1000

SPL NAME	SPL ID	g/L or DF RESULT	g or mL SAMPLE SIZE	mL FINAL VOL.	STD, SPL, DUP, SPK REMARKS
LMCS Std	6726-8505	30	2.5	50	Y3MWHGINIO - Std. ID
					2.5 ml into 50 ml
Blank	6727-8605	NA	NA	50	50 ml total volume
Sample	6728-8705	10	5	50	5 ml into 50 ml
Spiked Sample	6728-8905	10	5	50	5 ml into 50 ml [illegible]
		30	2.5	50	2.5 ml into 50 ml [illegible]
Sample	6729-8705	10	5	50	5 ml into 50 ml
Sample	6731-8705	10	5	50	5 ml into 50 ml
Sample	6732-8705	10	5	50	5 ml into 50 ml
Sample	6733-8705	10	5	50	5 ml into 50 ml
Sample	6735-8705	10	5	50	5 ml into 50 ml

Bernard Griffin II
11-1-93

NARRATIVE: [X] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH
LIST SPECIFIC PROBLEMS/VARATIONS FOR THIS BATCH:

BEST AVAILABLE COPY

ACID DIGESTION ANALYSIS

Serial No	Sample Point	Date	Time Issued	Priority
G 726.-8505	102-TCLP	10-22-93	8:33	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	% RECOVERY	D44B3	0

Sample Size	Customer ID
? 2.5mL → 50mL 15 11-15-93	STD

Remarks Calculations Results

[illegible]

$DF = \frac{50mL}{2.5mL} = 20$

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
		20 Blank		
Date	Time Completed	Lab Unit Mgr		
10-25-93	1000	11-1-93		

54-6500-067 R.10 (93)

Serial No	Sample Point	Date	Time Issued	Priority
G 727.-8505	102-TCLP	10-22-93	8:37	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5mL → 50mL 11-15-93	BLK

Remarks Calculations Results

REAGENT BLANK
VOLUME ON
COMPLETION 50mL

$DF = \frac{50mL}{5mL} = 10$

10-28-93

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
		20 Blank		
Date	Time Completed	Lab Unit Mgr		
10-28-93	1000	11-1-93		

54-6500-067 R.10 (93)

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Serial No	Sample Point	Date	Time Issued	Priority
G 728.-8705	102-TCLP	10-22-93	8:39	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5 ml → 50 ml	TCLP 1

Remarks Calculations Results

D.F. $\frac{50 ml}{5 ml} = 10$

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
		cadat		
Date	Time Completed	Lab Unit Mgr 11-1-93		
10-28-93	1000	Gertrud Griffin II		

54-68300-01 R 10 93

Serial No	Sample Point	Date	Time Issued	Priority
G 728.-8905	102-TCLP	10-22-93	8:41	18

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? Spike - 2.5 ml → Sample - 5 ml → 50 ml	TCLP 1

Remarks Calculations Results
SAMPLE SPIKED ID
SPIKE ID WHC-1/Lot. Y3MWHC1N10
SPIKE VOLUME 2.5 ml

D.F. $\frac{50 ml}{2.5 ml} = 20$

Sample

D.F. $= \frac{50 ml}{5 ml} = 10$

Gertrud Griffin II

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
		cadat		
Date	Time Completed	Lab Unit Mgr 11-1-93		
10-28-93	1000	Gertrud Griffin II		

54-68300-01 R 10 93

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ACID DIGESTION ANALYSIS

Serial No	Sample Point	Date	Time Issued	Priority
G 731.-8705	102-TCLP	10-22-93	8:40	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5 mL → 50 mL	TCLP 3

Remarks Calculations Results

DF = 50 mL / 5 mL = 10

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
		M Clark		
Date	Time Completed	Lab Unit Mgr 11-1-93		
10-25-93	1000	Bertrand Griffin II		

Serial No	Sample Point	Date	Time Issued	Priority
G 732.-8705	102-TCLP	10-22-93	8:41	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5 mL → 50 mL	TCLP 4

Remarks Calculations Results

DF = 50 mL / 5 mL = 10

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Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
		M Clark		
Date	Time Completed	Lab Unit Mgr 11-1-93		
10-25-93	1000	Bertrand Griffin II		

ACID DIGESTION ANALYSIS

Serial No	Sample Point	Date	Time Issued	Priority
G 734.-8705	102-TCLP	10-22-93	8:41	26

Determination	Method Standard	Result Units	Charge Code	Returns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5mL → 50mL	TCLP 6

Remarks Calculations Results

DF = 50mL / 5mL = 10

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
10-28-93	1000	11-1-93	

Serial No	Sample Point	Date	Time Issued	Priority
G 735.-8705	102-TCLP	10-22-93	8:42	26

Determination	Method Standard	Result Units	Charge Code	Returns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5mL → 50mL	TCLP 7

Remarks Calculations Results

DF = 50mL / 5mL = 10

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Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
10-28-93	1000	11-1-93	

Serial No	Sample Point	Date	Time Issued	Priority
G 729.-8705	102-TCLP	10-22-93	8:40	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ACD DGST	LA-505-158	NONE	D44B3	0

Sample Size	Customer ID
? 5 mL → 50 mL	TCLP 2

Remarks Calculate Results

DF = 50 mL / 5 mL = 10

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Date Checked	
		11-1-93	

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Analysis Date: 11/11/93

LMCS Std (Undigested)	5045 μg/L	100.9 %
G726–8550	4673	93.46 %
G727–8650	<11	<0.011 μg/mL
G728–8750	<11	<0.11
G729–8750	<11	<0.11
G731–8750	<11	<0.11
G732–8750	14	0.14
G733–8750	<11	<0.11
G734–8750	<11	<0.11
G735–8750	14.8	0.148
LMCS Std (Undigested)	4784	95.68 %

Brian Wels 11-23-93

Brian Wels
Senior Scientist, WHCPAL

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WESTINGHOUSE HANFORD COMPANY

WHC-SD-WM-DP-054 REV 0

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No. G728, G729, G731-G735	Customer ID: 102-TCLP
Analysis: ICP	Sample Prep: Acid

Instrument: WB39939	Procedure/ Rev: LA-505-151/D-0
Technologist: BJ GOECKE	Date: 11/11/93
Starting Time: 10:20	Temperature N/A
Ending Time: 11:00	Chemist: B. WELS

Comments:

	Description	Lab ID		Description	Lab ID
1	INITIAL LMCS CHECK STD	----	11	TCLP 7	G735-8750
2	HNO3 REAGENT BLANK	----	12	HNO3 REAGENT BLANK	----
3	DIGESTED BLANK	G727-8650	13	FINAL LMCS CHECK STD	----
4	DIGESTED STANDARD	G726-8550	14		
5	TCLP 1	G728-8750	15		
6	TCLP 2	G729-8750	16		
7	TCLP 3	G731-8750	17		
8	TCLP 4	G732-8750	18		
9	TCLP 5	G733-8750	19		
10	TCLP 6	G734-8750	20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
ICPSST4	30N10A DIRECT			

A-6000-881 (03/92)

INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Batch 2001

Serial No	Sample Point	Date	Time Issued	Priority
G 726.-8550	102-TCLP	10-22-93	8:33	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP	LA-505-151	% RECOVERY	D44B3	0

Sample Size	Customer ID
? 2.5mL in 50mL	STD

Remarks Calculations Results

CR 4673.2 93.46 %

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
Date 11-11-93	Time Completed 11:00	Lab Unit Mgr 11-23-93 Brian Wells	11-11-93	

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 727.-8650	102-TCLP	10-22-93	8:37	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? DIRECT	BLK

Remarks Calculations Results

REAGENT BLANK
CR < 11/1000 = <1.10E-2

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs
Date 11-11-93	Time Completed 11:00	Lab Unit Mgr 11-23-93 Brian Wells	11-11-93	

54-6800-061 (R-10-83)

INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 728.-8750	102-TCLP	10-22-93	8:39	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5mL in 50mL	TCLP 1

Remarks Calculations Results

CR <11 (10)/1000 = <1.10E-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
			[signature]	
Date 11-11-93	Time Completed 11:00	Lab Unit Mgr 11-23-93 Brian Wells	[signature] 11-11-93	

54-6820-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 729.-8750	102-TCLP	10-22-93	8:40	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5mL in 50mL	TCLP 2

Remarks Calculations Results

CR <11 (10)/1000 = <1.10E-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
			[signature]	
Date 11-11-93	Time Completed 11:00	Lab Unit Mgr 11-23-93 Brian Wells	11-11-93	

54-6820-061 (R-10-83)

INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 731.-8750	102-TCLP	10-22-93	8:40	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5mL in 50mL	TCLP 3

Remarks Calculations Results

CR <11(10)/1000 = <1.10E-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
			[signature]	
Date 11-11-93	Time Completed 11:[illegible]	Lab Unit Mgr 11-23-93 Brian Wile	11-11-93	

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 732.-8750	102-TCLP	10-22-93	8:41	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5mL in 50mL	TCLP 4

Remarks Calculations Results

CR 14.0 (10)/1000 = 140E-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
				[signature]
Date 11-11-93	Time Completed 11:[illegible]	Lab Unit Mgr 11-23-93 Brian Wile	11-11-93	

54-6800-061 (R-10-83)

INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 733.-8750	102-TCLP	10-22-93	8:41	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
5 mL in 50 mL	

Remarks Calculations Results

CR < 11 (10)/1000 = < 1.10E-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
			[signature]	
Date	Time Completed	Lab Unit Mgr 11-23-93		
11-10-93	14:40	Brian Wells	11-10-93	

54-6800-061 (R 10/83)

Serial No	Sample Point	Date	Time Issued	Priority
G 734.-8750	102-TCLP	10-22-93	8:41	26

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5 mL in 50 mL	TCLP 6

Remarks Calculations Results

CR < 11 (10)/1000 = < 1.10E-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
			[signature]	
Date	Time Completed	Lab Unit Mgr 11-23-93		
11-11-93	11:00	Brian Wells	11-11-93	

54-6800-061 (R 10/83)

INDUCTIVELY COUPLED PLASMA ANALYSIS ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 735.-8750	102-TCLP	10-22-93	8:42	26

Determination	Method Standard	Result Units	Charge Code	Returns
ICP-LIQ	LA-505-151	UG/ML	D44B3	0

Sample Size	Customer ID
[illegible]	TCLP 7

Remarks Calculated Results

CK 14.8 (15)/[illegible] 1484-1

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
[signature]				
Hrs	Hrs	Hrs	Hrs	Hrs
			[signature]	
Date 11-11-93	Time 11:00	Date 11-23-93 Brian Wells	11-11-93	

SA-EEX-061 (R-12-83)

·ity 1: SST4 Identity 2: Quality Control 10:20 AM November 11, 1993
name : TWC93
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	4965.472	5168.649	5080.105	5528.829	4866.363	5147.793	5003.513	4988.780
S.D.	17.417	21.857	36.380	20.541	28.409	15.233	19.882	22.190
% R.S.D.	0.351	0.423	0.716	0.372	0.584	0.296	0.397	0.445

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	5041.612	4976.266	5317.631	5135.458	4975.416	5045.469	5015.526	-56.044
S.D.	15.407	27.184	30.846	33.284	21.352	16.898	47.408	66.368
% R.S.D.	0.306	0.546	0.580	0.648	0.429	0.335	0.945	118.422

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	4865.724	4978.668	5034.189	4991.476	4814.386	4892.984	5050.899	4946.066
S.D.	19.515	31.673	21.863	61.645	14.375	17.690	25.589	16.176
% R.S.D.	0.401	0.636	0.434	1.235	0.299	0.362	0.507	0.327

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	5055.834	5944.977	4947.977	4981.310	4913.338	4960.381	4994.777	4977.219
S	17.473	46.561	16.430	11.820	22.891	6.699	18.616	35.870
.D.	0.346	0.783	0.332	0.237	0.466	0.135	0.373	0.721

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4926.313	4636.360	5003.850	5160.256	4585.743
S.D.	14.595	20.296	21.750	23.236	13.653
% R.S.D.	0.296	0.438	0.435	0.450	0.298

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 123 TO 136.

Robert J. Davis
Nov 29 1993

Identity 1: hno3 reag blk Identity 2: direct 10:25 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0

Task name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	-0.694	0.336	-29.794	5.502	12.975	0.000	0.810	0.238
S.D.	2.974	0.308	29.124	7.297	9.979	4.987	0.643	0.424
% R.S.D.	428.372	91.651	97.751	132.624	76.909	330681955.530	79.335	178.404

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	0.560	3.445	-16.690	-16.841	1.119	-5.988	10.416	0.000
S.D.	0.328	4.936	3.221	3.783	0.107	1.361	20.160	97.644
% R.S.D.	58.535	143.272	19.302	22.464	9.591	22.727	193.555	156095957700.000

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-3.021	7.020	-0.027	1.245	-19.835	0.251	-15.101	-13.700
S.D.	24.626	19.596	0.575	19.273	4.674	0.290	16.927	14.295
% R.S.D.	815.294	279.149	2108.220	1548.398	23.565	115.469	112.091	104.342

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	-2.272	47.402	3.287	11.315	0.757	5.300	10.056	-5.760
S.D.	1.792	13.375	1.449	8.056	0.559	1.192	0.499	52.414
% R.S.D.	78.859	28.216	44.079	71.199	73.844	22.487	4.961	909.904

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	-0.186	111.851	-0.200	-0.485	64.934
S.D.	0.357	39.320	0.599	0.555	34.605
% R.S.D.	192.091	35.154	300.253	114.569	53.294

Identity 1: G727 dig blk 102tclp Identity 2: direct 10:28 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0

name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	-2.294	0.774	-32.836	162.533	145.350	-5.038	0.648	0.407
S.D.	2.450	0.220	19.787	9.478	10.675	2.337	0.742	0.411
% R.S.D.	106.787	28.428	60.261	5.831	7.344	46.390	114.497	101.028

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	29.910	12.871	-5.533	17.953	163.340	-0.861	-6.573	-38.800
S.D.	0.162	2.838	8.513	1.719	0.592	3.438	14.542	90.533
% R.S.D.	0.541	22.048	153.855	9.572	0.363	399.363	221.248	233.333

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-37.130	-21.868	-0.083	-32.702	292.976	8.611	-44.860	524.228
S.D.	14.839	8.627	0.118	37.033	21.726	0.145	5.934	4.951
% R.S.D.	39.963	39.450	142.271	113.243	7.416	1.682	13.229	0.945

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	-1.304	-59.386	-1.111	30.299	1.241	0.853	307.778	-27.383
S.D.	3.401	28.088	0.928	12.255	0.703	1.685	5.507	23.833
.D.	260.809	47.298	83.558	40.447	56.674	197.658	1.789	87.035

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	0.922	54.562	2.197	-0.727	53.810
S.D.	1.002	27.342	0.599	0.757	15.111
% R.S.D.	108.646	50.112	27.271	104.086	28.083

Identity 1: G726 dig std 102tclp Identity 2: 2.5ml in 50ml 10:30 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0

Task name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	12.545	4893.366	5169.790	471.269	4952.881	7.603	2.348	4873.771
S.D.	2.182	15.027	23.171	2.463	14.670	3.278	0.853	21.867
% R.S.D.	17.390	0.307	0.448	0.523	0.296	43.122	36.324	0.449

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	35.325	4564.521	5030.640	4691.549	4937.738	4673.215	4921.209	-1590.792
S.D.	0.247	28.903	13.975	44.143	16.548	6.395	6.738	59.268
% R.S.D.	0.699	0.633	0.278	0.941	0.335	0.137	0.137	3.726

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	4559.232	4892.005	4801.889	10.503	266.827	4537.496	4576.024	5089.694
S.D.	16.561	16.459	15.072	21.381	8.319	11.850	48.246	27.698
% R.S.D.	0.363	0.336	0.314	203.572	3.118	0.261	1.054	0.544

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	-2.263	5357.984	4143.432	4631.852	1.025	4455.567	78.563	4806.206
S.D.	2.678	55.288	11.436	14.963	0.566	14.619	0.576	47.176
% R.S.D.	118.338	1.032	0.276	0.323	55.237	0.328	0.733	0.982

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4602.982	93.623	4.794	4727.598	4265.119
S.D.	15.885	24.393	3.300	16.639	20.155
% R.S.D.	0.345	26.055	68.842	0.352	0.473

Identity 1: G728 sam 102tclp Identity 2: 5ml in 50ml 10:33 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0

name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	1.868	891.019	-22.597	1273.051	141.158	-2.931	44.370	31.348
S.D.	1.537	1.215	22.119	1.519	18.158	2.748	1.011	1.382
% R.S.D.	82.304	0.136	97.885	0.119	12.864	93.750	2.279	4.408

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	44.942	28.876	8.401	50.206	107681.356	5.722	-428.571	-64.666
S.D.	0.747	3.563	6.431	6.293	300.138	3.285	5.512	59.268
% R.S.D.	1.662	12.339	76.548	12.535	0.279	57.419	1.286	91.652

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-20.603	-11353.759	56.469	81.483	6478.083	1637.655	2.335	171778.762
S.D.	18.767	6.221	1.003	23.300	26.920	2.907	3.567	448.939
% R.S.D.	91.091	0.055	1.776	28.594	0.416	0.178	152.724	0.261

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	73.760	17.938	2.160	4.324	0.327	4.489	842.131	5040.121
S.D.	1.289	46.011	0.846	16.925	0.828	1.819	2.174	75.134
% R.S.D.	1.747	256.504	39.190	391.427	253.480	40.521	0.258	1.491

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	21.538	14.200	10.587	2.787	-23.982
S.D.	1.929	56.649	0.599	0.915	16.653
% R.S.D.	8.954	398.945	5.660	32.825	69.440

Identity 1: G729 sam 102tclp Identity 2: 5ml in 50ml 10:35 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0

Task name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	-0.815	858.139	-12.842	1389.121	115.240	3.298	46.799	28.057
S.D.	1.344	1.547	42.129	5.091	13.703	5.792	0.742	0.539
% R.S.D.	164.842	0.180	328.056	0.366	11.891	175.660	1.586	1.920

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	58.606	25.529	-6.498	138.702	104470.904	-3.780	-395.457	-43.111
S.D.	0.662	1.546	5.593	5.921	267.994	4.446	45.579	71.231
% R.S.D.	1.130	6.057	86.070	4.269	0.257	117.605	11.526	165.227

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-19.954	-11133.616	45.213	109.258	6675.792	1513.251	-20.893	179356.624
S.D.	9.054	10.352	0.156	5.345	45.857	2.248	5.916	794.997
% R.S.D.	45.376	0.093	0.345	4.892	0.687	0.149	28.315	0.443

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	79.686	34.886	4.431	119.339	4.628	2.499	917.552	5232.757
S.D.	3.620	6.631	0.863	19.148	1.218	0.973	3.827	41.419
% R.S.D.	4.543	19.007	19.482	16.045	26.314	38.922	0.417	0.792

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	18.010	63.676	12.185	-0.242	4.933
S.D.	0.329	25.414	0.692	0.364	39.390
% R.S.D.	1.829	39.912	5.679	150.011	798.504

Identity 1: G731 sam 102tclp Identity 2: 5ml in 50ml 10:37 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0

Task name : TWC93

e Weight : 1.0000 Solution Volume : 1.00

On Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	2.033	845.458	-13.571	1149.439	97.192	-3.572	44.612	28.803
S.D.	2.328	2.129	12.338	5.987	9.018	2.640	0.920	0.155
% R.S.D.	114.522	0.252	90.921	0.521	9.278	73.916	2.061	0.540

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	23.716	29.791	-8.270	48.776	107524.449	-1.564	-430.651	258.665
S.D.	0.883	1.499	3.200	4.798	515.887	4.058	9.291	44.802
% R.S.D.	3.721	5.030	38.691	9.837	0.480	259.526	2.157	17.321

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	17.407	-11368.701	48.283	59.881	6845.231	1490.678	-16.065	176515.903
S.D.	22.615	12.442	0.495	24.495	8.923	2.852	2.593	668.187
% R.S.D.	129.920	0.109	1.025	40.907	0.130	0.191	16.139	0.379

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	84.363	47.234	1.849	54.974	1.563	2.422	980.151	5156.095
S.D.	4.118	33.048	0.660	16.437	0.559	0.740	10.099	47.299
% R.S.D.	4.882	69.966	35.723	29.899	35.745	30.562	1.030	0.917

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	17.427	77.999	13.384	-0.606	51.765
S.D.	0.436	17.026	1.831	0.000	42.578
% R.S.D.	2.501	21.829	13.679	0.000	82.253

Identity 1: G732 sam 102tclp Identity 2: 5ml in 50ml 10:39 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0
Task name : TWC93
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	-1.329	884.242	-59.907	1262.449	8547.119	0.550	108.818	27.921
S.D.	1.634	2.387	5.579	1.832	10.330	0.572	1.617	0.561
% R.S.D.	122.993	0.270	9.312	0.145	0.121	104.083	1.486	2.008

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	4752.038	298.739	4.599	320.460	107005.078	14.009	-386.099	30.178
S.D.	13.345	8.115	0.025	5.421	361.593	1.302	10.880	98.779
% R.S.D.	0.281	2.717	0.540	1.691	0.338	9.295	2.818	327.327

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	2.600	-11209.321	48.530	127.775	6607.110	1628.877	4.168	177349.811
S.D.	3.507	4.565	0.244	10.691	79.888	4.641	6.495	422.692
% R.S.D.	134.914	0.041	0.503	8.367	1.209	0.285	155.831	0.238

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	77.415	-3.471	2.490	62.145	4.359	1.275	1015.912	5203.271
S.D.	0.908	38.206	0.210	3.022	0.336	0.272	0.662	27.868
% R.S.D.	1.173	1100.723	8.440	4.863	7.703	21.360	0.065	0.536

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	24.713	33.730	9.988	-0.848	41.295
S.D.	0.472	72.059	1.798	0.420	42.995
% R.S.D.	1.910	213.636	18.000	49.488	104.117

Identity 1: G733 sam 102-tclp Identity 2: 5ml in 50ml 2:02 PM November 16, 1993 WHC-SD-WM-DP-054 REV O

T name : TWC93

e Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	-9.260	963.063	-36.229	1015.903	49.385	0.999	48.644	30.088
S.D.	2.213	11.614	13.202	8.671	16.236	0.520	1.190	0.873
% R.S.D.	23.896	1.206	36.440	0.854	32.876	52.042	2.446	2.901

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	11.475	15.097	4.400	41.506	113608.852	5.328	-468.976	-400.285
S.D.	0.614	0.621	5.733	4.437	1164.331	2.969	17.867	130.966
% R.S.D.	5.347	4.116	130.294	10.691	1.025	55.714	3.810	32.718

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-109.325	-11670.785	49.562	129.372	7411.536	1811.333	18.175	188707.848
S.D.	26.749	32.040	0.405	28.429	79.933	19.736	9.431	2952.485
% R.S.D.	24.467	0.275	0.818	21.974	1.078	1.090	51.889	1.565

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	92.209	-27.320	-3.986	9.463	-3.307	0.508	980.767	5345.734
S.D.	0.191	35.650	1.316	26.743	1.206	1.730	10.929	61.050
% R.S.D.	0.207	130.490	33.009	282.590	36.471	340.300	1.114	1.142

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	20.721	-25.241	3.116	-1.320	-202.003
S.D.	0.288	19.052	2.599	0.191	41.074
% R.S.D.	1.392	75.479	83.395	14.434	20.333

Identity 1: G734 sam 102tclp Identity 2: 5ml in 50ml 10:41 AM November 11, 1993 WHC-SD-WM-DP-054 REV 0
Task name : TWC93
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	0.022	2.809	3.233	199.127	95.086	-2.656	0.729	1.289
S.D.	0.817	0.228	39.541	1.835	5.208	4.048	0.371	0.833
% R.S.D.	3637.617	8.100	1222.971	0.921	5.477	152.389	50.891	64.620

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	14.939	2.808	-3.656	20.178	646.945	-8.079	-17.148	116.399
S.D.	1.024	4.639	3.221	7.389	13.990	2.883	34.373	105.863
% R.S.D.	6.856	165.203	88.090	36.621	2.162	35.683	200.441	90.948

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-2.066	-97.573	1.215	29.020	332.540	118.636	-24.707	499.211
S.D.	23.367	14.942	0.571	21.381	11.776	0.766	15.065	22.405
% R.S.D.	1130.843	15.314	47.028	73.678	3.541	0.646	60.974	4.488

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	1.564	28.009	0.989	104.115	1.563	1.952	203.886	82.695
S.D.	2.809	81.116	1.201	11.929	0.427	2.093	2.927	42.524
% R.S.D.	179.588	289.603	121.388	11.457	27.301	107.212	1.436	51.423

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1.176	23.314	6.193	-0.121	60.764
S.D.	0.232	43.496	0.915	0.210	16.450
% R.S.D.	19.720	186.567	14.782	173.230	27.072

Identity 1: G735 sam 102tclp Identity 2: 5ml in 50ml 10:43 AM November 11, 1993

T-- name : TWC93

e Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	6.671	967.375	-3.958	1907.603	293.436	-6.778	3.320	15.063
S.D.	2.633	2.718	20.454	13.889	4.634	4.696	0.140	0.385
% R.S.D.	39.474	0.281	516.792	0.728	1.579	69.276	4.224	2.558

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	20.728	11.928	16.104	128.375	149762.591	14.815	-555.786	206.932
S.D.	1.182	6.491	0.035	10.662	478.961	1.518	15.395	25.867
% R.S.D.	5.704	54.415	0.218	8.305	0.320	10.246	2.770	12.500

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-0.044	-16615.279	69.462	29.020	6422.139	969.902	-6.484	15108.649
S.D.	22.624	13.803	0.061	5.345	16.813	2.797	9.389	43.278
% R.S.D.	51037.990	0.083	0.088	18.420	0.262	0.288	144.812	0.286

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	21.939	11.020	2.293	52.369	36.403	2.420	653.580	2917.194
S.D.	2.336	15.189	0.974	31.562	0.981	0.398	5.249	39.264
% R.S.D.	10.650	137.828	42.474	60.269	2.695	16.460	0.803	1.346

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	19.400	29.824	41.349	-0.364	96.518
S.D.	0.948	56.918	1.384	0.210	18.426
% R.S.D.	4.889	190.846	3.347	57.738	19.091

Identity 1: G728 dig spk 102tclp Identity 2: 2.5ml in 50ml 10:48 AM November 11, 1993

Task name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	8.148	5827.911	5236.364	1289.280	4955.891	-0.183	40.564	4886.154
S.D.	0.592	16.203	24.629	10.840	6.700	5.243	0.506	12.786
% R.S.D.	7.266	0.278	0.470	0.841	0.135	2861.841	1.246	0.262

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	103.268	4615.413	5142.605	4733.175	110439.692	4712.422	4575.957	-1754.613
S.D.	0.837	15.954	25.052	11.263	190.101	17.559	15.651	41.575
% R.S.D.	0.810	0.346	0.487	0.238	0.172	0.373	0.342	2.369

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	4551.816	-6202.809	4914.383	1.245	6265.856	6155.337	4688.823	172394.103
S.D.	10.658	13.026	13.714	10.691	35.557	19.923	17.835	408.304
% R.S.D.	0.234	0.210	0.279	858.897	0.567	0.324	0.380	0.237

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	75.830	5488.868	238.764	4692.290	0.649	4529.003	972.483	9883.537
S.D.	2.718	98.250	5.132	18.605	0.945	25.223	5.910	79.773
% R.S.D.	3.585	1.790	2.149	0.397	145.596	0.557	0.608	0.807

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4677.649	57.166	17.579	4838.368	4378.399
S.D.	18.590	35.009	0.692	16.746	19.139
% R.S.D.	0.397	61.242	3.936	0.346	0.437

Identity 1: hno3 reag blk Identity 2: direct 10:50 AM November 11, 1993
name : TWC93
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	0.376	0.790	-44.691	-2.451	-4.181	-9.709	-0.647	0.984
S.D.	0.532	0.127	32.387	3.664	5.057	2.062	0.421	0.269
% R.S.D.	141.338	16.063	72.468	149.477	120.955	21.242	64.990	27.369

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	0.965	1.268	-13.019	-0.477	23.963	-1.801	26.007	120.710
S.D.	0.093	2.060	0.061	6.202	1.295	4.181	26.548	19.756
% R.S.D.	9.678	162.416	0.466	1301.213	5.405	232.164	102.082	16.366

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	-13.059	0.047	0.348	-17.272	-13.220	1.254	-10.879	10.520
S.D.	3.475	14.122	0.331	19.273	10.510	0.145	13.879	4.872
% R.S.D.	26.607	30004.870	95.095	111.584	79.501	11.547	127.575	46.307

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	-4.073	9.644	2.911	36.459	-0.964	4.557	0.314	-52.937
S.D.	1.331	8.932	0.893	11.245	0.888	0.316	0.475	36.827
% R.S.D.	32.682	92.612	30.679	30.842	92.169	6.940	150.994	69.568

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	0.427	61.072	-2.796	0.121	29.480
S.D.	0.840	89.271	1.831	0.000	8.643
% R.S.D.	196.610	146.173	65.469	0.000	29.318

Identity 1: SST4 Identity 2: Quality Control 10:52 AM November 11, 1993

Task name : TWC93

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppb)	Sr (ppb)	Bi (ppb)	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Li (ppb)
Mean	4772.770	4944.880	4918.995	5329.674	4717.079	4857.428	4885.303	4921.505
S.D.	14.805	20.873	18.740	37.852	22.496	36.918	16.539	37.621
% R.S.D.	0.310	0.422	0.381	0.710	0.477	0.760	0.339	0.764

	Zn (ppb)	Ni (ppb)	La (ppb)	Fe (ppb)	Ca (ppb)	Cr (ppb)	Nd (ppb)	U (ppb)
Mean	4852.007	4719.686	5119.411	4872.036	4809.207	4783.716	4995.876	21.555
S.D.	13.156	3.651	16.918	19.367	17.666	28.164	31.156	37.335
% R.S.D.	0.271	0.077	0.330	0.398	0.367	0.589	0.624	173.205

	Ce (ppb)	Sm (ppb)	Ba (ppb)	P (ppb)	S (ppb)	Mg (ppb)	As (ppb)	Na (ppb)
Mean	4531.134	4840.207	4841.216	4861.860	4607.678	4634.728	4797.075	4865.953
S.D.	4.762	10.495	20.351	65.028	30.844	17.595	54.175	36.288
% R.S.D.	0.105	0.217	0.420	1.338	0.669	0.380	1.129	0.746

	Mo (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)	Ti (ppb)	Cd (ppb)	B (ppb)	K (ppb)
Mean	4751.507	5508.766	4831.345	4751.437	4668.602	4654.170	4843.496	4888.764
S.D.	10.671	44.756	16.047	5.800	19.478	15.271	10.702	58.079
% R.S.D.	0.225	0.812	0.332	0.122	0.417	0.328	0.221	1.188

	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4711.833	4486.628	4786.917	4845.034	4423.274
S.D.	20.780	53.176	20.058	22.683	41.703
% R.S.D.	0.441	1.185	0.419	0.468	0.943

	ICP Cr results --	102-TCLP		
Description	Lab ID	Dil. Factor	Cr (ppm)	% Recov.
Initial LMCS	--	1	4.77	95.4
HNO3 blank	--	1	<0.006	
Dig. std	G677-8550	1	0.952	95.2
Dig. blank	G678-8650	1	0.0111	
102TCLP-1	G679-8750	5	0.057	
102TCLP-2	G680-8750	5	0.232	
102TCLP-2 SPK	G680-8950	5	4.675	88.86
HNO3 blank	--	1	<0.006	
LMCS STD	--	1	4.77	95.4
HNO3 blank	--	1	<0.006	
102TCLP-3	G681-8750	5	0.095	
102TCLP-3 SPK	G681-8950	5	4.615	90.4
102TCLP-4	G682-8750	5	0.103	
102TCLP-5	G683-8750	5	0.1105	
102TCLP-6	G684-8750	5	0.084	
102TCLP-7	G685-8750	5	0.093	
HNO3 blank	--	1	0.00742	
Final LMCS	--	1	4.7	94

Brian Wells
10-1-93

WESTINGHOUSE HANFORD COMPANY

WHC-SD-WM-DP-054 REV 0

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No. G617 - G695	Customer ID: 102 - TCLP B+L #1714
Analysis: ICP	Sample Prep: ACID DIGEST

Instrument: WB39939	Procedure/ Rev: LA-505-151/D-0
Technologist: TA FRAZIER	Date: 8/22/93
Starting Time: 7:15am	Temperature N/A
Ending Time: 8:15 am	Chemist: B. Wels.

Comments:

	Description	Lab ID
1	INITIAL LMCS STD	—
2	HNO3 Reagent Blank	—
3	DIGESTED STD	G617-8550
4	DIGESTED Reag Blank	G618-8650
5	102 TCLP SAM TCLP-1	G619-8750
6	102 TCLP SAM TCLP-2	G680-8750
7	102 TCLP SPK TCLP-2	G680-8750
8	HNO3 Reagent Blank	—
9	LMCS STD	—
10	HNO3 Reagent Blank	—

	Description	Lab ID
11	102 TCLP SAM TCLP-3	G681-8750
12	102 TCLP Spk TCLP-3	G681-8750
13	102 TCLP SAM TCLP 4	G682-8750
14	102 TCLP SAM TCLP-5	G683-8750
15	102 TCLP SAM TCLP-6	G684-8750
16	102 TCLP SAM TCLP-7	G685-8750
17	HNO3 Reagent Blank	—
18	Ending LMCS STD	—
19		
20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
ICPSST4	25N10A DIRECT			DIRECT

138

A-6000-881 (03/92)

INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

1714

Serial No	Sample Point	Date	Time Issued	Priority
G 677.-8550	102 TCLP	8-20-93	10:58	18

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP	LA-505-151	% RECOVERY	D44B3	0

Sample Size: ?2.5ml in 25ml 13N10C Digested

Customer ID: STD

Remarks Calculations Results

1st STD Digested STD

Undigested Dried

SST4-25N10A

Cr 4.772 95.44%

Digested

Cr 9523/1000 x 100 = 95.23% Rec.

Teresa A. Hagen

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	LMCS Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr	
8/22/93	08:15am	Brian Wels	Teresa A. Hagen

54-6800-064 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 678.-8650	102 TCLP	8-20-93	10:58	18

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP	LA-505-151	uG/ML	D44B3	0

Sample Size: ? Direct

Customer ID: BLK

Remarks Calculations Results

REAGENT BLANK

Cr 11.1/1000 = 11E-2 ug/ml

Teresa A. Hagen

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr	
8/22/93	08:15am	Brian Wels	Teresa A. Hagen

54-6800-064 (R-10-83)

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INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 679.-8750	102 TCLP	8-20-93	10:59	18

Determination	Method-Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5ml in 25ml	TCLP-1

Remarks, Calculations, Results

~~Cr 11.4/1000 = 1.14E-2 ug/ml~~ 8/22/93

Cr (11.4)(5)/1000 = 5.70E-2 ug/ml

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr
8/22/93	08:15am	Brian Wels

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 680.-8750	102 TCLP	8-20-93	10:59	18

Determination	Method-Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
? 5ml in 25ml	TCLP-2

Remarks, Calculations, Results

Cr (46.4/5)/1000 = 9.32E-1 ug/ml

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr
8/22/93	08:15am	Brian Wels

54-6800-061 (R-10-83)

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INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 680.-8950	102 TCLP	8-20-93	11: 0	18

Determination	Method/Standard	Result Units	Charge Code	Reruns
ICP	LA-505-151	% RECOVERY	D44B3	0

Sample Size	Customer ID
25 ml in 250 ml (8/22/93)	TCLP-2

Remarks, Calculations, Results

SPIKE SAMPLE
SPIKE ID 13N10C
SPIKE VOLUME .5ml

935-46/1000 x 100 = 88.90% Rec.

Teresa L. Frazier

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr
8/22/93	08:15am	Brian Wells / Teresa L. Frazier

54-6800-067 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 681.-8750	102 TCLP	8-20-93	11: 0	18

Determination	Method/Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
25 ml in 250 ml (8/22/93)	TCLP-3

Remarks, Calculations, Results

Cr (19.0)(5)/1000 = 9.50E-2 ug/ml

Teresa L. Frazier

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr
8/22/93	08:15am	Brian Wells / Teresa L. Frazier

54-6800-067 (R-10-83)

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INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 681.-8950	102 TCLP	8-20-93	11: 0	23

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP	LA-505-151	% RECOVERY	D44B3	0

Sample Size	Customer ID
?5ml in 250ml 8/22/93	TCLP-3

Remarks, Calculations, Results

SPIKE SAMPLE
SPIKE ID 13NIOC
SPIKE VOLUME .5ml

923 - 19/1000 x 100 = 90.40%

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr
8/22/93	08:15am	Brian Wiels

54 6800-061 (TR-10 831)

Serial No	Sample Point	Date	Time Issued	Priority
G 682.-8750	102 TCLP	8-20-93	11: 0	18

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
?5ml in 250ml 8/22/93	TCLP-4

Remarks, Calculations, Results

Cr(20.6x5)/1000 = 1.03E-1ug/ml

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr
8/22/93	08:15am	Brian Wiels

54 6800-061 (TR-10 831)

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INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 683.-8750	102 TCLP	8-20-93	11: 0	18

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
?5ml in 25 ml	TCLP-5

Remarks Calculations Results

Cr(22.1)(5)/1000 = 1.10E-1 ug/ml

Teresa L. Frazier

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr	
8/22/93	08:15am	Brian Wels	Teresa L. Frazier

54-6800-064 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 684.-8750	102 TCLP	8-20-93	11: 0	18

Determination	Method Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
?5ml in 35 ml	TCLP-6

Remarks Calculations Results

Cr(16.8)(5)/1000 = 8.40E-2 ug/ml

Teresa L. Frazier

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/22/93

Date	Time Completed	Lab Unit Mgr	
8/22/93	08:15am	Brian Wels	Teresa L. Frazier

54-6800-064 (R-10-83)

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INDUCTIVELY COUPLED PLASMA ANALYSIS - ACID DIGESTION

Serial No	Sample Point	Date	Time Issued	Priority
G 685.-8750	102 TCLP	8-20-93	11: 1	18

Determination	Method-Standard	Result Units	Charge Code	Reruns
ICP-LIQ	LA-505-151	uG/ML	D44B3	0

Sample Size	Customer ID
75ml in 250ml 8/22/93	TCLP-7

Remarks, Calculations, Results

Cr (18.6)(5)/1000 = 9.30E-2 ug/ml

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs 8/27/93

Date	Time Completed	Lab Unit Mgr
8/27/93	08:15am	Brian Uhels

54 6800-061 10 831

BEST AVAILABLE COPY

ity 1: SST4 25N10A Identity 2: Direct 7:20 AM August 22, 1993

WHC-SD-WM-DP-054 REV 0

Task name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	3086.201	4900.906	5082.775	5010.941	5079.629	4687.435	4896.761	4292.560
S.D.	17.828	17.688	24.397	12.395	16.281	8.364	29.213	13.010
% R.S.D.	0.578	0.361	0.480	0.247	0.321	0.178	0.597	0.303

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	4771.844	4803.109	4753.876	4642.400	4846.890	2700.756	4973.483	4559.166
S.D.	13.130	16.937	15.547	5.641	31.061	42.622	13.836	18.403
% R.S.D.	0.275	0.353	0.327	0.122	0.641	1.578	0.278	0.404

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4813.940	4831.883	4946.762	4828.533	4825.385	5015.782	4990.256	5047.868
S.D.	11.491	18.485	67.468	15.247	51.074	14.412	19.950	25.317
% R.S.D.	0.239	0.383	1.364	0.316	1.058	0.287	0.400	0.502

[illegible]
8/22/93
G617-[illegible]

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 145 TO 113.

Identity 1: HNO3 Reag Blank Identity 2: Direct 7:21 AM August 22, 1993 WHC-SD-WM-DP-054 REV 0

Task name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	4.484	18.014	1.490	0.564	1.816	3.959	-7.999	0.576
S.D.	2.927	5.054	3.156	0.983	0.495	3.915	7.724	0.336
% R.S.D.	65.264	28.053	211.718	174.192	27.274	98.901	96.566	58.305

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	4.387	1.040	1.023	4.404	6.728	-34.427	-1.384	26.970
S.D.	1.414	0.509	0.418	6.898	6.935	18.468	1.305	19.739
% R.S.D.	32.230	48.926	40.883	156.630	103.084	53.645	94.255	73.190

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	2.099	4.133	-52.885	0.164	3.683	3.141	1.961	68.404
S.D.	2.251	2.748	34.494	0.127	36.091	1.412	0.309	21.989
% R.S.D.	107.243	66.500	65.225	76.947	979.919	44.959	15.751	32.146

Identity 1: G677 Dig STD Identity 2: Direct 7:23 AM August 22, 1993 WHC-SD-WM-DP-054 REV 0

name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	125.621	16.749	2016.061	995.375	1967.295	938.963	1004.864	2126.716
S.D.	1.443	6.170	3.920	2.839	1.609	2.948	6.590	5.373
% R.S.D.	1.148	36.837	0.194	0.285	0.082	0.314	0.656	0.253

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	952.276	1925.756	972.706	20.132	1987.922	-118.768	2.412	48.472
S.D.	5.181	4.171	1.953	3.195	5.856	34.814	0.822	6.277
% R.S.D.	0.544	0.217	0.201	15.872	0.295	29.312	34.076	12.950

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1870.037	973.221	1074.467	955.812	1112.315	1.572	0.267	45.172
S.D.	8.907	5.433	40.194	2.299	41.256	3.340	0.154	44.360
% R.S.D.	0.476	0.558	3.741	0.240	3.709	212.447	57.870	98.203

G678

Identity 1: ~~G677~~ Dig Blank Identity 2: Direct 7:25 AM August 22, 1993 WHC-SD-WM-DP-054 REV 0

Task name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	115.793	63.301	8.058	2.782	32.211	4.782	5.912	712.841
S.D.	4.535	5.106	2.844	1.254	0.521	2.137	4.051	0.540
% R.S.D.	3.916	8.066	35.290	45.051	1.616	44.682	68.530	0.076

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	11.077	1.957	21.363	8.515	93.263	-13.091	0.514	37.094
S.D.	2.088	0.295	0.105	3.699	8.384	16.119	1.284	15.858
% R.S.D.	18.849	15.059	0.489	43.437	8.990	123.131	249.853	42.751

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	2.650	15.492	164.574	0.412	-1.606	-2.508	-0.446	-10.973
S.D.	0.351	3.264	8.741	0.253	49.876	0.941	0.154	45.363
% R.S.D.	13.238	21.068	5.312	61.471	3105.279	37.543	34.593	413.396

Identity 1: G679 Sam 102 TCLP Identity 2: 5ml in 25ml 7:28 AM August 22, 1993

name : PE

.e Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	195.426	39.140	5.079	2.852	30.178	7.887	18.514	986.311
S.D.	3.957	3.839	3.920	0.961	0.633	1.156	3.314	3.133
% R.S.D.	2.025	9.808	77.171	33.682	2.096	14.655	17.900	0.318

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	11.391	2.892	219.454	9.450	293.172	-6.900	0.988	31.805
S.D.	1.008	0.133	0.686	1.357	1.923	12.635	0.717	10.683
% R.S.D.	8.850	4.606	0.312	14.357	0.656	183.099	72.495	33.588

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1.121	15.492	210.354	-0.056	66.097	-0.782	-0.536	12.259
S.D.	1.348	0.874	21.665	0.222	14.998	0.272	0.309	10.060
% R.S.D.	120.281	5.644	10.299	392.992	22.691	34.769	57.668	82.060

Identity 1: G680 Sam 102 TCLP-2 Identity 2: 5ml in 25ml 7:30 AM August 22, 1993 WHC-SD-WM-DP-054 REV O

Task name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	1981.921	43.314	3.386	5.209	20.732	1.870	11.143	208970.927
S.D.	10.202	6.544	0.931	0.360	0.310	3.568	8.089	158.662
% R.S.D.	0.515	15.108	27.489	6.915	1.494	190.782	72.595	0.076

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	46.409	149.241	3010.652	10.935	28078.827	-45.780	-3.283	71.447
S.D.	1.267	0.609	4.146	8.253	79.399	20.400	1.151	16.718
% R.S.D.	2.731	0.408	0.138	75.470	0.283	44.560	35.056	23.399

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1.110	919.255	6035.964	31.857	23.782	54.609	0.445	33.555
S.D.	0.313	1.046	20.097	0.897	21.987	0.980	0.267	47.304
% R.S.D.	28.157	0.114	0.333	2.817	92.451	1.794	60.084	140.973

Identity 1: G680 Spk 102 TCLP-2 Identity 2: 5ml in 25ml 7:34 AM August 22, 1993

name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	1994.638	-7.792	1897.027	980.748	1916.272	886.287	954.215	141729.567
S.D.	12.984	3.526	8.111	0.750	6.234	2.677	13.584	123838.875
% R.S.D.	0.651	45.256	0.428	0.076	0.325	0.302	1.424	87.377

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	935.446	2049.451	4008.289	-1.127	30608.082	-162.343	-5.086	57.255
S.D.	2.203	0.170	5.161	4.098	56.339	15.451	0.854	14.770
% R.S.D.	0.235	0.008	0.129	363.800	0.184	9.517	16.796	25.797

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1761.437	1829.614	7117.536	1004.135	970.562	58.061	-0.090	-1.293
S.D.	3.738	5.495	28.229	88.068	15.973	0.544	0.000	29.805
% R.S.D.	0.212	0.300	0.397	8.771	1.646	0.936	0.000	2305.037

Identity 1: HNO3 Reag Blank Identity 2: Direct 7:40 AM August 22, 1993

Task name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	7.912	4.985	3.183	1.119	0.328	8.143	-12.517	3.196
S.D.	1.322	9.678	1.422	0.866	0.641	3.096	3.608	0.478
% R.S.D.	16.706	194.143	44.669	77.390	195.394	38.024	28.826	14.954

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	0.938	0.775	-0.003	4.705	-0.758	-44.526	1.558	14.634
S.D.	3.995	0.239	0.105	3.556	5.263	16.768	0.658	19.316
% R.S.D.	426.030	30.801	3243.594	75.584	694.719	37.658	42.208	131.992

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	2.286	-0.840	-33.810	-1.331	48.113	0.944	-0.625	35.492
S.D.	0.298	2.059	69.225	0.336	37.595	0.544	0.000	5.808
% R.S.D.	13.025	245.265	204.749	25.221	78.139	57.558	0.000	16.365

Identity 1: SST4 25N10A Identity 2: Direct 7:43 AM August 22, 1993

name : PE

S. ..e Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	3022.802	4901.665	5069.707	5059.742	5055.506	4693.947	4892.243	4328.206
S.D.	6.385	24.351	24.320	8.350	11.542	19.788	37.903	10.347
% R.S.D.	0.211	0.497	0.480	0.165	0.228	0.422	0.775	0.239

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	4772.263	4839.931	4727.138	4602.766	4850.906	2682.299	4987.341	4558.923
S.D.	10.838	16.319	16.327	37.232	23.320	52.105	9.167	41.928
% R.S.D.	0.227	0.337	0.345	0.809	0.481	1.943	0.184	0.920

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4795.329	4833.296	5032.601	4835.588	4920.592	5019.234	4992.218	5074.973
S.D.	16.601	20.429	31.862	15.112	93.768	13.967	21.255	24.181
% R.S.D.	0.346	0.423	0.633	0.313	1.906	0.278	0.426	0.476

Identity 1: HNO3 Reag Blank Identity 2: Direct 7:45 AM August 22, 1993
Task name : PE
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-054 REV 0

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	3.934	17.761	-0.270	1.188	0.080	5.922	-15.014	-2.970
S.D.	2.294	13.508	2.150	0.938	0.787	3.271	1.795	0.151
% R.S.D.	58.295	76.054	796.243	78.930	980.698	55.238	11.957	5.079

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	3.760	1.586	-0.486	15.063	2.163	-13.100	0.704	9.170
S.D.	2.088	0.382	0.314	14.792	5.558	19.164	0.870	20.165
% R.S.D.	55.529	24.059	64.521	98.198	256.922	146.294	123.615	219.908

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	3.836	8.373	19.601	0.250	42.824	2.827	-0.001	-30.333
S.D.	0.688	2.948	11.445	0.192	53.009	1.185	0.154	17.744
% R.S.D.	17.924	35.204	58.391	76.684	123.784	41.901	24706.929	58.496

Identity 1: G681 Sam TCLP-3 Identity 2: 5ml in 25ml 7:47 AM August 22, 1993

name : PE

WHC-SD-WM-DP-054 REV 0

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	3754.099	108.841	5.418	85.550	37.244	32.862	118.980	164272.046
S.D.	10.825	6.573	0.931	1.026	0.172	4.023	0.618	408.624
% R.S.D.	0.288	6.039	17.182	1.199	0.461	12.241	0.519	0.249

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	19.022	205.117	3298.856	5.573	215096.173	-72.870	-3.283	73.709
S.D.	4.898	0.662	13.810	2.728	935.370	10.228	0.593	7.566
% R.S.D.	25.752	0.323	0.419	48.952	0.435	14.036	18.057	10.265

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	5.126	1460.435	7705.056	57.771	-86.235	15.067	-0.001	-74.862
S.D.	0.434	6.173	112.722	0.550	52.372	0.719	0.154	15.367
% R.S.D.	8.459	0.423	1.463	0.952	60.732	4.773	24706.929	20.527

Identity 1: G681 Spk TCLP-3 Identity 2: 5ml in 25ml 7:51 AM August 22, 1993

Task name : PE

WHC-SD-WM-DP-054 REV 0

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	3949.924	105.046	1920.116	1070.726	1970.419	914.273	1083.572	172041.235
S.D.	22.189	4.310	5.409	3.183	6.936	4.111	5.575	580.711
% R.S.D.	0.562	4.103	0.282	0.297	0.352	0.450	0.515	0.338

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	922.903	2119.777	4425.656	15.533	227154.953	-143.685	1.938	80.354
S.D.	5.407	11.304	20.752	5.895	1280.751	46.163	1.284	18.660
% R.S.D.	0.586	0.533	0.469	37.954	0.564	32.128	66.266	23.223

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1774.524	2439.835	8965.936	979.568	1198.001	18.205	-0.268	-9.037
S.D.	11.570	0.453	42.182	4.464	19.819	0.000	0.154	26.190
% R.S.D.	0.652	0.019	0.470	0.456	1.654	0.000	57.600	289.805

Identity 1: G682 Sam TCLP-4 Identity 2: 5ml in 25ml 7:56 AM August 22, 1993

name : PE

WHC-SD-WM-DP-054 REV O

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	5272.349	669.109	5.147	96.434	23.782	32.020	141.332	174428.319
S.D.	6.029	7.214	3.042	0.635	0.310	3.380	3.236	282.057
% R.S.D.	0.114	1.078	59.113	0.659	1.302	10.558	2.290	0.162

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	20.590	235.533	3481.495	-5.907	251025.138	-34.365	0.894	41.677
S.D.	1.086	0.053	3.871	7.890	561.529	11.990	1.993	14.391
% R.S.D.	5.276	0.022	0.111	133.580	0.224	34.890	223.065	34.529

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	3.732	1645.731	9215.823	67.742	12.146	19.774	0.623	12.259
S.D.	1.079	4.790	15.141	0.117	23.819	0.544	0.154	15.367
% R.S.D.	28.926	0.291	0.164	0.172	196.110	2.749	24.768	125.349

Identity 1: G683 Sam TCLP-5 Identity 2: 5ml in 25ml 8:00 AM August 22, 1993

Task name : PE

WHC-SD-WM-DP-054 REV 0

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	4794.632	678.723	6.907	80.767	27.154	24.872	114.343	152255.697
S.D.	18.910	8.360	1.224	1.047	0.452	6.115	4.113	653.648
% R.S.D.	0.394	1.232	17.726	1.296	1.666	24.587	3.597	0.429

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	22.053	205.029	3051.635	17.721	204398.049	-31.233	-0.151	60.627
S.D.	2.740	0.984	14.647	9.610	1051.653	14.176	0.822	19.034
% R.S.D.	12.424	0.480	0.480	54.231	0.515	45.388	546.139	31.396

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	-1.147	1369.985	7256.786	61.852	88.311	12.870	-0.446	-10.973
S.D.	1.868	7.821	28.229	1.299	42.261	0.719	0.154	47.541
% R.S.D.	162.837	0.571	0.389	2.100	47.855	5.587	34.593	433.250

Identity 1: G684 Sam TCLP-6 Identity 2: 5ml in 25ml 8:05 AM August 22, 1993

name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	3701.714	82.782	5.688	101.425	25.741	33.693	119.099	176023.214
S.D.	8.849	3.801	0.511	0.523	0.324	1.797	5.810	393.814
% R.S.D.	0.239	4.592	8.987	0.516	1.260	5.332	4.878	0.224

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	16.827	203.917	3462.302	4.778	254581.138	-4.155	-1.100	30.979
S.D.	2.679	0.372	7.181	9.007	285.804	23.041	0.854	23.393
% R.S.D.	15.923	0.182	0.207	188.494	0.112	554.516	77.682	75.513

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	2.171	1657.299	9175.765	54.290	120.047	19.303	0.356	60.660
S.D.	2.118	6.524	26.224	0.566	68.238	0.544	0.154	8.872
% R.S.D.	97.551	0.394	0.286	1.042	56.843	2.816	43.377	14.626

Identity 1: G685 Sam TCLP-7 Identity 2: 5ml in 25ml 8:09 AM August 22, 1993

Task name : PE

WHC-SD-WM-DP-054 REV 0

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	4861.212	557.283	6.501	96.295	45.054	28.853	167.370	170643.272
S.D.	3.887	5.556	1.843	0.550	0.495	2.426	4.134	378.299
% R.S.D.	0.080	0.997	28.352	0.571	1.099	8.408	2.470	0.222

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	18.604	232.375	3569.194	9.674	238804.788	-32.652	0.988	28.909
S.D.	1.727	0.376	7.431	6.239	818.687	14.769	0.435	4.196
% R.S.D.	9.284	0.162	0.208	64.491	0.343	45.231	44.003	14.516

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	1.474	1557.428	8576.799	67.353	-0.548	20.088	-0.981	29.683
S.D.	1.816	5.261	23.128	0.238	15.973	2.052	0.409	55.406
% R.S.D.	123.195	0.338	0.270	0.353	2913.082	10.215	41.633	186.655

Identity 1: HNO3 Reag Blank Identity 2: Direct 8:13 AM August 22, 1993

name : PE

Sample Weight : 1.0000 Solution Volume : 1.00

On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-054 REV O

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	6.405	14.852	0.001	0.148	-0.217	7.129	-13.112	0.129
S.D.	3.596	1.793	3.485	0.480	0.635	6.097	2.531	1.090
% R.S.D.	56.139	12.076	406890.440	323.903	292.516	85.521	19.300	848.149

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	7.419	0.651	-1.693	-9.213	22.976	-31.761	0.609	8.249
S.D.	2.368	0.425	0.105	9.785	10.940	26.796	1.305	9.105
% R.S.D.	31.913	65.176	6.174	106.207	47.616	84.367	214.330	110.385

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	0.840	-5.289	19.601	-1.246	-154.995	-2.978	-0.446	-63.246
S.D.	0.649	2.120	20.633	0.266	23.819	1.412	0.409	15.367
% R.S.D.	77.275	40.092	105.265	21.356	15.368	47.414	91.523	24.297

Identity 1: SST4 25N10A Identity 2: Direct 8:16 AM August 22, 1993
Task name : PE
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

WHC-SD-WM-DP-054 REV 0

	Si (ppb)	Al (ppb)	Co (ppb)	Cu (ppb)	Zn (ppb)	Ni (ppb)	Fe (ppb)	Ca (ppb)
Mean	2957.402	4841.198	4984.122	4996.315	4993.748	4608.940	4821.382	4252.932
S.D.	14.811	15.161	14.916	2.951	11.928	13.027	17.835	2.715
% R.S.D.	0.501	0.313	0.299	0.059	0.239	0.283	0.370	0.064

	Cr (ppb)	Ba (ppb)	Mg (ppb)	As (ppb)	Na (ppb)	Se (ppb)	Ag (ppb)	Pb (ppb)
Mean	4696.477	4759.072	4647.286	4514.446	4799.970	2613.539	4936.655	4523.540
S.D.	4.349	3.119	4.778	20.005	15.059	31.372	6.247	48.585
% R.S.D.	0.093	0.066	0.103	0.443	0.314	1.200	0.127	1.074

	Cd (ppb)	B (ppb)	K (ppb)	Mn (ppb)	Sb (ppb)	V (ppb)	Be (ppb)	Tl (ppb)
Mean	4710.698	4785.454	5015.433	4763.849	4710.079	4946.897	4909.478	5003.340
S.D.	4.255	7.460	15.141	0.457	67.794	7.030	6.877	29.805
% R.S.D.	0.090	0.156	0.302	0.010	1.439	0.142	0.140	0.596

[illegible]
8/22/93

5-DAY - ANION ANALYSES

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WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

Batch 1374

WHC-SD-WM-DP-054 REV O

ANALYTICAL BATCH

Lab Segment Serial No. G 597 - 602	Customer ID: A-0, A-1, A-2 - A-5
Analysis: IC	Sample Prep: DIRECT

Instrument: WB54428	Procedure/ Rev: LA 533-105/C-0
Technologist: R WENDLAND	Date: 8-4-93
Starting Time: 1532	Temperature 23.°C
Ending Time: 1642	Chemist: S BOLLING

Comments:

	Description	Lab ID		Description	Lab ID
1		~~G597~~ RW 8-4-93	11		
2	LMCS	G595-5571	12		
3	BLANK	G596-5671	13		
4	SAMPLE	G597-5771	14		
5	SAMPLE	G598-5771	15		
6	SAMPLE	G599-5771	16		
7	SAMPLE	G600-5771	17		
8	SAMPLE	G601-5771	18		
9	SAMPLE	G602-5771	19		
10	LMCS	G603-5571	20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS	22N9B	.100 mL		

164

ROBBY WENDLAND
8-4-93

A-6000-881 (03/92)

ANALYTICAL BATCH SUMMARY SHEET

METHOD: [illegible] DATE START: 5/4/93

PREPARED BY: [illegible] DATE COMPLETE: 5/4/93

~~WHC-SD-WM-DP-054 REV 0~~

UNITS:

SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
STD	[illegible]	[illegible]	[illegible]				[illegible]		
23/NB		Cl	7.66				95.77	[illegible]	
BLANK		NO_2	49.3				9.3.13	1	
[illegible] 5/4/93		NO_3	5.26				91.54	1	
		PO_4	5.20				16.06	1	
		SO_4	5.97				99.00	1	
blank	6596	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	<1						
	[illegible]	[illegible]	<1						
		[illegible]	<1						
		[illegible]	<1						
		NO_2	<1						
	[illegible]	PO_4	<1						
	[illegible]	SO_4	7.42						
	6596	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	11.7						
	6599	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	13.2						
	6600	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	20.4						
	6601	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	11.7						

NARRATIVE: [X] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

Stacy Hilling
5/4/93

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA 533 105/cc

DATE START: 8/4/93

WHC-SD-WM-DP-054 REV 0

PREPARED BY: D. Bellows

DATE COMPLETE: 8/4/93

UNITS:

SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
STD	0602	F	<.1					.1	
SPIKE 8/4/93		Cl	<.2					.2	
~~BLANK~~		NO_2	<1					1	
		NO_3	<1					1	
		PO_4	<1					1	
		SO_4	6.46					1	
end std	0603	F	55.2				98.57		
		Cl	71.5				95.33		
		NO_2	50.7				99.06		
		NO_3	50.6				99.06		
		PO_4	[illegible]				99.51		
		SO_4	[illegible]				100.5		

NARRATIVE: [X] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

Doug Bellows
8/9/93

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 595.-5571	102 5 DAY	7-22-93	14:26	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? 100-10 22N9B	STD

Remarks, Calculations, Results

	ug/ml	% Rec
EDP 974 F	53.7	95.89
EDP 972 CL	71.6	95.47
EDP 968 NO2	493	93.73
EDP 978 NO3	530	91.54
EDP 976 PO4	520	100.6
EDP 970 SO4	597	99.00

ROBBY WENDLAND

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacey Billing

54 6800-061 (R 10 83)

Serial No	Sample Point	Date	Time Issued	Priority
G 596.-5671	102 5 DAY	7-22-93	14:28	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	BLK

Remarks, Calculations, Results

REAGENT BLANK

	ug/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	<1

ROBBY WENDLAND

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacey Billing

54 6800-062 (R 10 83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 597.-5771	102 5 DAY	7-22-93	14:29	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-0

Remarks, Calculations, Results

	ug/ml
F	<.1
Cl	<~~2~~.2 gH 8.16.93
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	7.42

Bobby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
8-4-93	1642	Stacey Bollin	8/12

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 598.-5771	102 5 DAY	7-22-93	14:30	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-1

Remarks, Calculations, Results

	ug/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	16.7

Bobby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
8-4-93	1642	Stacey Bollin	8/12

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 599.-5771	102 5 DAY	7-22-93	14:30	23

Determination	Method Standard	Result Units	Charge Code	Returns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-2

Remarks Calculations Results

	µg/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	13.2

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacey Bolling

54-6600-061 R 10 331

Serial No	Sample Point	Date	Time Issued	Priority
G 600.-5771	102 5 DAY	7-22-93	14:31	23

Determination	Method Standard	Result Units	Charge Code	Returns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-3

Remarks Calculations Results

	µg/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	20.1

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacey Bolling

54-6600-061 R 10 331

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 601.-5771	102 5 DAY	7-22-93	14:31	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-4

Remarks, Calculations, Results

	µg/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	11.7

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacey Bolling 8/12

54-6800-061 (F 10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 602.-5771	102 5 DAY	7-22-93	14:32	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-5

Remarks, Calculations, Results

	µg/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	6.46

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacey Bolling 8/12

54-6800-061 (F 10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 603.-5571	102 5 DAY	7-22-93	14:32	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size			Customer ID
?	.100-10	22ml 98	STD

Remarks Calculations	Result µg/ml	% Rec
EDP 974 F	55.2	94.57
EDP 972 CL	71.5	95.33
EDP 968 NO2	500	95.06
EDP 978 NO3	540	93.26
EDP 976 PO4	516	99.81
EDP 970 SO4	605	100.3

BOBBY WENDLAND

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1642	Stacy Bollin

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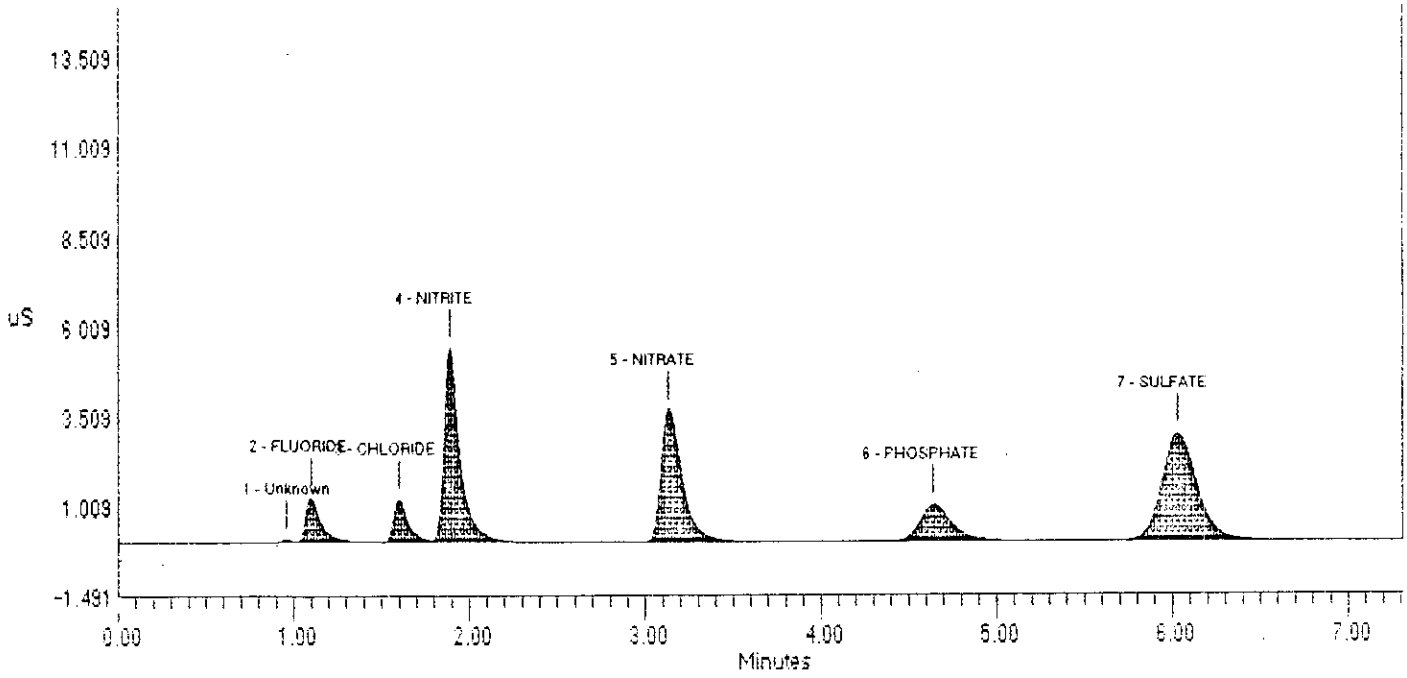
Kerby Wendland
5-4-93

```
* Sample Name: LMCS / C515                                  Data Acquisition Time:
* Data File   : C:\DX\DATA\93080321.D11                                          *
* Method      : C:\DX\METHOD\ANEL.MET                                             *
* ACI Address: 1        System : 1        Inject#: 11   Detectors: CDM-1        *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	1	101	[illegible]	[illegible]	[illegible]	[illegible]	

[illegible]	[illegible]	Component Name	Concentration	Normal	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]		
3	1.60	CHLORIDE	21.529	1156	[illegible]	[illegible]	[illegible]
4	1.89	NITRITE	493.406	5353	32190	2	[illegible]
5	3.13	NITRATE	529.782	3658	20[illegible]	1	[illegible]
6	4.63	PHOSPHATE	519.895	1012	12917	1	[illegible]
7	6.03	SULFATE	597.382	2979	41345	1	[illegible]

File: C:\DX\DATA\93080321.D11 Sample: LMCS



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 172 TO 190.

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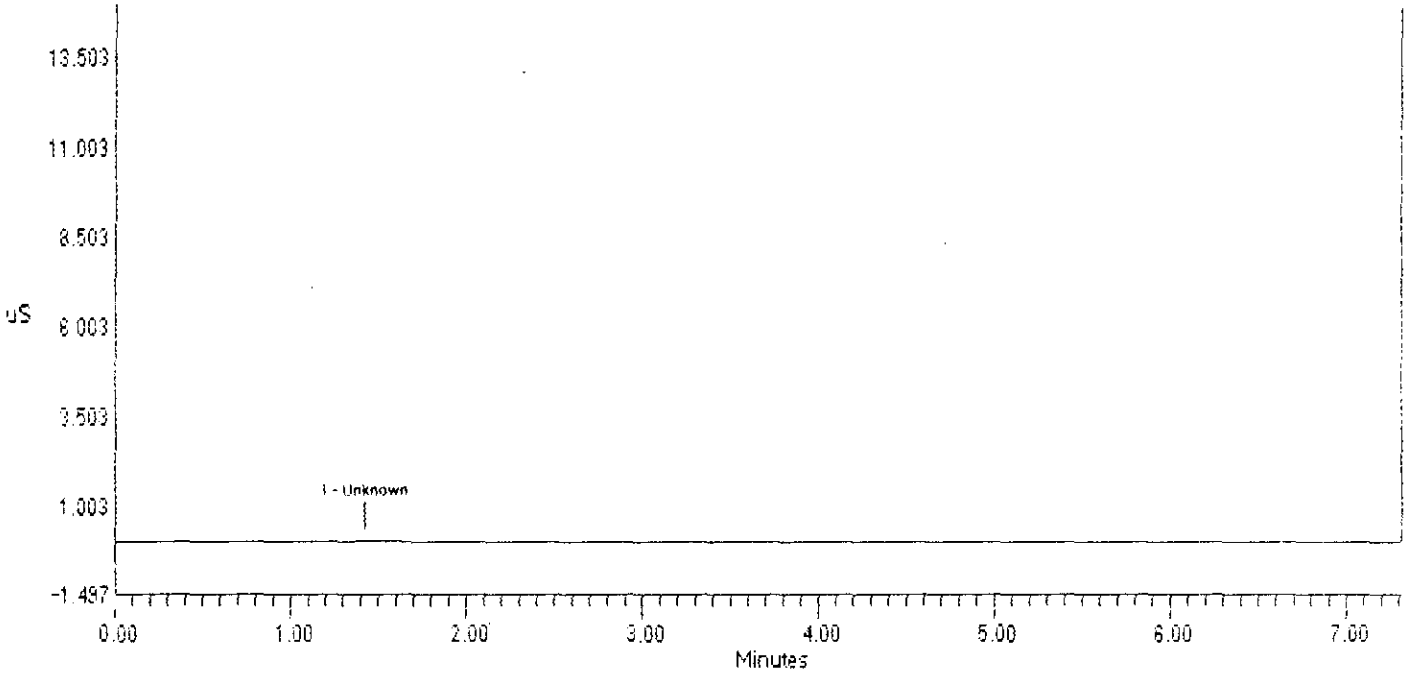
```
* Sample Name:  BLK                                                    *
* Data File   : C:\DX\DATA\93080321.D12                                *
* Method      : C:\DX\METHODS\METL.MET                                 *
* HCI Address:  1          System :  1          Injection:  12  Detector: CDM-_  *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	ADJ
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080321.D12 Sample: BLK



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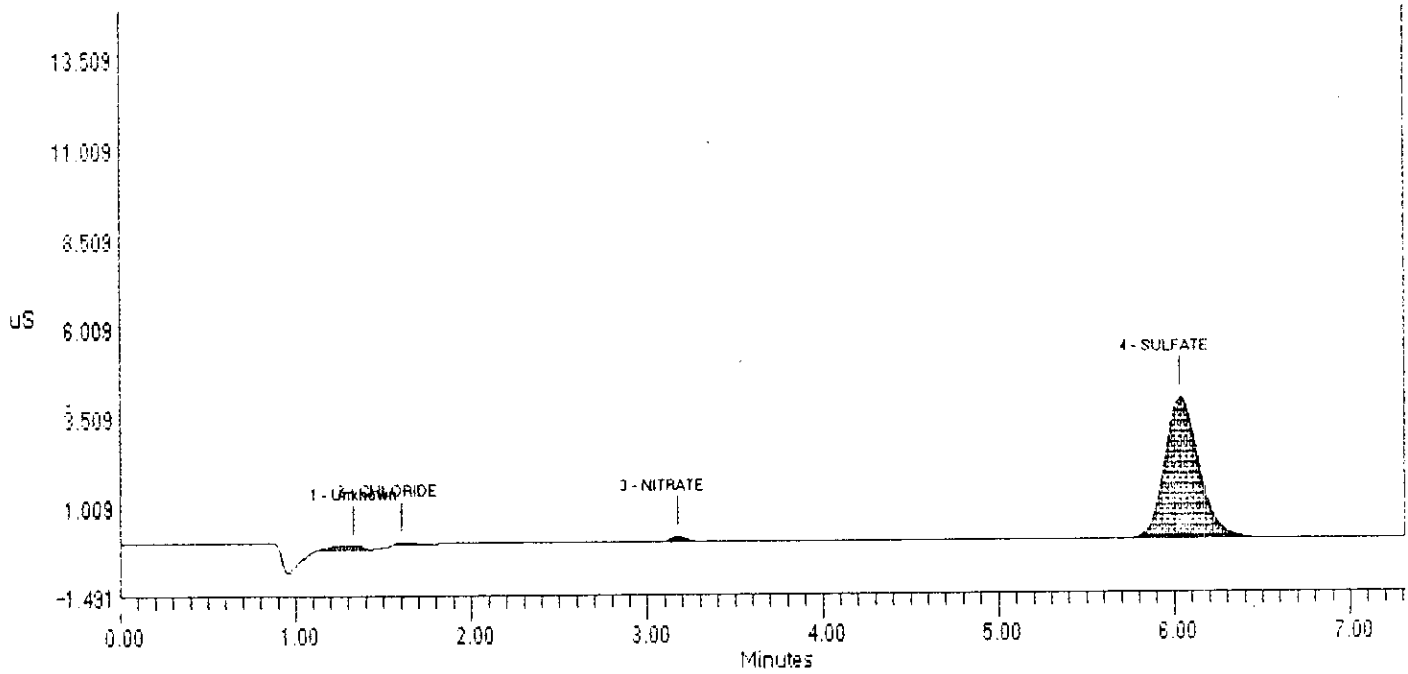
```
R Sample Name: G597                                   Date: Wed Dec 17 [illegible]
R Data File    : C:\DX\DATA\93080321.D13                                          R
R Method       : C:\DX\METHOD\MEL.MET                                             R
R ACI Address: 1          System : 1          Inject#: 13   Detector: CDM-1       R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	MSD
[illegible]	1	1	2195	[illegible]	0.00	[illegible]	[illegible]	

[illegible]	[illegible] Concentration	Concentration	Height	[illegible]	[illegible]	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]		
2	1.60 CHLORIDE	0.107	71	[illegible]	1	[illegible]
3	3.17 NITRATE	1.015	164	3211	1	0.42
4	6.03 SULFATE	7.413	2548	53755	1	[illegible]

File: C:\DX\DATA\93080321.D13 Sample: G597



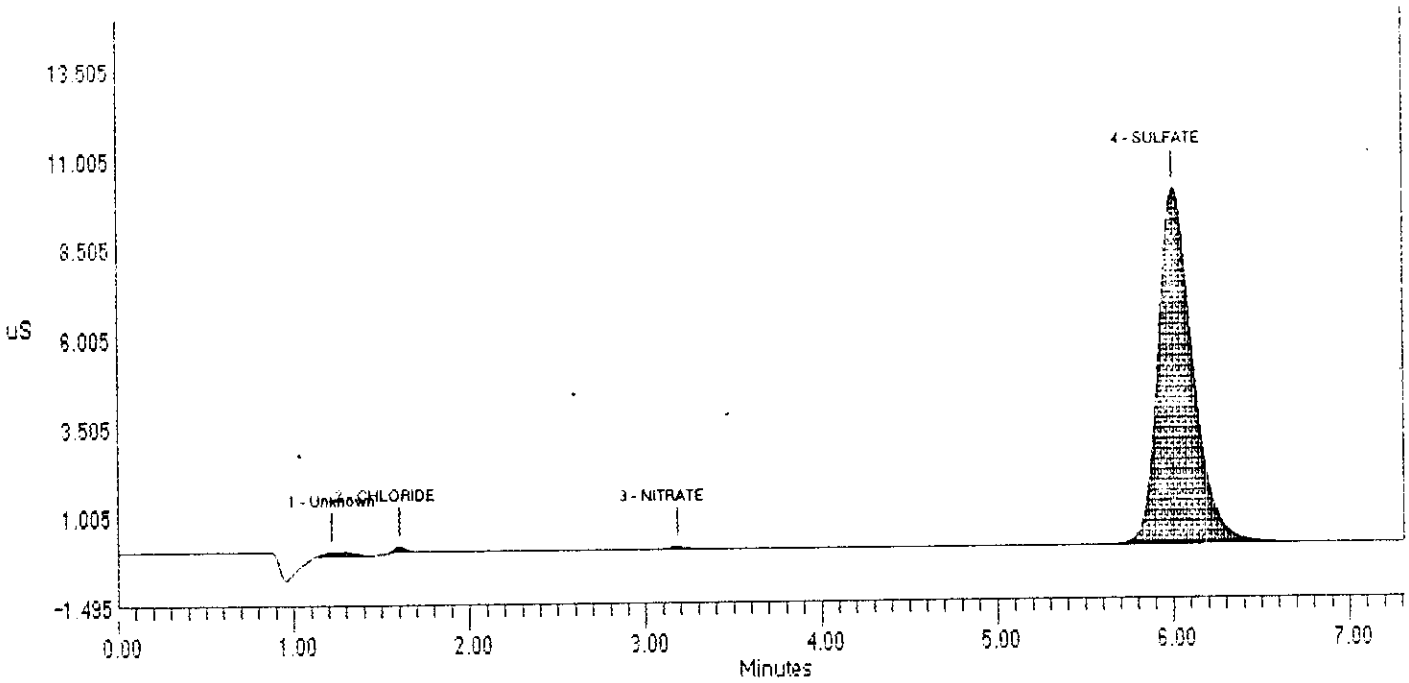
BEST AVAILABLE COPY

Sample Name: G598
Data File : C:\DX\DATA\93080321.D14
Method : C:\DX\METHOD\MEL.MET
ACI Address: 1 System : 1 Injects: 14 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Sample	1	1	2199	5Hz	0.00	7.22	[illegible]	[illegible]

			[illegible]				
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	1.50	CHLORIDE	0.157	155	[illegible]	1	[illegible]
3	3.19	NITRATE	0.292	56	361	1	[illegible]
4	6.00	SULFATE	16.653	9900	136944	1	[illegible]

File: C:\DX\DATA\93080321.D14 Sample: G598



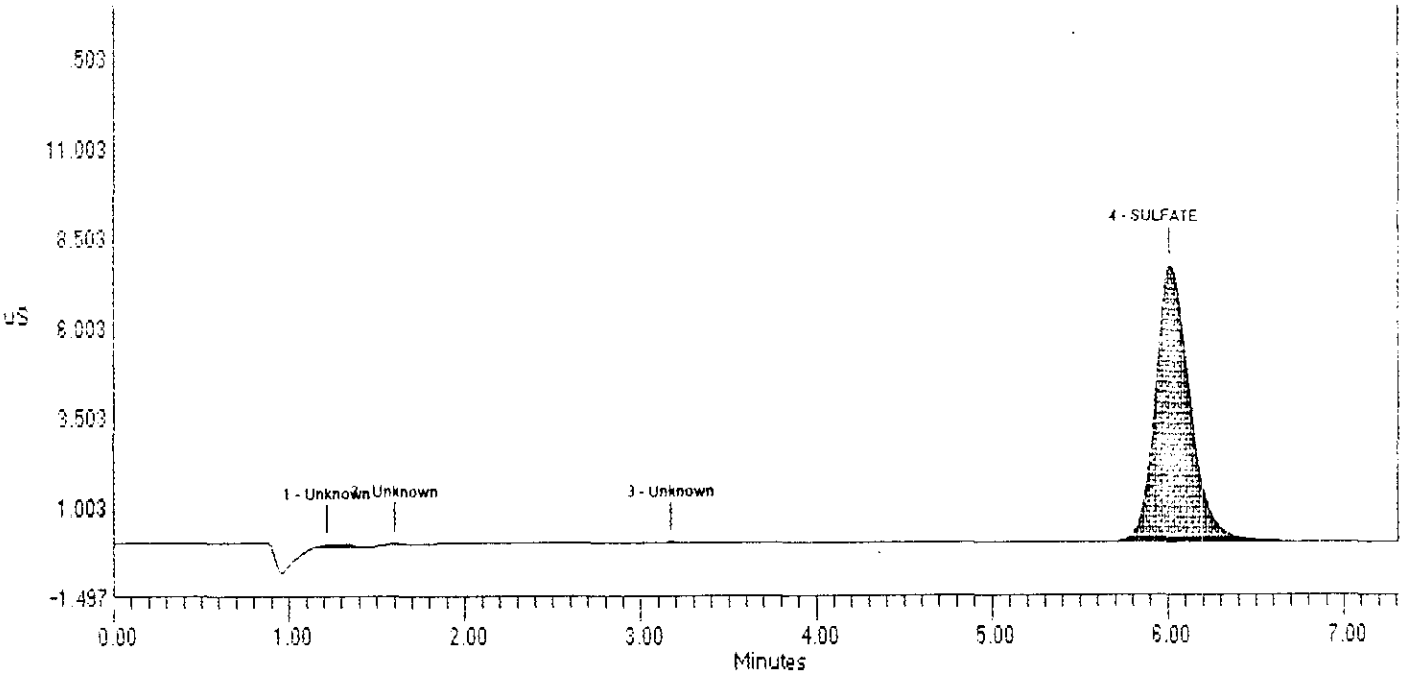
BEST AVAILABLE COPY

```
% Sample Name: G599                                   Date: Wed Sep 04 [illegible]
% Data File   : C:\DX\DATA\93080321.D15                                          %
% Method      : C:\DX\METHOD\NEL.MET                                             %
% ACI Address: 1        System : 1        InjectNo:  15  Detector: CDM-1        %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RED
[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

[illegible]	[illegible]	Concentration	Height	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	6.01 SULFATE	15.192	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080321.D15 Sample: G599



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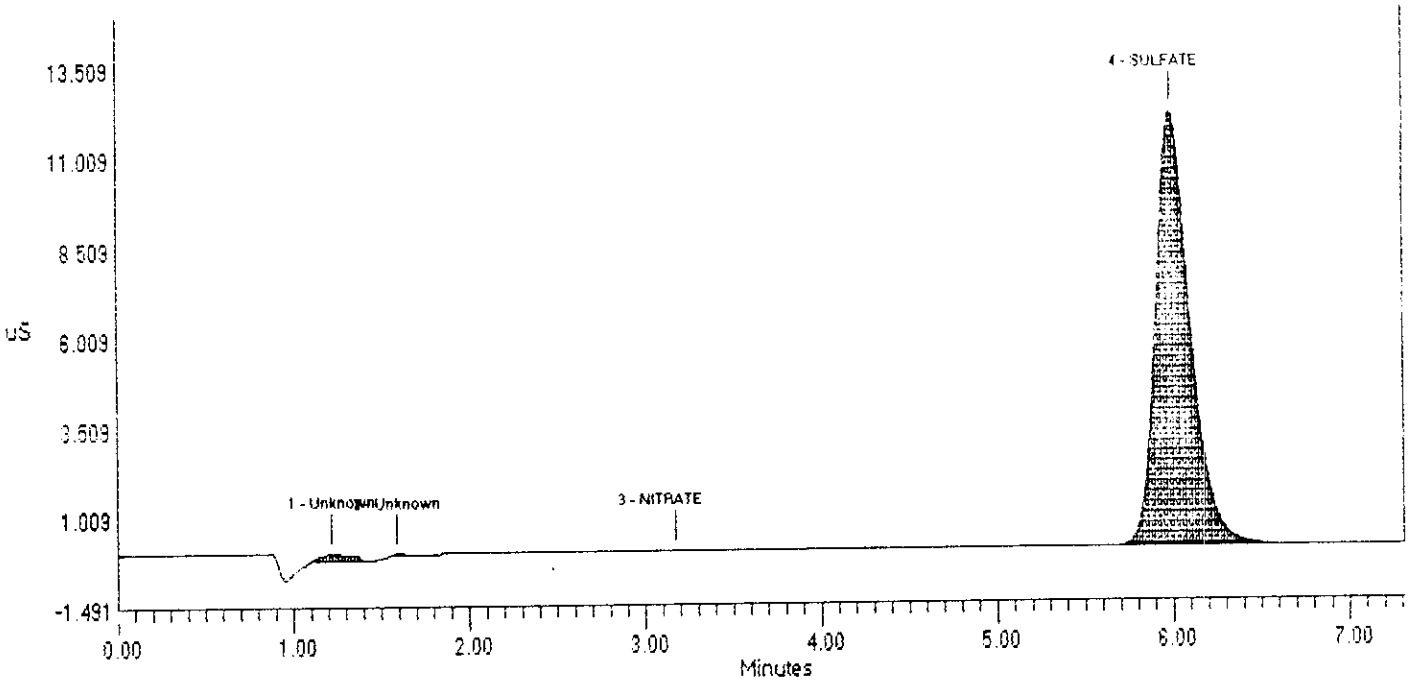
Sample Name: G600 Calcs Used and of Injection [illegible]
Data File : C:\DX\DATA\93080321.D16
Method : C:\DX\METHOD\NEL.MEI
ACI Address: 1 System : 1 Injects: 16 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Sample	1	1	2177	5Hz	6.00	7.30	290	

[illegible]	Ret Time	Component	Concentration	Height	Area	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	5.12	NITRATE	0.272	36	[illegible]	[illegible]
4	5.99	SULFATE	20.061	12076	167136	1 -0.05

File: C:\DX\DATA\93080321.D16 Sample: G600



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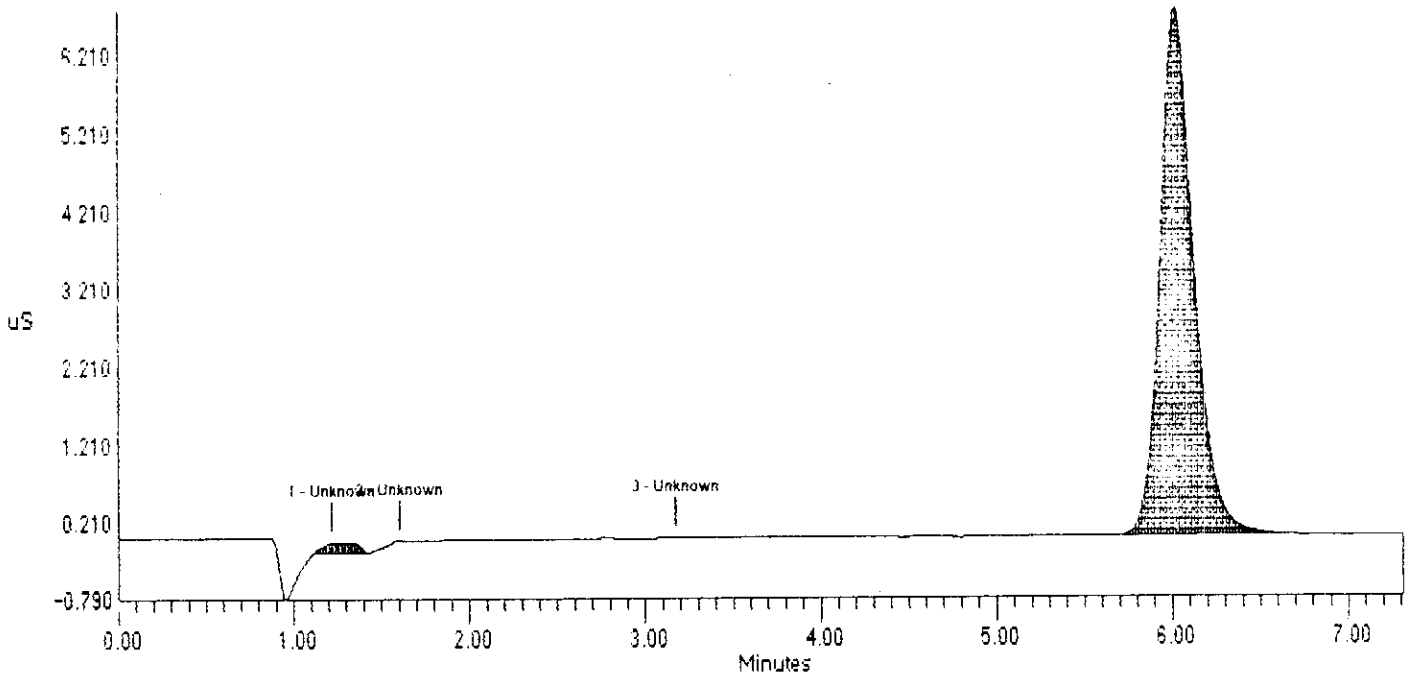
```
* Sample name: G601                                    Date: 03-Mar-93 [illegible]
* Data File   : C:\DX\DATA\930321.D17                                          *
* Method      : C:\DX\METHOD\MEL.MET                                            *
* ADC Address: 1        System : 1        Inject#: 17   Detector: CDM-1       *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	1	2395	SH:	0.00	7.32	[illegible]	[illegible]

[illegible]	Ret Component Time	Concentration	Height	Area	[illegible]
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	6.02 SULFATE	11.717	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\930080321.D17 Sample: G601



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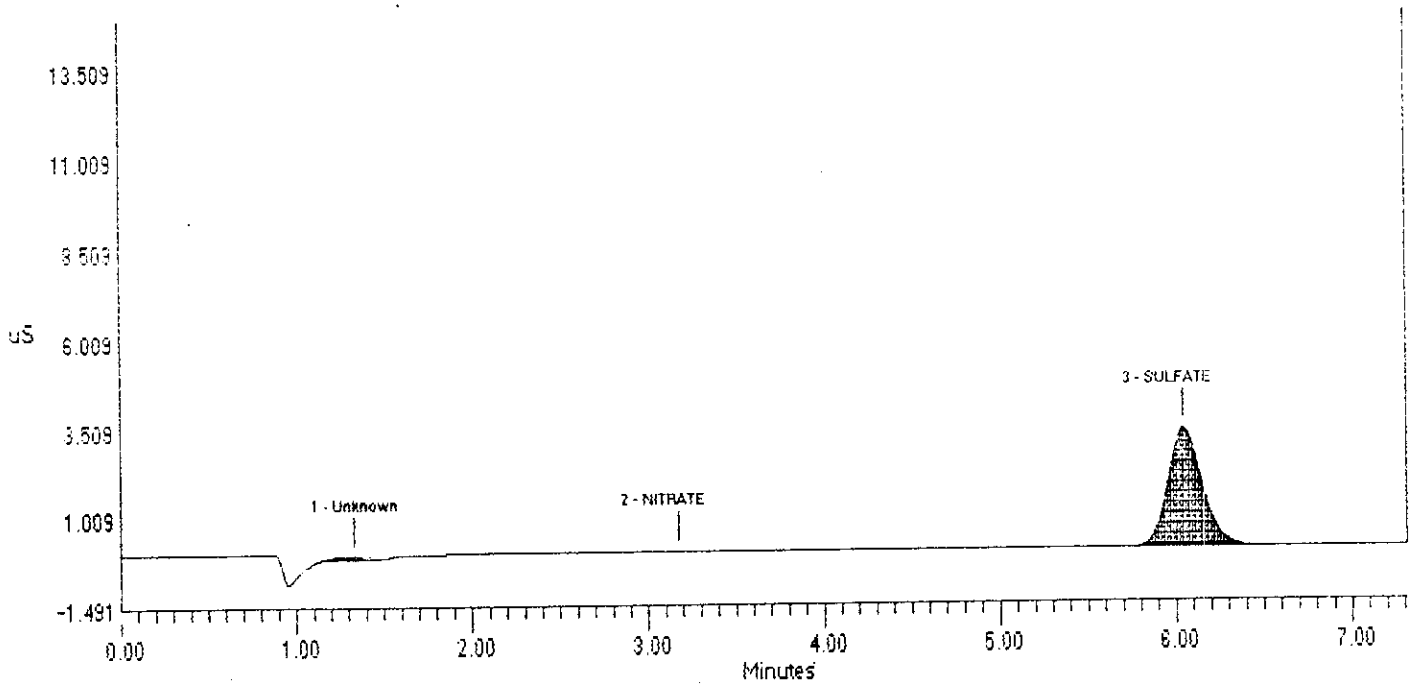
```
% Sample Name: G602                                    Sample Weight or Volume:
% Data File   : C:\DX\DATA\93080321.D18
% Method      : C:\DX\METHOD\NEL.MET
% ACI Address: 1          System : 1          Inject#: 18   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	[illegible]	

Peak No.	Ret Time	Component Name	Concentration	Height	Area	Peak Type
1	[illegible]	Unknown	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible]	NITRATE	[illegible]	[illegible]	[illegible]	[illegible]
3	6.04	SULFATE	6.463	5362	46264	[illegible]

File: C:\DX\DATA\93080321.D18 Sample: G602



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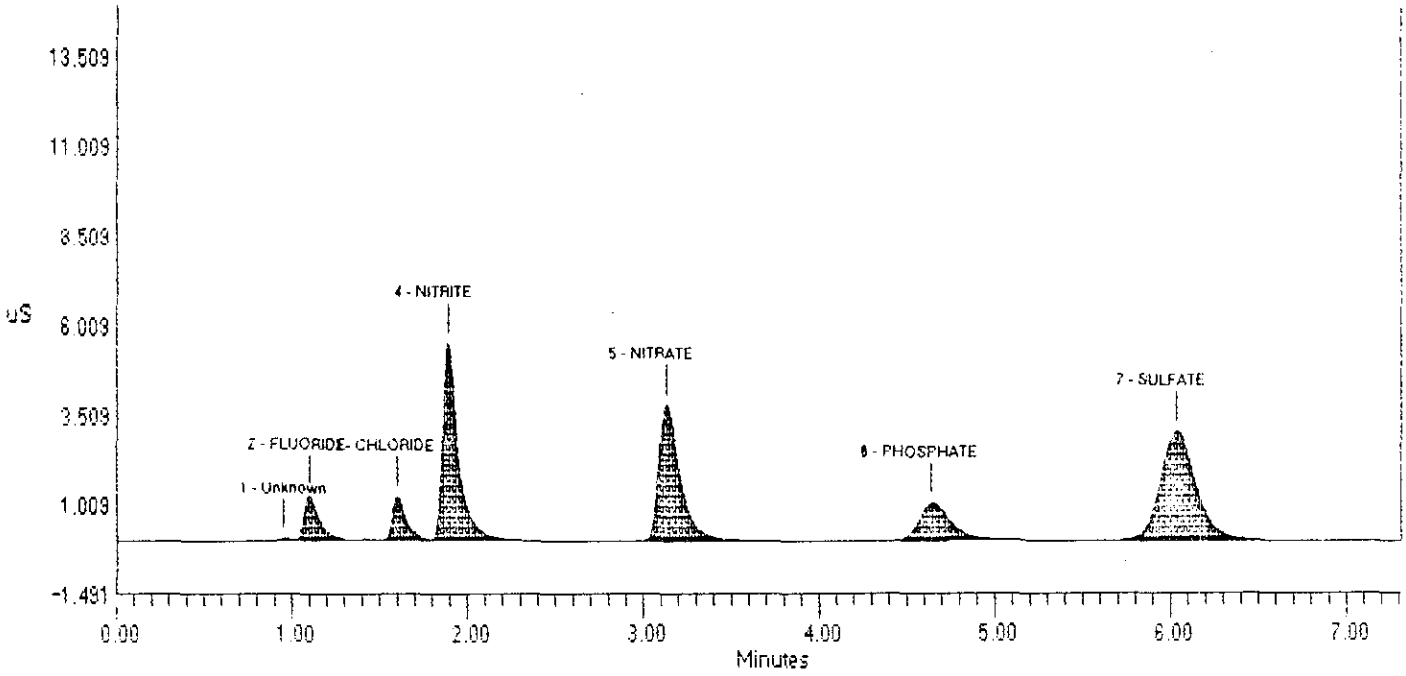
```
* Sample Name:  LMCS                                  Date Started  [illegible]   *
* Data File   : C:\DX\DATA\93080321.D19                                            *
* Method      : C:\DX\METHODS\HEL.MET                                               *
* ACI Address:  1        System : 1        Injects:  19   Detectors: CDM-1        *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REQ
External	1	101	1195	5Hz	0.00	7.32	200	

Pk. No.	Ret. Time	Component Name	Concentration	Height	Area	Res.	Sep. Ts
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.[illegible]	CHLORIDE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	1.89	NITRITE	499.804	5437	[illegible]	2	[illegible]
5	3.13	NITRATE	539.758	3764	31141	1	1.17
6	4.64	PHOSPHATE	516.253	1019	12800	1	-4.[illegible]
7	6.03	SULFATE	605.149	3016	42078	1	1.[illegible]

File: C:\DX\DATA\93080321.D19 Sample: LMCS



WHC-SD-WM-DP-054 REV 0

WESTINGHOUSE HANFORD COMPANY

Batch 1362

RSD 12-16-93

222-S LABORATORY

G606-G610, 6618 ANALYTICAL BATCH

102-5 PAY

Lab Segment Serial No. ~~G606-10, 6618~~	Customer ID: A-6-7, B-0-2, B-7
Analysis: IC	Sample Prep: DIRECT

Instrument: WB54428	Procedure/ Rev: LA 533-105/C-0
Technologist: R. WENDLAND	Date: 8-4-93 / 8/5/93
Starting Time: 1651 / 9:37	Temperature 22°c
Ending Time: 1753 / 10:42	Chemist: G. BOLLING

Comments: The batch was run at a DF of 1 on 8/4/93. However, for some of the samples, NO_2 & NO_3 were out of calibration limits. These samples were run on 8/5/93 at a DF of 11. Gary Bolling, 8/10/93

	Description	Lab ID		Description	Lab ID
1	LMCS	G604-5571	11		
2	BLANK	G605-5671	12		
3	SAMPLE	G606-5771	13		
4	SAMPLE	G607-5771	14		
5	SAMPLE	G608-5771	15		
6	SAMPLE	G609-5771	16		
7	SAMPLE	G610-5771	17		
8	SAMPLE	G618-5771	18		
9	LMCS	G611-5571	19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMC	22N9B	(.100 ml)		
		181		

Roger Wendland
8-4-93

A-6000-881 (03/92)

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA-533-105/C-0

DATE START: 8/4/93

PREPARED BY: S. D. Bolling

DATE COMPLETE: 8/5/93

	SPL NAME	SPL ID	ANALYTE	RESULT #1 (ug/ml)	RESULT #2	AVERAGE	RPD%	%REC	DET LIM (ug/ml)	% CT ER
		UNITS:		ug/ml					ug/ml	
8/4/93	STD	G604	F	54.7				97.68	.1	
	22N9B		Cl	71.0				94.61	.2	
	~~BLANK~~	~~SPB~~ 8/4/93	NO_2	49.5				94.11	1	
			NO_3	53.7				92.75	1	
			PO_4	51.4				99.42	1	
			SO_4	60.8				100.8	1	
8/5/93	std		F	54.4				97.14		
			Cl	69.9				93.20		
			NO_2	49.2				93.34		
			NO_3	53.0				91.54		
			PO_4	51.0				98.65		
			SO_4	59.0				97.85		
8/4/93 & 8/5/93	blank	G605	F	<.1						
			Cl	<.2						
			NO_2	<1						
			NO_3	<1						
			PO_4	<1						
			SO_4	<1						
		G606	F	<.1						
			Cl	<.2						
			NO_2	<1						
			NO_3	<1						
			PO_4	<1						
			SO_4	4.37						
		G607	F	<.1						
			Cl	<.2						
			NO_2	<1						
			NO_3	<1						
			PO_4	<1						
			SO_4	3.27						
		G608	F	<.1						
			Cl	.665						
			NO_2	7.91						
			NO_3	10.7						
			PO_4	<1						
			SO_4	2.46						
		G609	F	Matrix interference						
			Cl	2.79						
			NO_2	36.4						
			NO_3	46.9						
			PO_4	<1						
			SO_4	5.78						

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

This batch was ran at a D.F. of 1 on 8/4/93. However, for some of the samples NO_2 & NO_3 were out of calibration limits. These samples were rerun on 8/5/93 at a D.F. of 11. Beginning & ending standards and blanks for both days are included in this package. Stacey Bolling 8/5/93

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA-533-105/C-0

DATE START: 8/4/93

PREPARED BY: S. D. Bolling

DATE COMPLETE: 8/5/93

SPL NAME	SPL ID	ANALYTE	RESULT #1 (UNITS: ug/ml)	RESULT #2	AVERAGE	RPD%	%REC	DET LIM (ug/ml)	% CT ER
~~STD~~	G610	F	Matrix	interference				.1	
8/5/93		Cl	1.76					.2	
~~BLANK~~		NO_2	22.9					1	
		NO_3	30.1					1	
		PO_4	<1					1	
		SO_4	3.95					1	
	G618	F	Matrix	interference					
		Cl	1.87						
		NO_2	21.0						
		NO_3	27.6						
		PO_4	<1						
		SO_4	3.49						
8/4/93 end std	G611	F	54.3				96.96		
		Cl	72.8				97.07		
		NO_2	503				95.63		
		NO_3	543				93.78		
		PO_4	521				100.8		
		SO_4	602				99.83		
8/5/93 end std		F	55.5				99.11		
		Cl	73.2				97.60		
		NO_2	495				94.11		
		NO_3	538				92.92		
		PO_4	522				101.0		
		SO_4	609				101.0		

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH
LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

For the majority of the samples, F^- is not detected. However for G609, G610 & G618 an unknown peak is interfering with the F^- analyses.

Stacey Bolling
8/5/93

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 604.-5571	102 5 DAY	7-22-93	14:33	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? 100-10 ZZN9B	STD

Remarks Calculations Results

		µg/ml	% Rec
EDP 974	F	54.7	97.68
EDP 972	CL	71.0	94.67
EDP 968	NO2	49.5	94.11
EDP 978	NO3	53.7	92.75
EDP 976	PO4	51.4	99.42
EDP 970	SO4	40.8	100.8

ROBBY WENDLAND

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Sara Shiffer

SH-6800-04 R 10 8/91

Serial No	Sample Point	Date	Time Issued	Priority
G 605.-5671	102 5 DAY	7-22-93	14:33	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	BLK

Remarks Calculations Results

REAGENT BLANK

	µg/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	<1

ROBBY WENDLAND

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
RW ~~8-4-93~~ 8-3-4	1753	Sara Shiffer

SH-6800-04 R 10 8/91

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 606.-5771	102 5 DAY	7-22-93	14:34	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-6

Remarks, Calculations, Results

	ug/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	4.37

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Jorg Hoffe

54-6800-361 (R 10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 607.-5771	102 5 DAY	7-22-93	14:35	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	A-7

Remarks, Calculations, Results

	ug/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	3.27

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Jorg Hoffe

54-6800-361 (R 10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 608.-5771	102 5 DAY	7-22-93	14:35	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	B-0

Remarks Calculations Results

	µg/ml
F	2.1
Cl	.665
NO_2	7.91
NO_3	10.7
PO_4	<1
SO_4	2.46

Robby Wendland

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Sara Huff

S4 5800 (6) R 10 83

Serial No	Sample Point	Date	Time Issued	Priority
G 609.-5771	102 5 DAY	7-22-93	14:35	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct → 1-10	B-1

Remarks Calculations Results

	DF	µg/ml
F	1	matrix interference
Cl	1	2.79
NO_2	11	36.4
NO_3	11	46.9
PO_4	1	<1
SO_4	1	5.78

Robby Wendland

Analyst 1	Analyst 2	Analyst 3	Analyst 4	Analyst 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Sara Huff

8/11

S4 5800 (6) R 10 83

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 610.-5771	102 5 DAY	7-22-93	14:36	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	B-2

Remarks, Calculations, Results

ug/ml
F matrix interference
Cl 1.76
NO_2 22.9
NO_3 30.1
PO_4 <1
SO_4 3.95

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Sara Griff

54-6800-051 (R 10 83)

Serial No	Sample Point	Date	Time Issued	Priority
G 618.-5771	102 5 DAY	7-22-93	14:41	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	B-7

Remarks, Calculations, Results

ug/ml 8/5/93
F ~~<1~~ SDS matrix interference
Cl ~~<2~~ SDS 8/5/1993 1.97
NO_2 ~~2.17~~ 21.0
NO_3 ~~2.84~~ 27.6
PO_4 ~~<1~~ SDS <1
SO_4 ~~<1~~ 8/5/93 3.49

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Sara Griff

54-6800-051 (R 10 83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 611.-5571	102 5 DAY	7-22-93	14:36	23

Determination	Method/Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? .100-10 2ZN9B	STD

Remarks, Calculations, Results

	µg/ml	% Rec
EDP 974 F	54.3	96.94
EDP 972 CL	72.8	97.07
EDP 968 NO2	503	95.63
EDP 978 NO3	543	93.78
EDP 976 PO4	521	100.8
EDP 970 SO4	602	99.83

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1753	Sara Shiff

54-6800-061 (8/10-83)

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Robby Wendland
8-4-93

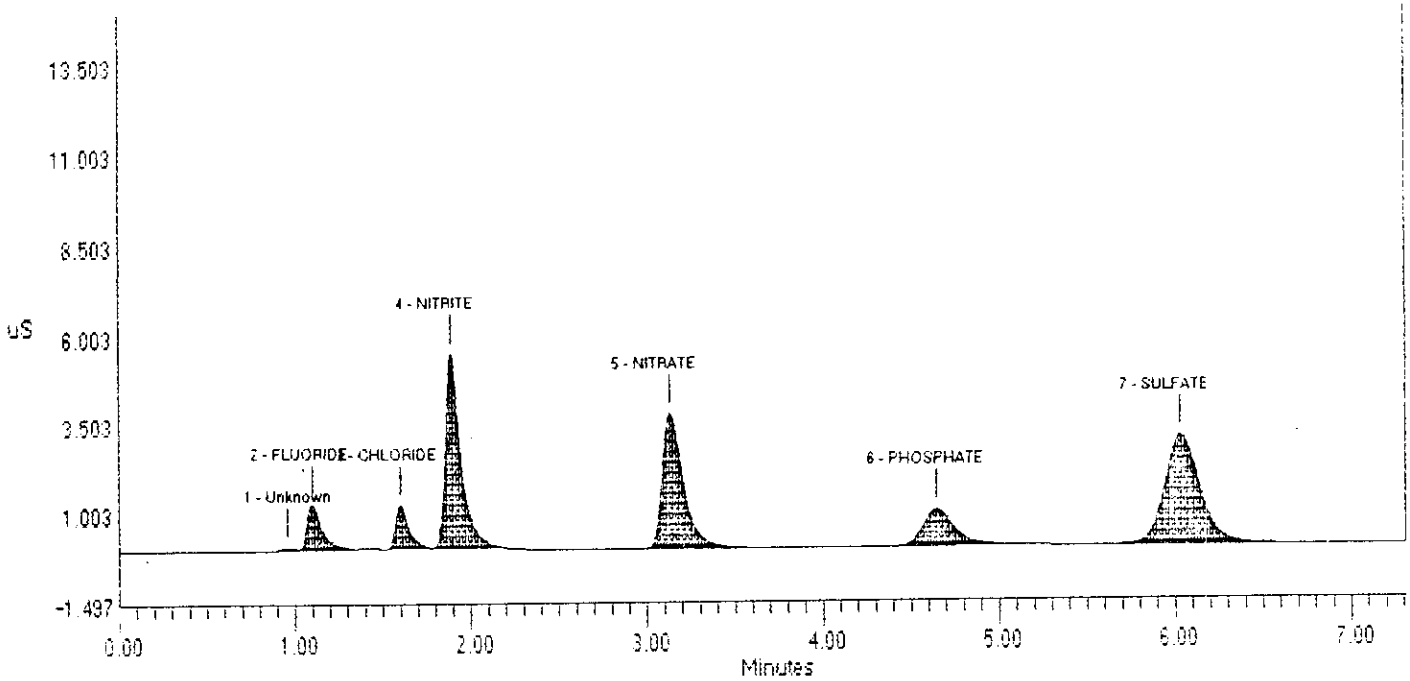
[illegible] / G604

Data File : C:\DX\DATA\93080321.D20
Method : C:\DX\METHOD\MEL.MET
ALI Address: 1 System : 1 Injects: 20 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	100	2100	5Hz	0.00	7.00	200	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.50	CHLORIDE	71.010	1126	[illegible]	[illegible]
4	1.89	NITRITE	495.430	5431	12337	2	[illegible]
5	3.13	NITRATE	537.427	3761	35982	1	[illegible]
6	4.65	PHOSPHATE	513.927	1016	12725	1	[illegible]
7	6.03	SULFATE	607.543	3032	42764	1	[illegible]

File: C:\DX\DATA\93080321.D20 Sample: LMCS



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES [illegible] TO [illegible].

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Robby Wendland
8-5-93

8/5/93

Sample Name: LMCS/GL04

Data File : C:\DX\DATA\93080331.D11

Method : C:\DX\METHOD\MEL.MET

ACI Address: 1 System : 1 Injects: 11 Detector: CDM-1

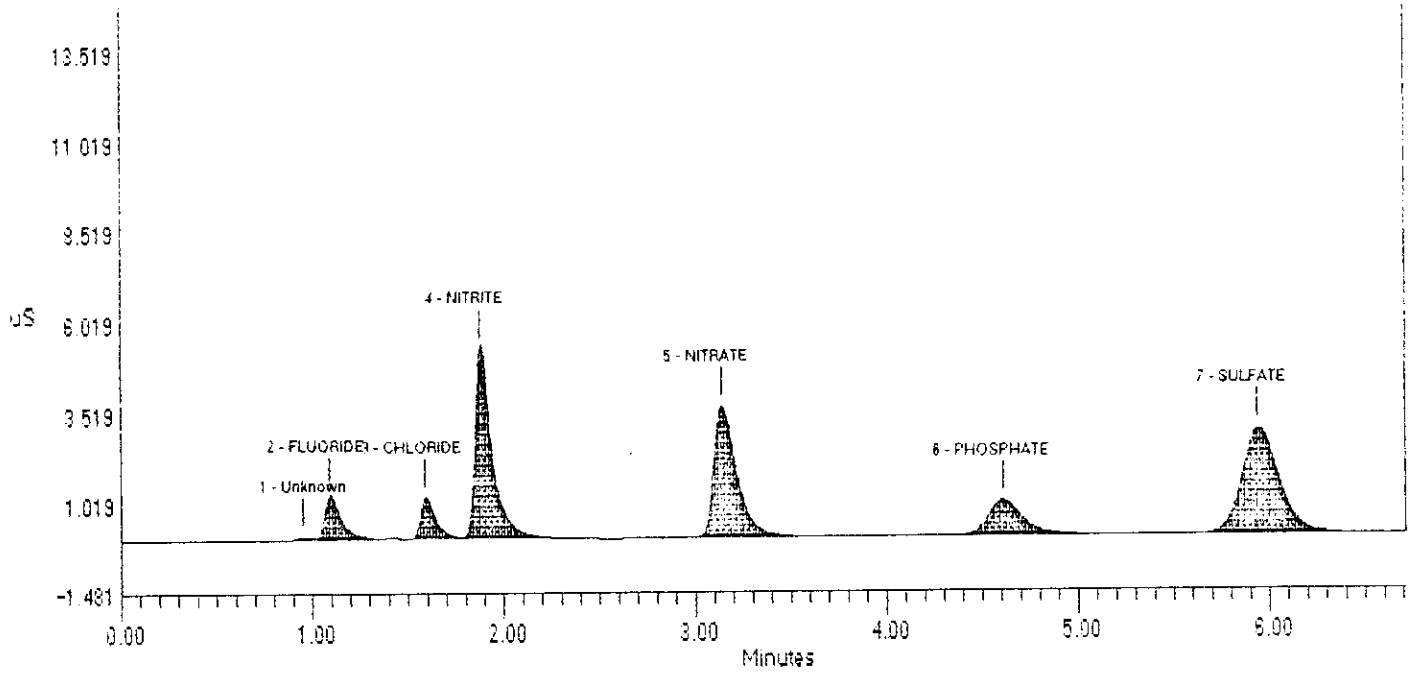
REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	100	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

3	1.54	CHLORIDE	97.142	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4	1.88	NITRITE	93.207	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5	3.14	NITRATE	93.542	491.806	[illegible]	[illegible]	[illegible]	[illegible]
6	4.61	PHOSPHATE	91.542	530.293	[illegible]	[illegible]	[illegible]	[illegible]
7	5.94	SULFATE	98.657	509.900	[illegible]	[illegible]	[illegible]	[illegible]
			97.842	570.375	[illegible]	[illegible]	[illegible]	[illegible]

J. Rec

Stacy Bolling 8/5/93

File: C:\DX\DATA\93080331.D11 Sample: LMCS



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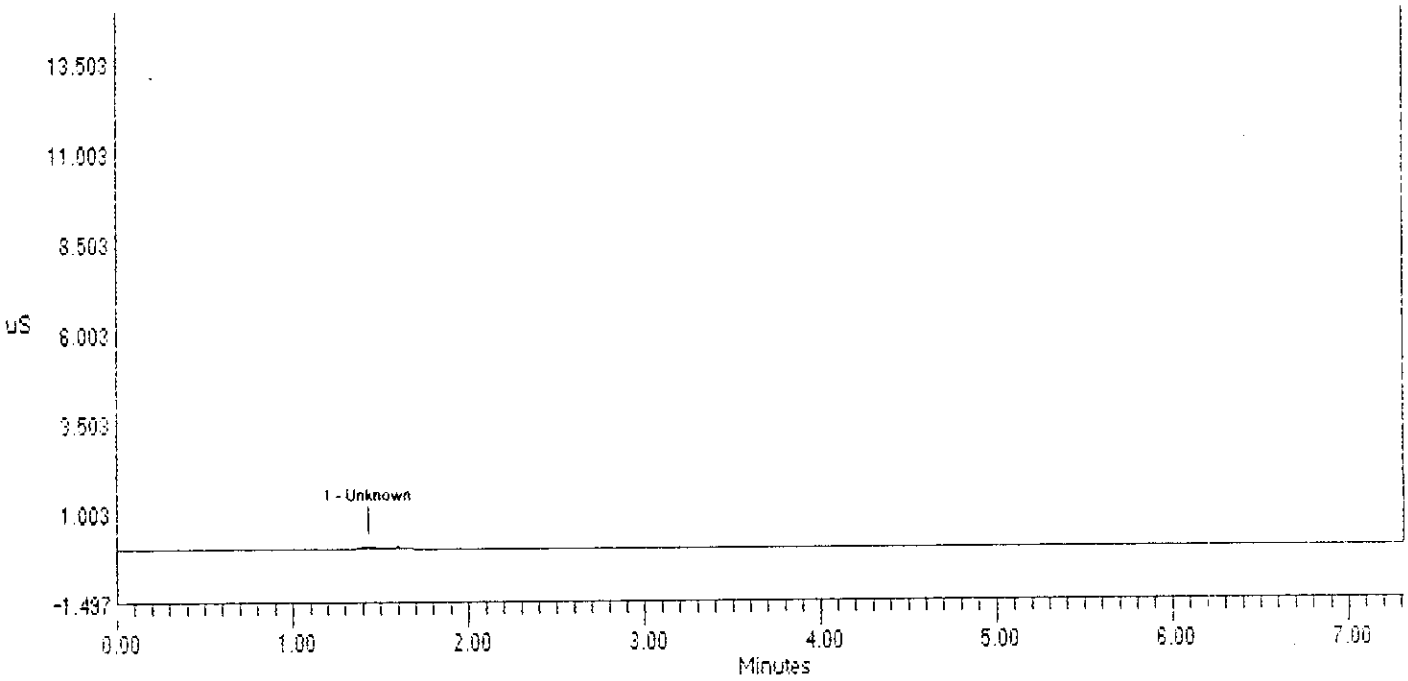
```
* Sample Name: BLK                                    Date: Wed Nov 03 [illegible]
* Data File   : C:\DX\DATA\93080321.D21                                          *
* Method      : C:\DX\METHODS\MEL.MET                                             *
* ACI Address: 1        System : 1        Injects: 21   Detector: CDH-1         *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RES
[illegible]	1	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]			

File: C:\DX\DATA\93080321.D21 Sample: BLK



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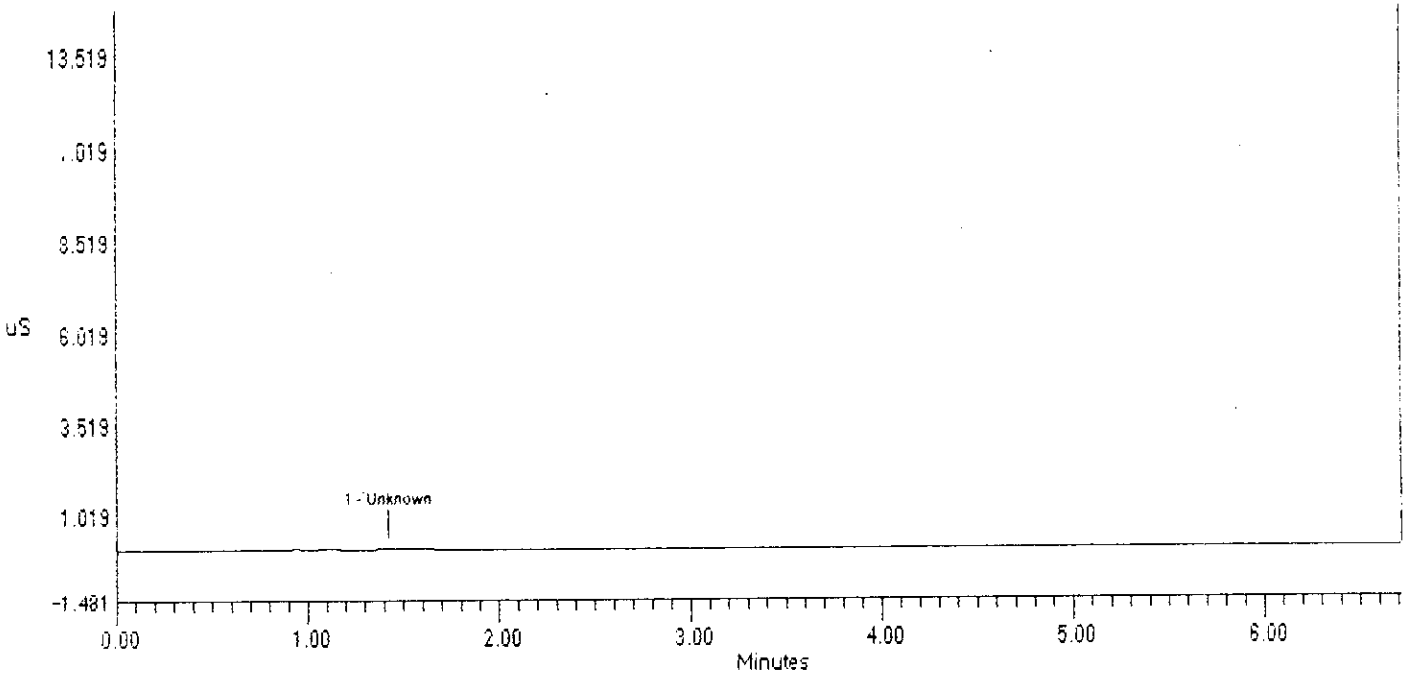
```
* Sample Name: BLK                                    Date: [illegible]
* Data File   : C:\IDX\DATA\93000331.D12
* Method      : C:\IDX\METHOD\MEL.MET
* ALI Address: 1        System : 1        Injects: 12   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	12	2015	SHE	0.00	[illegible]	[illegible]	

[illegible]	[illegible]	Concentration	Units	[illegible]
[illegible]	[illegible]			

File: C:\IDX\DATA\93000331.D12 Sample: BLK



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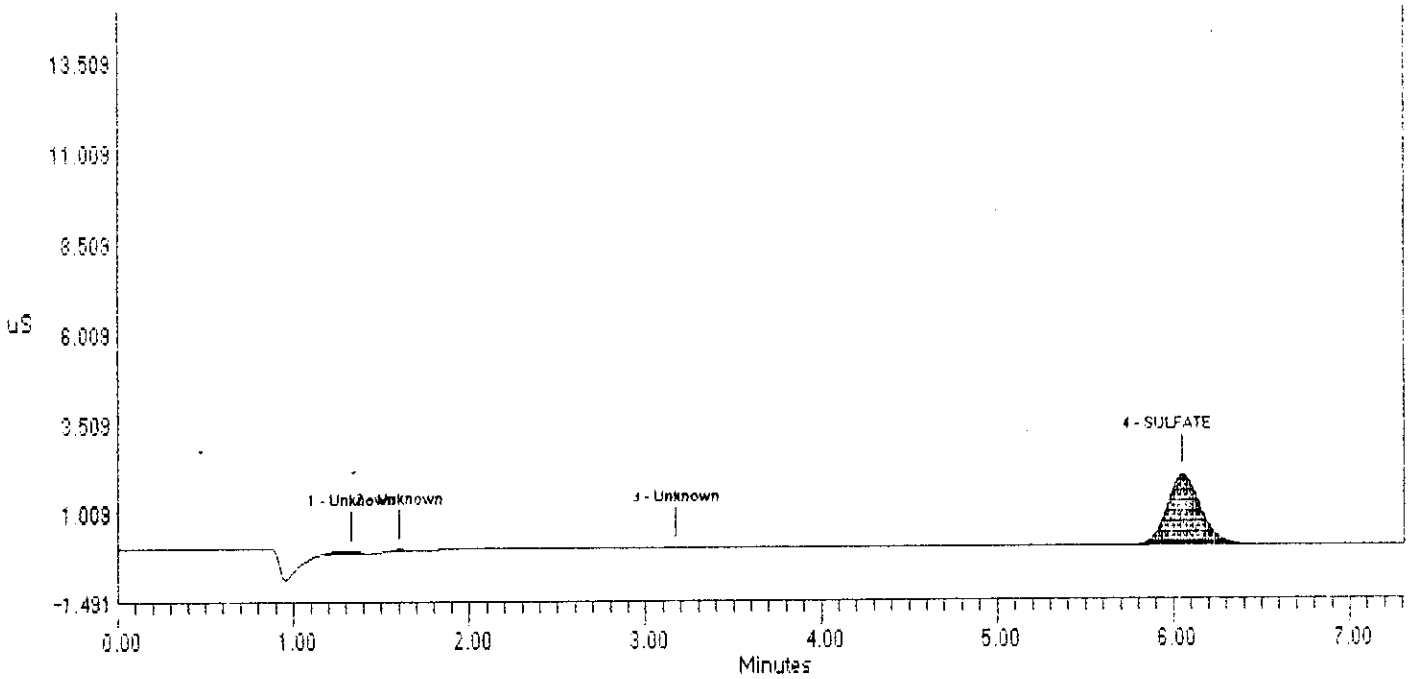
Sample Name: G606 Sat Mar 20 [illegible]
Data File : C:\DX\DATA\93080321.D22
Method : C:\DX\METHOD\MEL.MET
ACI Address: 1 System : 1 Injects: 22 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RES
Internal	1	1	2195	5Hz	0.00	7.32	[illegible]	

	Ret	Compound	Concentration	Height	Area	
4	6.15	SULFATE	[illegible]	2091	[illegible]	[illegible]

File: C:\DX\DATA\93080321.D22 Sample: G606



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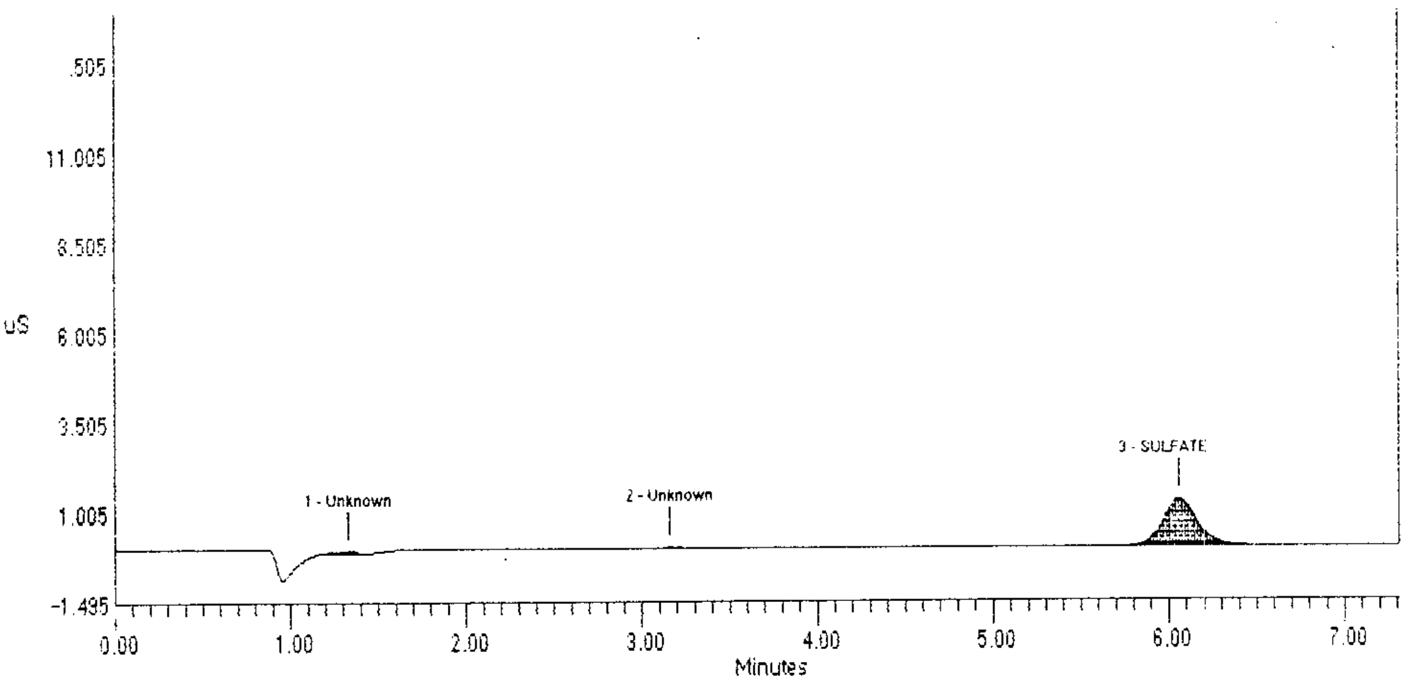
% Data File : C:\DX\DATA\93080321.D23
% Method : C:\DX\METHOD\MEL.MET
% ACI Address: 1 System : 1 Inject#: 23 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

3 6.04 SULFATE 3.338 1306 [illegible]

File: C:\DX\DATA\93080321.D23 Sample: G607



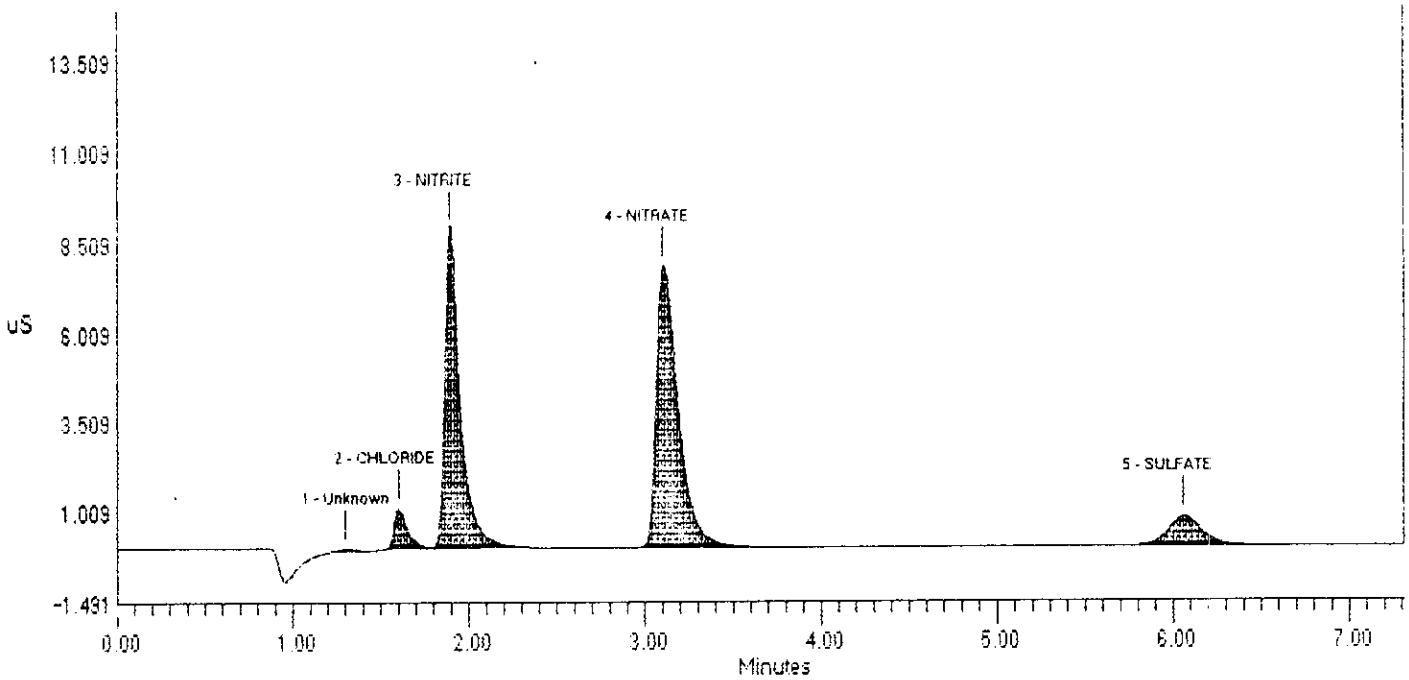
BEST AVAILABLE COPY

```
% Sample Name: G608                                   Date: [illegible]
% Data File   : C:\DX\DATA\33080321.D24
% Method      : C:\DX\METHOD\MEL.MET
% ACI Address: 1        System : 1        Injects: 24   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Extern.	1	1	2125	Hz	0.00	7.32	Cor	

P.	R.T.	Component	Concentration	Height	Area	Rej.	[illegible]
	[illegible]						
1	[illegible]		[illegible]	35	12		
2	1.60	CHLORIDE	0.665	1068	5652	2	[illegible]
3	1.89	NITRITE	7.910	8799	54380	2	-0.03
4	3.10	NITRATE	10.666	7776	67931	1	-1.39
5	6.06	SULFATE	2.456	701	16652	1	0.50

File: C:\DX\DATA\33080321.D24 Sample: G608



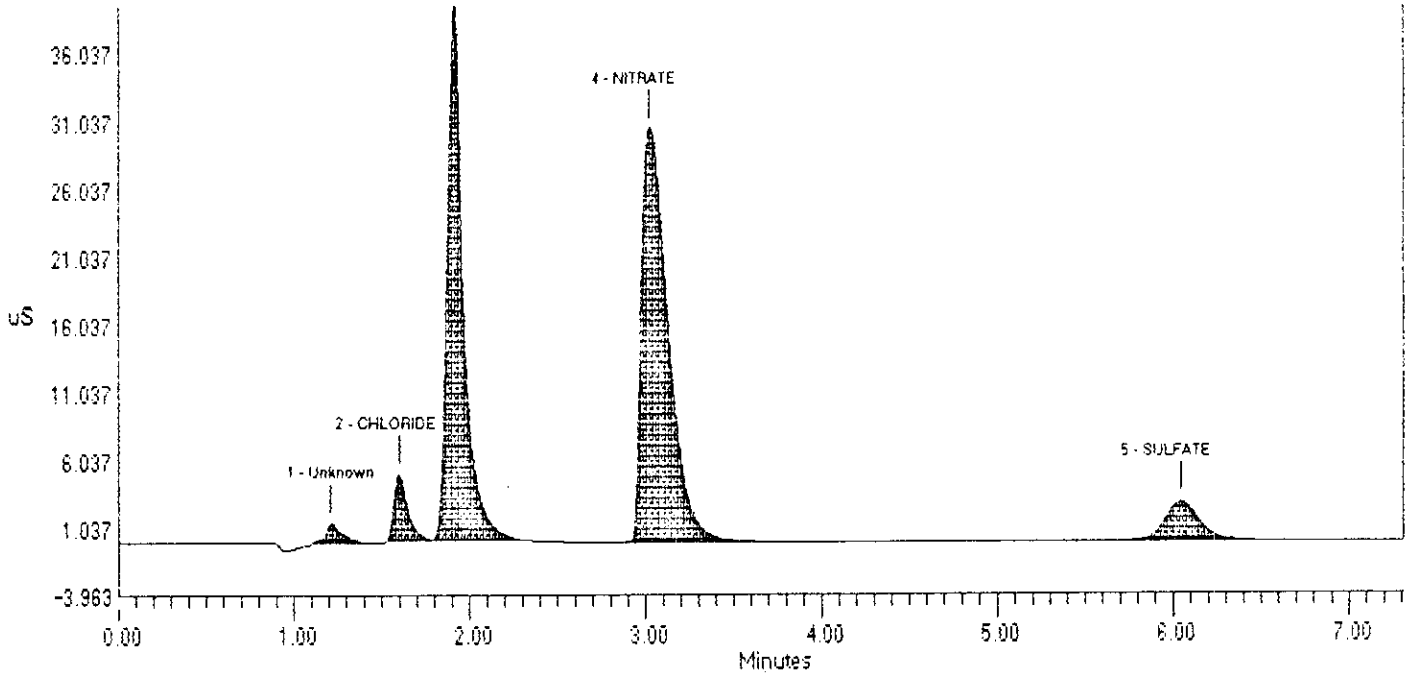
BEST AVAILABLE COPY

```
A Sample Name: G609                                   Date: Wed Aug 04 [illegible] 1 13
A Data File    : C:\DX\DATA\93080311.D25                                              A
A Method       : C:\DX\METHOD\MEL.MET                                                 A
A ALI Address: 1        System : 1        Injects:  25  Detector: CDM-1               A
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	

[illegible]	[illegible]	Compound	Concentration	Height	[illegible]	[illegible]	[illegible]
1	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.80	CHLORIDE	2.787	4651	[illegible]	[illegible]	[illegible]
3	1.91	NITRITE	35.223	39269	[illegible]	[illegible]	[illegible]
4	2.02	NITRATE	47.802	30390	324657	1	[illegible]
5	4.05	SULFATE	5.775	2902	40156	1	[illegible]

File: C:\DX\DATA\93080311.D25 Sample: G609



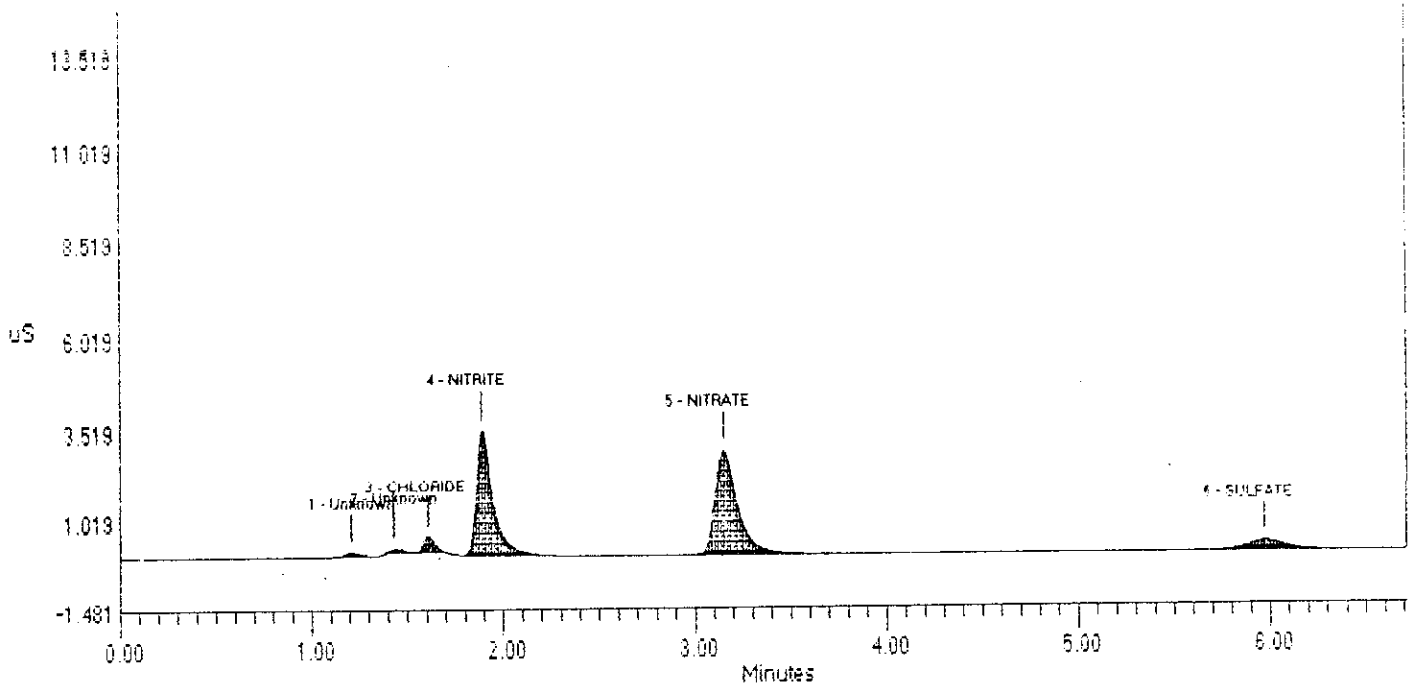
BEST AVAILABLE COPY

[illegible]

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RED
[illegible]	1	11	3015	5Hz	0.00	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.481 [illegible]	3.555	[illegible]	[illegible]	[illegible]
4	1.97 NITRITE	34.767	[illegible]	[illegible]	[illegible]
5	3.15 NITRATE	46.867	[illegible]	[illegible]	[illegible]
6	5.97 SULFATE	19.138	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\33080331.D10 Sample: G603



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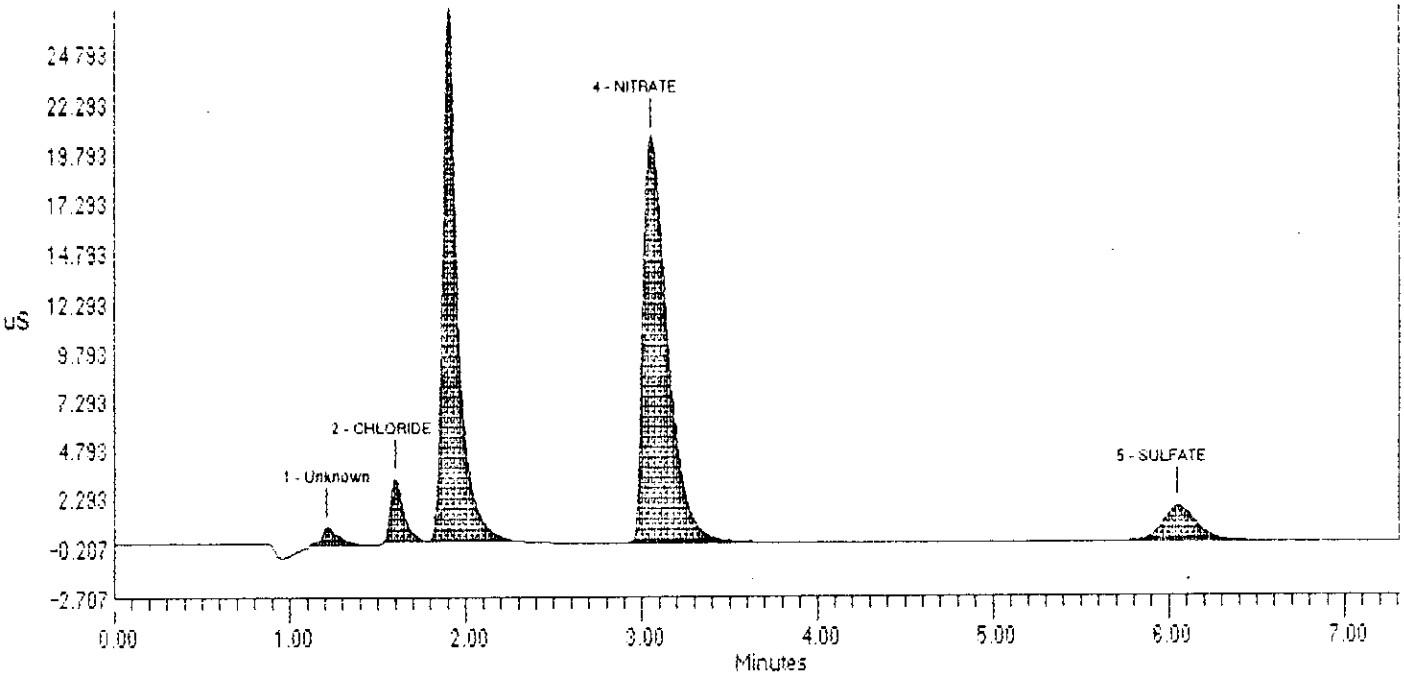
Sample Name: G610 Date: Wed Feb [illegible]
Data File : C:\IDX\DATA\93000311.D26
Method : C:\IDX\METHODS\MEL.MET
ACI Address: 1 System : 1 Injection: 26 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	1	2155	5Hz	[illegible]	[illegible]	[illegible]	

[illegible]	[illegible] Component [illegible]	Concentration [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]		
2	1.60 CHLORIDE	1.762	3146	[illegible]	[illegible]	[illegible]
3	1.90 NITRITE	22.850	26449	163762	2	[illegible]
4	3.05 NITRATE	30.058	20515	201786	1	[illegible]
5	6.05 SULFATE	3.952	1734	23954	1	[illegible]

File: C:\IDX\DATA\93000311.D26 Sample: G610



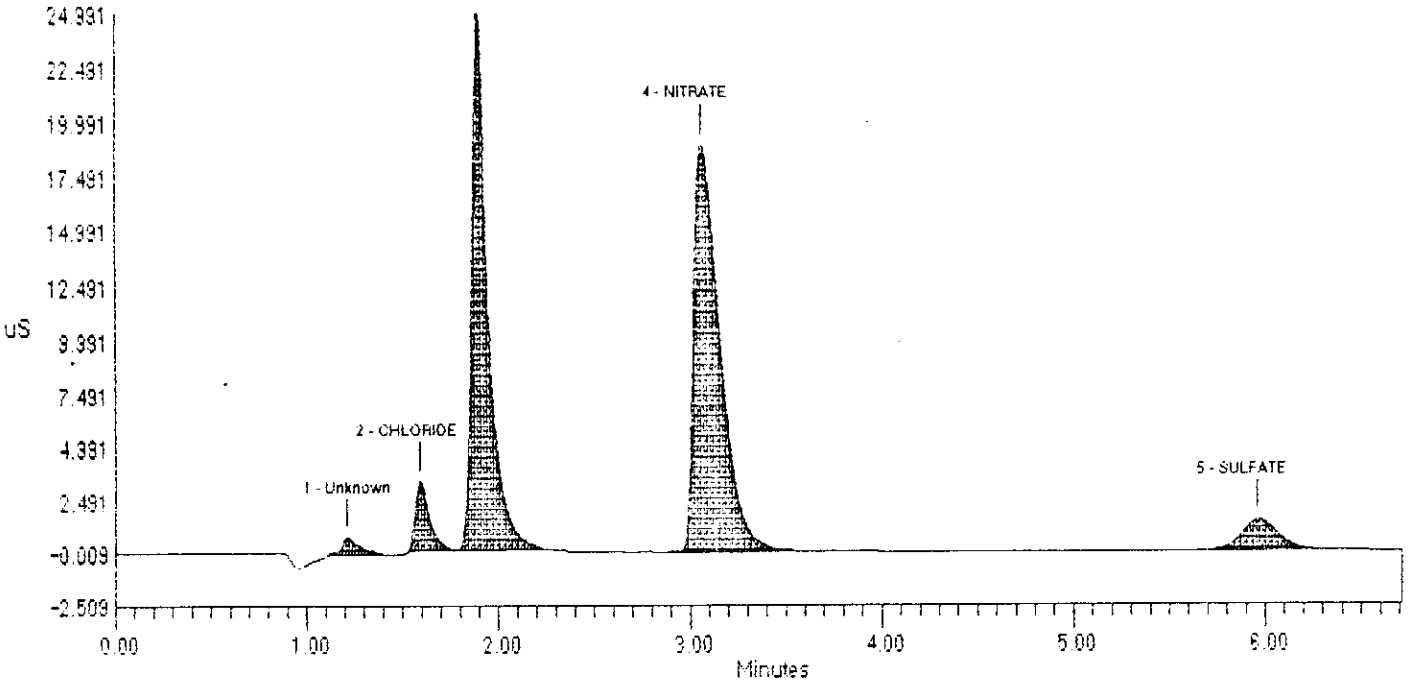
BEST AVAILABLE COPY

[illegible]
Data File : C:\DX\DATA\93080331.D16
Method : C:\DX\METHOD\MEL.MET
ACI Address: 1 System : 1 Injection: 16 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	MES
[illegible]	1	1	2015	[illegible]	0.00	[illegible]	[illegible]	

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	[illegible] CHLORIDE	1.874	[illegible]	[illegible]	[illegible]	[illegible]
3	1.89 NITRITE	21.048	24176	150761	2	[illegible]
4	3.06 NITRATE	27.573	19024	184907	1	[illegible]
5	5.96 SULFATE	3.486	1453	19608	1	[illegible]

File: C:\DX\DATA\93080331.D16 Sample: G618



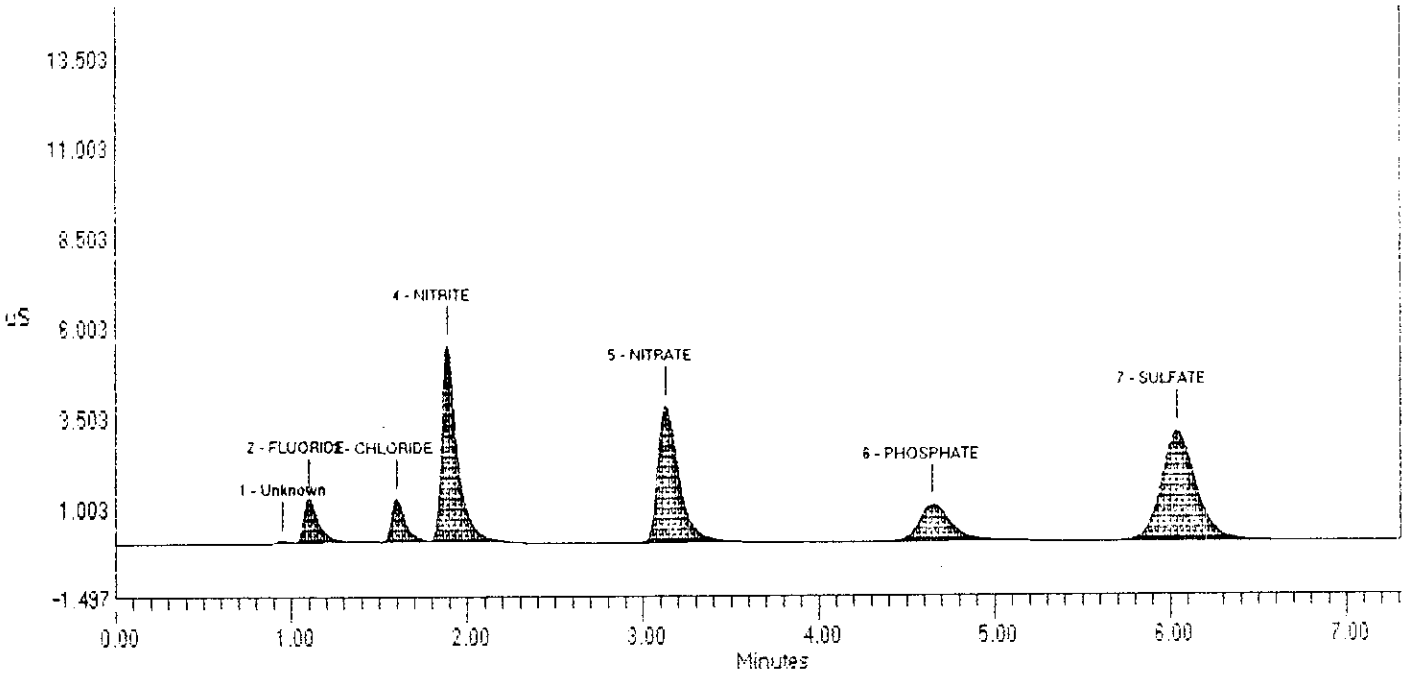
BEST AVAILABLE COPY

```
* Sample Name: LMCS                                    Date: Wed Mar 03 1993, 14:24
* Data File   : C:\DX\DATA\93080311.D27                                            *
* Method      : C:\DX\METHOD\MEL.MET                                               *
* ACI Address: 1        System : 1        Injects: 27   Detector: CDM-1           *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	[illegible]	[illegible]	100	2175	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1	1.13 CHLORIDE	[illegible]	[illegible]	[illegible]	[illegible]
2	1.69 NITRITE	502.771	5113	[illegible]	2
3	3.13 NITRATE	543.203	5754	[illegible]	1
4	4.65 PHOSPHATE	520.630	1991	[illegible]	1
5	6.06 SULFATE	602.062	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080311.D27 Sample: LMCS



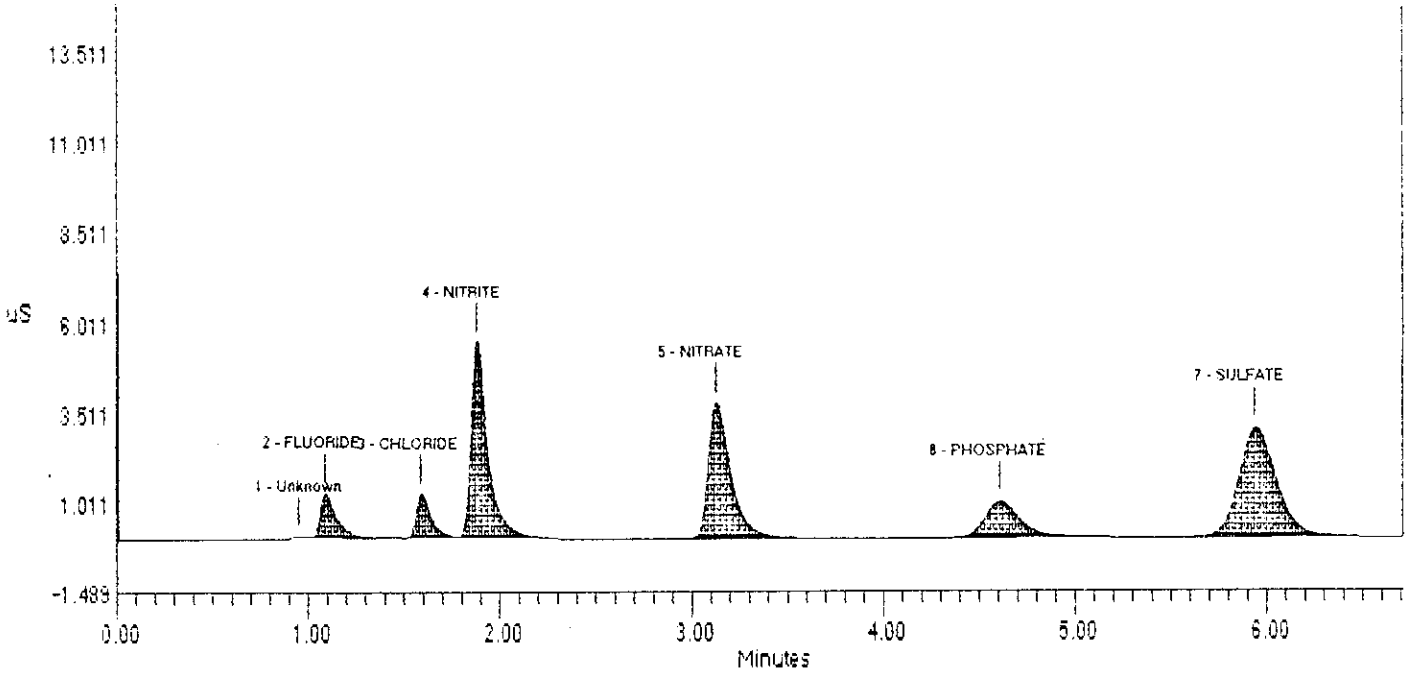
BEST AVAILABLE COPY

[illegible]
Data File : C:\DX\DATA\93080331.D19
Method : C:\DX\METHOD\[illegible].MET
ACI Address: 1 System : 1 Injection: 19 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RES
[illegible]	1	101	1015	5Hz	0.00	6.72	[illegible]	

[illegible]	[illegible]	Concentration	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.89 NITRITE	495.214	[illegible]	[illegible]	[illegible]	[illegible]
5	2.13 NITRATE	538.066	3.471	31022	[illegible]	[illegible]
6	4.61 PHOSPHATE	522.054	1024	12967	[illegible]	[illegible]
7	5.94 SULFATE	402.541	3071	42377	[illegible]	[illegible]

File: C:\DX\DATA\93080331.D19 Sample: LMCS



WESTINGHOUSE HANFORD COMPANY

Batch 1367

WHC-SD-WM-DP-054 REV O

222-S LABORATORY

ANALYTICAL BATCH

102 5DAY

Lab Segment Serial No. G614-617	Customer ID: B-3-6
Analysis: IC	Sample Prep: DIRECT

Instrument: WB54428	Procedure/ Rev: LA533-105/C-0
Technologist: R WENDLAND ( )	Date: 7-30-93
Starting Time: 1317	Temperature 23°C
Ending Time: 1533	Chemist: S. BOLING

Comments:

	Description	Lab ID		Description	Lab ID
1	LMCS	G612-5571	11		
2	BLANK	G613-5671	12		
3	SAMPLE	G614-5771	13		
4	SAMPLE	G615-5771	14		
5	SAMPLE	G616-5771	15		
6	SAMPLE	G617-5771	16		
7	LMCS	G619-5571	17		
8			18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS	22N9B	(.100 ml)		
		202		

ROBBY WENDLAND
7-30-93

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: [illegible] DATE START: [illegible]

PREPARED BY: S. D. Bellinger DATE COMPLETE: 1/30/93

SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
		UNITS:	ug/ml					ug/ml	
STD	G612	F	55.7				99.46	.1	
22N9B		Cl	77.6				100.5	.2	
BLANK	[illegible]	NO_2	515				97.91	1	
	[illegible]	NO_3	54.2				93.61	1	
		PO_4	515				[illegible]	1	
		SO_4	615				[illegible]	1	
Blank	G613	F	<1 [illegible]						
		Cl	<1						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	<1						
	G614	F	<1 [illegible]						
		Cl	3.52						
		NO_2	42.7 [illegible]						
		NO_3	[illegible]	54.2					
		PO_4	<1						
		SO_4	6.15						
	G615	F	<1 [illegible]						
		Cl	3.05						
		NO_2	37.9						
		NO_3	48.6						
		PO_4	<1						
		SO_4	5.41						
	G616	F	<1 [illegible]						
		Cl	3.37						
		NO_2	32.5						
		NO_3	37.0						
		PO_4	<1						
		SO_4	4.31						
	G617	F	<1 [illegible]						
		Cl	2.16						
		NO_2	24.6						
		NO_3	31.9						
		PO_4	<1						
		SO_4	3.56						
Cal std	G619	F	5.02				100.4		
		Cl	71.7				95.60		
		NO_2	50.4				91.55		
		NO_3	55.5				[illegible]	92.50	
		PO_4	52.6				101.7		
		SO_4	6.01				99.67		

NARRATIVE: [X] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

[ ] LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

Stacey Bellinger 203 An instance [illegible] the F- determination.

8/5/93

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 612.-5571	102 5 DAY	7-22-93	14:36	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? .100-10 22N8	STD

Remarks Calculations Results

	µg/ml	% Rec
EDP 974 F	58.7	99.46
EDP 972 CL	77.6	103.5
EDP 968 NO2	515	97.91
EDP 978 NO3	542	93.61
EDP 976 PO4	518	100.2
EDP 970 SO4	605	100.3

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
7-30-93	1533	Sara Stuffer

54 6800 (6) (R 10 83)

Serial No	Sample Point	Date	Time Issued	Priority
G 613.-5671	102 5 DAY	7-22-93	14:37	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	BLK

Remarks Calculations Results

REAGENT BLANK

	ug/ml
F	<.1
Cl	~~<1~~ <.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	<1

8/5/93

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
RW 7-30-93	1533	Sara Stuffer

54 6800 (6) (R 10 83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 614.-5771	102 5 DAY	7-22-93	14:38	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	B-3

Remarks, Calculations, Results

	DF	µg/ml
F	1	<.1 matrix interference
Cl	1	3.52
NO_2	11	~~[illegible]~~ .427 RA 8/12/93
NO_3	11	SDB 8/6/93 ~~[illegible]~~ 54.2
PO_4	1	<1
SO_4	1	6.15

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
7-30-93	1533	Sara Steff

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 615.-5771	102 5 DAY	7-22-93	14:40	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	B-4

Remarks, Calculations, Results

	DF	µg/ml
F	1	<.1 matrix interference
Cl	1	3.05
NO_2	11	37.9
NO_3	11	48.6
PO_4	1	<1
SO_4	1	5.41

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
7-30-93	1533	Sara Steff

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 616.-5771	102 5 DAY	7-22-93	14:40	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	B-5

Remarks, Calculations, Results

ug/ml
F <.1 matrix interference
Cl 2.37
NO_2 28.8
NO_3 37.0
PO_4 <1
SO_4 4.31

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
7-30-93	1533	Dara Shaffer	8/4

SA 5200 061 (R 10 831)

Serial No	Sample Point	Date	Time Issued	Priority
G 617.-5771	102 5 DAY	7-22-93	14:41	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	B-6

Remarks, Calculations, Results

ug/ml
F <.1 matrix interference
Cl 2.10
NO_2 24.6
NO_3 31.9
PO_4 <1
SO_4 3.86

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
7-30-93	1533	Dara Shaffer	8/4

SA 5200 061 (R 10 831)

BEST AVAILABLE COPY

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 619.-5571	102 5 DAY	7-22-93	14:42	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size			Customer ID
?	.100-10	ZZN9B	STD

Remarks, Calculations, Results

	µg/ml	% Rec
EDP 974 F	56.2	100.4
EDP 972 CL	71.7	95.60
EDP 968 NO2	508	96.58
EDP 978 NO3	555	95.85
EDP 976 PO4	526	101.7
EDP 970 SO4	601	99.67

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr	
7-30-93	1533	Sara Shiff	8/4

WA-6800-061 (R-10-83)

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BEST AVAILABLE COPY

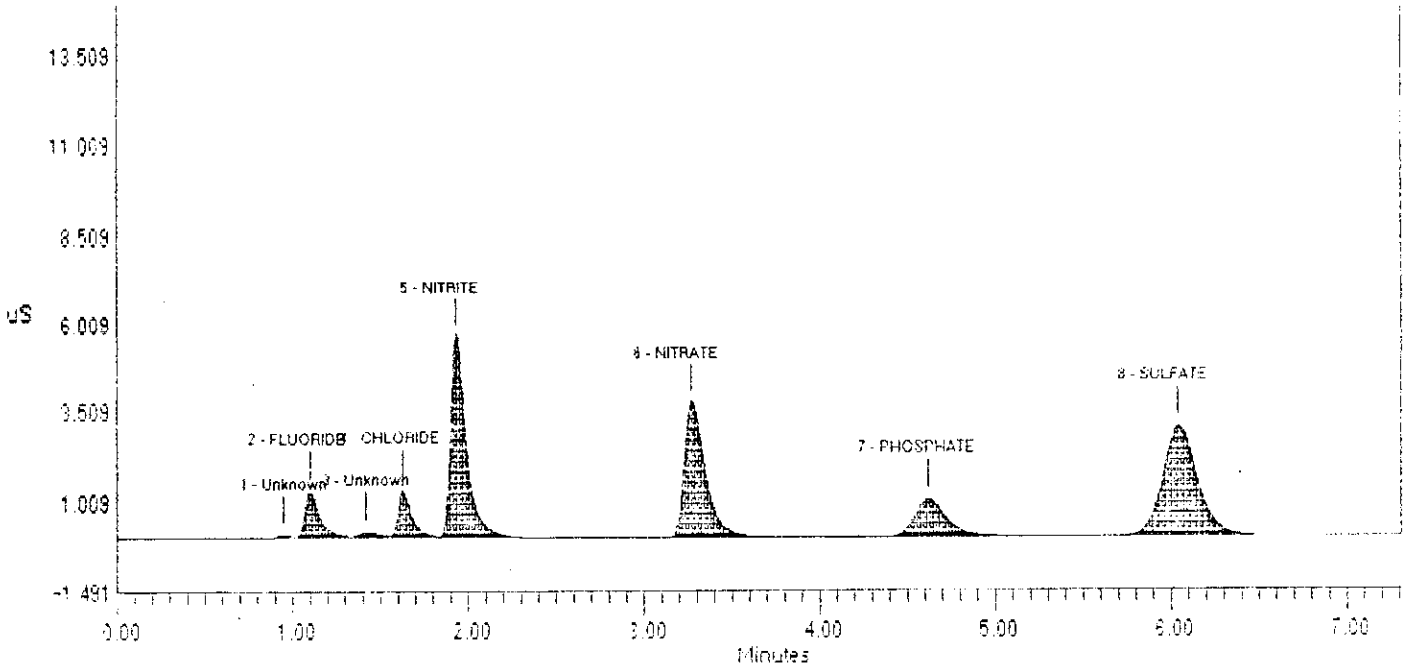
ROBBY WENDLAND
RW 7-30-93

```
# Sample Name: G 612/22N9B                                  Date: [illegible]
# Data File  : C:\DX\DATA\93073031.D01
# Method     : C:\DX\METHOD\NEL.MET
# ACI Address: 1          System : 1          Injects: 1   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	[illegible]	[illegible]	151	[illegible]	[illegible]	[illegible]	[illegible]	

No.	Ret Time	Compound	Concentration	Area	Type	Rej	Int
1	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.10	FLUORIDE	55.711	1167	[illegible]	[illegible]	[illegible]
3	1.42		100762.612	145	998	[illegible]	
4	1.63	CHLORIDE	77.621	1287	[illegible]	[illegible]	[illegible]
5	1.93	NITRITE	514.732	5575	[illegible]	[illegible]	[illegible]
6	3.27	NITRATE	542.177	3706	[illegible]	[illegible]	[illegible]
7	4.22	PHOSPHATE	512.126	1094	[illegible]	[illegible]	[illegible]
8	6.04	SULFATE	494.527	2027	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93073031.D01 Sample: G 612/22N9B



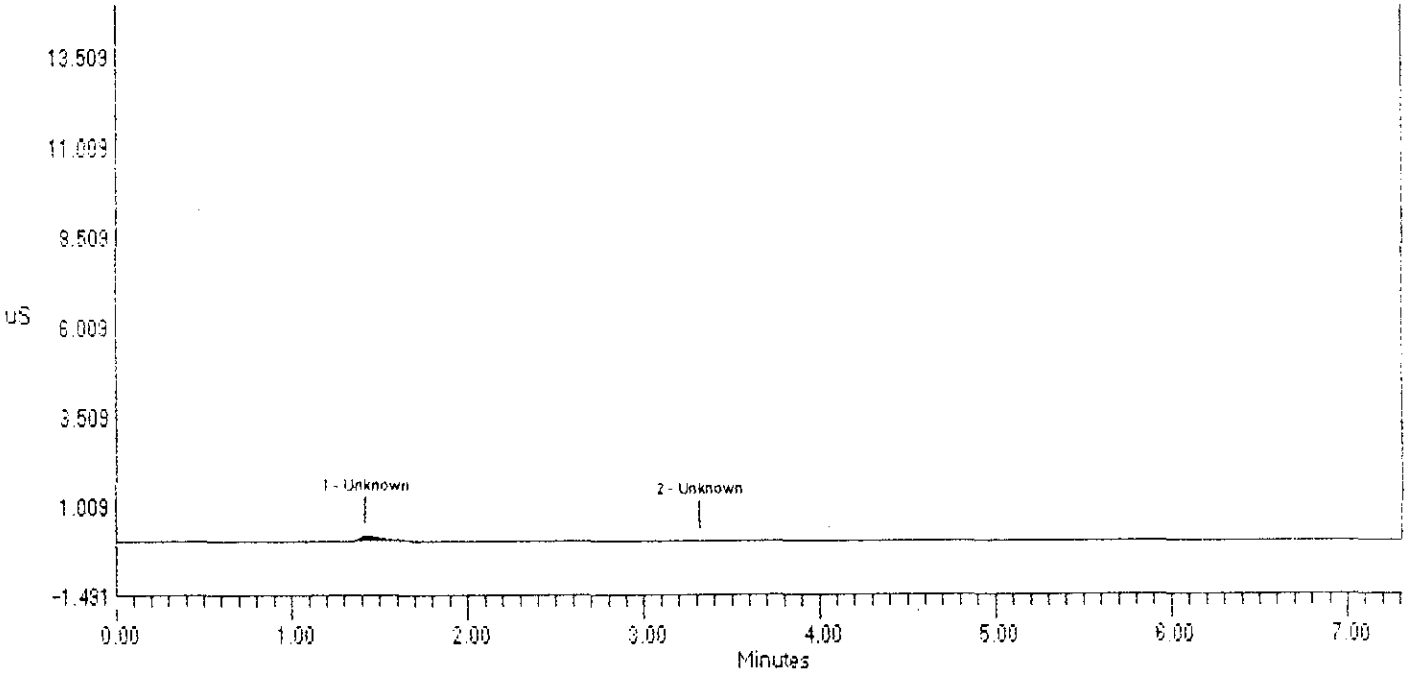
SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 205 TO 211.

[illegible]

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	MEO
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

File: C:\DX\DATA\93073041.D01 Sample: G613/BLK



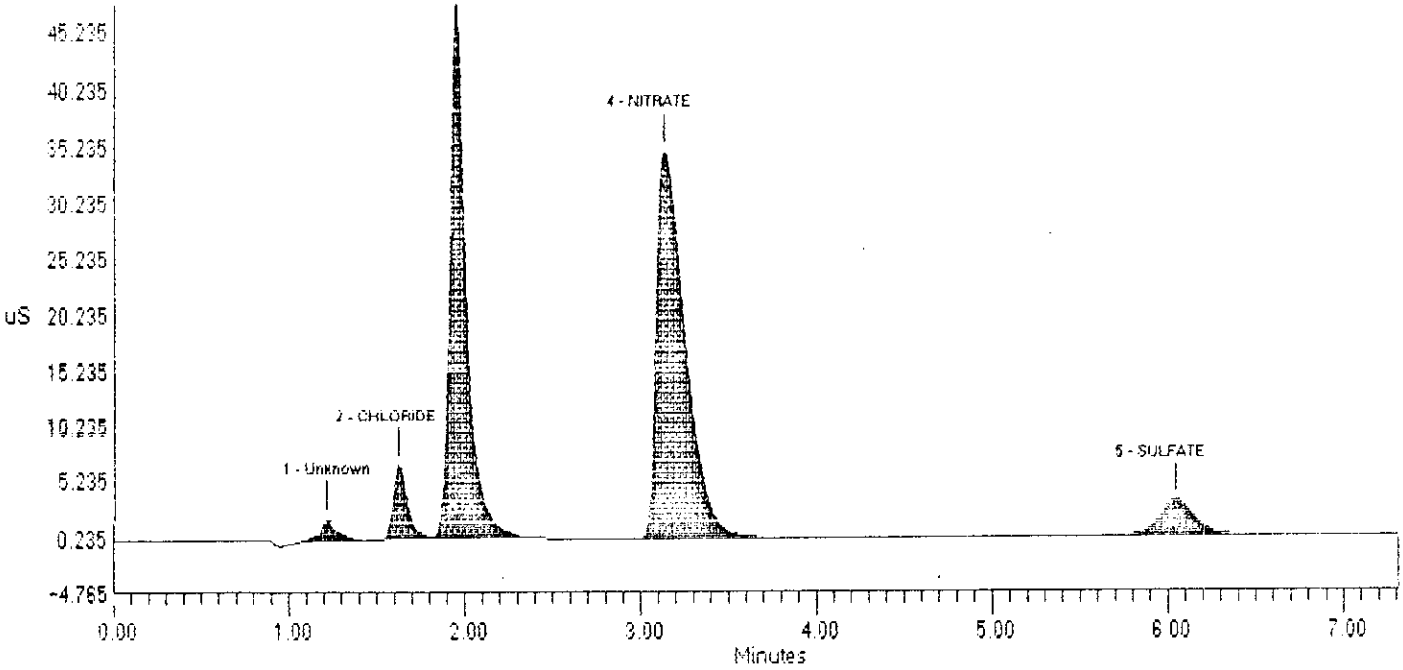
BEST AVAILABLE COPY

```
R Sample Name: G014                                   Date: [illegible]
R Data File    : C:\DX\DATA\93073051.D01
R Method       : C:\DX\METHOD\MEL.MET
R ACI Address: 1          System : 1          Injection:    1   Detector: CD9-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	1	2225	5Hz	0.00	7.33	[illegible]	

[illegible]	Ret Time	Component	Concentration	Height	Area	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2	1.52	CHLORIDE	2.317	[illegible]	[illegible]	
3	1.95	NITRITE	42.068	47445	304365	[illegible]
4	3.13	NITRATE	57.514	34766	431995	[illegible]
5	6.04	SULFATE	6.145	3122	43445	[illegible]

File: C:\DX\DATA\93073051.D01 Sample: G014



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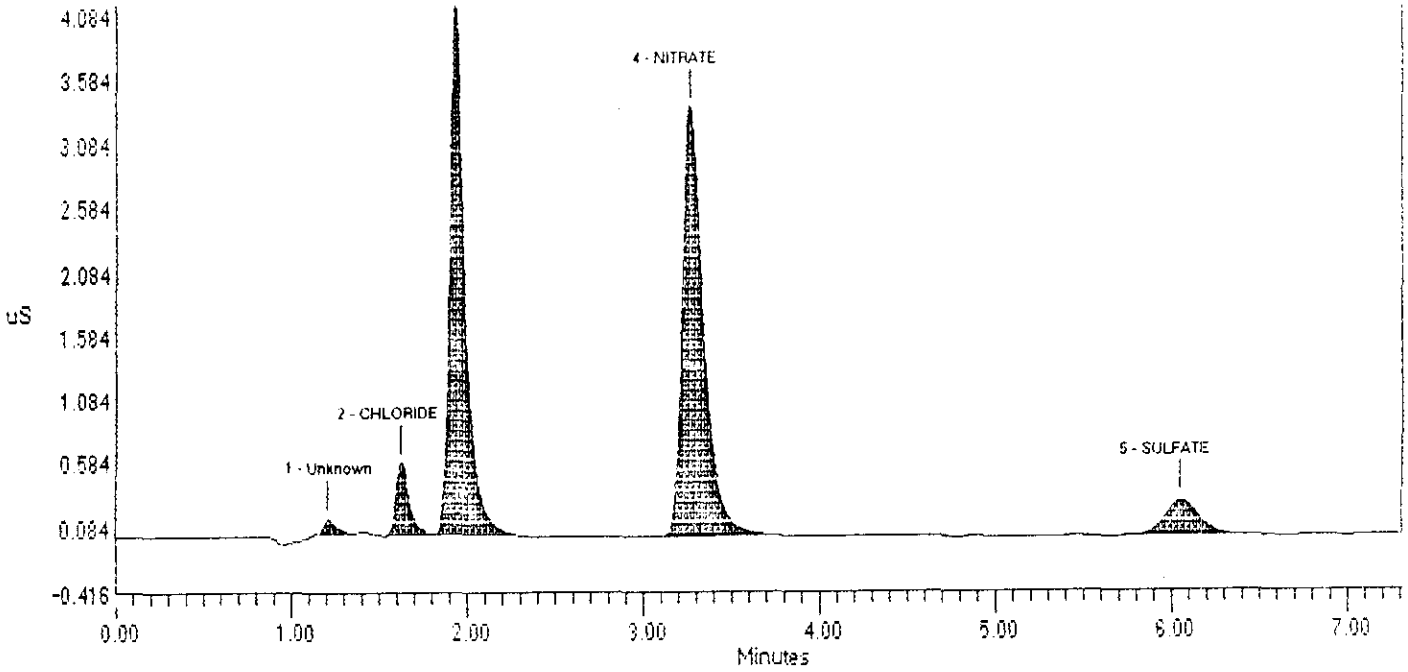
```
# Sample Name: Mod4                                   Date: [illegible]                    #
# Data File  : C:\DOXDATA\03072851.D02                                                     #
# Method     : C:\DOXMETHOD\MEL.MET                                                        #
# ACI Address: 1        System : 1        Inject#:   2   Detector: CDM-1                  #
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RSD
Pulse-1	1	11	2195	5Hz	0.00	7.33	200	

Peak #	Ret Time	Component Name	Concentration	Height	Area	Type	% RSD
1	[illegible]	Unknown	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	1.22	CHLORIDE	6.130	344	[illegible]	[illegible]	[illegible]
3	1.93	NITRITE	42.702	4149	24831	[illegible]	[illegible]
4	3.26	NITRATE	54.185	3356	[illegible]	[illegible]	[illegible]
5	6.05	SULFATE	10.565	273	3614	[illegible]	[illegible]

File: C:\DOXDATA\03072851.D02 Sample: G014



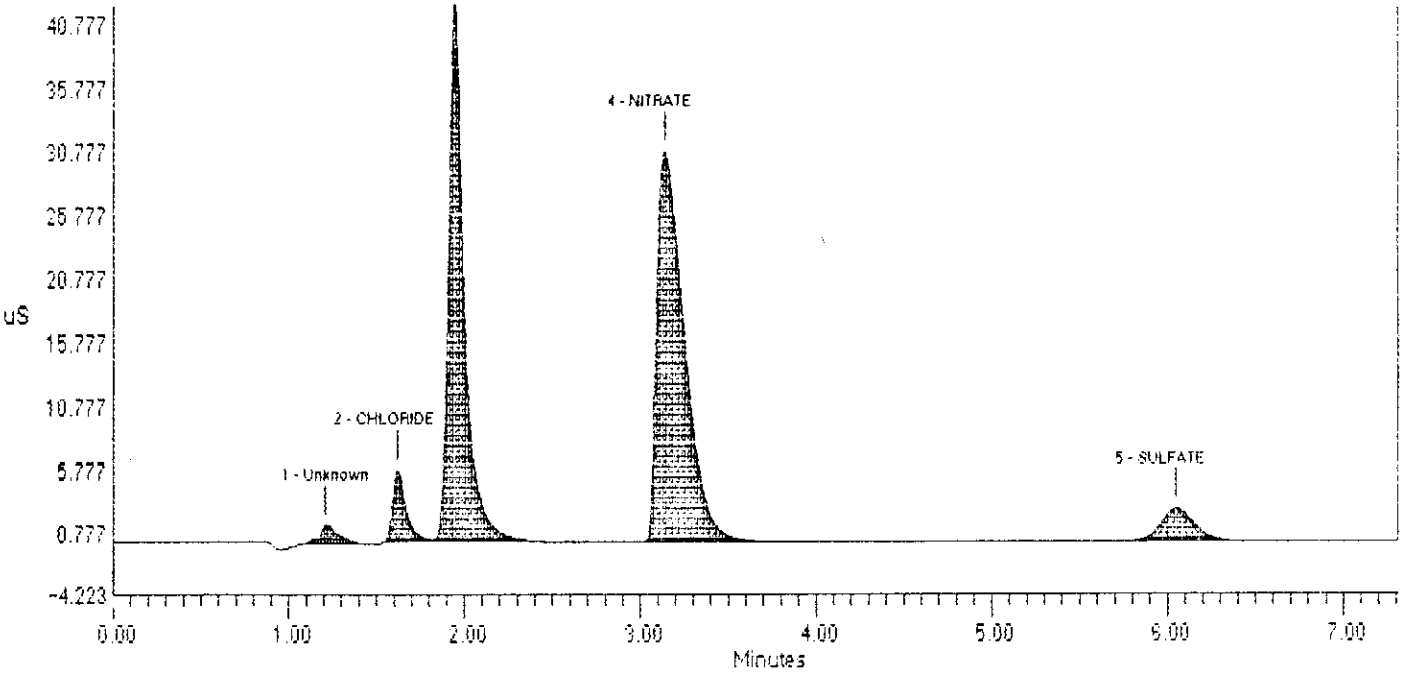
BEST AVAILABLE COPY

```
% Sample Name: G615                                   Date: Fri Jul [illegible]
% Data File   : C:\DX\DATA\93072821.D03                                          %
% Method      : C:\DX\METHOD\MEL.MET                                             %
% AUI Address: 1        System : 1        Injects:   3   Detector: CDM-1         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	1	2195	5Hz	[illegible]	7.30	[illegible]	

Peak No.	Ret Component Name	Concentration	Height	Area	[illegible]	[illegible]
1	1.[illegible]	[illegible]	[illegible]	[illegible]		
2	1.22 CHLORIDE	3.046	3561	[illegible]	1	[illegible]
3	1.94 NITRITE	36.613	40977	2649[illegible]	1	[illegible]
4	3.14 NITRATE	49.969	30714	339631	1	[illegible]
5	6.05 SULFATE	5.407	2656	36861	1	-7.35

File: C:\DX\DATA\93072821.D03 Sample: G615



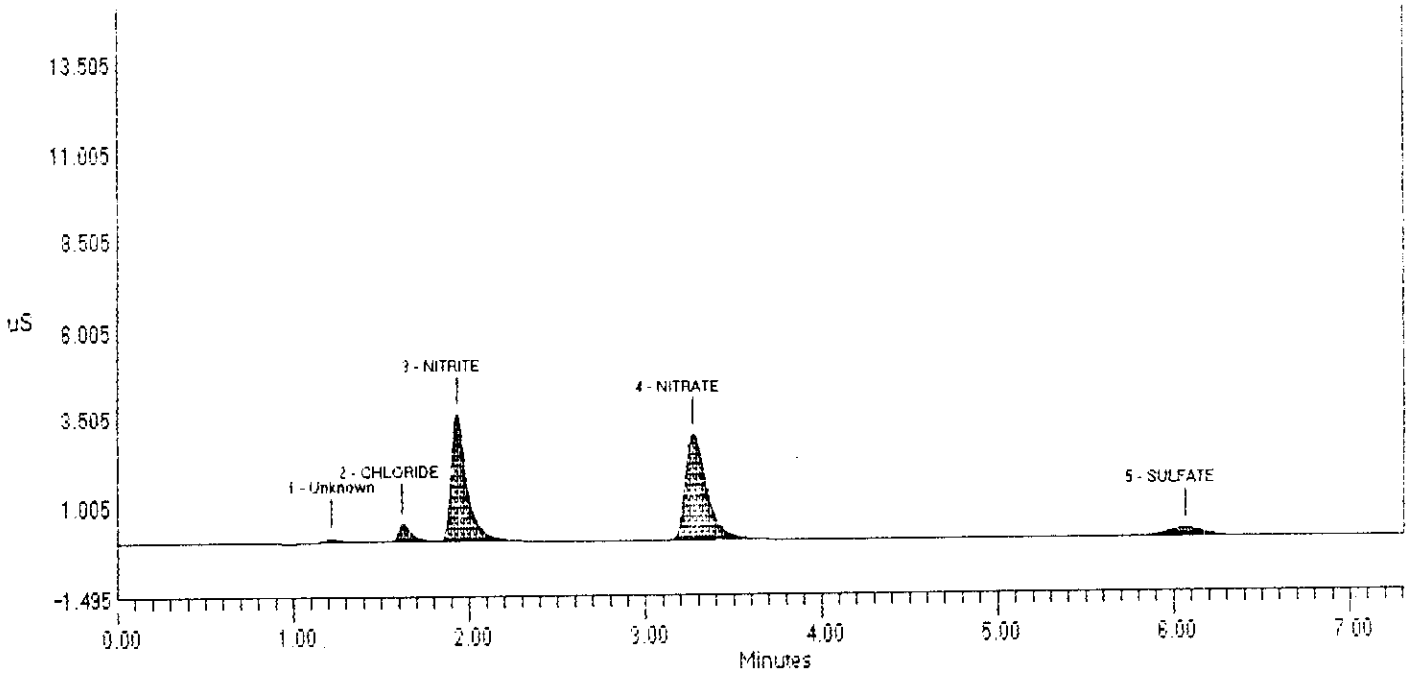
BEST AVAILABLE COPY

```
% Sample Name: [illegible]                                    Index File [illegible]
% Data File    : C:\DX\DATA\[illegible]
% Method       : C:\DX\METHOD\[illegible].MET
% ACE Address: 1          System : 1          Injection  4  Selection [illegible]
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Value:	[illegible]	[illegible]	[illegible]	5Hz	0.00	7.33	384	

PK	[illegible]	Concentration	Height	[illegible]	[illegible]	[illegible]
		[illegible]				
2	1.52 CHLORIDE	2.095	484	[illegible]	[illegible]	[illegible]
3	1.93 NITRITE	37.850	3382	[illegible]	[illegible]	[illegible]
4	3.27 NITRATE	48.624	2719	[illegible]	1	[illegible]
5	6.07 SULFATE	17.738	230	[illegible]	1	[illegible]

File: C:\DX\DATA\[illegible].D04 Sample: G815



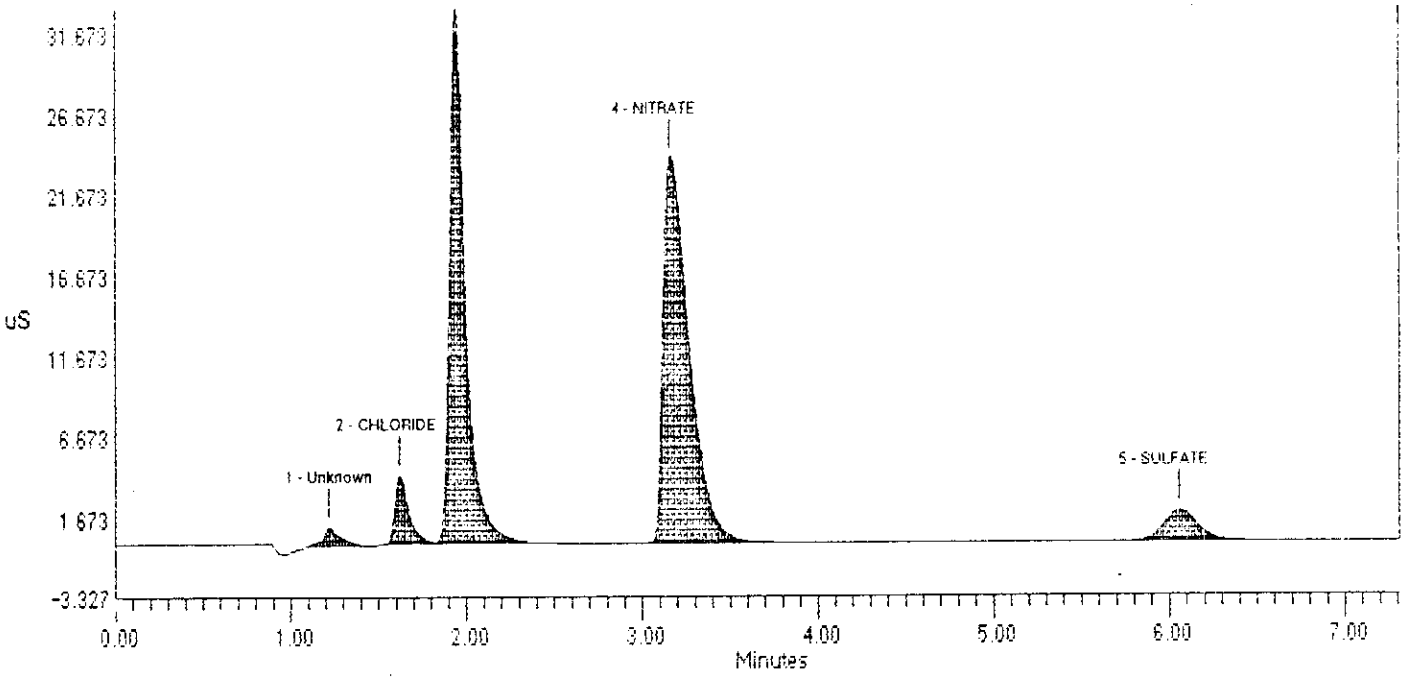
BEST AVAILABLE COPY

```
Sample Name: G616                                   Date: Fri Oct 30 [illegible]
Data File  : C:\DX\DATA\93072821.D05
Method     : C:\DX\METHOD\MEL.MET
ACT Address: 1          System : 1          Injects:   5   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]	[illegible]	Component	Concentration	Height	Area	[illegible]
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	1.62	CHLORIDE	[illegible]	[illegible]	[illegible]	[illegible]
3	1.94	NITRITE	28.600	32990	107629	[illegible]
4	3.16	NITRATE	36.966	23564	149741	[illegible]
5	6.06	SULFATE	4.309	1957	27121	[illegible]

File: C:\DX\DATA\93072821.D05 Sample: G616



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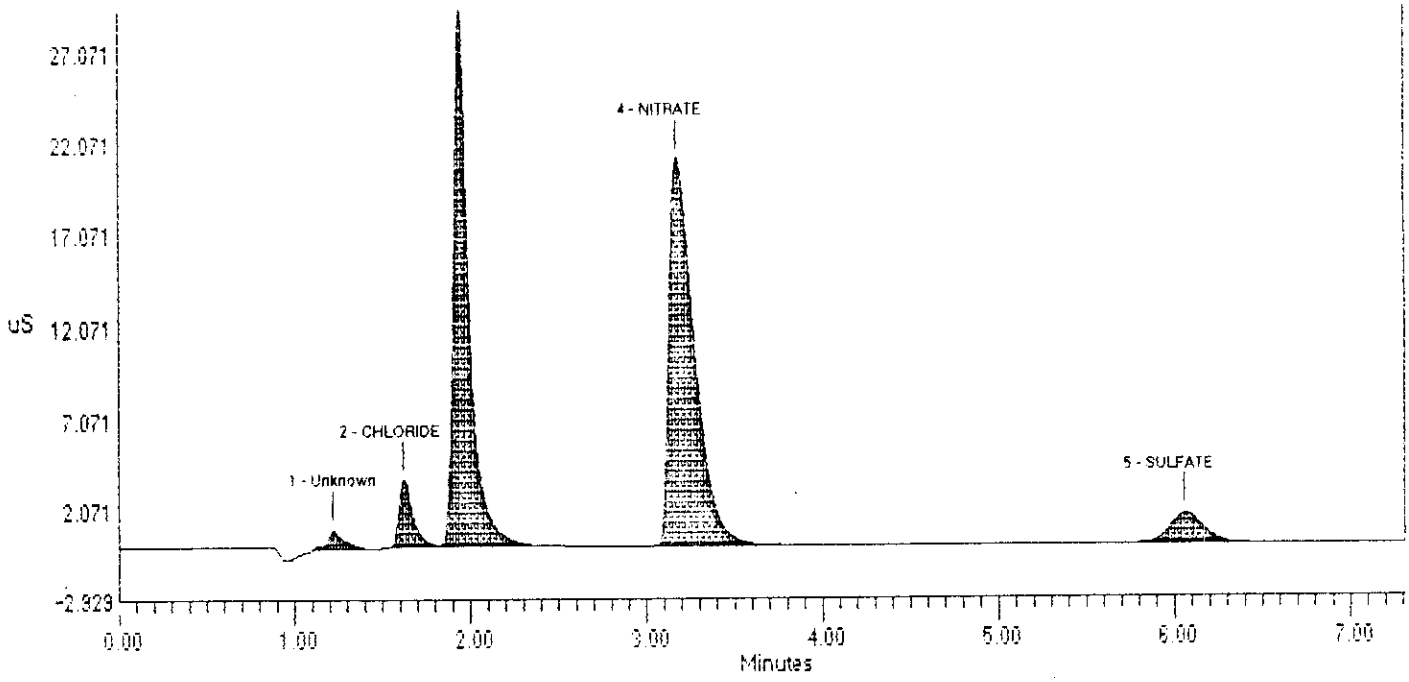
```
* Analyst Name:                                          Value for Calibration:
* Data File    : C:\DX\DATA\93072821.D07
* Method       : C:\DX\METHOD\NEL.MET
* ACI Address: 1          System : 1          Injection:    7   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Extern-1	1	1	2195	5Hz	0.00	7.32	299	

Pk No.	Ret Time	Component Name	Concentration mg/l	Height uS	Area uS*min	Qty Unit	Sol Int mg/l
1	1.22	UNKNOWN	1.164	2577	17444		
2	1.54	NITRITE	24.636	29737	177078	2	-5.17
3	3.17	NITRATE	31.991	21057	214591	1	-5.65
5	6.06	SULFATE	3.955	1677	20067	1	-7.20

File: C:\DX\DATA\93072821.D07 Sample: G617



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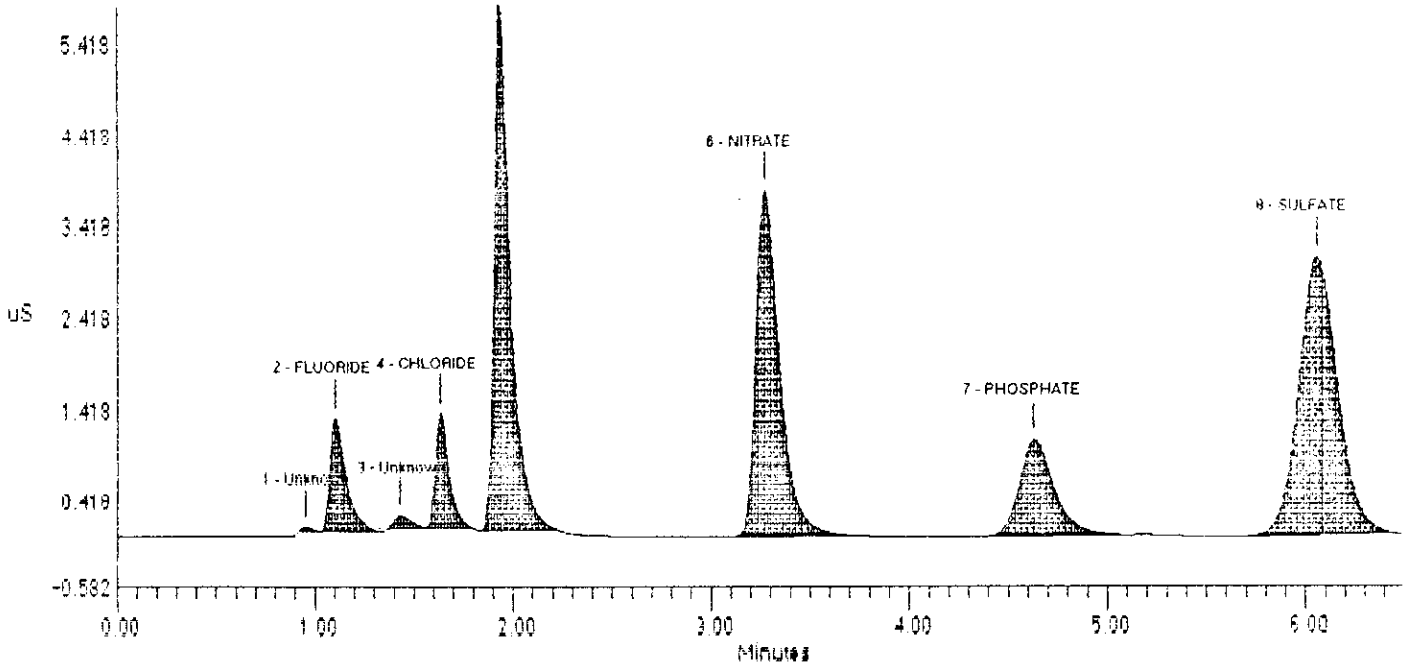
```
Data File   : C:\DX\DATA\93073061.D02
Method      : C:\DX\METHOD\MEL_.MET
ACI Address: 1        System : 1        Injection:  2   Detectors: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REQ
Extended	1	101	1249	5Hz	0.00	6.42		200

Peak	Ret. Time	Component	Concentration	Height	Area	Ex.	Unit
			ppm				
3	1.03						
4	1.43	CHLORIDE	71.745	1263	6978	1	[illegible]
5	1.93	NITRITE	508.220	5514	33266	1	-0.14
6	3.27	NITRATE	550.198	3791	32198	1	-0.31
7	4.63	PHOSPHATE	526.431	1061	13128	1	-4.55
8	5.06	SULFATE	600.939	3057	21903	1	[illegible]

File: C:\DX\DATA\93073061.D02 Sample: G619/LMCS



WHC-SD-WM-DP-054 REV 0

WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

ANALYTICAL BATCH

Batch 1388

102-5-Day

Lab Segment Serial No. G622-26	Customer ID: C-0-CA
Analysis: IC	Sample Prep: DIRECT

Instrument: WB54428	Procedure/ Rev: LA533-105 / C-0
Technologist: R. WENDLAND	Date: 8-4-93 / 8/5/93
Starting Time: 1421 / 8:30	Temperature 22°C
Ending Time: 1523 / 9:29	Chemist: S. BOLING

Comments: This batch was run at a D.F. of 1 on 8/4/93. However, for some of the samples, NO2 & NO3 were out of calibration limits. Those samples were rerun on 8/5/93 at a D.F. of 11. [illegible] 8/10/93

	Description	Lab ID		Description	Lab ID
1	LMCS	G620-5571	11		
2	BLANK	G621-5671	12		
3	SAMPLE	G622-5771	13		
4	SAMPLE	G623-5771	14		
5	SAMPLE	G624-5771	15		
6	SAMPLE	G625-5771	16		
7	SAMPLE	G626-5771	17		
8	LMCS	G627-5571	18		
9			19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS	22N9B	(.100 mL)		

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Robby Wendland
8-4-93

A-6000-881 (03/92)

pg 1 of 2

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA 533-105/C-0

DATE START: ~~8/4/93~~ 5-6-93 8/4/93

PREPARED BY: T. GRIFFIN

DATE COMPLETE: ~~8/4/93~~ 8-6-93 8/5/93

SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
UNITS:			ug/mL						
STD	G620	F	53.7				95.9	<.1	
ZZN93		Cl	73.5				98.1	<.2	
~~BLANK~~		NO_2	49.7				94.9	<1	
TG 8/6/93		NO_3	53.6				92.6	<1	
		PO4	51.6				99.8	<1	
		SO4	59.5				98.7	<1	
		F	53.3				95.2		
		Cl	72.2				96.3		
		NO_2	50.2				95.4		
		NO_3	53.3				92.1		
		PO4	51.3				99.2		
		SO4	59.3				98.3		
BLANK	G621	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO4	<1						
		SO4	<1						
	G622	F	matrix interference						
		Cl	0.585						
		NO_2	6.74						
		NO_3	9.029						
		PO4	<1						
		SO4	2.17						
	G623	F	matrix interference						
		Cl	3.37						
		NO_2	45.06						
		NO_3	57.3						
		PO4	<1						
		SO4	7.02						
	G624	F	matrix interference						
		Cl	2.13						
		NO_2	27.8						
		NO_3	34.3						
		PO4	<1						
		SO4	4.50						
	G625	F	matrix interference						
		Cl	4.38						
		NO_2	52.4						
		NO_3	65.6						
		PO4	<1						
		SO4	7.26						

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARATIONS FOR THIS BATCH:

This batch was run at a D.F. of 1 on 8/5/93 ~~4~~ 8/4/93. However, as NO_2 + NO_3 were + of calibration limits, this batch was rerun on 8/5/93 at a D.F. of 11. Beginning + ending stds & blanks for both days are included in this package. Dana Hirtt 8/6/93

ANALYTICAL BATCH SUMMARY SHEET

METHOD: EPA 533-105 IC-O

DATE START: 8-16-93

PREPARED BY: [illegible]

DATE COMPLETE: [illegible]

SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
UNITS:			µg/mL						
STD	G 6226	F	matrix	interference				<.1	
TC 8/6/93		Cl	3.95					<.2	
BLANK		NO_2	~~44.1~~	49.1	RSD 12-17-93			<1	
TC 8/6/93		NO_3	101.8					<1	
		PO_4	<1					<1	
		SO_4	6.72					<1	
2nd std	G 6227	F	55.7				97.5		
		Cl	76.6				94.1		
		NO_2	49.2				93.5		
		NO_3	99.9				91.4		
		PO_4	99.1				97.5		
		SO_4	6.01				99.7		
end std		F	53.5				95.5		
		Cl	69.9				93.2		
		NO_2	48.6				92.4		
		NO_3	52.8				91.2		
		PO_4	49.5				94.7		
		SO_4	5.72				92.2		

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH
LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

Due to matrix interference, F- can not be determined. Tara Shiffler 8/6/93

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 620.-5571	102 5 DAY	7-22-93	14:54	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
?	STD

Remarks, Calculations, Results

	uG/ML	% Rec
EDP 974 F	53.7	95.9
EDP 972 CL	73.5	98.0
EDP 968 NO2	499	94.9
EDP 978 NO3	536	92.6
EDP 976 PO4	516	99.8
EDP 970 SO4	595	98.7

ZZN9B

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Sara Griffin

SI-680C-561 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 621.-5671	102 5 DAY	7-22-93	14:56	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	BLK

Remarks, Calculations, Results

REAGENT BLANK

	uG/ML
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO4	<1
SO4	<1

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Sara Griffin

SI-680C-561 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 622.-5771	102 5 DAY	7-22-93	14:58	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-0

Remarks Calculations Results

	uG/mL
F	matrix interference
Cl	0.585
NO_2	6.74
NO_3	9.079
PO_4	<1
SO_4	2.17

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Tara Griffin

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 623.-5771	102 5 DAY	7-22-93	15: 3	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-1

Remarks Calculations Results

	D.F	uG/mL
F	1	matrix interference
Cl	1	3.37
NO_2	11	45.06
NO_3	11	57.3
PO_4	1	<1
SO_4	1	7.62

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Tara Griffin

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 624.-5771	102 5 DAY	7-22-93	15: 3	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-2

Remarks, Calculations, Results

	uG/ML
F	matrix interferes
Cl	2.13
NO_2	27.8
NO_3	36.5
PO4	<1
SO4	4.50

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Sara Duffin 8/4

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 625.-5771	102 5 DAY	7-22-93	15: 6	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-3

Remarks, Calculations, Results

	D.F.	uG/ML
F	1	matrix interferes
Cl	1	4.38
NO_2	11	52.4
NO_3	11	65.6
PO4	1	<1
SO4	1	7.26

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Sara Duffin 8/4

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 626.-5771	102 5 DAY	7-22-93	15: 7	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-4

Remarks, Calculations, Results

	µG/ML	D.F.
F	matrix interference	1
Cl	3.98	1
NO_2	49.1	1
NO_3	61.8	1
PO_4	<1	1
SO_4	4.72	1

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Tara Griffin

54-6800-001 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 627.-5571	102 5 DAY	7-22-93	15: 8	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? 22-93	STD

Remarks, Calculations, Results

		µG/ML	% Rec
EDP 974	F	55.7	99.5
EDP 972	CL	70.6	94.1
EDP 968	NO2	492	93.5
EDP 978	NO3	529	91.4
EDP 976	PO4	504	97.5
EDP 970	SO4	601	99.7

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1523	Tara Griffin

54-6800-001 (R-10-83)

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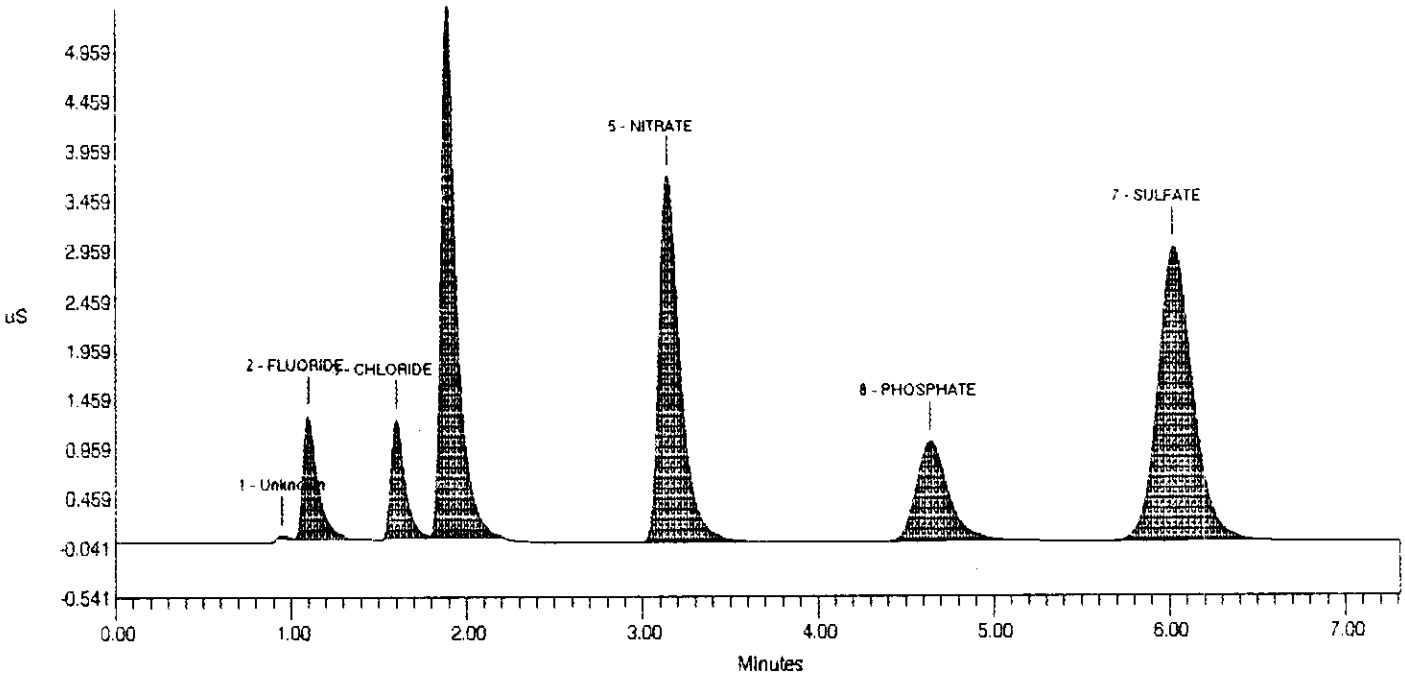
Robby Wendland
8-4-93

```
R Sample Name: LMCS                                   Date: Wed Aug 04 11:[illegible] 1993 R
R Data File  : C:\DX\DATA\93080331.D03                                                      R
R Method     : C:\DX\METHOD\MEL.MET                                                         R
R ACI Address: 1        System : 1        Inject#:    3   Detector: CDM-1                  R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	101	2195	5Hz	0.00	[illegible]	[illegible]	

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Sl. Code	[illegible]
[illegible]	1.[illegible]	FLUORIDE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.60	CHLORIDE	73.506	1106	[illegible]	[illegible]	[illegible]
4	1.89	NITRITE	499.249	5354	32615	2	1.32
5	3.14	NITRATE	535.842	3693	30877	1	1.49
6	4.64	PHOSPHATE	515.732	1013	12793	1	-4.54
7	6.02	SULFATE	594.971	2968	41183	1	[illegible]

File: C:\DX\DATA\93080331.D03 Sample: LMCS



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 221 TO 231.

Robby Wendland
8-5-93

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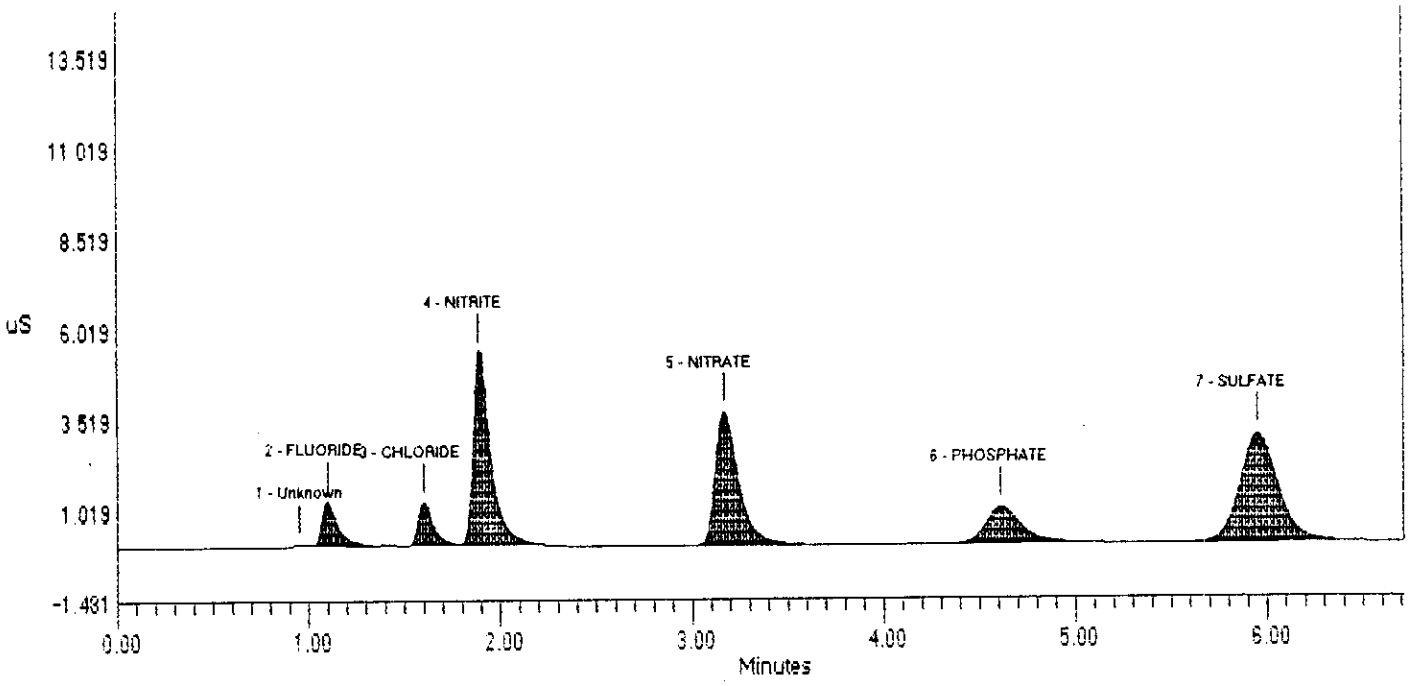
% Sample Name: LMCS Date: Thu Aug 05 [illegible]
% Data File : C:\DX\DATA\93080341.D03
% Method : C:\DX\METHOD\MEL.MET
% ACL Address: 1 System : 1 Injects: 3 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Column-1	1	101	2015	SHE	0.00	[illegible]	[illegible]	[illegible]

#	Ret Time	Component Name	Concentration	Height	Area	R	[illegible]
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2	1.60	CHLORIDE	72.227	1163	[illegible]	[illegible]	[illegible]
4	1.99	NITRITE	501.622	5312	32787	[illegible]	[illegible]
5	3.17	NITRATE	533.125	3665	[illegible]	[illegible]	[illegible]
6	4.61	PHOSPHATE	512.922	989	[illegible]	[illegible]	[illegible]
7	5.95	SULFATE	592.582	2951	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080341.D03 Sample: LMCS



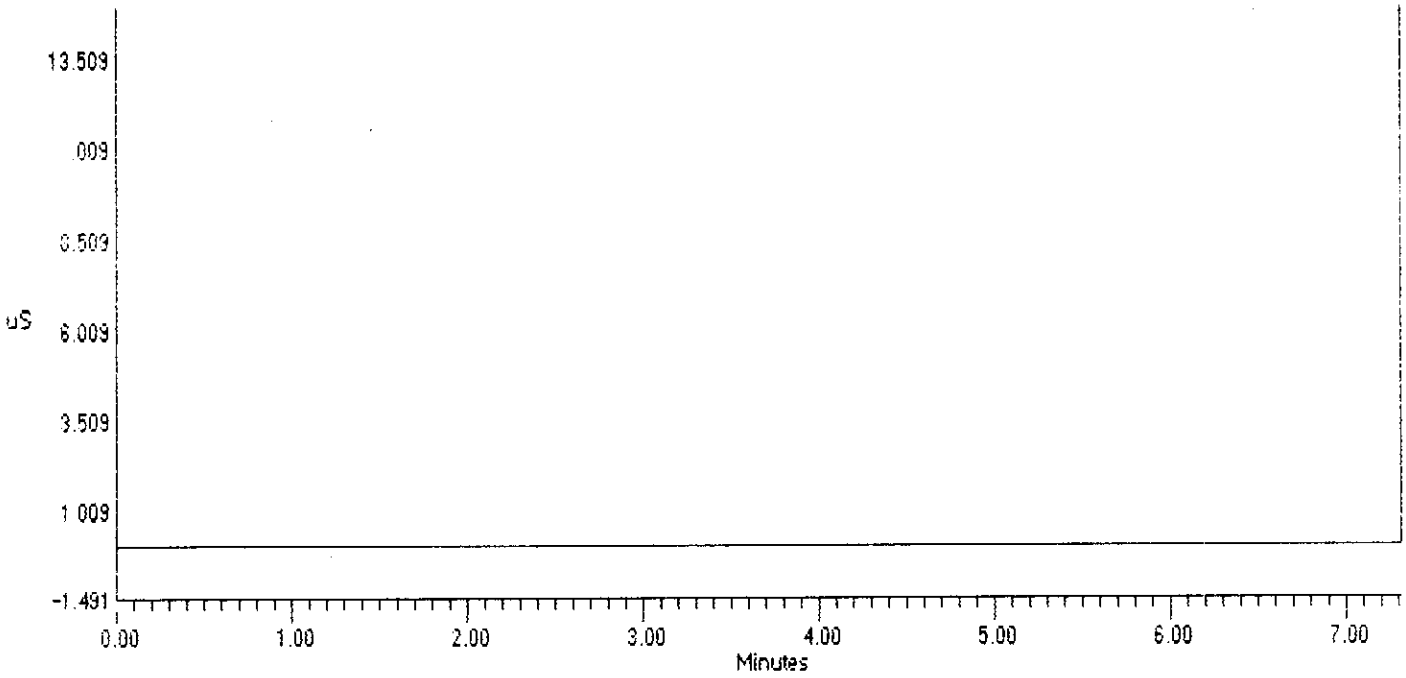
BEST AVAILABLE COPY

```
% Sample Name: BLK                                   Date: Wed Aug 04 14:16:36 1993 %
% Data File   : C:\DX\DATA\93080321.D04                                             %
% Method      : C:\DX\METHOD\MEL.MET                                                %
% ACI Address: 1        System : 1        InjectN:    4   Detector: CDM-1          %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	1	2195	5Hz	0.00	7.32	20	

Pk.	Ret Component	Concentration	Height	Area	Cs	Ts	Ch
Ind	Time Name				Start		

File: C:\DX\DATA\93080321.D04 Sample: BLK



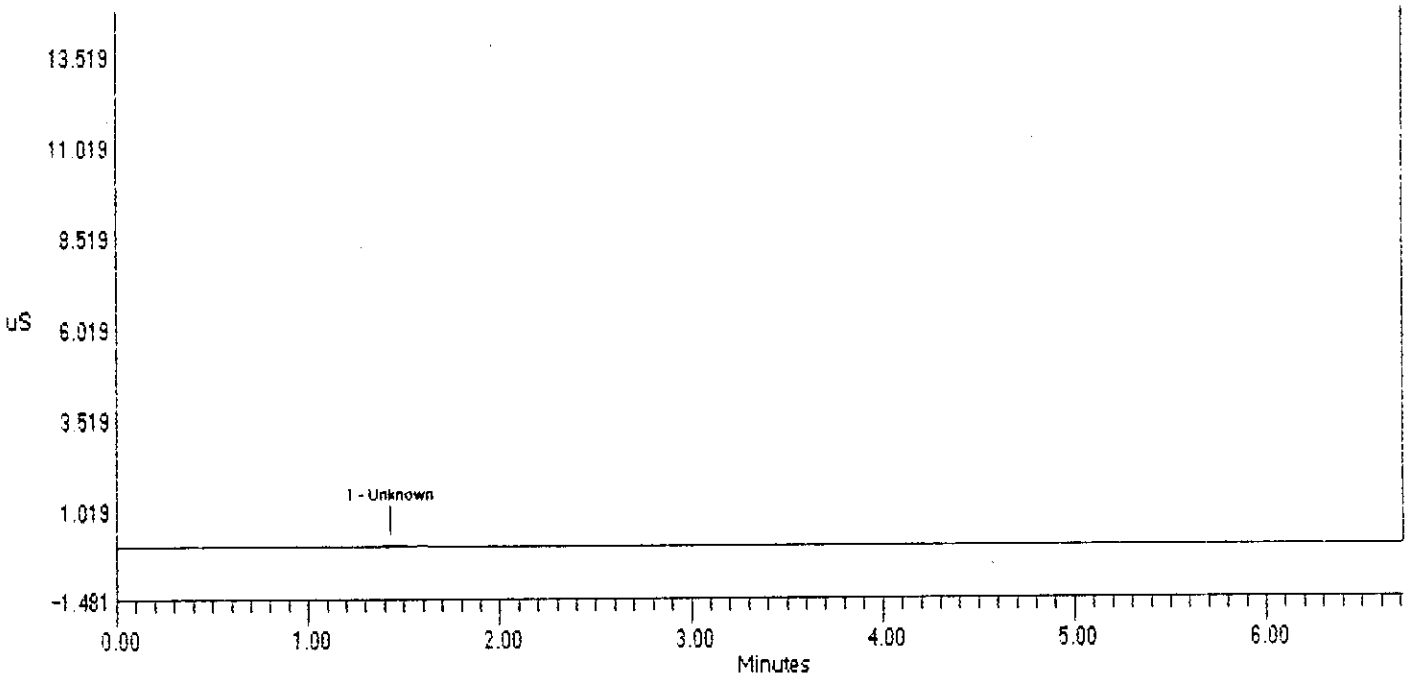
BEST AVAILABLE COPY

```
* Sample Name: BLK                                    Date: Thu Aug 05 08:38:51 1993
* Data File   : C:RDXRDATA\93080331.D04                                            *
* Method      : C:RDXRMETHOD\MEL.MET                                                *
* ACI Address: 1        System : 1        Injects:    4   Detector: CDM-1         *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	11	2015	5Hz	0.00	6.73	200	

PK. Num	Ret Time	Component Name	Concentration	Height	Area	Div. Factor

File: C:\DX\DATA\93080331.D04 Sample: BLK



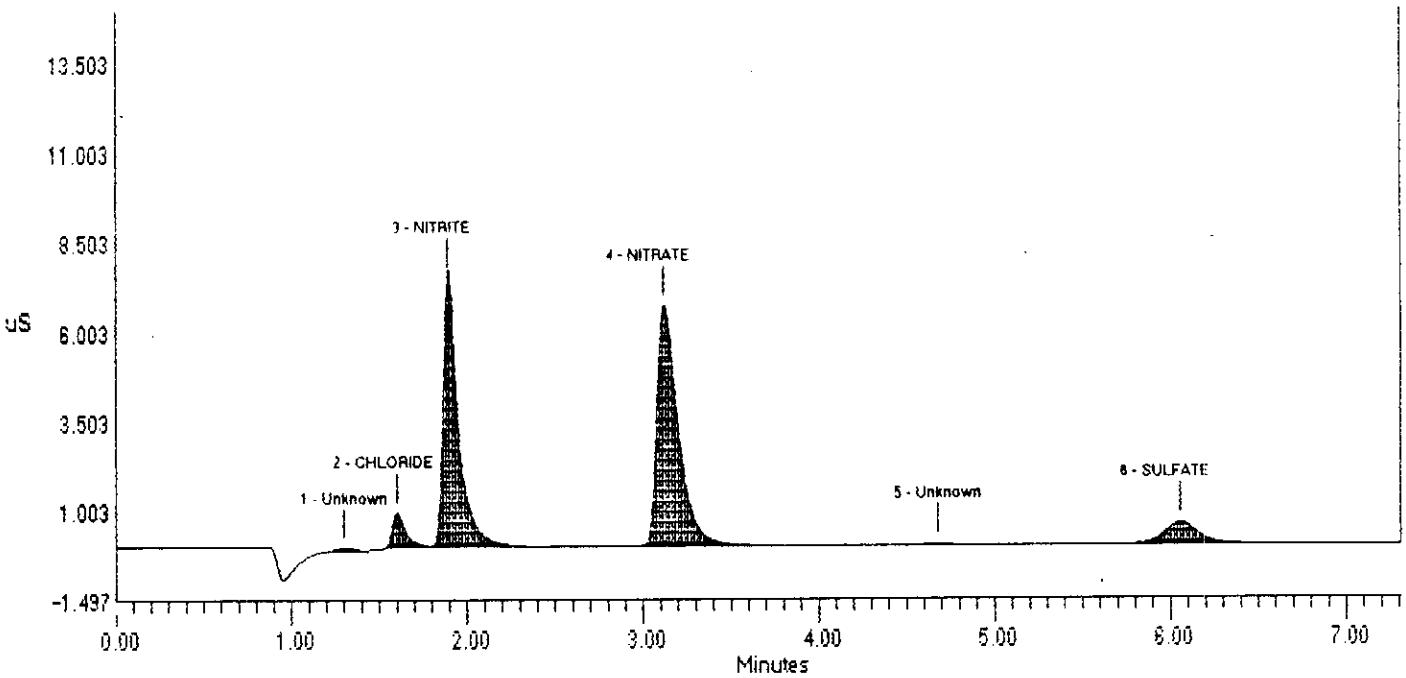
BEST AVAILABLE COPY

```
% Sample Name: G622                                   Date: Wed Aug 04 14:39:4[illegible] 1993
% Data File   : C:\DX\DATA\93080321.D05                                                      %
% Method      : C:\DX\METHOD\MEL.MET                                                         %
% ACI Address: 1        System : 1        Injects:    5   Detector: CDM-1                   %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	20%	

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Rej Code	Devia.
1	1.[illegible]		283.000	51	[illegible]	1	
2	1.60	CHLORIDE	0.585	948	4[illegible]	2	-0.[illegible]
3	1.89	NITRITE	6.735	7503	45757	2	-0.53
4	3.12	NITRATE	9.029	6715	56617	1	-0.95
6	6.06	SULFATE	2.174	595	8146	1	0.30

File: C:\DX\DATA\93080321.D05 Sample: G622



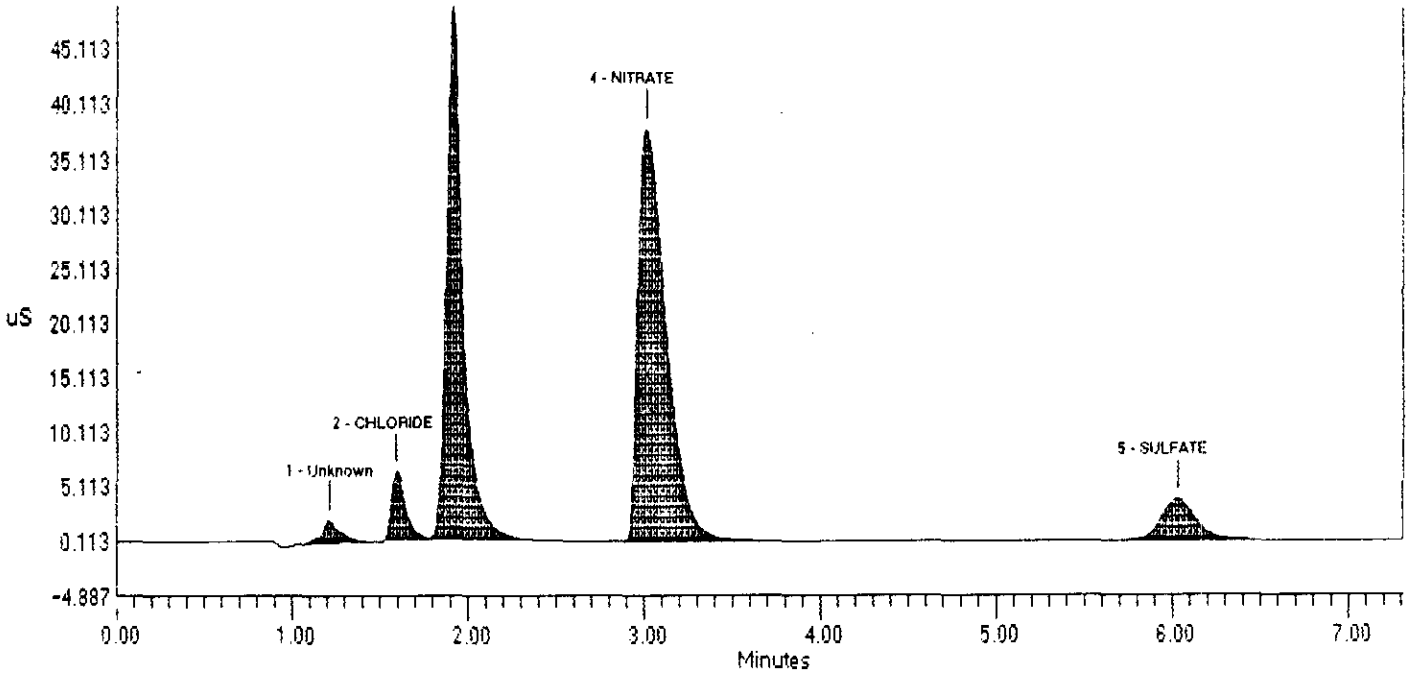
BEST AVAILABLE COPY

```
% Sample Name: G623                                   Date: Wed Aug [illegible]
% Data File   : C:\DX\DATA\93080321.D06
% Method      : C:\DX\METHOD\NEL.MET
% ACI Address: 1        System : 1        Injects:    6   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	1	2195	5Hz	0.00	7.32	200

Pk. No.	Ret. Time	Component Name	Concentration	Height	Area	Pk. Type	[illegible]
1	1.22		1146.800	[illegible]	[illegible]	[illegible]	
2	1.59	CHLORIDE	3.373	3973	31505	2	[illegible]
3	1.91	NITRITE	43.661	47758	316446	2	0.93
4	3.01	NITRATE	61.468	37750	419129	1	-4.[illegible]
5	6.03	SULFATE	7.016	3721	51182	1	0.00

File: C:\DX\DATA\93080321.D06 Sample: G623



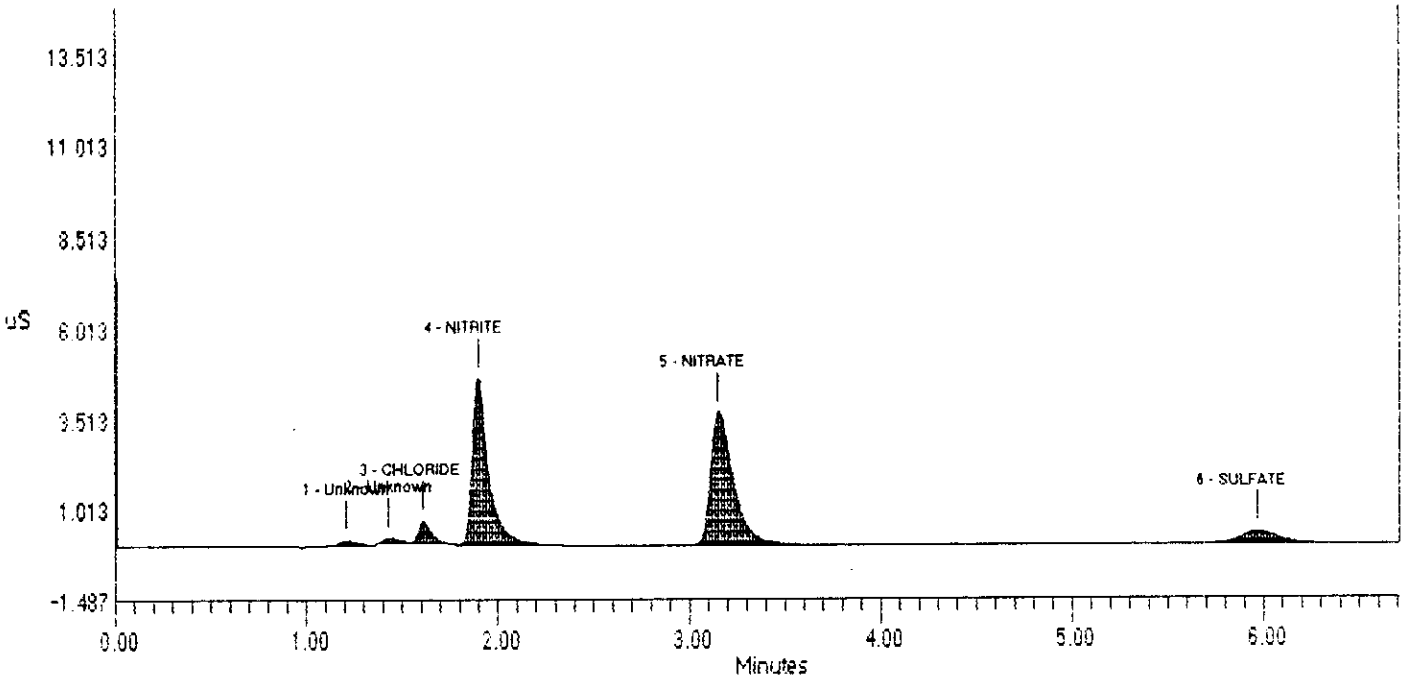
BEST AVAILABLE COPY

```
% Sample Name: G623                                   Date: Thu Mar 05 08:00:10 1993
% Data File   : C:RDXRDATA\93080331.D06                                            %
% Method      : C:RDXMETHOD\MEL.MET                                                %
% ACI Address: 1        System : 1        Injects:   6   Detector: CDM-1           %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	11	2015	5Hz	0.00	6.72	27	

Pk. Seq.	Ret Time	Compound Name	Concentration	Height	Area	Int. Code	Error
1	1.11		4781.800	121	21	1	
2	1.43		7013.087	130	438	_	
3	1.61	CHLORIDE	3.705	574	2477	2	-5.27
4	1.90	NITRITE	45.059	4600	24403	1	0.00
5	3.15	NITRATE	57.271	3662	30190	1	0.00
6	5.97	SULFATE	19.137	224	4256	1	-1.20

File: C:\DX\DATA\93080331.D06 Sample: G623



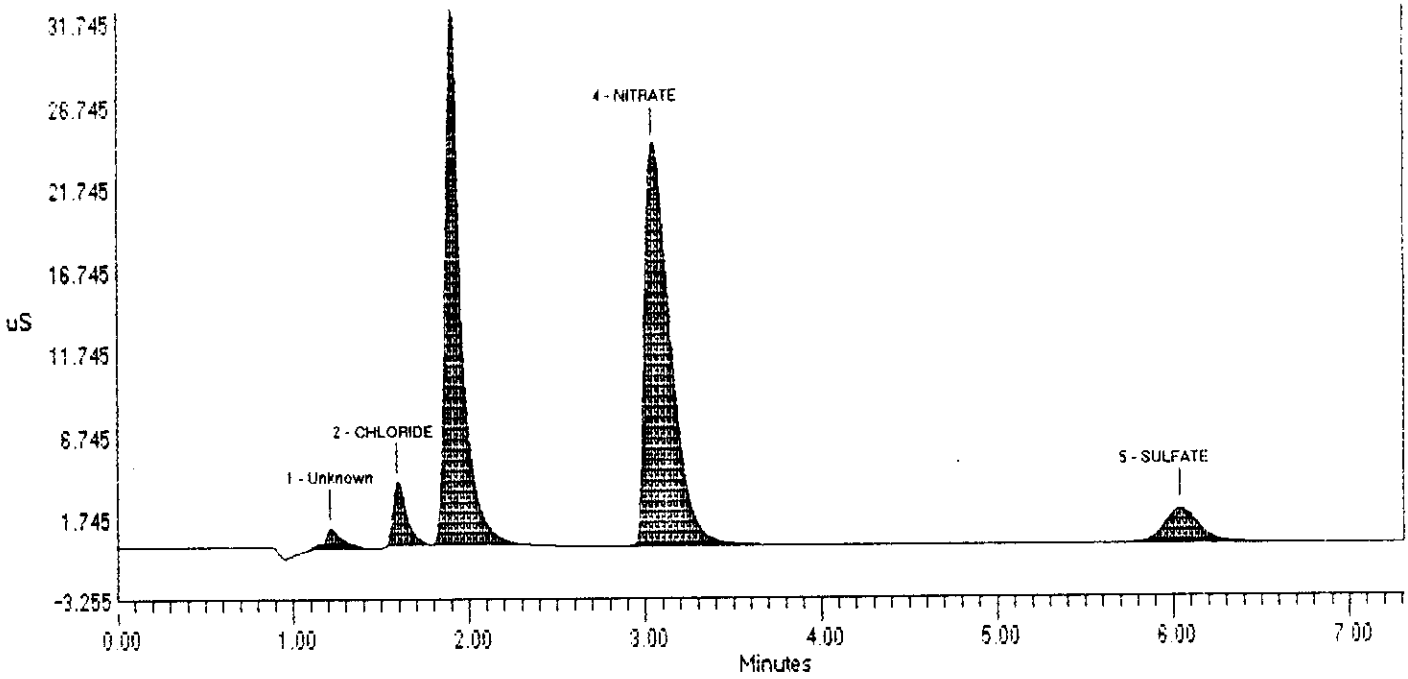
BEST AVAILABLE COPY

```
R Sample Name: G624                                   Date: Wed Aug 04 [illegible]
R Data File    : C:RDXRDATA\93080321.D07                                          R
R Method       : C:RDXRMETHOD\MEL.MET                                             R
R ACI Address: 1        System : 1        Inject#:   7   Detector: CDM-1         R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	200	

Pk. No.	Ret Time	Component Name	Concentration	Height	Area	Rej Code	Resid. Conc.
1	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.59	CHLORIDE	2.133	2743	19844	[illegible]	[illegible]
3	1.90	NITRITE	27.800	31607	200290	2	0.00
4	3.04	NITRATE	36.321	24196	245282	1	-3.47
5	6.04	SULFATE	4.497	2087	28791	1	0.17

File: C:\DX\DATA\93080321.D07 Sample: G624



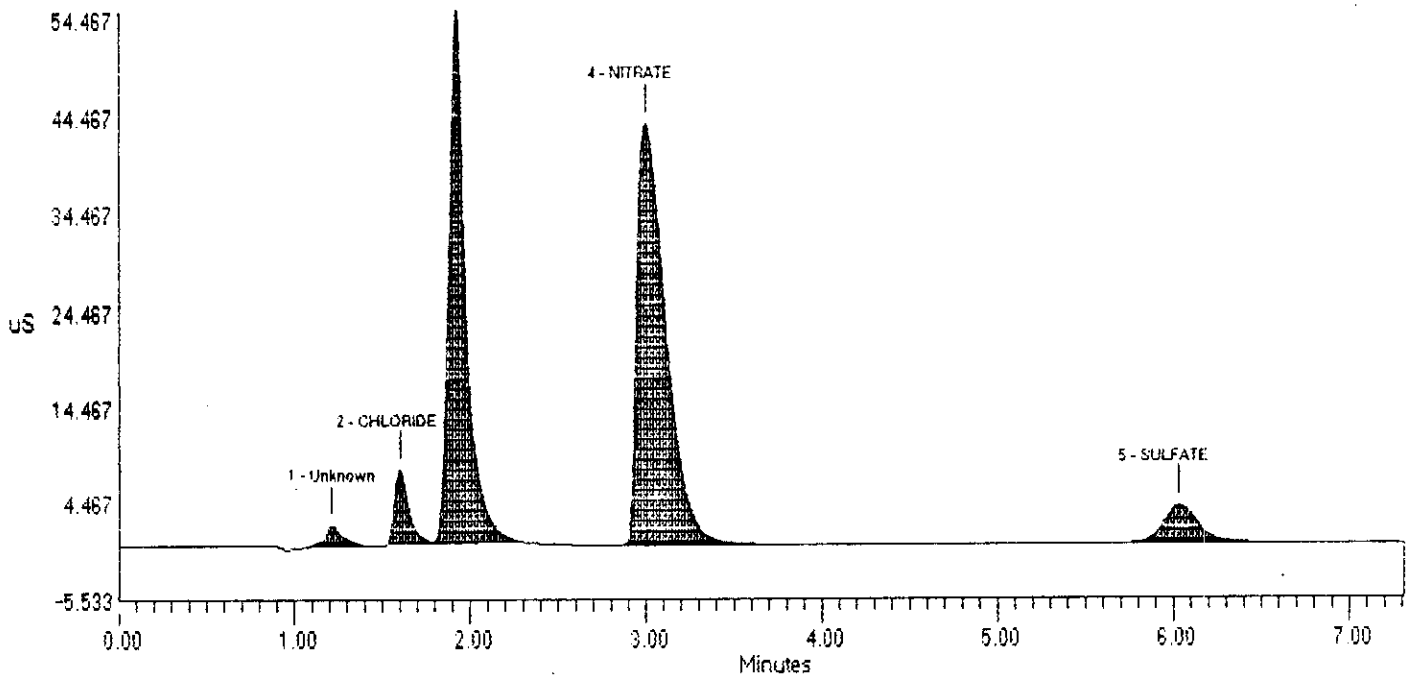
BEST AVAILABLE COPY

```
* Sample Name: G625                                  Date: Wed Aug 04 13:[illegible]
* Data File   : C:\DX\DATA\93080321.D08
* Method      : C:\DX\METHOD\MEL.MET
* ACI Address: 1        System : 1        Injects:    8   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Reference	1	1	2195	5Hz	0.00	7.32	200	

Pk. No.	Ret Component Time Name	Concentration	Height	Area	Pk. Type	Peak Area
1	1.11	13274.452	[illegible]	[illegible]		
2	1.60 CHLORIDE	4.381	7602	41678	[illegible]	[illegible]
3	1.92 NITRITE	51.449	54812	373784	2	1.05
4	3.00 NITRATE	72.933	43641	498384	1	-4.76
5	6.03 SULFATE	7.258	3873	53334	1	0.00

File: C:\DX\DATA\93080321.D08 Sample: G625



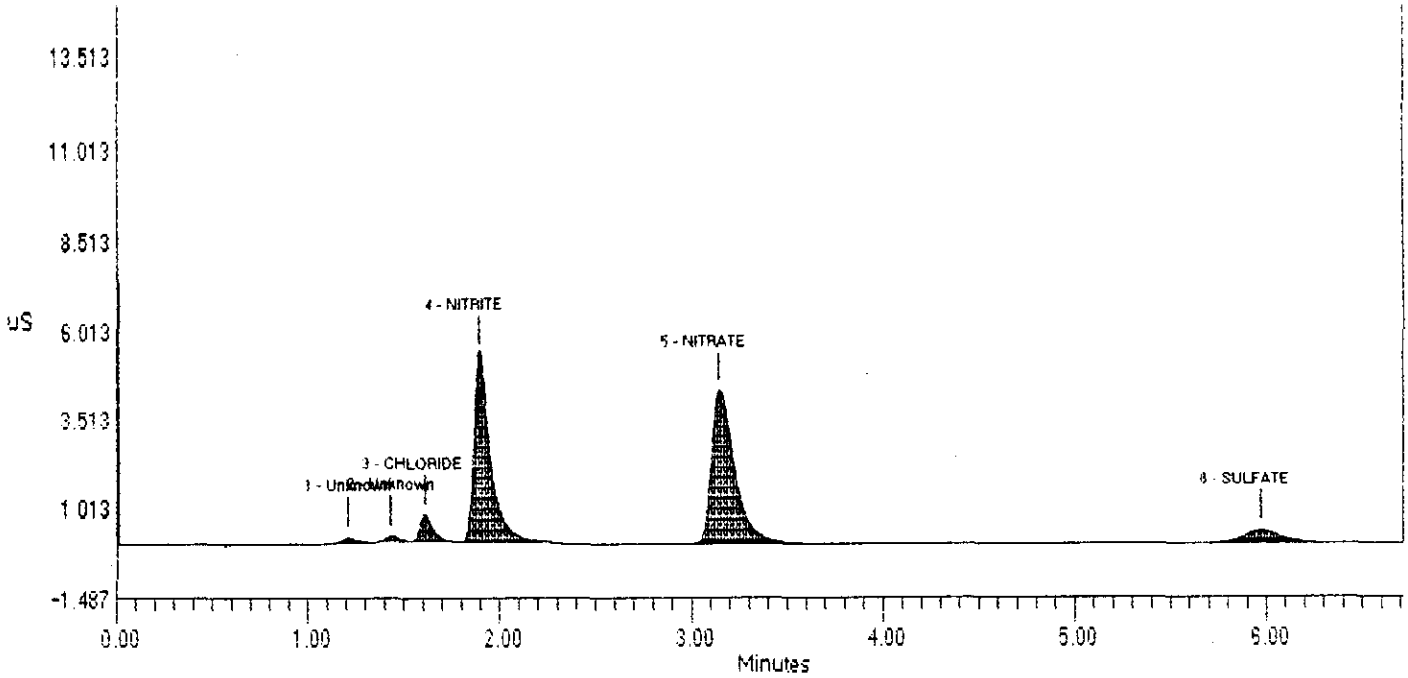
BEST AVAILABLE COPY

```
R Sample Name: G625                                  Date: [illegible]
R Data File    : C:\DX\DATA\93080331.D08                                  R
R Method       : C:\DX\METHOD\MEL.MET                                     R
R ASI Address: 1        System : 1        Injects:   8   Detector: CDM-1  R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	11	2015	5Hz	0.00	6.72	200	

Pk. No.	Ret Time	Component Name	Concentration	Height	Area	PL. Code	Shape Code
1	1.[illegible]		[illegible]	[illegible]	[illegible]		
2	1.43		5422.371	116	[illegible]		
3	1.61	CHLORIDE	4.459	708	3142	2	[illegible]
4	1.89	NITRITE	52.438	5274	31324	1	[illegible]
5	3.14	NITRATE	65.625	4268	35440	1	[illegible]
6	5.97	SULFATE	19.309	335	4425	1	[illegible]

File: C:\DX\DATA\93080331.D08 Sample: G625



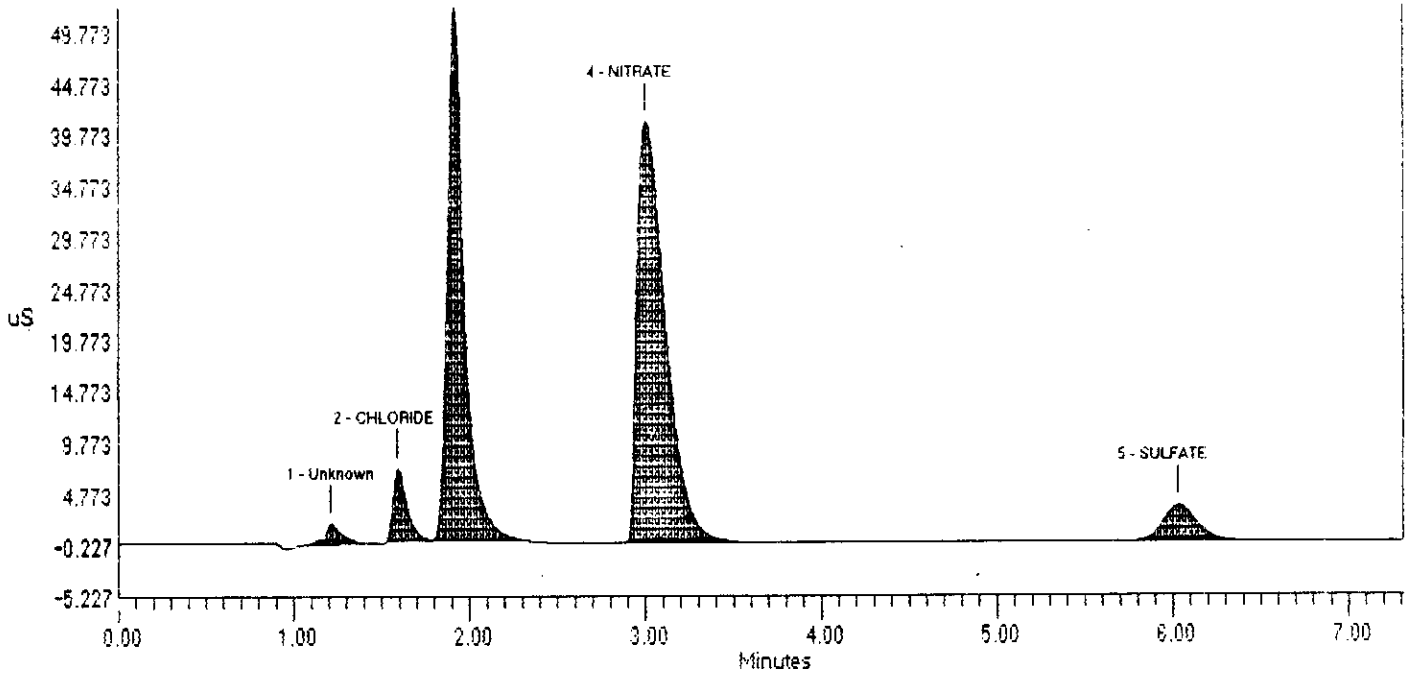
BEST AVAILABLE COPY

```
% Sample Name: G626                                   Date: Wed Aug 04 [illegible]
% Data File   : C:\DX\DATA\93080321.D09                                          %
% Method      : C:\DX\METHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        Inject#:    9   Detector: CDM-1       %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	1	2195	5Hz	0.00	7.32	20%	

[illegible]	Peak Component [illegible]	Concentration	Height	Area	[illegible]	[illegible]
[illegible]	1.22	14598.500	1005	161 [illegible]		
2	1.39 CHLORIDE	3.979	6985	37792	1	-6.[illegible]
3	1.91 NITRITE	48.158	51063	349639	2	0.53
4	3.00 NITRATE	68.227	40962	463808	1	-4.76
5	6.03 SULFATE	6.719	3515	48542	1	0.00

File: C:\DX\DATA\93080321.D09 Sample: G626



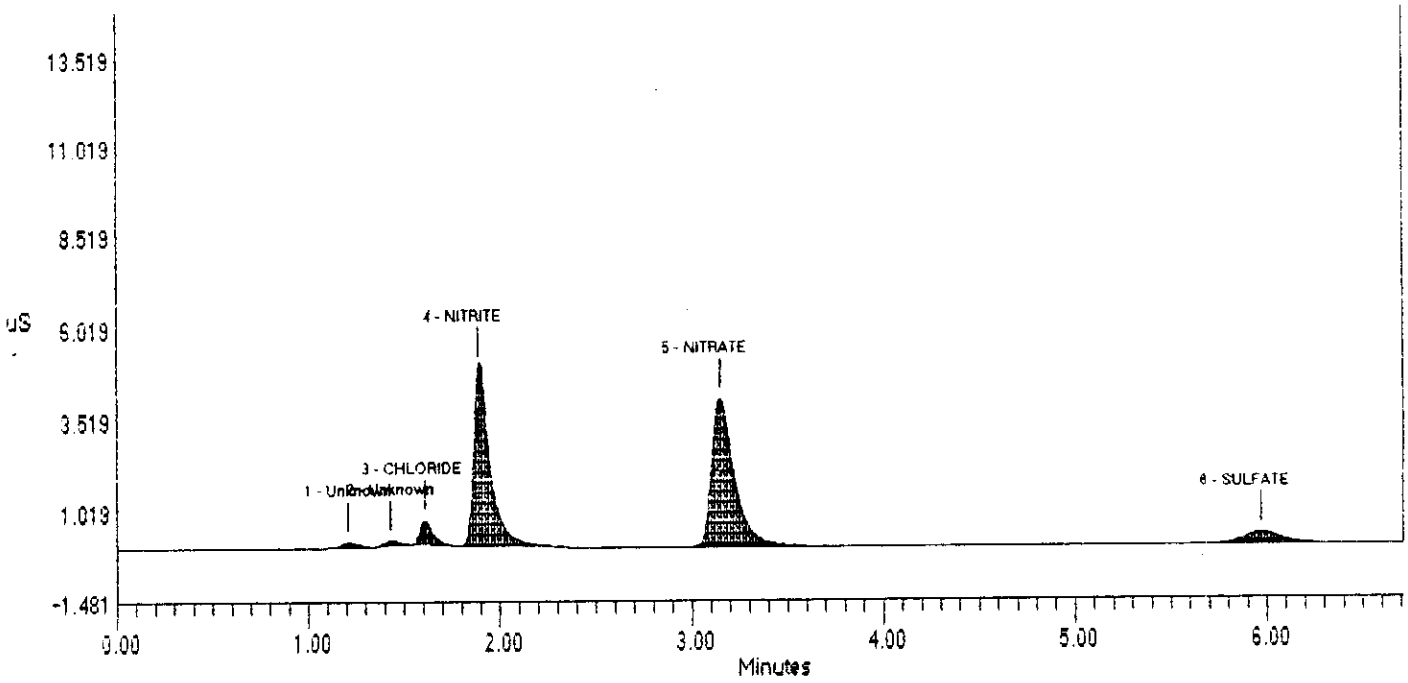
BEST AVAILABLE COPY

```
% Sample Name: G626                                    Date: [illegible]
% Data File   : C:\DX\DATA\93080331.D09                                  %
% Method      : C:\DX\METHOD\MEL.MET                                     %
% ACI Address: 1        System : 1        Injects:   9   Detector: CDM-1 %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	11	2015	5Hz	0.00	6.99	999	

Ret Time	Component Name	Concentration	Height	Area	Rej Code	[illegible]
[illegible]		[illegible]	[illegible]	[illegible]		
2 1.43		6012.600	109	547	1	
3 1.61	CHLORIDE	4.058	651	2788	1	-5.29
4 1.89	NITRITE	49.132	4895	29119	1	-0.33
5 3.15	NITRATE	61.843	4051	33063	1	0.00
6 5.97	SULFATE	18.923	309	4114	1	[illegible]

File: C:\DX\DATA\93080331.D09 Sample: G626



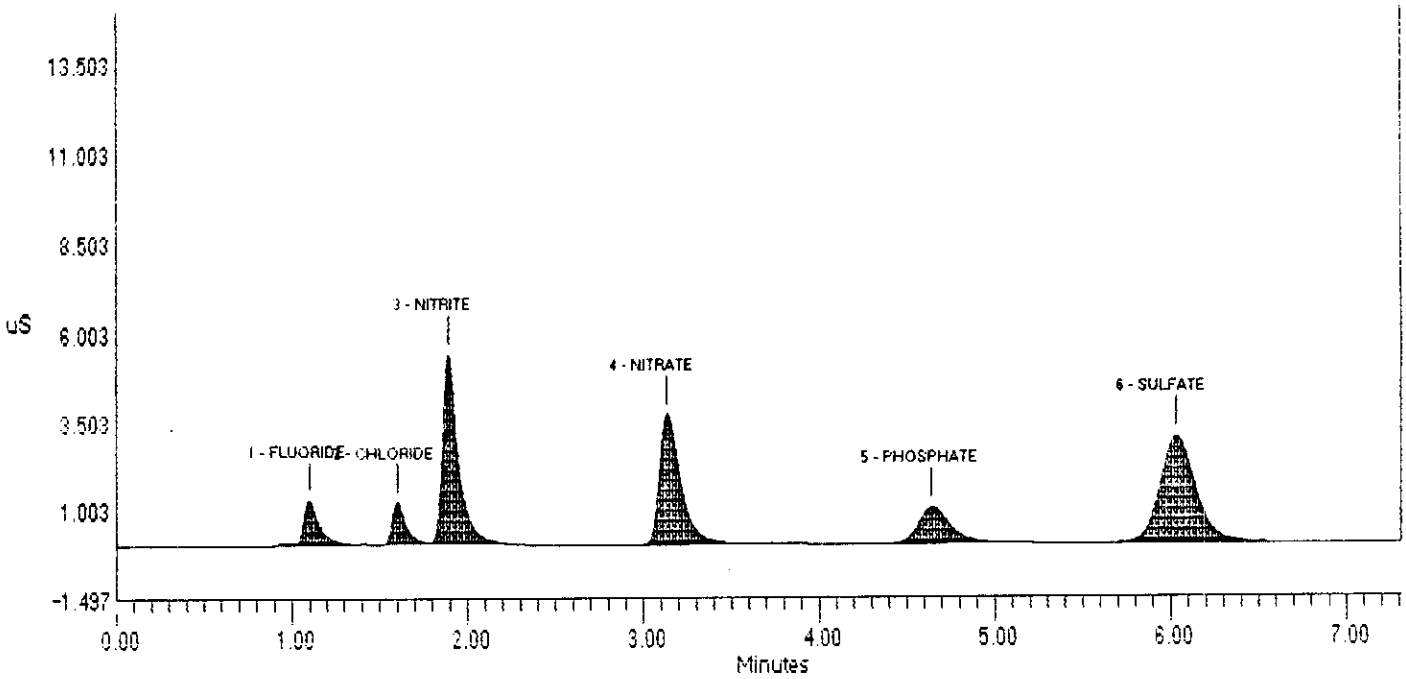
BEST AVAILABLE COPY

```
# Sample Name: LMCS                                  Date: Wed Aug 04 [illegible]
# Data File  : C:\DXR\DATA\93080321.D10                                          #
# Method     : C:\DXR\METHOD\MEL.MET                                             #
# ACI Address: 1        System : 1        Inject#: 10   Detector: CDM-1         #
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	101	2195	5Hz	0.00	7.32	200	

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Pk Type	% Diff
1	1.10	FLUORIDE	55.709	1[illegible]	[illegible]		[illegible]
2	1.60	CHLORIDE	70.633	1132	3991	[illegible]	-[illegible]
3	1.89	NITRITE	491.630	5349	32061	2	1.26
4	3.13	NITRATE	528.809	3662	30392	1	1.17
5	4.64	PHOSPHATE	503.920	1002	12402	1	-4.36
6	6.03	SULFATE	600.880	2991	41703	1	1.82

File: C:\DX\DATA\93080321.D10 Sample: LMCS



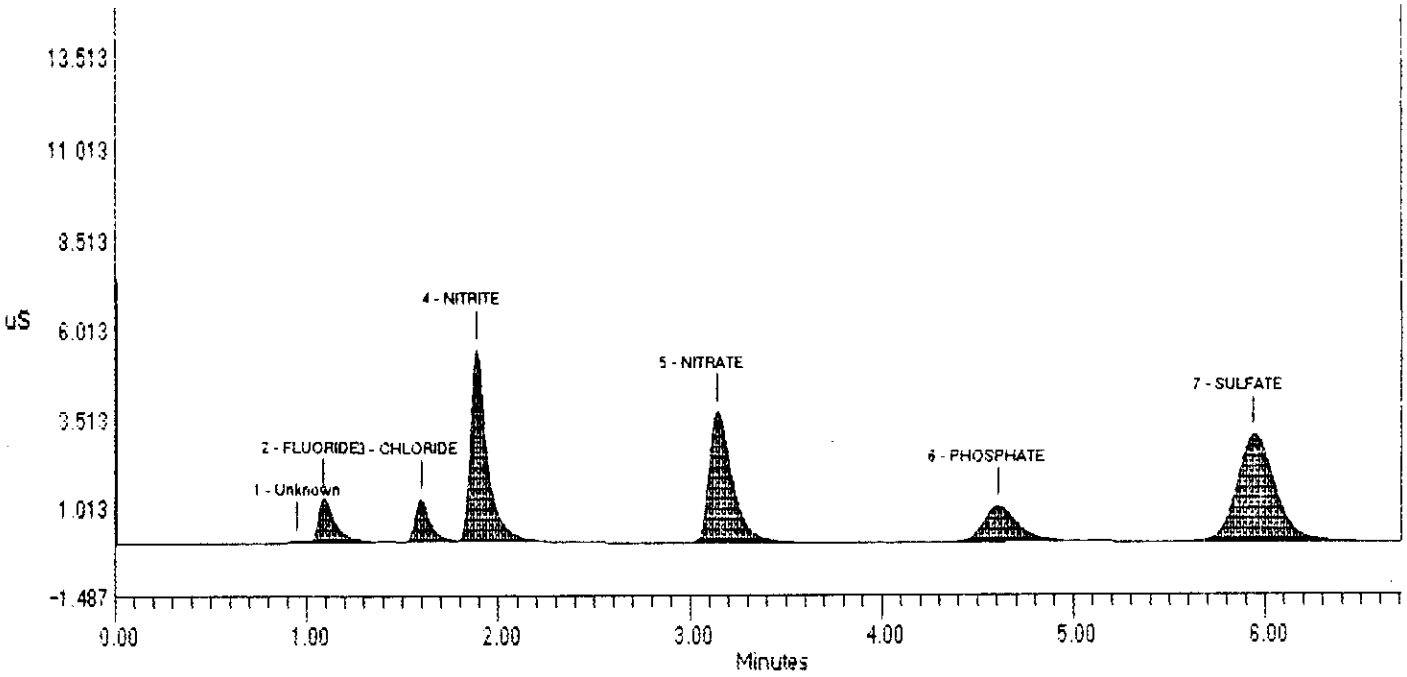
BEST AVAILABLE COPY

```
Sample Name: LMCS                                   Date Time: [illegible]
Data File   : C:\DX\DATA\93080331.D10
Method      : C:\DX\METHOD\ANEL.MET
ACI Address: 1        System : 1        Inject#: 10   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	101	2015	5Hz	0.00	6.72	200

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Pk. Width Sec.
1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2	[illegible]	FLUORIDE	[illegible]	[illegible]	[illegible]	[illegible]
4	1.89	NITRITE	486.470	5368	31687	2 [illegible]
5	3.14	NITRATE	527.646	3646	30313	1 [illegible]
6	4.61	PHOSPHATE	494.533	982	12100	1 [illegible]
7	5.94	SULFATE	591.952	2966	40917	1 [illegible]

File: C:\DX\DATA\93080331.D10 Sample: LMCS



102-5DAY Batch 1382 OA

WESTINGHOUSE HANFORD COMPANY

WHC-SD-WM-DP-054 REV 0

222-S LABORATORY

ANALYTICAL BATCH

Lab Segment Serial No. G630 - 63A	Customer ID: C-5,6,7, D-0,1
Analysis: IC	Sample Prep: DIRECT

Instrument: WB54428	Procedure/ Rev: LA533-105/C-0
Technologist: R. WENDLAND ( )	Date: 8-3-93 / 8-4-93 (8/10/93)
Starting Time: 8/4/93 949 / 8/3/93 14:57	Temperature 23.0°C
Ending Time: 1050 / 15:59	Chemist: S. BOLLING

Comments: This batch was run at a D.F. of 1 of 8/3/93. However, as NO_2 & NO_3 were out of calibration limits, this batch was rerun on 8/4/93 at a D.F. of 11.
Sherry Bolling 8/10/93

	Description	Lab ID		Description	Lab ID
1	LMCS	G628-5571	11		
2	BLANK	G629-5671	12		
3	SAMPLE	G630-5771	13		
4	SAMPLE	G631-5771	14		
5	SAMPLE	G632-5771	15		
6		RW 8-3-93 G632	16		
7	SAMPLE	G633-5771	17		
8	SAMPLE	G634-5771	18		
9	~~SAM~~ RW 8-3-93	~~G634~~ RW 8-3-93	19		
10	LMCS	G644-5571	20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS	22N9B	(.100 ml)		
		238		

ROBBY WENDLAND
8-3-93

A-6000-881 (03/92)

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA 533-105 / C-0 TG 8/6/93 ~~T. GRIFFIN~~

DATE START: ~~8-6-93~~ SMS 8/10/93 8/3/93

PREPARED BY: T. GRIFFIN

DATE COMPLETE: ~~8-6-93~~ SMS 8/10/93 8/4/93

SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
	UNITS:		µG/mL						
STD	G628	F	54.0				96.4	.1	
22N98		CL	77.8				108.7	.2	
~~BLANK~~		NO_2	493.2				43.8	1	
TG 8/6/93		NO_3	538.9				93.1	1	
		PO_4	507.4				98.1	1	
		SO_4	605.6				100.4	1	
STD		F	53.2				95.0		
		Cl	68.9				91.9		
		NO_2	513.4				97.6		
		NO_3	538.6				93.0		
		PO_4	525.7				101.3		
		SO_4	602.1				99.4		
Blank	G629	F	<.1						
		Cl	<.2						
		NO_2	<1						
		NO_3	<1						
		PO_4	<1						
		SO_4	<1						
	G630	F	matrix interference						
		Cl	2.79						
		NO_2	36.7						
		NO_3	47.0						
		PO_4	<1						
		SO_4	5.11						
	G631	F	matrix interference						
		Cl	2.42						
		NO_2	31.6						
		NO_3	41.1						
		PO_4	<1						
		SO_4	4.55						
	G632	F	matrix interference						
		Cl	2.02						
		NO_2	27.5						
		NO_3	36.4						
		PO_4	<1						
		SO_4	4.04						
	G633	F	matrix interference						
		Cl	0.95						
		NO_2	15.7						
		NO_3	22.5						
		PO_4	<1						
		SO_4	3.01						

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

This batch was run at a D.F. of 1 on 8/3/93. However, as NO_2 & NO_3 were out of calibration limits, this batch was rerun on 8/4/93 at a D.F. of 11. Beginning & ending stds & blanks for both days are included in this package.

Tara Huffer 8/6/93

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA 533-101 / C-0

DATE START: ~~8-6-93~~ 8/3/93

PREPARED BY: T. GRIFFIN

DATE COMPLETE: ~~8-6-93~~ 8/4/93

SPL NAME	SPL ID	ANALYTE	RESULT #1 (UNITS: ug/mL)	RESULT #2	AVERAGE	RPD%	%REC	DET LIM	% CT ER
~~STD~~	C 634	F	matrix interference						
TC 8/6/93		Cl	4.59						
~~BLANK~~		NO2	57.4						
TC 8/6/93		NO3	73.7						
		PO4	<1						
		SO4	~~21.1~~ 9.39						
end add	6644	F	53.5				95.5		
		Cl	74.3				98.7		
		NO2	495				94.1		
		NO3	532				92.0		
		PO4	509				98.5		
		SO4	601				99.7		
end std		F	54.6			TC 8/6/93	~~98.7~~ 97.5		
		Cl	70.1				93.5		
		NO2	496				94.3		
		NO3	548				94.6		
		PO4	523				101.2		
		SO4	608				100.8		

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH
LIST SPECIFIC PROBLEMS/VARIATIONS FOR THIS BATCH:

Due to a matrix interference, F- can not be determined

Tara Shiff 8/6/93

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 628.-5571	102 5 DAY	7-22-93	15: 8	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? .100-10 22NAB	STD

Remarks, Calculations, Results

	uG/ML	% Rec
EDP 974 F	54.0	96.4
EDP 972 CL	77.8	103.7
EDP 968 NO2	493.2	93.8
EDP 978 NO3	538.9	93.1
EDP 976 PO4	507.4	98.1
EDP 970 SO4	605.6	100.4

BOBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Griffin

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 629.-5671	102 5 DAY	7-22-93	15:10	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	BLK

Remarks, Calculations, Results

REAGENT BLANK

	uG/ML
F	<0.1
Cl	<0.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	<1

BOBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Griffin

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 630.-5771	102 5 DAY	7-22-93	15:12	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-5

Remarks, Calculations, Results

	D.F.	uG/ML
F	1	matrix interference
Cl	1	2.79
NO_2	11	36.7
NO_3	11	47.0
PO_4	1	<1
SO_4	1	5.11

BOBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Huffin

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 631.-5771	102 5 DAY	7-22-93	15:12	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-6

Remarks, Calculations, Results

	D.F.	uG/ML
F		matrix interference
Cl	1	2.42
NO_2	11	31.6
NO_3	11	41.1
PO_4	1	<1
SO_4		4.55

BOBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-4-93	1050	Sara Huffin

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 632.-5771	102 5 DAY	7-22-93	15:13	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	C-7

Remarks Calculations Results

	D.F.	uG/mL
F	1	matrix interference
Cl	1	2.02
NO_2	11	27.5
NO_3	11	36.4
PO_4	1	<1
SO_4	1	4.04

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Huffin

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 633.-5771	102 5 DAY	7-22-93	15:13	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	D-0

Remarks Calculations Results

	D.F.	uG/mL
F	1	matrix interference
Cl	1	0.95
NO_2	11	15.7
NO_3	11	22.5
PO_4	1	<1
SO_4	1	3.01

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Huffin

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 634.-5771	102 5 DAY	7-22-93	15:14	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
?	D-1

Remarks, Calculations, Results

	D.F	uG/ml
F	1	matrix interference
Cl	1	4.59
NO_2	11	57.4
NO_3	11	73.7
PO_4	1	<1 SMS 5/11/93
	1	~~2.1~~ 9.39

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Huffin

54-6800-06 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 644.-5571	102 5 DAY	7-22-93	15:44	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? 22N9B	STD

Remarks, Calculations, Results

	uG/ML	% Rec
EDP 974 F	53.5	95.5
EDP 972 CL	74.2	98.9
EDP 968 NO2	495	94.1
EDP 978 NO3	532	92.0
EDP 976 PO4	509	98.5
EDP 970 SO4	601	99.7

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1050	Sara Huffin

54-6800-06 (R-10-83)

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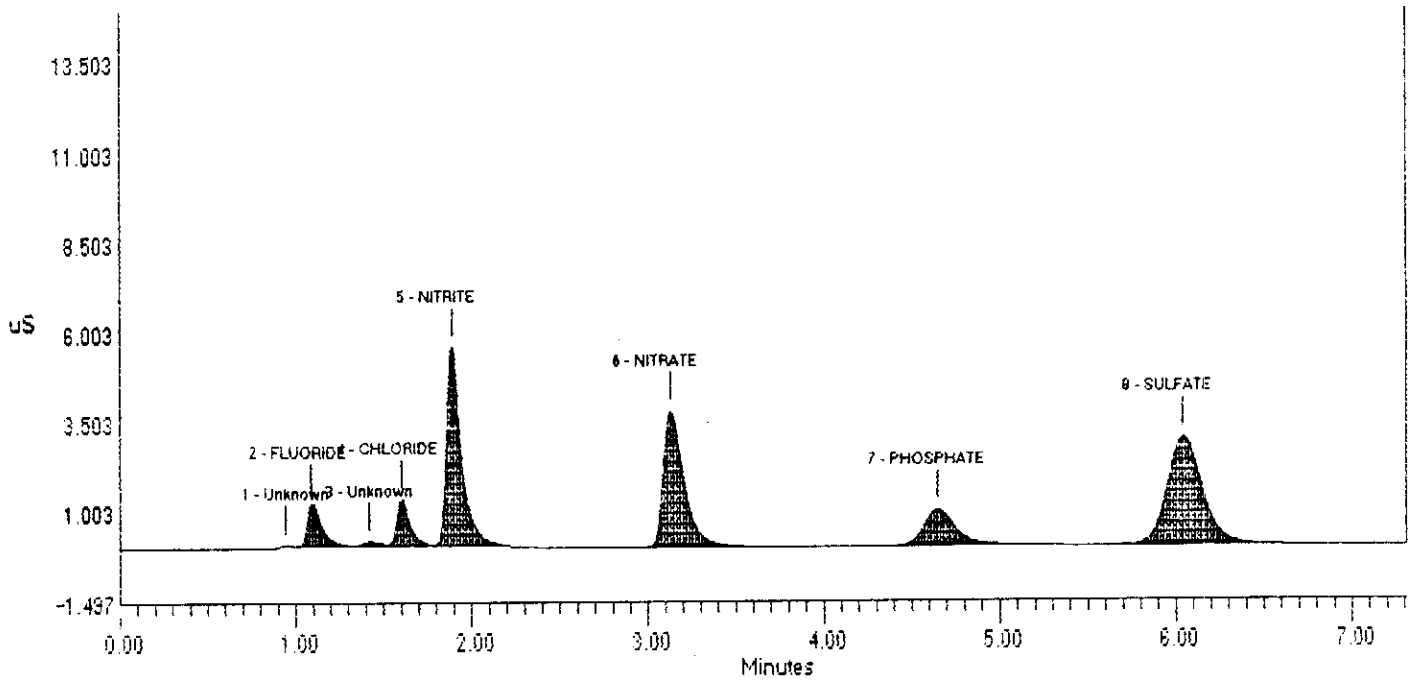
Robby Wendland
8-3-93

```
# Sample Name: LMCS                                   Date: Tue Aug 03 [illegible]
# Data File  : C:\DX\DATA\93080301.D11                                          n
# Method     : C:\DX\METHOD\MEL.MET                                             s
# ACI Address: 1        System : 1        Injects: 11   Detector: CDM-1        r
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	101	2195	5Hz	0.00	7.32	100	

Peak No.	Ret Time	Component Name	Concentration	Height	Area	Flag	Units
[illegible]	1.[illegible]	FLUORIDE	[illegible]	[illegible]	[illegible]		
3	1.42		88369.693	141	275	[illegible]	
4	1.60	CHLORIDE	77.768	1322	6676	[illegible]	[illegible]
5	1.99	NITRITE	493.196	5568	32175	[illegible]	[illegible]
6	3.13	NITRATE	538.884	3813	31082	[illegible]	[illegible]
7	4.65	PHOSPHATE	307.363	1021	12113	[illegible]	[illegible]
8	[illegible]	SULFATE	605.567	[illegible]	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080301.D11 Sample: LMCS



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 245 TO 246.

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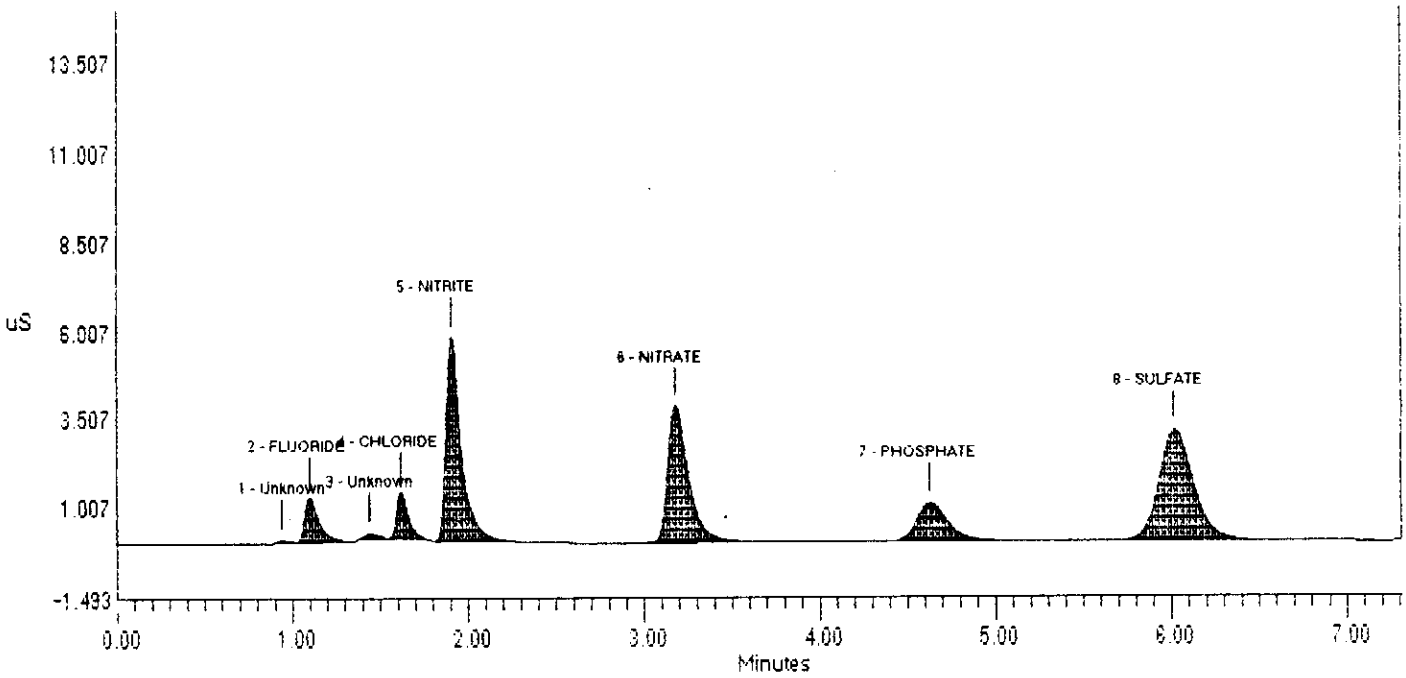
ROBBY WENDLAND 8-4-93

Sample Name: LMCS Date: Wed Aug [illegible]
Data File : C:\DX\DATA\93080311.D10
Method : C:\DX\METHOD\MEL.MET
ACI Address: 1 System : 1 Injects: 10 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REQ
[illegible]	1	101	2195	5Hz	0.00	7.32	305	

Sr. No.	Ret Time	Component Name	Concentration	Height	Area	Qty. Unit Code	Qty. Dev. %
[illegible]	[illegible]	FLUORIDE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.44		76558.300	150	[illegible]	[illegible]	
4	1.62	CHLORIDE	68.963	1276	5831	2	-2.37
5	1.91	NITRITE	513.361	5750	33640	1	1.35
6	3.18	NITRATE	538.571	3788	31060	1	2.79
7	4.63	PHOSPHATE	525.667	1051	13039	1	-0.71
8	6.02	SULFATE	601.691	3062	41809	1	1.11

File: C:\DX\DATA\93080311.D10 Sample: LMCS



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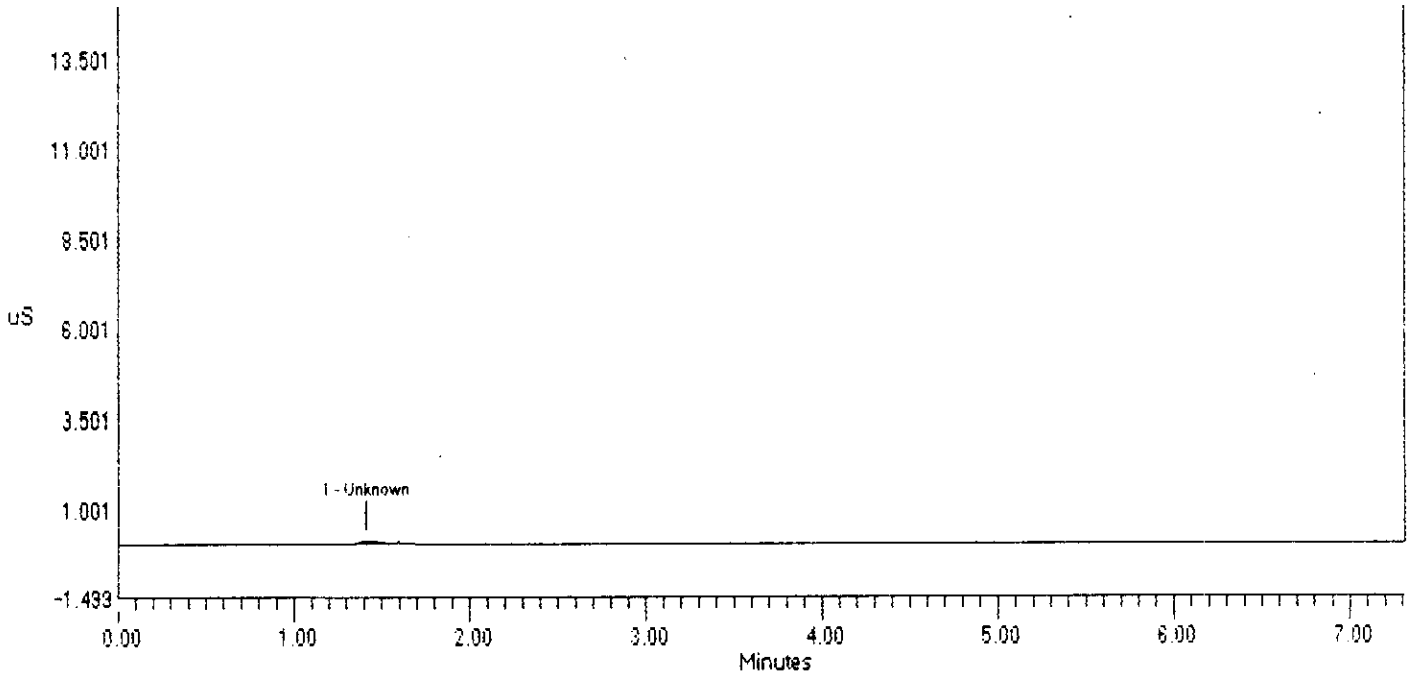
```
% Sample Name: BLK                                   Date: Tue Aug 03 1993 [illegible]
% Data File   : C:\DX\DATA\93080301.D12                                          %
% Method      : C:\DX\METHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        InjectN:  12  Detector: CDM-1          %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	200	

Peak	Ret Time	Component Name	Concentration	Weight	Area	Sol. Wgt
1	1.41		401.600	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080301.D12 Sample: BLK



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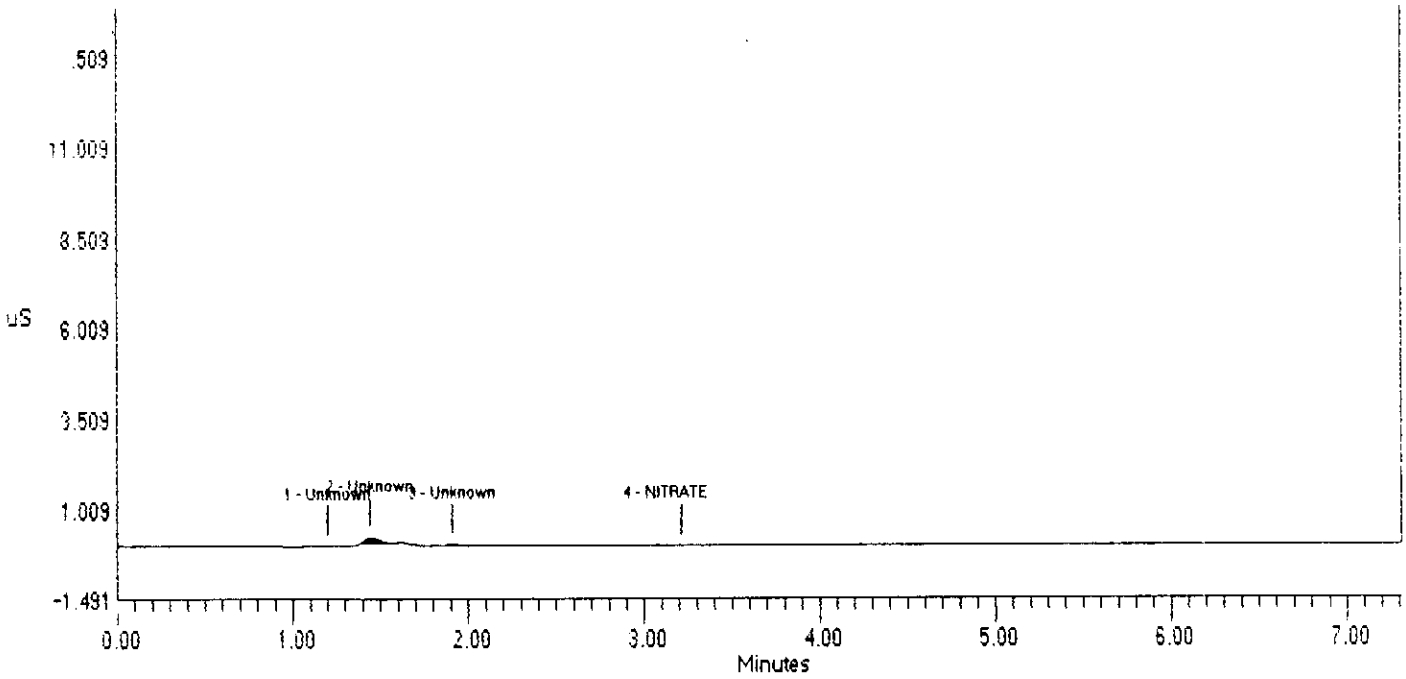
```
% Sample Name: BLK                                   Date: Wed Aug 04 [illegible] %
% Data File   : C:\DX\DATA\93080311.D11                                          %
% Method      : C:\DX\METHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        InjectNo:  11  Detector: CDM-1         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	FED
[illegible]	1	1	2193	5Hz	0.00	7.32	[illegible]	

No.	Ret. Time	Component Name	Concentration	Height	Area	Int. Type	Conc.
1	[illegible]		941.200	[illegible]	[illegible]		
4	3.21	NITRATE	0.870	35	212	[illegible]	[illegible]

File: C:\DX\DATA\93080311.D11 Sample: BLK



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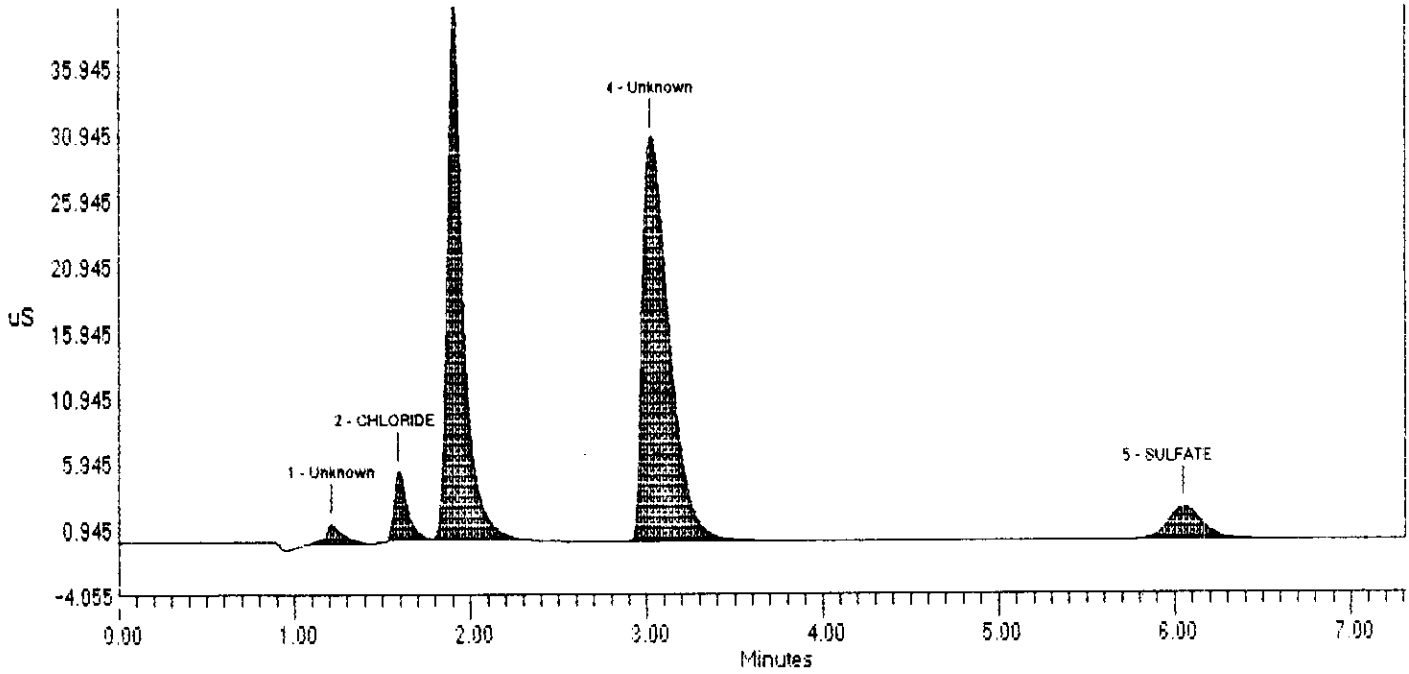
```
% Sample Name: G630                                  Date: Tue Aug 03 [illegible]
% Data File   : C:\DX\DATA\93080301.D13                                          %
% Method      : C:\DX\METHOD\NEL.MET                                             %
% ACI Address: 1        System : 1        Inject#: 13   Detector: CDM-1         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	1	2175	5Hz	0.00	7.22	[illegible]	[illegible]

Pk No.	Ret Component time base	Concentration	Peak	Area	Rej	Ret Dev %
1	1.65	[illegible]	1477	[illegible]	[illegible]	
2	1.79 CHLORIDE	2.785	5031	[illegible]	[illegible]	[illegible]
3	1.90	256474.624	39125	256474	1	
4	3.02	326240.600	30492	326241	1	
5	6.05 SULFATE	5.111	2496	34249	1	-7.35

File: C:\DX\DATA\93080301.D13 Sample: G630



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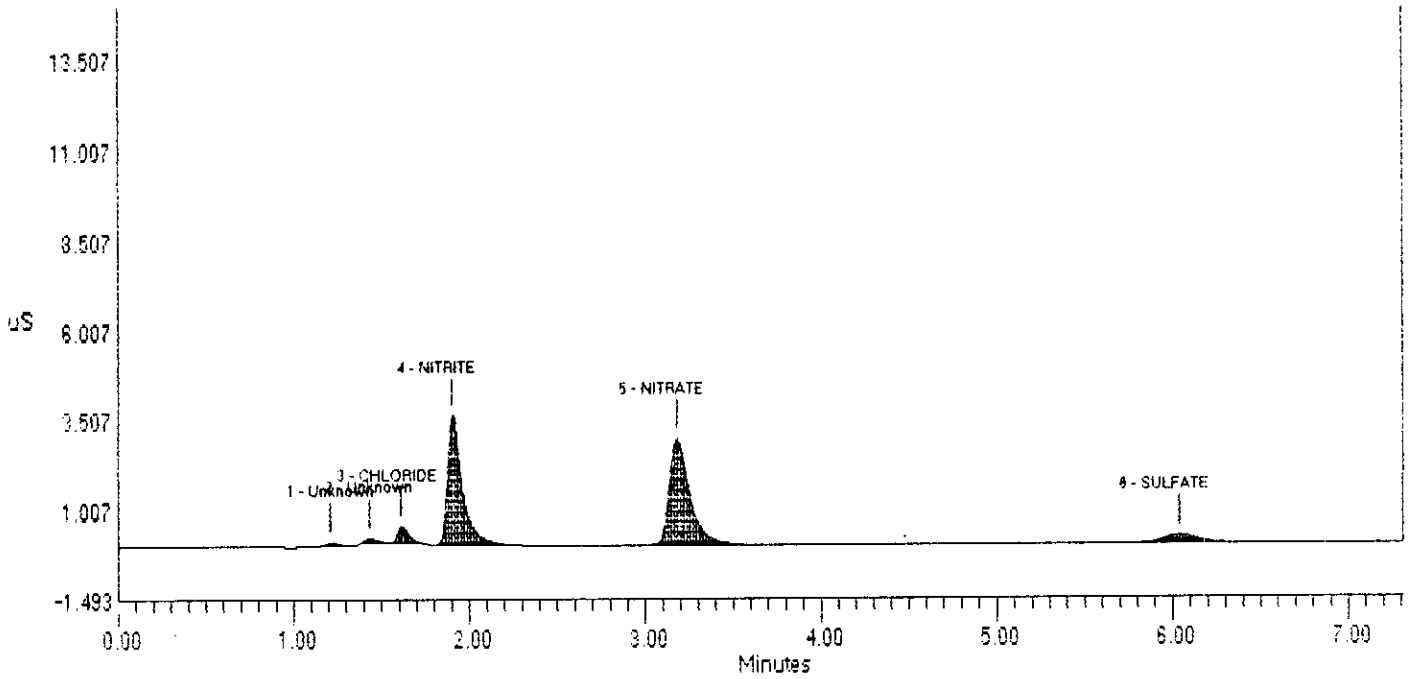
```
% Sample Name: G630                                   Date: Wed Mar 03 [illegible]
% Data File   : C:NDXRDATA\93080311.D12                                          %
% Method      : C:NDXRMETHOD\NEL.MET                                             %
% ACI Address: 1        System : 1        Inject#:  12  Detector: CDM-1         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	[illegible]	11	2195	5Hz	0.0[illegible]	7.33	2[illegible]	

Peak	Ret. Time	Component Name	Concentration	Height	Area	Rej. Code	Tailing
1	1.[illegible]		2441.602	[illegible]	1	.	
2	1.43		6513.773	114	592	_	
3	1.61	CHLORIDE	3.222	465	2051	2	-0.24
4	1.90	NITRITE	36.663	3494	20804	1	0.60
5	3.18	NITRATE	46.965	2920	23713	1	0.95
6	6.94	SULFATE	17.546	224	1001	1	0.17

File: C:\DX\DATA\93080311.D12 Sample: G630



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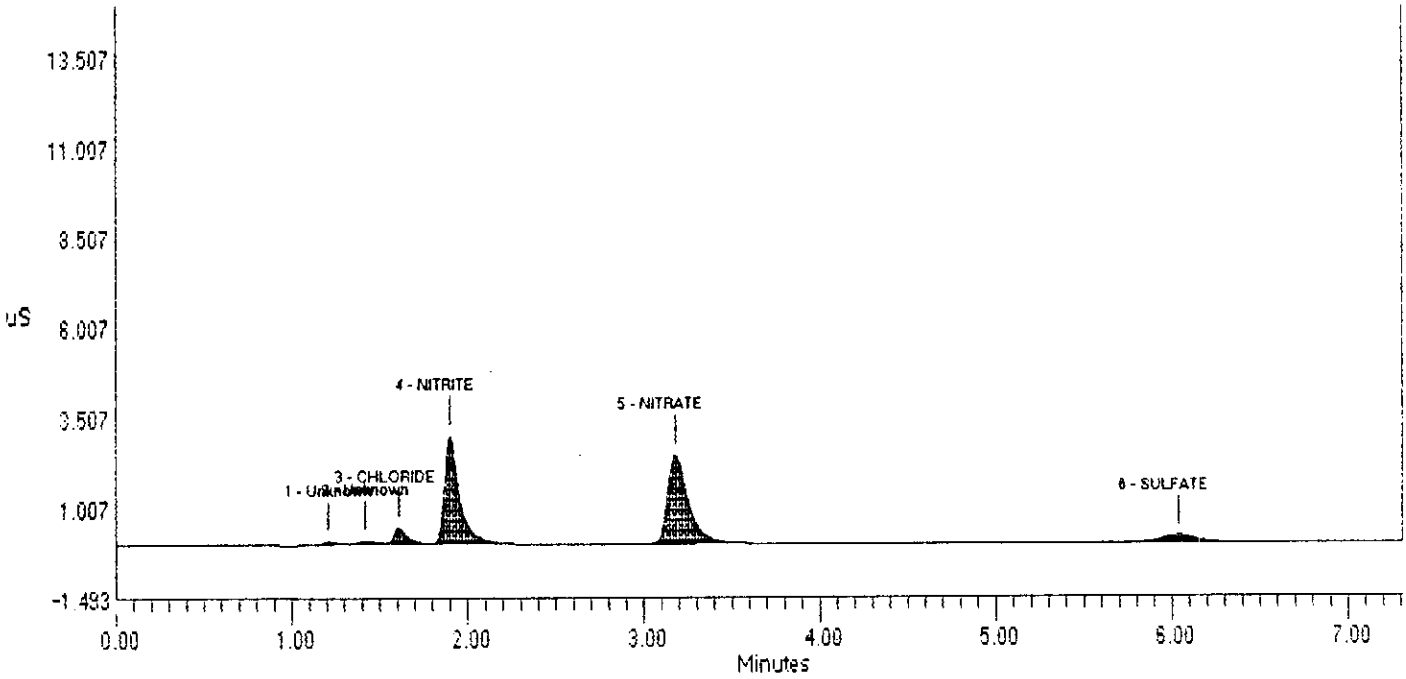
```
R Sample Name: G631                                   Date: Wed Aug 04 10:41:11 1993 R
R Data File    : C:\DX\DATA\93080311.D13                                            R
R Method       : C:\DX\METHOD\MEL.MET                                               R
R ACI Address: 1        System : 1        Inject#: 13   Detector: CDN-1            R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	11	2199	5Hz	0.00	7.32	209	

Pk #	Ret Time	Component	Concentration	Height	Area	Pk Type	Rel Area %
1	1.[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	
2	1.42		4167.213	70	379	[illegible]	
3	1.61	CHLORIDE	3.072	410	1920	[illegible]	-5.[illegible]
4	1.90	NITRITE	31.570	2959	17407	[illegible]	9.[illegible]
5	3.18	NITRATE	41.071	2454	20009	[illegible]	0.75
6	6.04	SULFATE	16.925	194	2412	[illegible]	[illegible]

File: C:\DX\DATA\93080311.D13 Sample: G631



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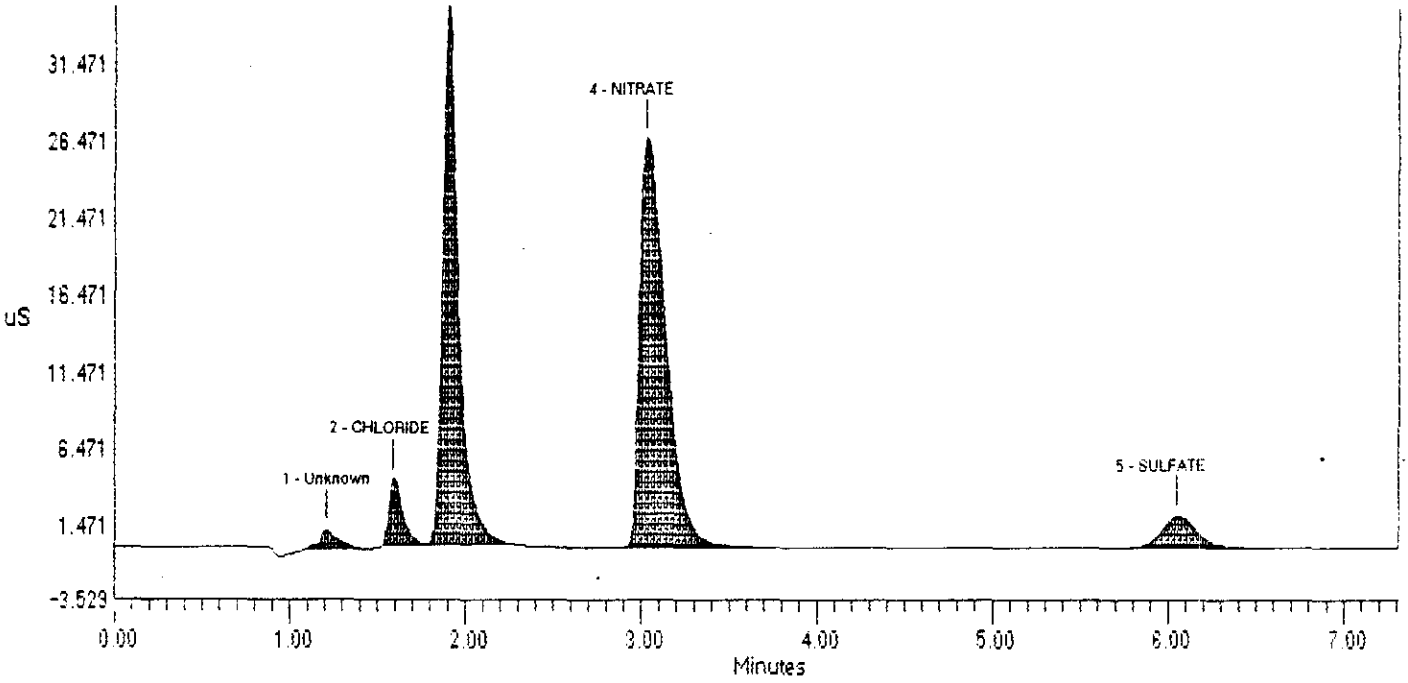
```
% Sample Name: G631                                   Date: Tue Aug 03 13:[illegible]:[illegible] 1993A
% Data File   : C:\DX\DATA\93080301.D14                                                            %
% Method      : C:\DX\METHOD\REL_.MET                                                              %
% ACI Address: 1        System : 1        Injection: 14   Detector: CDM-1                         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	1	2195	5Hz	0.00	7.32	255	

Sl. Ber	Ret Time	Component Name	Concentration	Height	Area	Cl. Chan	Dev
1	1.21		2534.500	1159	9525	_	
2	1.59	CHLORIDE	2.424	4298	22714	1	[illegible]
3	1.90		220606.038	34695	220606	2	
4	3.03	NITRATE	40.535	26533	274416	1	-9.22
5	6.05	SULFATE	4.545	2111	29221	1	-7.35

File: C:\DX\DATA\93080301.D14 Sample: G631



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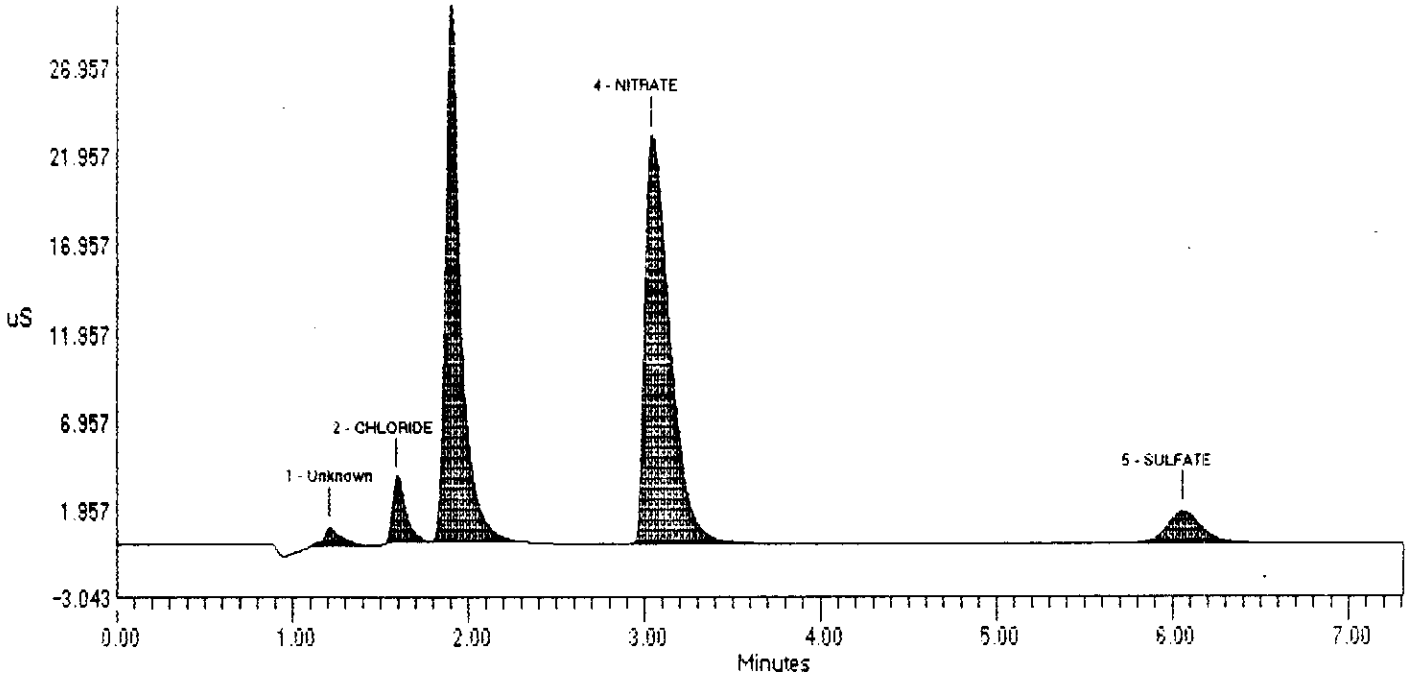
```
* Sample Name: G632                                   Date: Tue Aug 03 1993 1:47 *
* Data File   : C:\DX\DATA\93080301.D15                                          *
* Method      : C:\DX\METHOD\MEL.MET                                             *
* ACI Address: 1        System : 1        Inject#: 15   Detector: CDM-1         *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2125	5Hz	0.00	7.33	205	

Pk. No.	Ret. Time	Component Name	Concentration	Height	Area	Mk. Code	Sheet Peak
1	1.[illegible]		415e.[illegible]	[illegible]	[illegible]		
2	1.59	CHLORIDE	2.022	2603	13809	1	[illegible]
3	1.90		185437.600	30129	185438	1	
4	3.04	NITRATE	34.013	23000	229329	1	-9.52
5	6.06	SULFATE	4.043	1806	24756	1	-7.10

File: C:\DX\DATA\93080301.D15 Sample: G632



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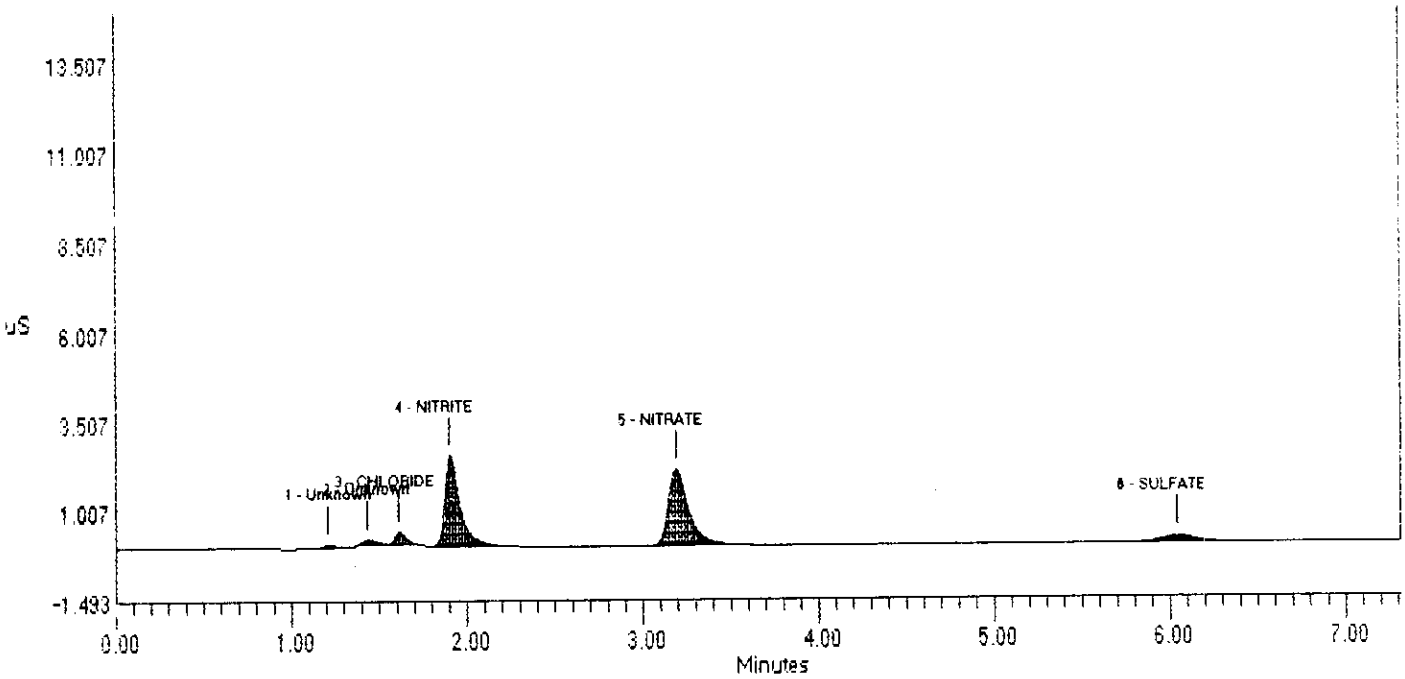
% Sample Name: G632 Date: Wed Aug 04 [illegible]
% Data File : C:\DX\DATA\93080311.D14 %
% Method : C:\DX\METHOD\MEL.MET %
% ACI Address: 1 System : 1 InjectN: 14 Detector: CDM-1 %

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REP
External	1	11	2195	5Hz	0.00	[illegible]	[illegible]	[illegible]

Peak No.	Ret. Time	Component Name	Concentration	Height	Area	%	[illegible]
1	1.[illegible]		2424.[illegible]	[illegible]	[illegible]		
2	1.43		6916.800	121	[illegible]	[illegible]	
3	1.61	CHLORIDE	2.433	328	1356	1	-0.[illegible]
4	1.90	NITRITE	27.516	2508	14703	1	[illegible]
5	3.19	NITRATE	36.369	2134	17054	1	1.[illegible]
6	6.04	SULFATE	16.510	162	2161	1	0.[illegible]

File: C:\DX\DATA\93080311.D14 Sample: G632



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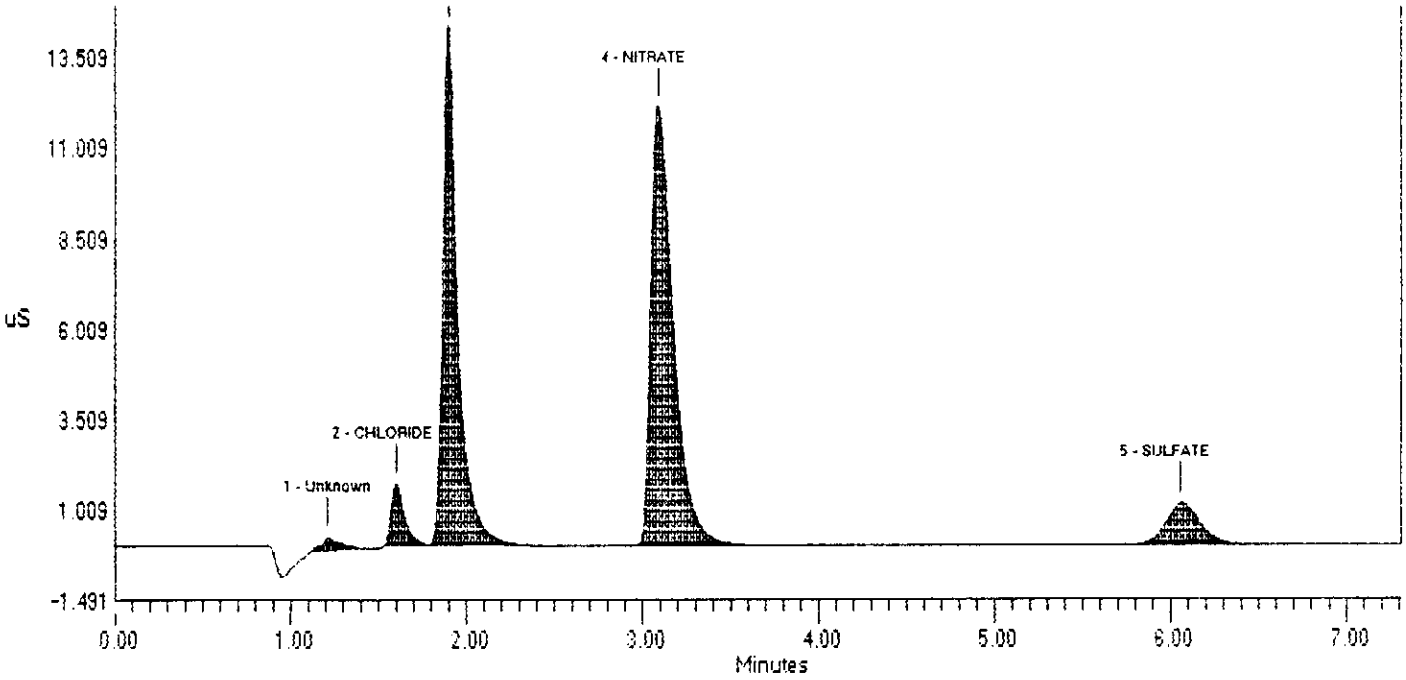
```
% Sample Name: G633                                   Date: Tue Aug 03 10:11:35 1993 %
% Data File   : C:\DX\DATA\93080301.D16                                              %
% Method      : C:\DX\METHOD\MEL.MET                                                 %
% ACI Address: 1        System : 1        Injects: 16   Detector: CDM-1             %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	20%	

Peak No.	Ret Time	Component Name	Concentration	Height	Area	Rej Code	Start Time
1	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.60	CHLORIDE	0.949	1670	8416	[illegible]	[illegible]
3	1.90		83865.057	14264	83865	2	
4	3.09	NITRATE	16.415	12082	107678	1	[illegible]
5	6.06	SULFATE	3.013	1139	15604	1	-7.2[illegible]

File: C:\DX\DATA\93080301.D16 Sample: G633



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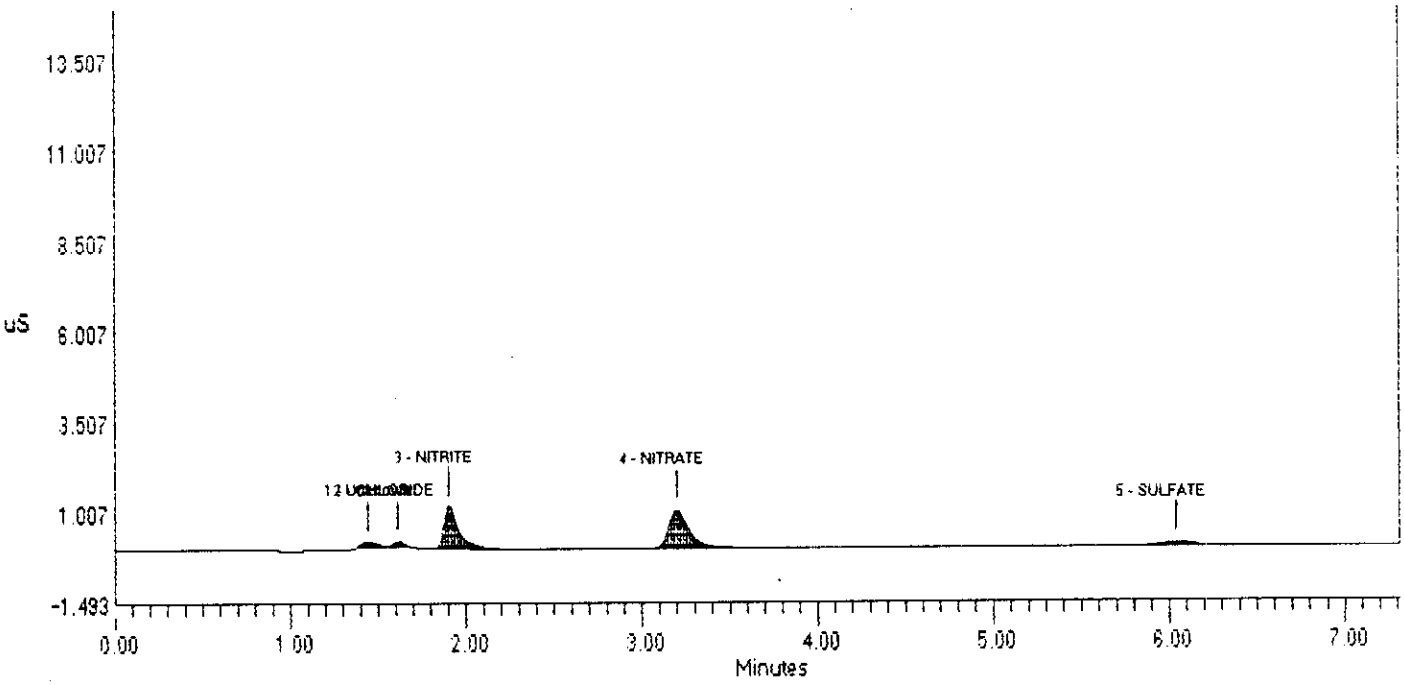
```
% Sample Name: G633                                   Date: Wed Aug 04 [illegible]
% Data File  : C:MDXNDATA\93080311.D15                                          %
% Method     : C:MDXNMETHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        Injects: 15  Detector: CDM-1         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	11	2195	5Hz	0.00	7.32	20%	

Peak No.	Ret Time	Component Name	Concentration	Height	Area	Rej.	[illegible]
	[illegible]		2915.257	[illegible]	[illegible]	[illegible]	
2	1.61	CHLORIDE	1.509	150	341	1	[illegible]
3	1.90	NITRITE	15.690	1143	6817	1	0.[illegible]
4	3.20	NITRATE	22.538	1057	8361	1	1.39
5	6.04	SULFATE	15.425	101	1267	1	0.17

File: C:\DX\DATA\93080311.D15 Sample: G633



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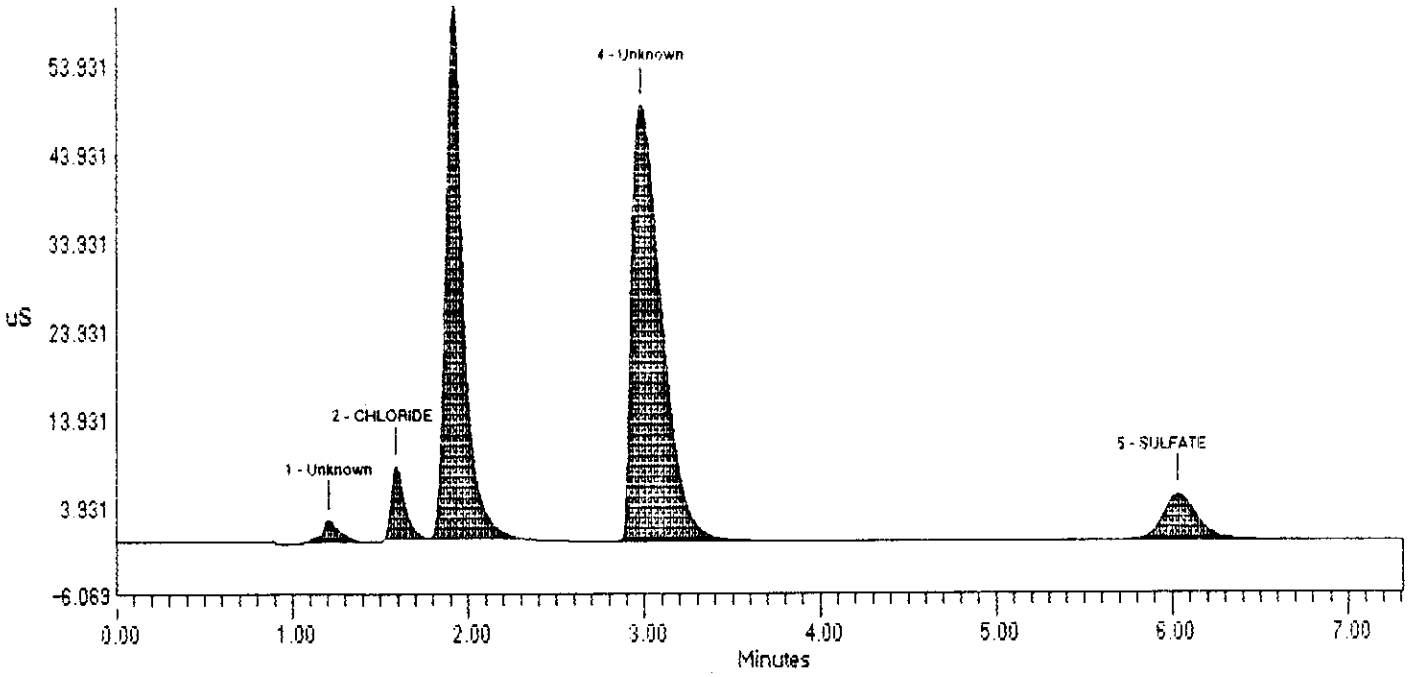
```
R Sample Name: G634                                   Date: Tue Aug 03 [illegible]
R Data File  : C:\DX\DATA\93080301.D17                                          R
R Method     : C:\DX\METHOD\MEL.MET                                             R
R ACI Address: 1        System : 1        Injection: 17   Detector: CDM-1      R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	200	

Peak No.	Ret. Time	Component Name	Concentration	Height	Area	Sel. Type	Int. Code
	1.11		14793.200	[illegible]	[illegible]		
2	1.59	CHLORIDE	4.593	8226	43732	[illegible]	[illegible]
3	1.92	NITRITE	57.757	60199	420057	[illegible]	[illegible]
4	2.98		584720.100	49277	584720	[illegible]	
5	4.03	SULFATE	9.385	5218	72242	[illegible]	[illegible]

File: C:\DX\DATA\93080301.D17 Sample: G634



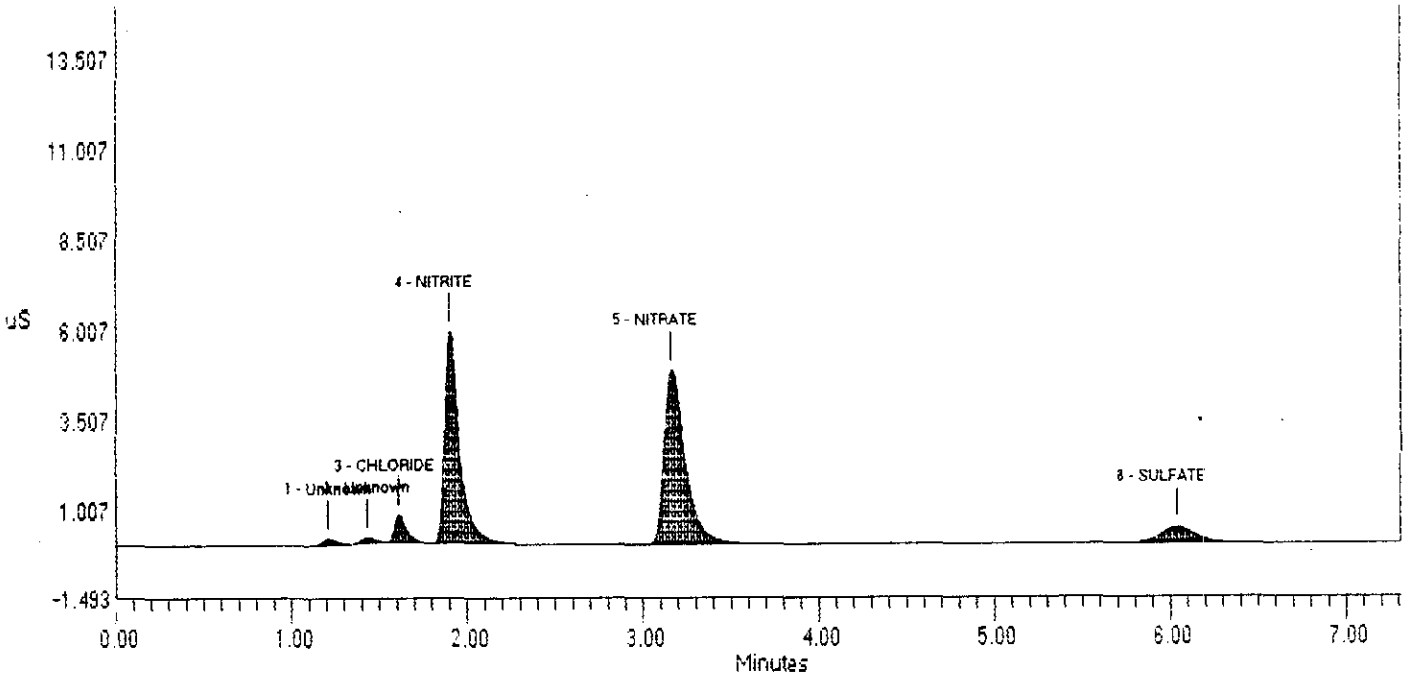
BEST AVAILABLE COPY

```
% Sample Name: G634                                   Date: Wed Aug 04 [illegible]  [illegible] %
% Data File   : C:\DX\DATA\93080311.D16                                                        %
% Method      : C:\DX\METHOD\MEL.MET                                                           %
% ACI Address: 1        System : 1        Injects: 16   Detector: CDM-1                        %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	11	2125	5Hz	0.00	7.32	10%

Peak	Ret Time	Component Name	Concentration	Height	Area	Rej Code	Purity
1	1.11		[illegible]	143	[illegible]	[illegible]	
2	1.43		6884.145	117	[illegible]	2	
3	1.61	CHLORIDE	4.825	749	3465	2	-5.39
4	1.90	NITRITE	57.375	5852	34617	1	0.00
5	3.16	NITRATE	73.656	4831	40487	1	0.32
6	6.04	SULFATE	21.147	435	5910	1	1.17

File: C:\DX\DATA\93080311.D16 Sample: G634



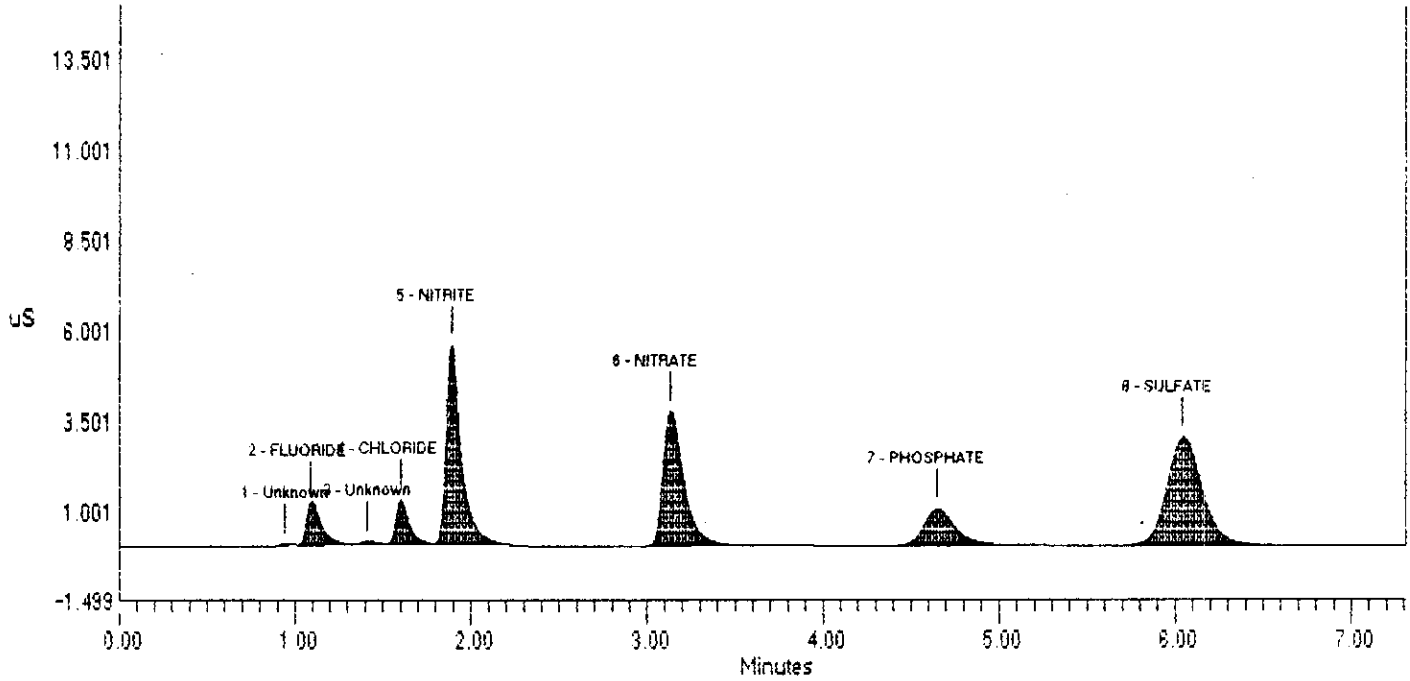
BEST AVAILABLE COPY

```
% Sample Name: LMCS                                  Date: Tue Aug [illegible]
% Data File   : C:\DX\DATA\93080301.018                                      %
% Method      : C:\DX\METHOD\MEL.MET                                         %
% ACI Address: 1        System : 1        Injects:  18   Detector: CDM-1    %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	101	2195	5Hz	0.00	7.32	200	

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	% Area	%Dev % from
1	[illegible]	FLUORIDE	[illegible]	[illegible]	[illegible]	[illegible]	
3	1.41		51842.715	86	51[illegible]	[illegible]	
4	1.60	CHLORIDE	74.219	1244	6336	2	-3.29
5	1.89	NITRITE	494.759	5509	32289	2	-5.27
6	3.13	NITRATE	531.737	3737	30592	1	-4.25
7	4.65	PHOSPHATE	509.019	1023	12567	1	-1.98
8	6.04	SULFATE	600.609	3008	41[illegible]79	1	-4.7[illegible]

File: C:\DX\DATA\93080301.D18 Sample: LMCS



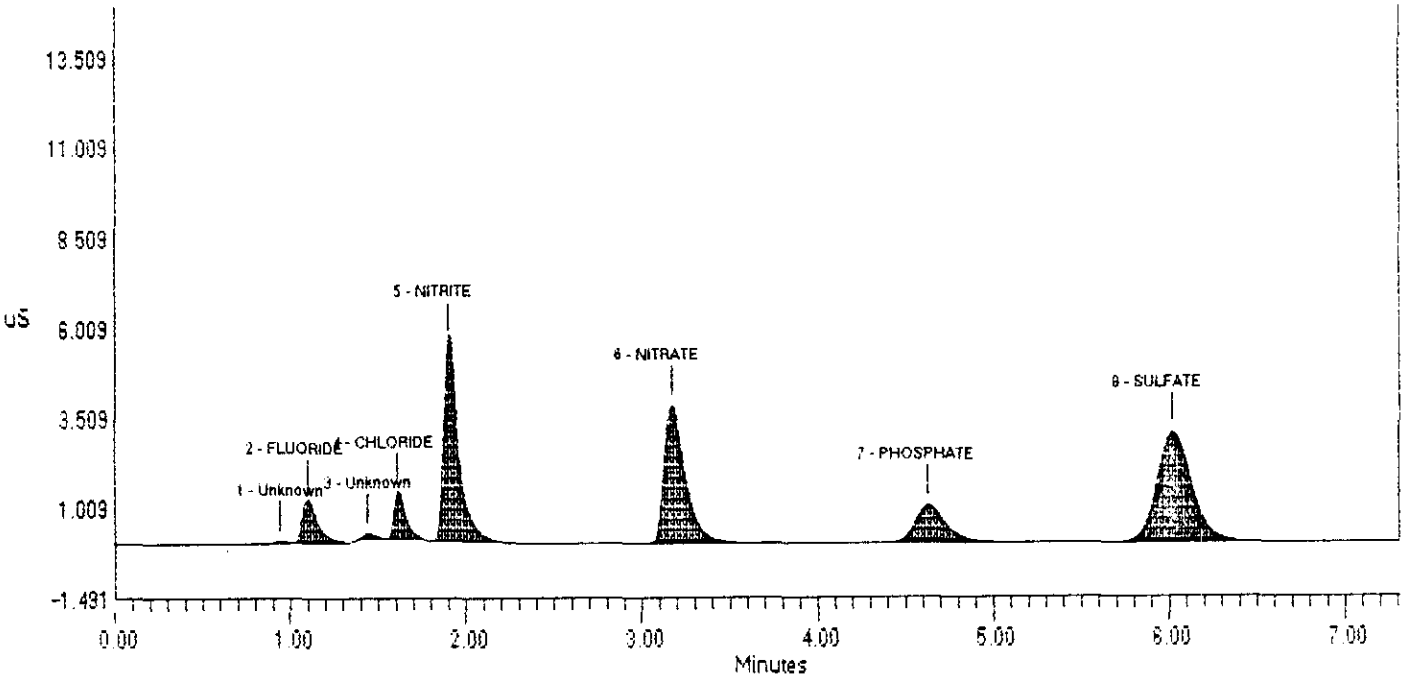
BEST AVAILABLE COPY

```
% Sample Name: LMCS                                   Date: Mon Aug 04 [illegible]
% Data File   : C:\DX\DATA\93080311.D17                                          %
% Method      : C:\DX\METHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        Injects: 17   Detector: CDM-1         %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	101	2125	5Hz	0.00	7.33	202	

Pk. No.	Ret Time	Component Name	Concentration	Height	Area	Pk. Type	Resid.
1	[illegible]	Fluoride	[illegible]	[illegible]	[illegible]	[illegible]	
3	1.44		[illegible]	[illegible]	[illegible]	[illegible]	
4	1.61	CHLORIDE	70.050	1262	3936	[illegible]	-[illegible]
5	1.90	NITRITE	496.196	5515	32393	[illegible]	1.[illegible]
6	3.17	NITRATE	548.141	3825	31715	[illegible]	2.[illegible]
7	4.63	PHOSPHATE	523.046	1049	13019	[illegible]	-[illegible]
8	6.02	SULFATE	607.927	3056	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080311.D17 Sample: LMCS



WESTINGHOUSE HANFORD COMPANY

222-S LABORATORY

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH

Batch 1377

102 5DAY

Lab Segment Serial No. G637-42	Customer ID: D2-7
Analysis: TC	Sample Prep: DIRECT

Instrument: WB54428	Procedure/ Rev: LA 533-105 / C-0
Technologist: R. WENDLAND ( )	Date: 8-3-93 / 8/4/93
Starting Time: 1337 / 812	Temperature 22.0°C
Ending Time: 1448 / 940	Chemist: S. BOLLING

Comments: This batch was run at a D.F. of 1 on 8/3/93. However, as NO_2's NO_3 were out of calibration limits, this batch was run on 8/4/93 at a D.F. of 11. Stacy Bolling 8/10/93

	Description	Lab ID		Description	Lab ID
1	LMCS	G636 5571	11		
2	BLK	G636 5671	12		
3	SAMPLE	G637-5771	13		
4	SAMPLE	G638-5771	14		
5	SAMPLE	G639-5771	15		
6	SAMPLE	G640-5771	16		
7	SAMPLE	G641-5771	17		
8	SAMPLE	G642-5771	18		
9	LMCS	G643-5571	19		
10			20		

Standard Type	Primary Book No. and Aliquot Vol.	Second Book No. and Aliquot Vol.	Third Book No. and Aliquot Vol.	Final Vol. of Standard
LMCS	22N9B	(.100mL)		

261

ROBBY WENDLAND 8-3-93

A-6000-881 (03/92)

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA-533-105 / C-0

DATE START: 8/3/93

PREPARED BY: S.D. Bolling

DATE COMPLETE: 8/4/93

UNITS: ug/ml

	SPL NAME	SPL ID	ANALYTE	RESULT #1	RESULT #2	AVERAGE	RPD%	%REC	DET LIM (ug/ml)	% CT ER
8/3/93	STD	G635	F	53.6				95.71	.01	
	22N9B		Cl	72.6				96.80	.02	
	~~BLANK~~		NO_2	49.4				93.92	1	
		8/5/93	NO_3	53.2				91.88	1	
			PO_4	51.0				98.65	1	
			SO_4	60.1				99.67	1	
8/4/93	Std	G	F	54.0				96.43		
			Cl	70.7				94.27		
			NO_2	52.8				100.4		
			NO_3	56.5				97.53		
			PO_4	53.9				104.3		
8/3/93 &			SO_4	62.7				104.0		
8/4/93	blank	G636	F	~~Lot~~ SDM 8/5/93 Matrix interference						
			Cl	<.2						
			NO_2	<1						
			NO_3	<1						
			PO_4	<1						
			SO_4	<1						
		G637	F	~~Lot~~ SDM 8/5/93 Matrix interference						
			Cl	3.42						
			NO_2	43.6						
			NO_3	54.7						
			PO_4	<1						
			SO_4	6.16						
		G638	F	~~Lot~~ SDM 8/5/93 Matrix interference						
			Cl	6.88						
			NO_2	83.7						
			NO_3	103						
			PO_4	<1						
			SO_4	10.6						
		G639	F	~~Lot~~ SDM 8/5/93 Matrix interference						
			Cl	5.94						
			NO_2	74.2						
			NO_3	91.2						
			PO_4	<1						
			SO_4	9.56						
		G640	F	~~Lot~~ SDM 8/5/93 Matrix interference						
			Cl	4.35						
			NO_2	54.3						
			NO_3	68.3						
			PO_4	<1						
			SO_4	7.38						

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARATIONS FOR THIS BATCH:

This batch was ran at a D.F. of 1 on 8/3/93. However, as NO_2 & NO_3 were out of calibration limits, this batch was reran on 8/4/93 at a D.F. of 11. Beginning & ending and blanks for both days are included in this package.

Stacey Bolling 8/5/93

WHC-SD-WM-DP-054 REV 0

ANALYTICAL BATCH SUMMARY SHEET

METHOD: LA-533-105/C-0

DATE START: 8/3/93

PREPARED BY: S. D. Bolling

DATE COMPLETE: 8/4/93

	SPL NAME	SPL ID	ANALYTE	RESULT #1 (UNITS: mg/ml)	RESULT #2	AVERAGE	RPD%	%REC	DET LIM (mg/ml)	% CT ER
	~~STD~~	G641	F	Matrix	interference				.1	
	~~SOM 8/5/93~~		Cl	3.58					.2	
	~~BLANK~~		NO_2	47.0					1	
			NO_3	59.4					1	
			PO_4	<1					1	
			SO_4	6.47					1	
		G642	F	Matrix	interference					
			Cl	3.06						
			NO_2	39.3						
			NO_3	50.0						
			PO_4	<1						
			SO_4	5.71						
8/3/93	end std	G643	F	54.3				96.96		
			Cl	71.4				95.20		
			NO_2	491				93.35		
			NO_3	540				93.26		
			PO_4	514				99.42		
			SO_4	5.48				99.17		
8/4/93	end std		F	53.2				95.00		
			Cl	70.8				94.40		
			NO_2	499				94.87		
			NO_3	541				93.44		
			PO_4	529				102.3		
			SO_4	6.14				101.8		

NARRATIVE: [ ] NO SPECIAL PROBLEMS/METHOD VARIATIONS IN THIS BATCH

LIST SPECIFIC PROBLEMS/VARATIONS FOR THIS BATCH:

Due to a matrix interference, F- can not be determined.

Stacey Bolling 8/5/93

ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 635.-5571	102 5 DAY	7-22-93	15:16	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? .100-10 22-AB	STD

Remarks, Calculations, Results

	µg/ml	% Rec
EDP 974 F	53.6	95.71
EDP 972 CL	72.6	96.80
EDP 968 NO2	194	93.92
EDP 978 NO3	632	91.88
EDP 976 PO4	510	98.65
EDP 970 SO4	601	99.67

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Huffine

54-6800-06 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 636.-5671	102 5 DAY	7-22-93	15:18	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct	BLK

Remarks, Calculations, Results

REAGENT BLANK

	µg/ml
F	<.1
Cl	<.2
NO_2	<1
NO_3	<1
PO_4	<1
SO_4	<1

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Huffine

54-6800-06 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 637.-5771	102 5 DAY	7-22-93	15:20	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	D-2

Remarks, Calculations, Results

	DF	µg/ml
F	1	<.1 matrix interference
Cl	1	3.42
NO_2	11	43.6
NO_3	11	54.7
PO_4	1	<1
SO_4	1	6.16

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Shifflett

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 638.-5771	102 5 DAY	7-22-93	15:21	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	D-3

Remarks, Calculations, Results

	DF	µg/ml
F	1	<.1 matrix interference
Cl	1	6.88
NO_2	11	82.7
NO_3	11	103
PO_4	1	<1
SO_4	1	10.6

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Shifflett

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 639.-5771	102 5 DAY	7-22-93	15:22	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	D-4

Remarks, Calculations, Results

	DF	ug/ml
F	1	<.1 Matrix Interference
Cl	1	5.94
NO_2	11	74.2
NO_3	11	91.2
PO_4	1	<1
SO_4	1	9.56

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Shuffin 8/4

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 640.-5771	102 5 DAY	7-22-93	15:24	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	D-5

Remarks, Calculations, Results

	DF	ug/ml
F	1	<.1 Matrix Interference
Cl	1	4.35
NO_2	11	54.3
NO_3	11	68.3
PO_4	1	<1
SO_4	1	~~7.38~~ 7.37 Au 8/6/93

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Shuffin 8/4

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 641.-5771	102 5 DAY	7-22-93	15:25	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	D-6

Remarks, Calculations, Results

	DF	ug/ml
F	matrix	interference
Cl	1	3.58
NO_2	11	47.0
NO_3	11	59.4
PO_4	1	<1
SO_4	1	6.47

ROBBY WENDLAND

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Shiffer

54-6800-061 (R-10-83)

Serial No	Sample Point	Date	Time Issued	Priority
G 642.-5771	102 5 DAY	7-22-93	15:25	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	uG/ML	D44B3	0

Sample Size	Customer ID
? direct & 1-10	D-7

Remarks Calculations Results

	DF	ug/ml
F	matrix	interference
Cl	1	3.06
NO_2	11	39.3
NO_3	11	50.0
PO_4	1	<1
SO_4	1	5.71

WENDLAND, ROBBY

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Shiffer

54-6800-061 (R-10-83)

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ION CHROMATOGRAPHIC ANALYSIS - UNDIGESTED SAMPLE

Serial No	Sample Point	Date	Time Issued	Priority
G 643.-5571	102 5 DAY	7-22-93	15:41	23

Determination	Method Standard	Result Units	Charge Code	Reruns
IC	LA-533-105	% RECOVERY	D44B3	0

Sample Size	Customer ID
? .100-10 22NAB	STD

Remarks, Calculations, Results

	µg/ml	% Rec
EDP 974 F	54.3	96.94
EDP 972 CL	71.4	95.20
EDP 968 NO2	491	93.35
EDP 978 NO3	540	93.26
EDP 976 PO4	514	99.42
EDP 970 SO4	598	99.17

Robby Wendland

Analyst - 1	Analyst - 2	Analyst - 3	Analyst - 4	Analyst - 5
Hrs	Hrs	Hrs	Hrs	Hrs

Date	Time Completed	Lab Unit Mgr
8-3-93	1448	Sara Hoffman 8/4

54-6800-B (R-10-83)

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Robby Wendland
8-3-93

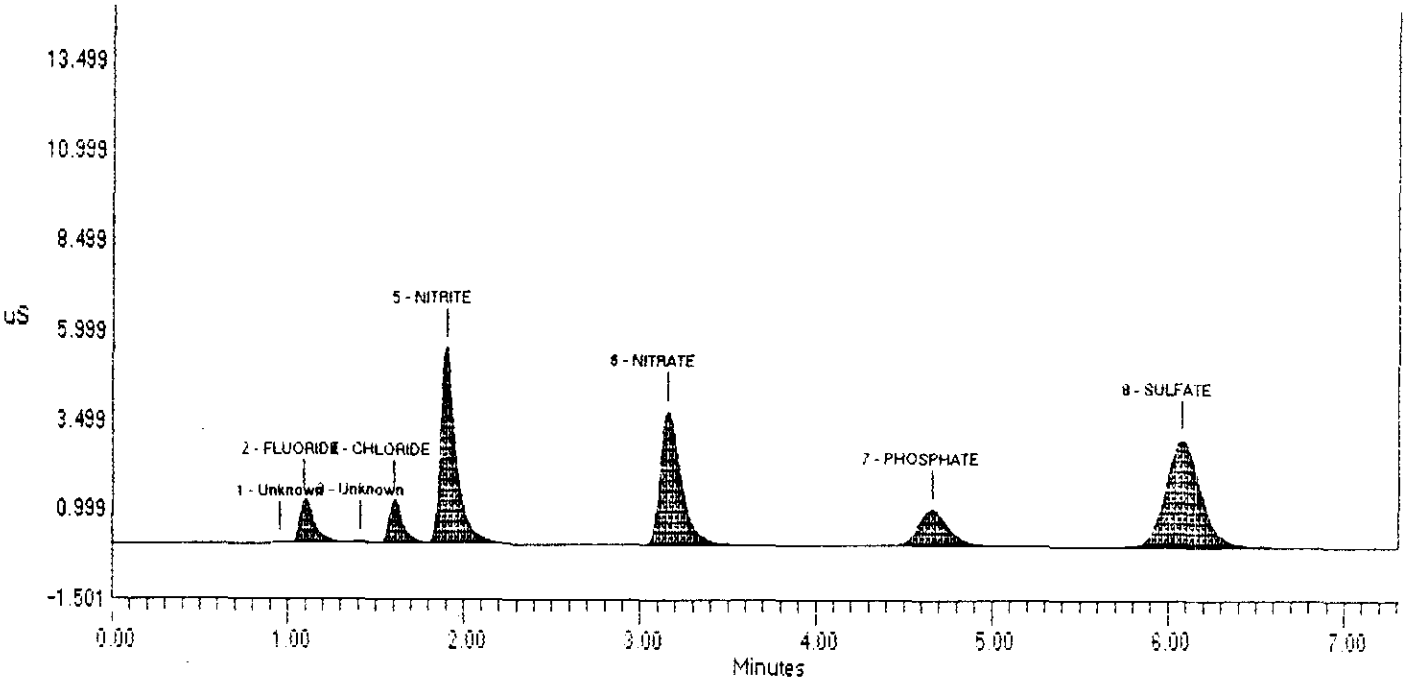
[illegible]

% Sample Name: LMCS/C-055 Date: [illegible]
% Data File : C:\DX\DATA\93080311.D02
% Method : C:\DX\METHOD\MEL.ME1
% ACI Address: 1 System : 1 Injects: 2 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	101	2195	5Hz	0.00	7.32	200

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Cl. Code	Vanilla
2	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.41		32472.063	97	325	[illegible]	
4	1.60	CHLORIDE	72.591	1183	6179	2	-3.69
5	1.90	NITRITE	494.355	5445	32259	2	-4.[illegible]
6	3.16	NITRATE	531.652	3717	30587	1	-3.[illegible]
7	4.66	PHOSPHATE	510.034	1030	12599	1	-3.27
8	6.08	SULFATE	600.652	3008	41[illegible]	1	4.[illegible]

File: C:\DX\DATA\93080311.D02 Sample: LMCS



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 269 TO 296.

8-A-93 Robby Wendland

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Sam 3/3/93

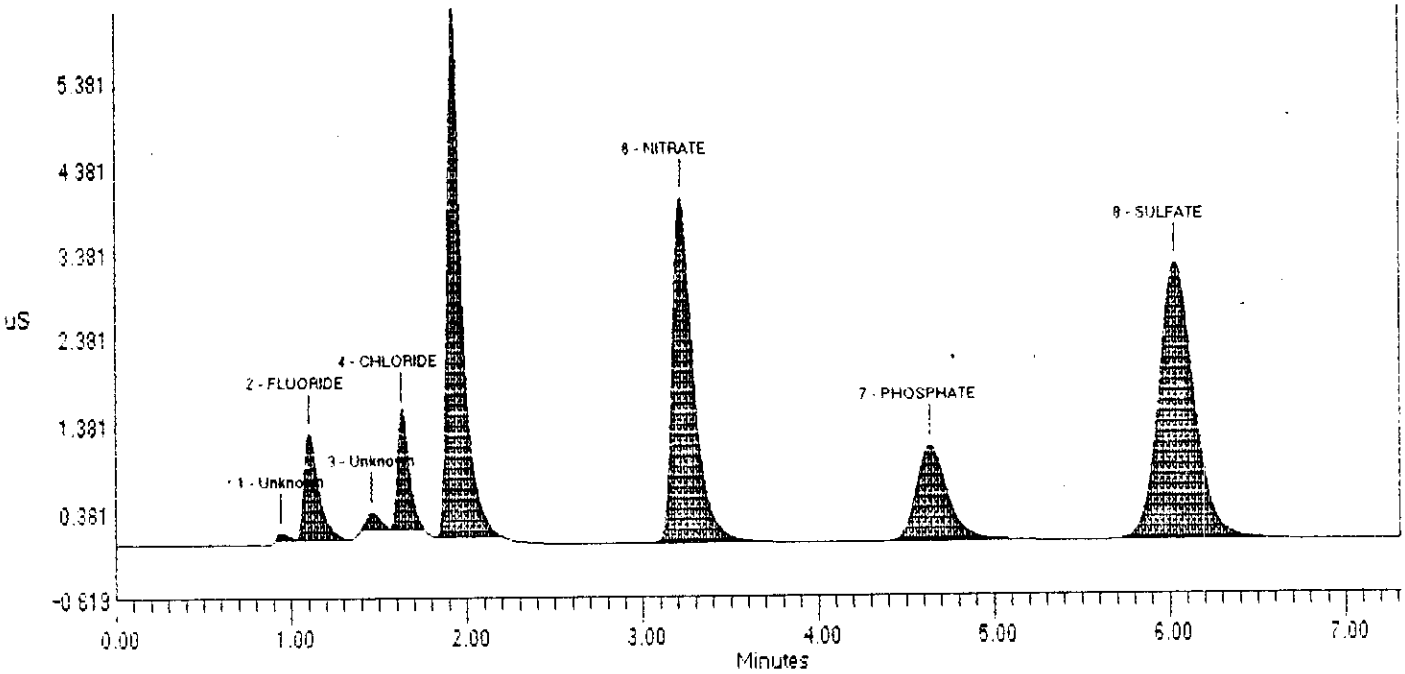
A Sample Name: 22N9B /6655 Date: Mon Aug 31, 1992 [illegible]
A Data File : C:\DX\DATA\93080321.D02
A Method : C:\DX\METHOD\MEL.MET
A ACI Address: 1 System : 1 Inject#: 2 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	101	2195	5Hz	0.00	7.32	[illegible]	

Pk #	R.T.	Component Name	% Rec.	Concentration	Height	Area	[illegible]
1	[illegible]			[illegible]	[illegible]	[illegible]	
2	1.10	FLUORIDE	96.43	53.960	1207	8713	[illegible]
3	1.46			102377.165	196	1014	[illegible]
4	1.63	CHLORIDE	94.27	70.688	1335	5997	[illegible]
5	1.92	NITRITE	100.4	527.633	5900	34676	[illegible]
6	3.22	NITRATE	97.58	565.074	3991	32874	[illegible]
7	4.64	PHOSPHATE	104.3	535.467	1083	[illegible]	[illegible]
8	6.03	SULFATE	104.0	627.236	4251	[illegible]	[illegible]

Stacey Billing 3/3/93

File: C:\DX\DATA\93080321.D02 Sample: 22N9B



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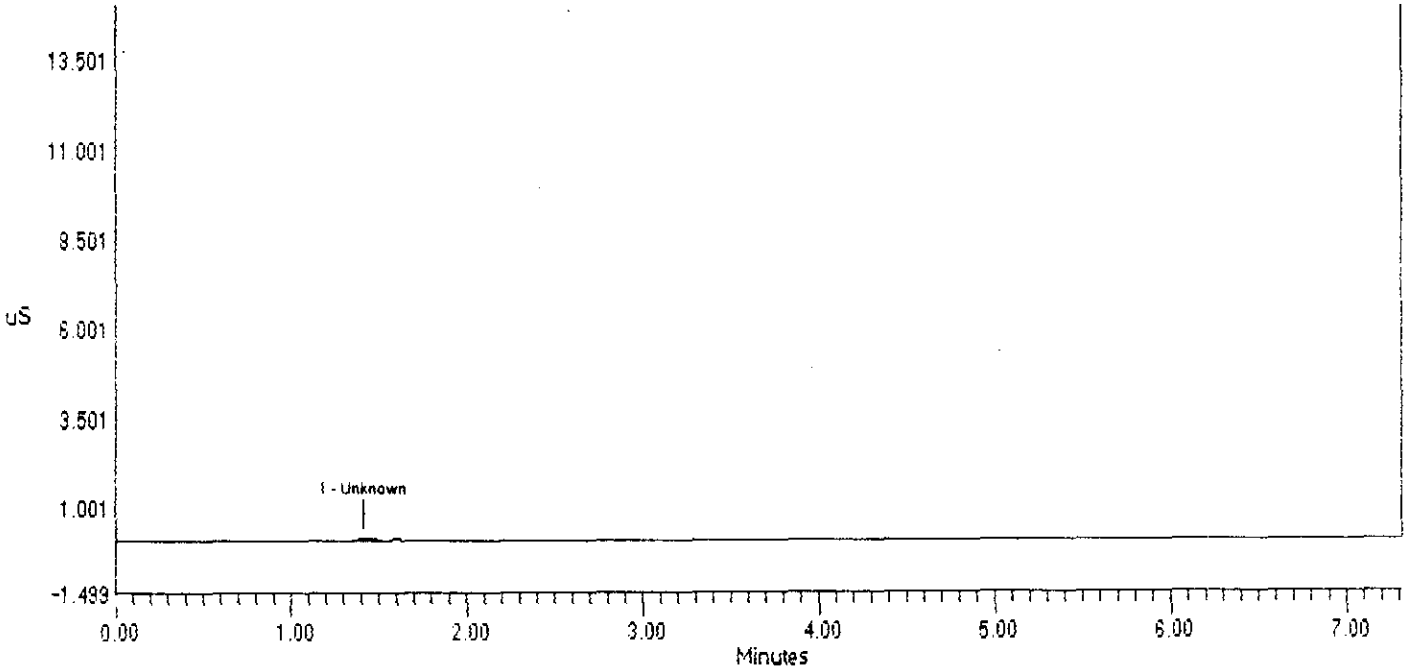
```
% Sample Name: BLK 16654                          Date: Tue Aug 03 [illegible]
% Data File   : C:\DX\DATA\93080311.D03                                      %
% Method      : C:\DX\METHOD\NEL.MET                                         %
% ACI Address: 1        System : 1        Injects:    3   Detector: CDM-1   %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	1	2195	5Hz	0.00	7.32	200	

Pk. [illegible]	Ret. Component [illegible]	Concentration	Height	Area	Mk. [illegible]
1	1.41	Sie.40v	5e	[illegible]	

File: C:\DX\DATA\93080311.D03 Sample: BLK



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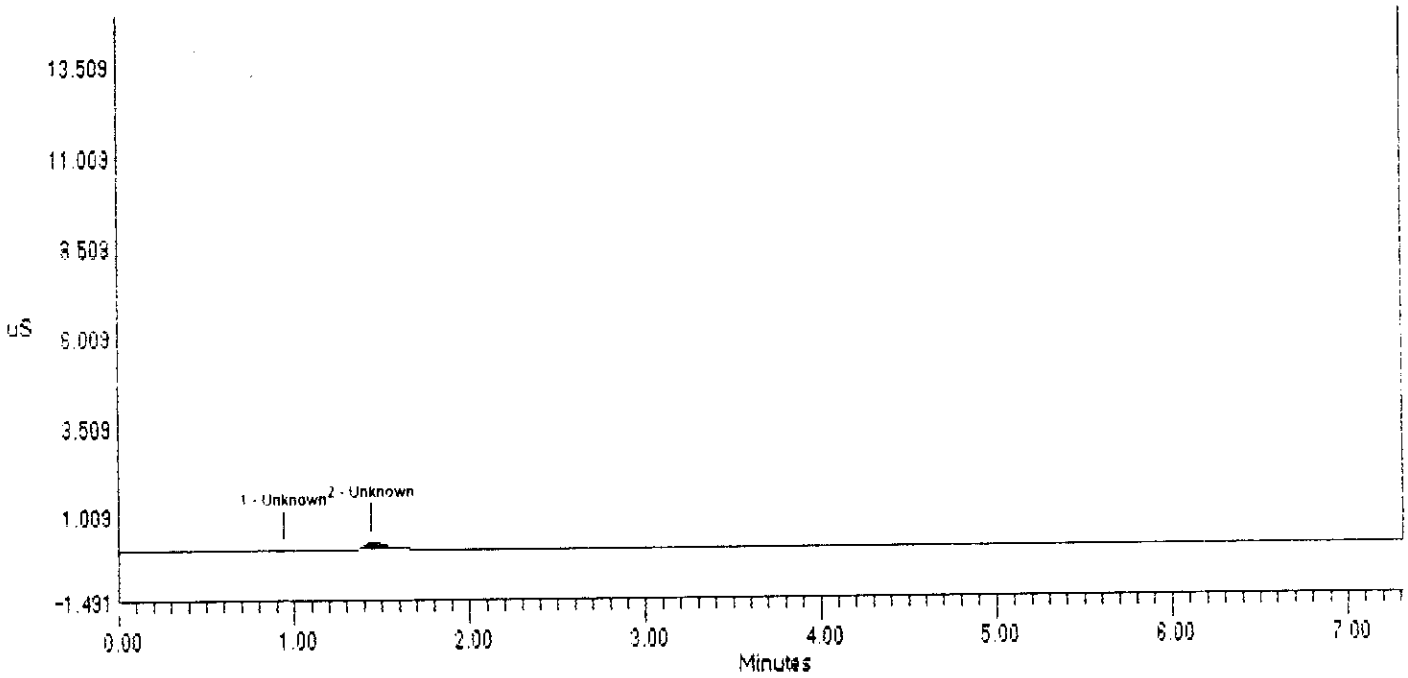
```
A Sample Name: BLK/6343                                  Date: Wed Aug 04 09:13:16 1993
A Data File  : C:RDXRDATA\93080331.D02                                                  A
A Method     : C:RDXRMETHOD\MEL.MET                                                     S
A ACI Address: 1        System : 1        Injects:   2   Detector: CDM-1               A
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	RES
[illegible]	[illegible]	1	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Peak Name	Concentration	Height	Area	Rt. Time
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080331.D02 Sample: BLK



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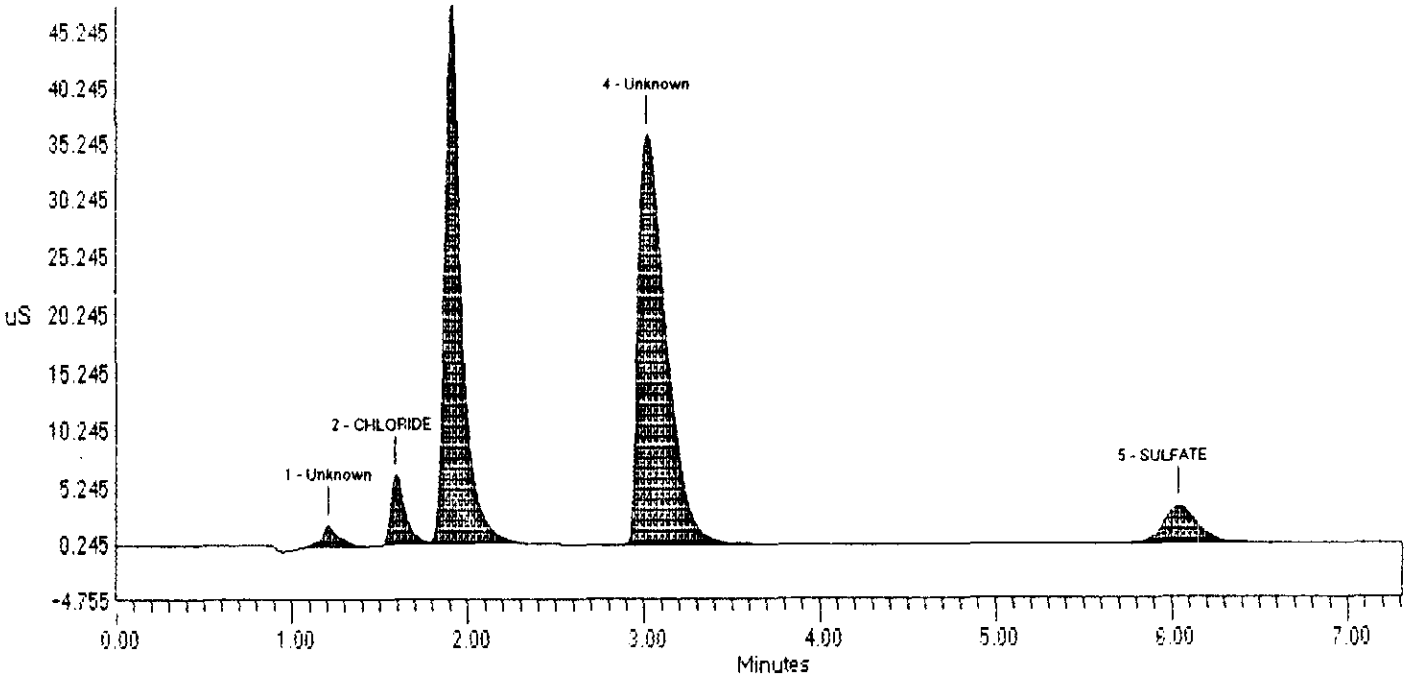
```
% Sample Name: G637                                   Date: Tue Aug 03 13:54:33 1993
% Data File   : C:\DX\DATA\93080301.D04                                            %
% Method      : C:\DX\METHOD\MEL.MET                                               %
% ACI Address: 1          System : 1          Inject#:    4   Detector: CDM-1     %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2175	5Hz	0.00	7.32	20%	

Peak No.	Ret Time	Component Name	Concentration	Height	Area	Rej Code	Peak Type
1	1.22		12541.090	1644	1[illegible]		
2	1.59	CHLORIDE	3.423	6010	6[illegible]	[illegible]	[illegible]
3	1.91	NITRITE	43.058	47095	31[illegible]	2	-6.[illegible]
4	3.02		394436.200	35948	394436	1	
5	6.04	SULFATE	6.155	3175	43529	1	-7.5[illegible]

File: C:\DX\DATA\93080301.D04 Sample: G637



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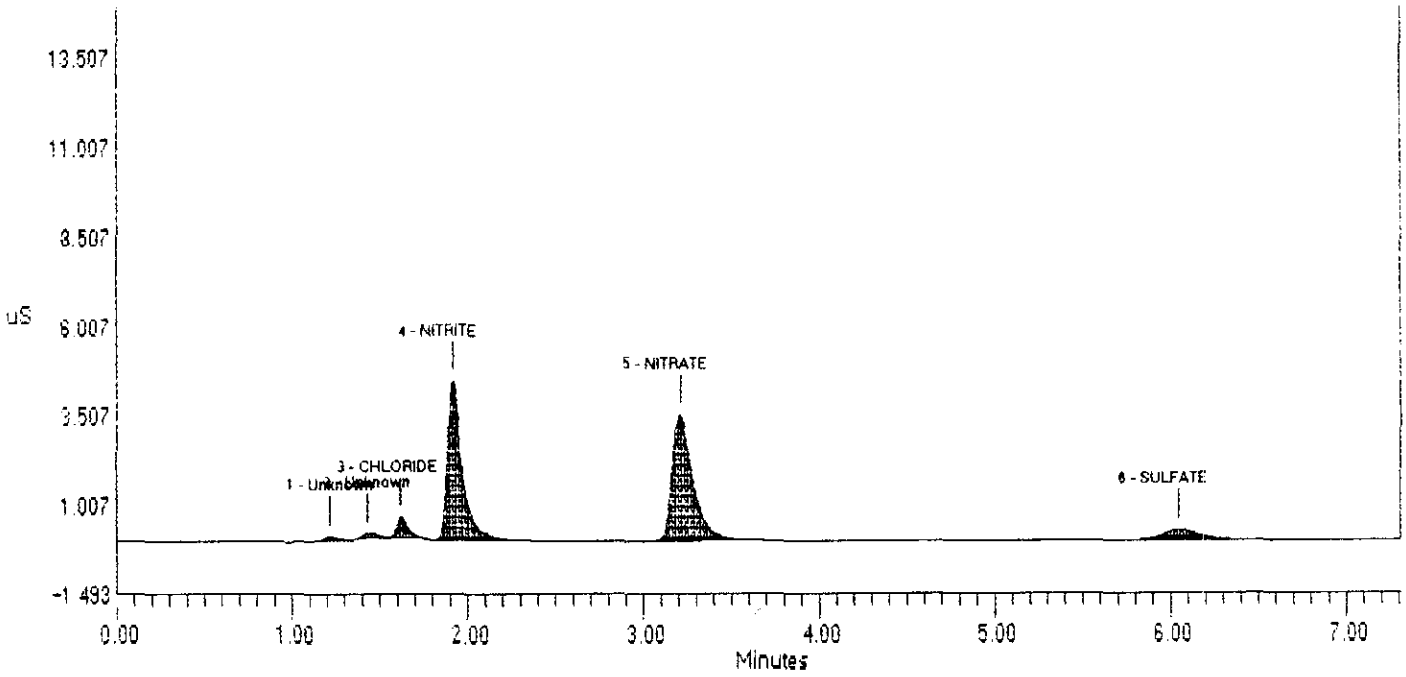
```
A Sample Name: G637                                   Date: Wed Nov 04 09:41:12 1998
A Data File    : C:NDXNDATAN9308031.D03                                            A
A Method       : C:NDXNMETHODNMEL.MET                                              A
A ACI Address: 1          System : 1          Injects:    3   Detector: CDM-1     A
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Internal	1	11	2195	5Hz	0.00	7.32	[illegible]	

Ret. Time	Std Name	Component Name	Concentration	Height	Area	Vl. Ratio	Depth
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		
1	1.43		7613.460	127	[illegible]		
3	1.62	CHLORIDE	3.736	571	2505	2	-4.71
4	1.92	NITRITE	43.604	4424	25433	1	-6.24
5	3.21	NITRATE	54.725	3490	28590	1	-4.46
6	6.05	SULFATE	18.872	292	4072	1	[illegible]

File: C:\DX\DATA\03080321.D03 Sample: G637



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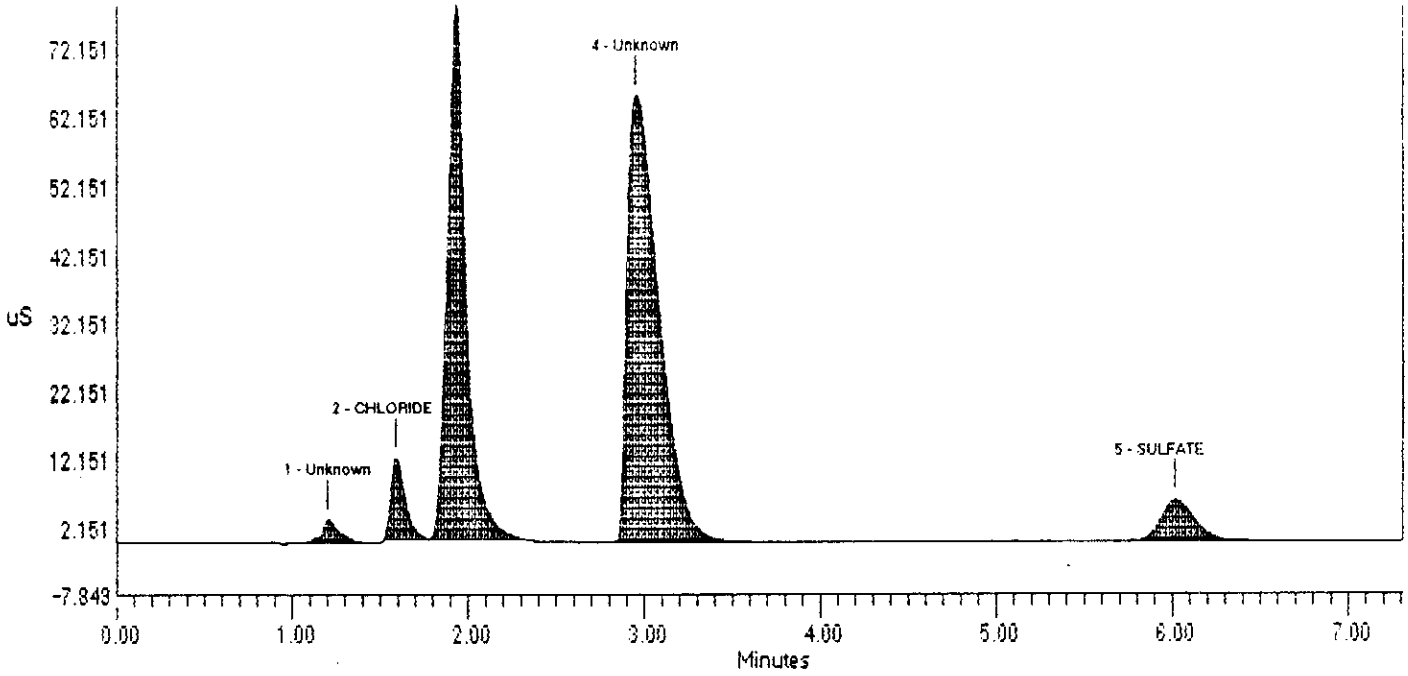
```
% Sample Name: G638                                    Date: Tue Aug 03 1993 [illegible]
% Data File   : C:\DX\DATA\93080301.D05                                          %
% Method      : C:\DX\METHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        Injects:    5   Detector: CDM-1       %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	[illegible]		

[illegible]	Ret Time(min)	Compound	Concentration	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.59	CHLORIDE	6.831	11709	65915	1	[illegible]
3	1.93	NITRITE	79.432	77406	579065	2	-5.85
4	2.95		827294.600	65079	827295	1	
5	6.02	SULFATE	10.647	6023	83405	1	-7.81

File: C:\DX\DATA\93080301.D05 Sample: G638



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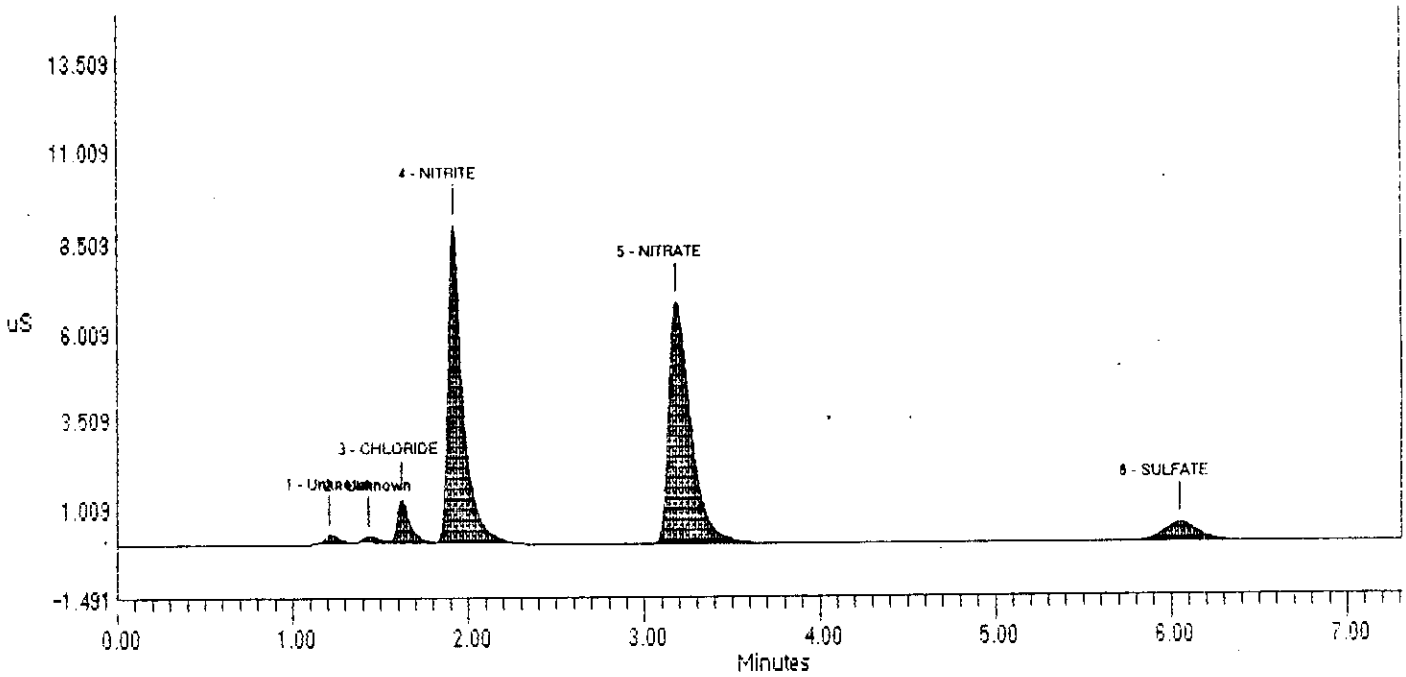
% Sample Name: Q638 Date: Wed Aug 04 [illegible]
% Data File : C:\DX\DATA\93080311.D04
% Method : C:\DX\METHOD\MEL.MET
% ACI Address: 1 System : 1 Injects: 4 Detector: CDM-1

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	11	2195	5Hz	0.00	[illegible]	[illegible]	

Pk No.	Ret Time	Component Name	Concentration	Height	Area	Pk Type	[illegible]
1	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	
2	1.43		7464.341	1[illegible]	[illegible]	[illegible]	
3	1.62	CHLORIDE	6.878	1126	5274	[illegible]	-4.[illegible]
4	1.92	NITRITE	82.674	9892	51489	1	-5.[illegible]
5	3.19	NITRATE	103.325	6771	59132	1	-5.[illegible]
6	6.05	SULFATE	22.515	510	[illegible]01[illegible]	1	[illegible]

File: C:\DX\DATA\93080311.D04 Sample: Q638



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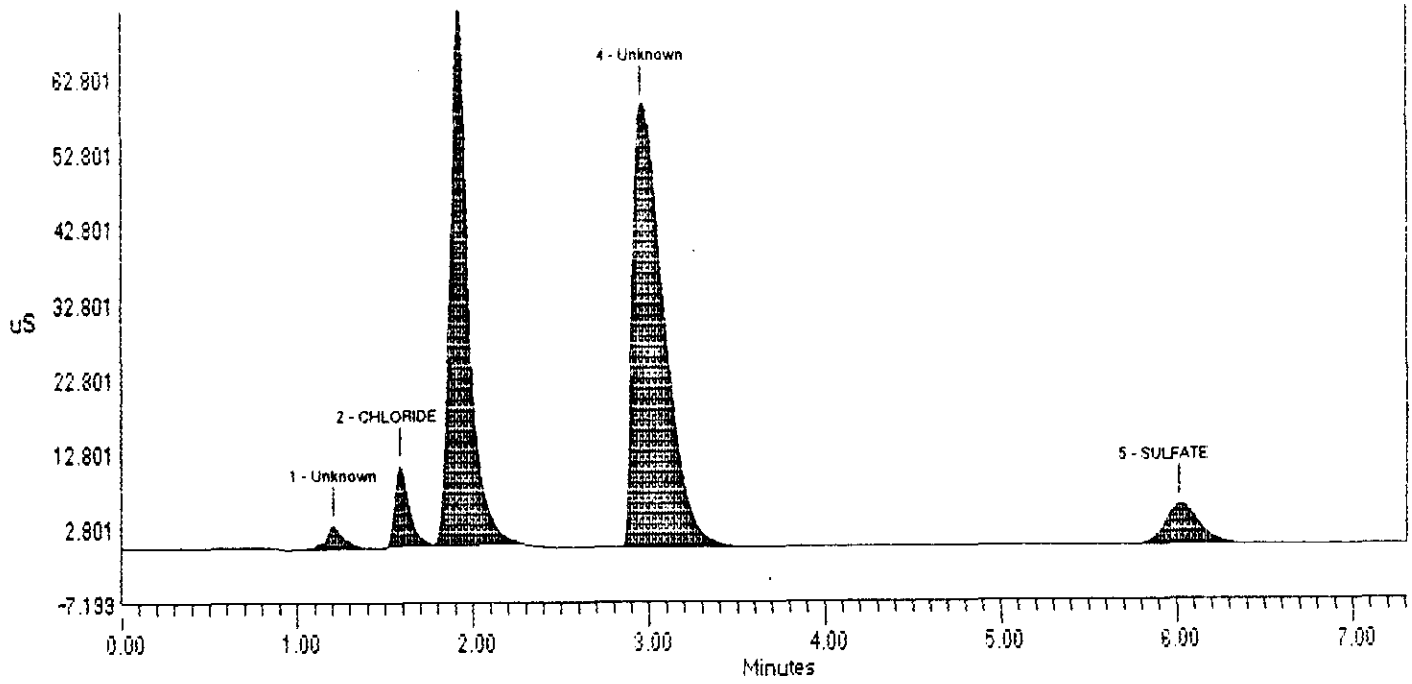
```
% Sample Name: G639                                   Date: Tue Aug 03 [illegible]
% Data File   : C:\DXX\DATA\93080301.D06                                          %
% Method      : C:\DXX\METHOD\MEL.MET                                             %
% ACI Address: 1        System : 1        Inject#:    6   Detector: CDM-1        %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	1	2195	.5Hz	0.00	7.32	20

Pk. No.	Ret Time	Component Name	Concentration	Height	Area	Wk. Mode	Tailf Ratio
1	1.21		2313.800	[illegible]	[illegible]		
2	1.59	CHLORIDE	5.936	10563	56750	1	[illegible]
3	1.92	NITRITE	70.581	70516	314135	2	-6.24
4	2.96		729571.700	58903	729572	1	
5	6.02	SULFATE	9.558	5322	73777	1	-7.81

File: C:\DX\DATA\93080301.D06 Sample: G639



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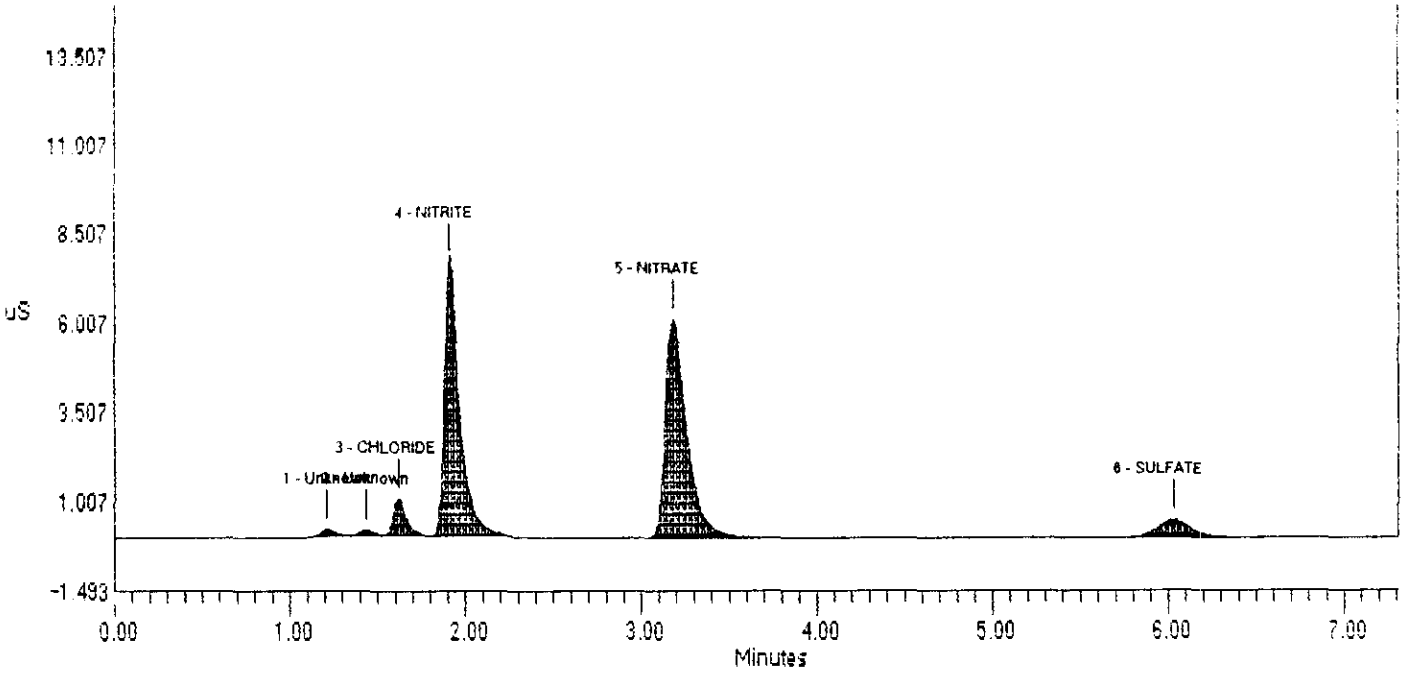
```
* Sample Name: G639                                  Date: Wed Aug 04 [illegible]  *
* Data File  : C:\DX\DATA\93080311.D05                                             *
* Method     : C:\DX\METHOD\MEL.MET                                                *
* ACI Address: 1        System : 1        Inject#:   5   Detector: CDM-1          *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
[illegible]	1	11	2195	5Hz	0.00	[illegible]	[illegible]	

Peak No.	Ret. Time	Component Name	Concentration	Height	Area	Rej.	[illegible]
1	1.41		[illegible]	[illegible]	[illegible]		
2	1.43		7820.371	129	711	[illegible]	
3	1.62	CHLORIDE	6.306	997	4770	2	[illegible]
4	1.91	NITRITE	74.188	7593	45829	1	[illegible]
5	3.18	NITRATE	91.218	6063	51524	1	-5.36
6	6.03	SULFATE	31.449	454	6154	1	[illegible]

File: C:\DX\DATA\93080311.D05 Sample: G639



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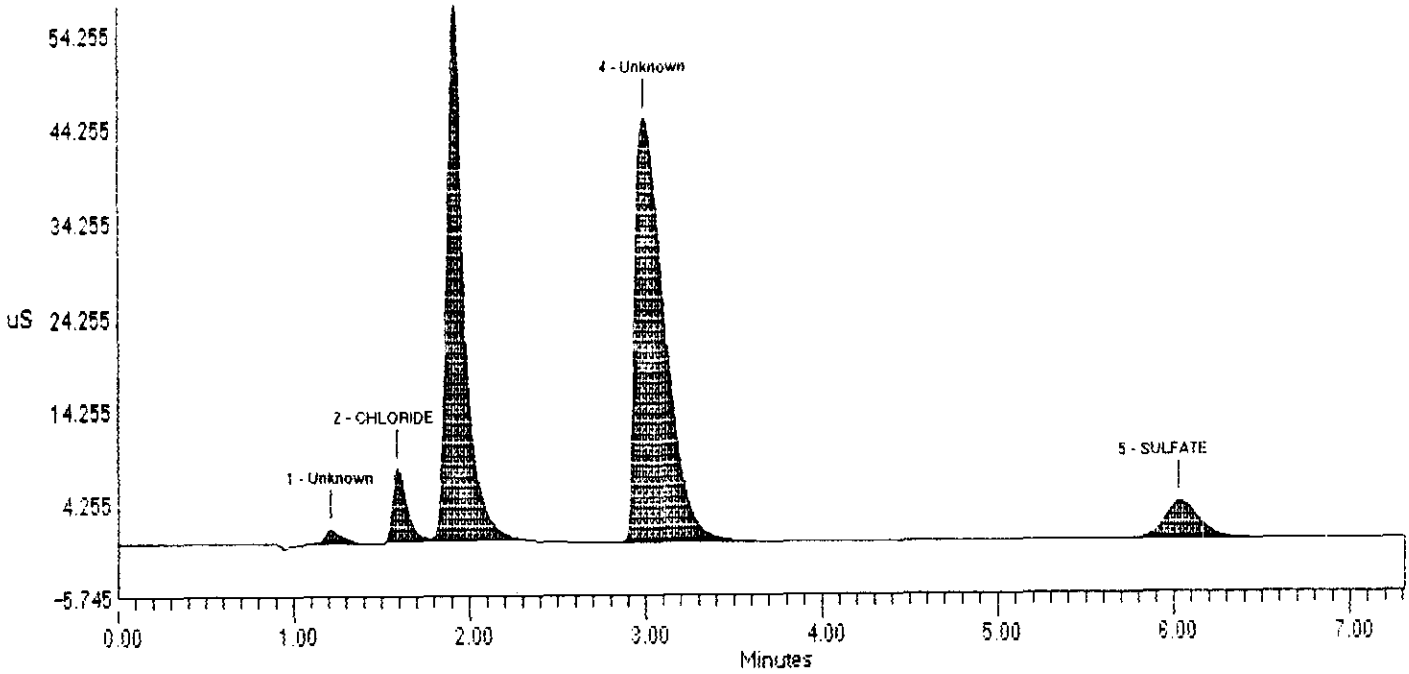
```
% Sample Name: G640                                    Date: [illegible]
% Data File   : C:\DX\DATA\93080301.D07                                  %
% Method      : C:\DX\METHOD\MEL.MET                                     %
% ACI Address: 1        System : 1        Inject#:   7  Detector: CDM-1  %
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	1	2195	5Hz	0.00	7.32	100	

Peak No.	Ret. Time	Component Name	Concentration	Height	Area	Rej. Code	Conc. Unit
1	1.[illegible]		1[illegible]	[illegible]	[illegible]		
2	1.59	CHLORIDE	4.388	7724	41358	1	[illegible]
3	1.92	NITRITE	53.074	57152	385705	1	-5.34
4	2.99		521868.300	45059	521868	1	
5	6.03	SULFATE	7.369	3942	54319	1	-7.36

File: C:\DX\DATA\93080301.D07 Sample: G640



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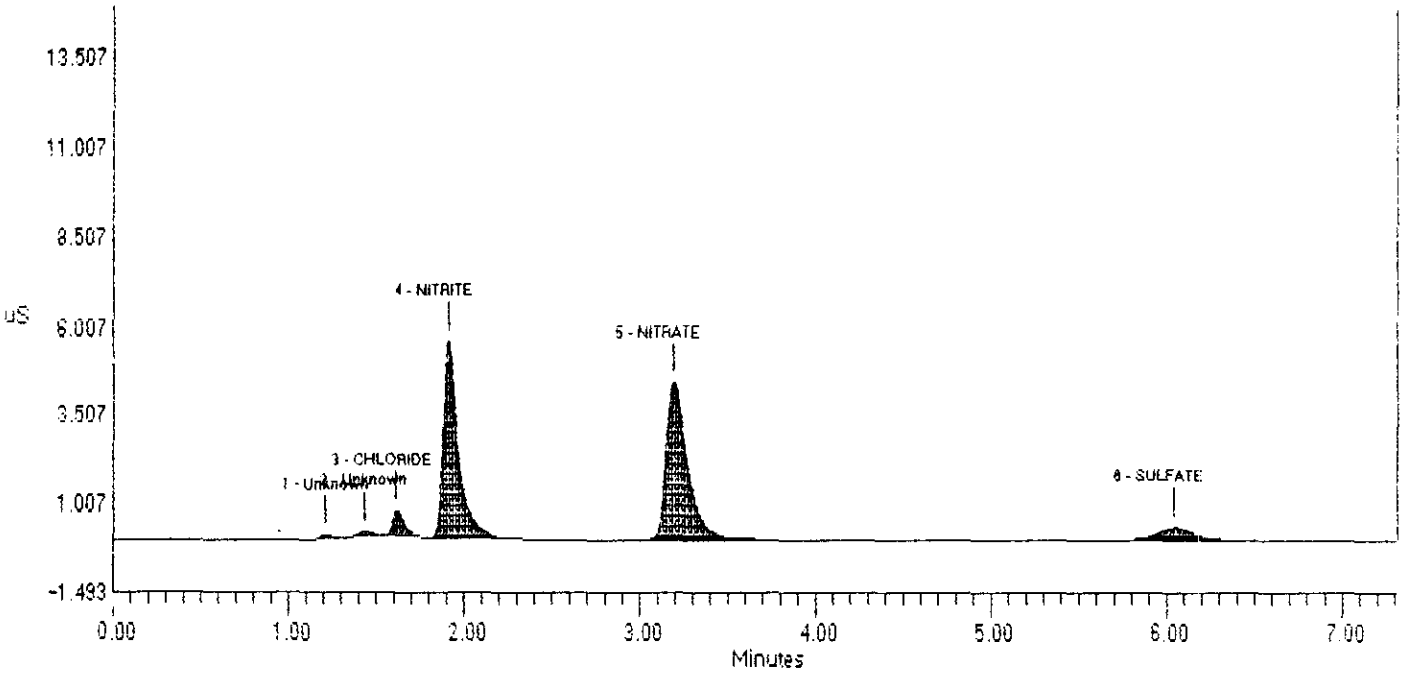
```
% Sample Name: SS-10                                   Date: Wed Aug 04 09:00:00, 19
% Data File   : C:\DX\DATA\93080311.D06
% Method      : C:\DX\METHOD\MEL.MET
% ACI Address: 1        System : 1        Injects:   6   Detector: CDM-1
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	11	2195	5Hz	0.00	7.32	200

Pk. No.	Ret Time	Component Name	Concentration	Height	Area	Sep. Code	Sep. Time
1	1.[illegible]		[illegible]	[illegible]	[illegible]		
2	1.43		1264.577	120	880	2	
3	1.61	CHLORIDE	4.618	693	3282	2	-5.29
4	1.91	NITRITE	54.312	5573	32574	1	-6.55
5	3.19	NITRATE	68.343	4431	37148	1	-5.05
6	6.04	SULFATE	19.528	341	4602	1	9.1[illegible]

File: C:\DX\DATA\93080311.D06 Sample: G640



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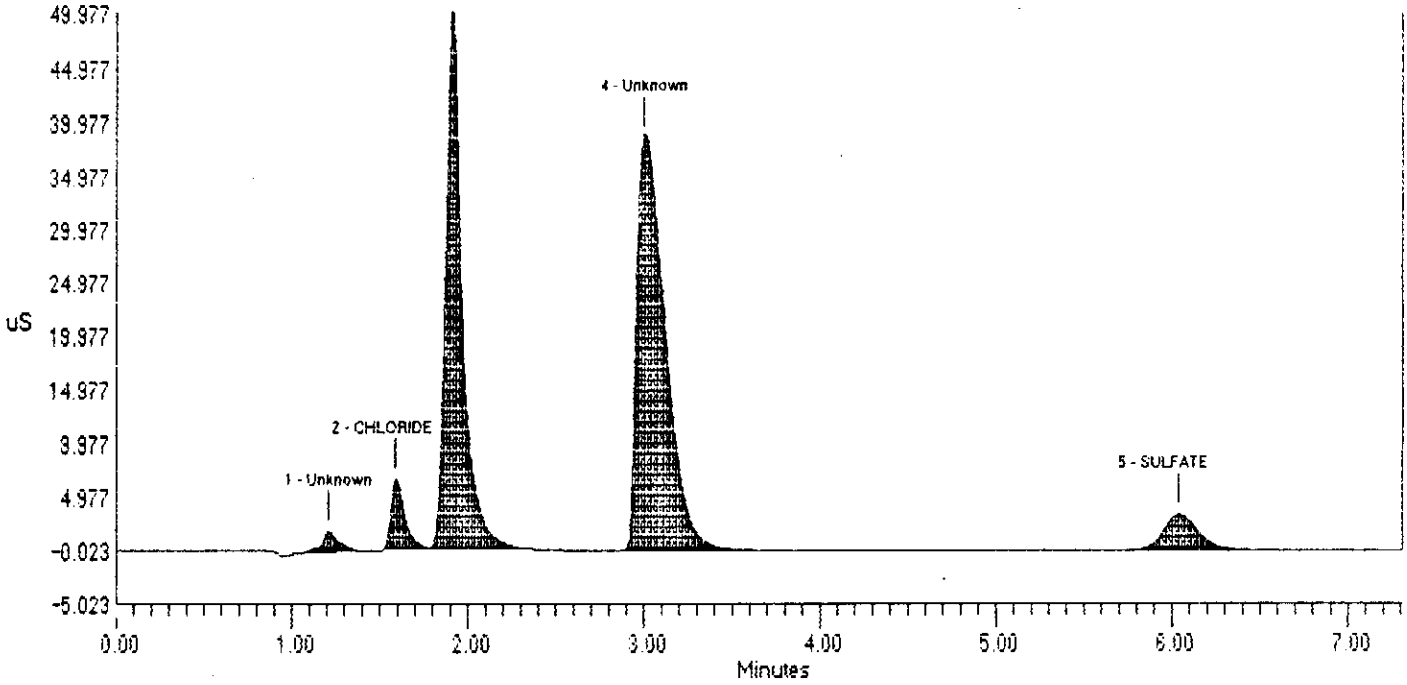
```
* Sample Name: G641                                   Date: Tue Aug 3, 1993 [illegible]
* Data File   : C:\DX\DATA\93080301.D08                                          *
* Method      : C:\DX\METHOD\MEL.MET                                              *
* ACI Address: 1        System : 1        Inject#:    8   Detector: CDM-1        *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	1	2195	5Hz	0.00	7.32	200

Pk No.	Ret Time	Component Name	Concentration	Height	Area	Pk Type	Wgt
1	1.21		1380.909	1[illegible]1	17[illegible]	[illegible]	
2	1.59	CHLORIDE	3.584	6445	33557	2	-6.47
3	1.91	NITRITE	45.218	49706	328070	2	-6.83
4	3.00		432989.600	38607	432990	1	
5	6.04	SULFATE	6.472	3361	46346	1	-7.50

File: C:\DX\DATA\93080301.D08 Sample: G641



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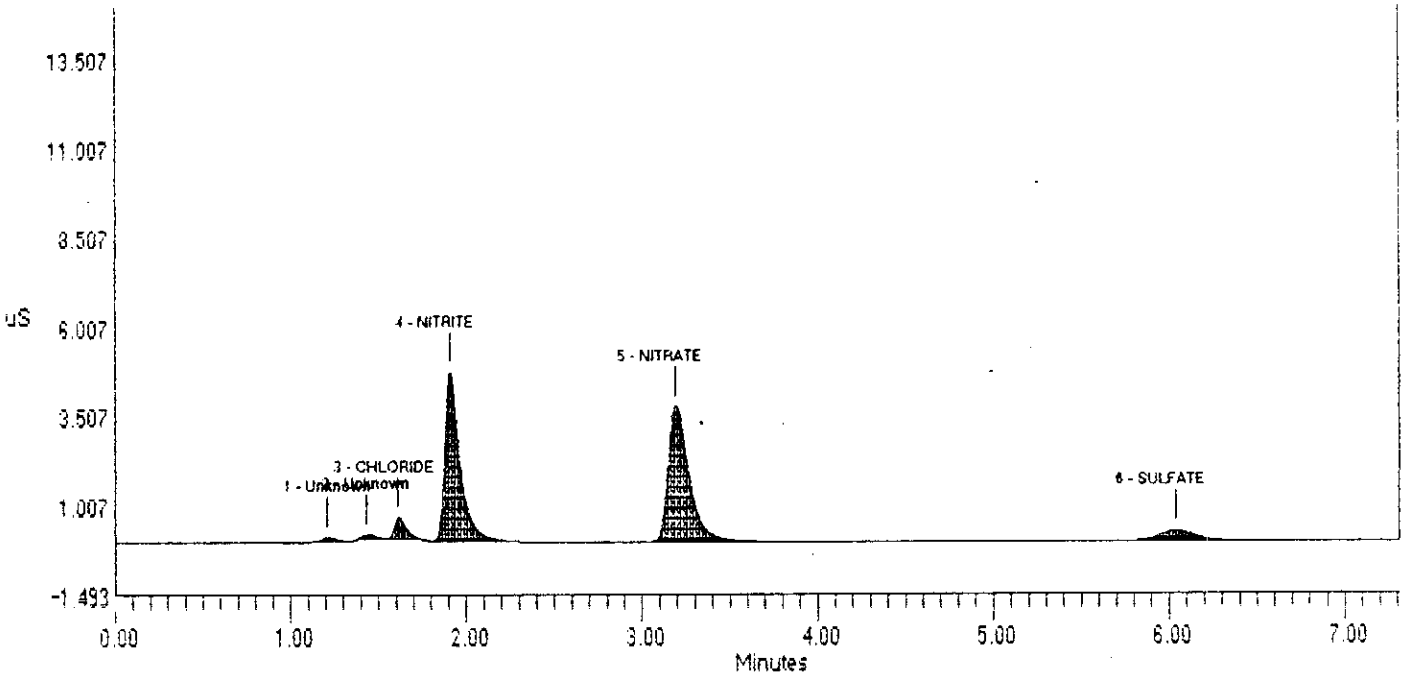
```
R Sample Name: Gb41                                   Date: Wed Aug 04 [illegible]
R Data File    : C:\DX\DATA\93080311.D07                                          R
R Method       : C:\DX\METHOD\MEL.MET                                             R
R ACI Address: 1          System : 1          Injects:   7   Detector: CDM-1      R
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	11	2145	5Hz	0.00	7.32	100	

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Rej. Flag	[illegible]
	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.43		[illegible]	[illegible]	[illegible]	[illegible]	
3	1.61	CHLORIDE	4.033	586	2766	1	-5.27
4	1.91	NITRITE	47.038	4711	27222	1	-1.33
5	3.19	NITRATE	59.393	3745	31523	1	-5.04
6	6.04	SULFATE	18.594	290	3817	11	-.17

File: C:\DX\DATA\93080311.D07 Sample: GB41



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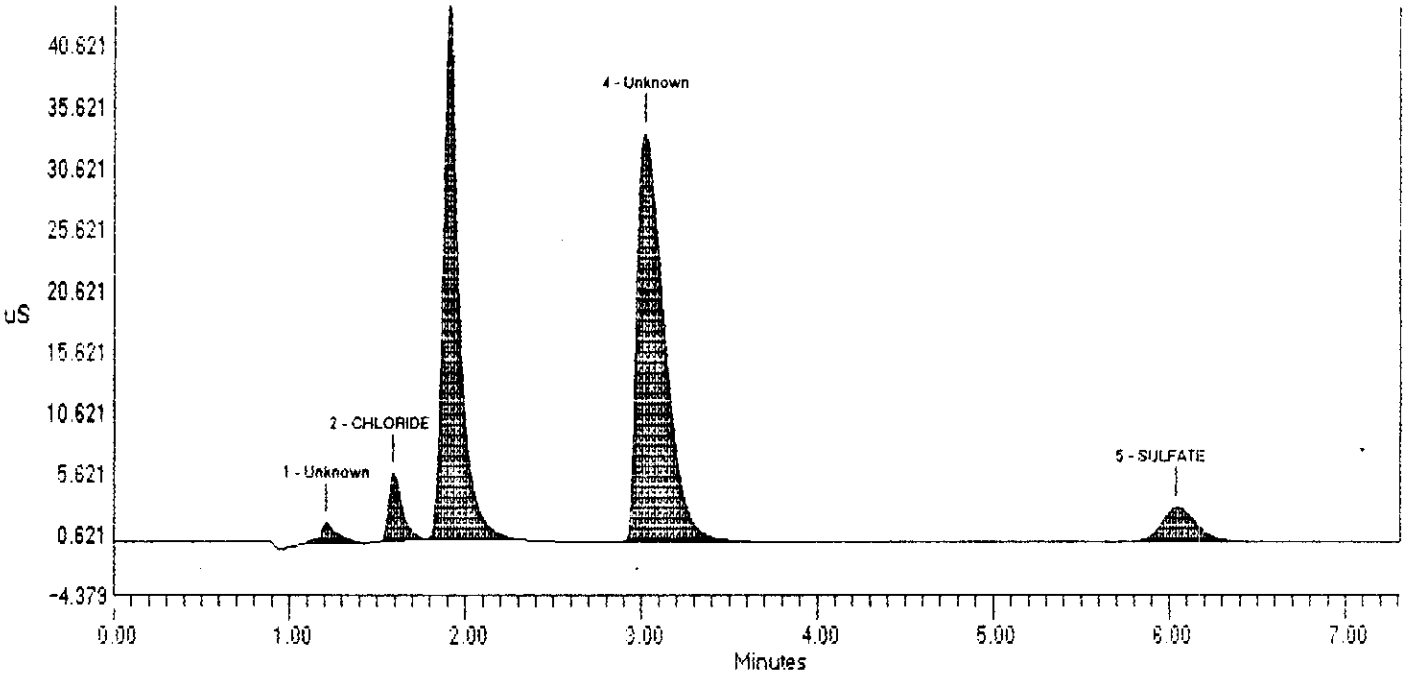
```
* Sample Name: G642                                   Date: Tue Aug 03 14:37:22 1993
* Data File   : C:\DX\DATA\93080301.D09                                            *
* Method      : C:\DX\METHOD\MEL.ME1                                               *
* ACI Address: 1        System : 1        Injects:    9   Detector: CDM-1         *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	1	2195	5Hz	0.00	7.32	200

Pk No	Ret Time	Component Name	Concentration	Height	Area	Alg	Qual
1	[illegible]		[illegible]	[illegible]	[illegible]		
2	1.59	CHLORIDE	3.058	5420	26836	2	[illegible]
3	1.91	NITRITE	38.580	43598	279377	2	-6.83
4	3.02		360761.200	33411	360761	1	
5	6.04	SULFATE	5.707	2841	39551	1	-7.50

File: C:\DX\DATA\93080301.D09 Sample: G642



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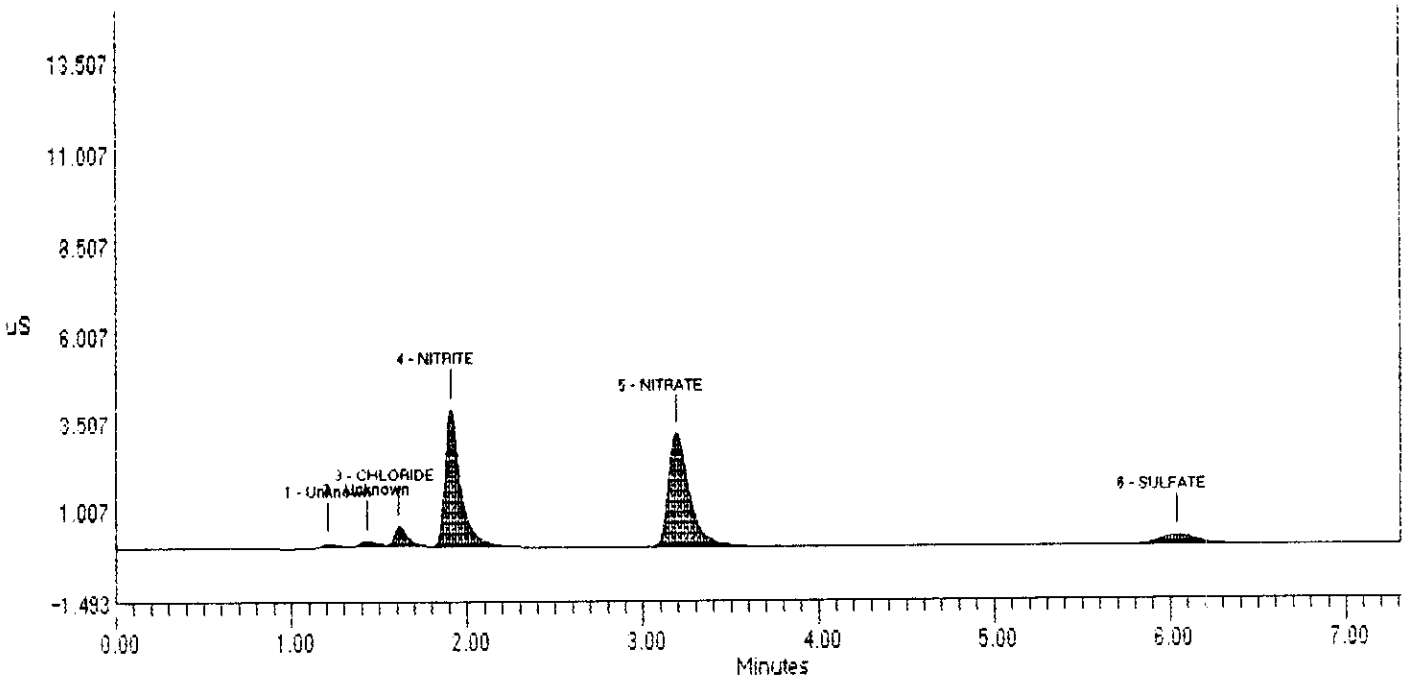
```
* Sample Name: G642                                   Date: Wed Nov 04 [illegible]
* Data File   : C:\DX\DATA\93080311.D08                                          *
* Method      : C:\DX\METHOD\MEL.MET                                              *
* ACI Address: 1        System : 1        Inject#:    8   Detector: CDM-1       *
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
Normal	1	11	7195	5Hz	0.00	[illegible]	[illegible]	

Peak #	Ret Time	Component Name	Concentration	Height	Area	Rej	[illegible]
[illegible]	[illegible]		158.[illegible]	[illegible]	[illegible]	[illegible]	
2	1.93		391.800	199	521	[illegible]	
3	1.61	CHLORIDE	3.493	497	2290	2	[illegible]
4	1.91	NITRITE	39.333	3870	12984	1	[illegible]
5	3.19	NITRATE	50.020	3158	25633	1	[illegible]
6	6.04	SULFATE	17.842	247	3[illegible]7	1	[illegible]

File: C:\DX\DATA\93080311.D08 Sample: G642



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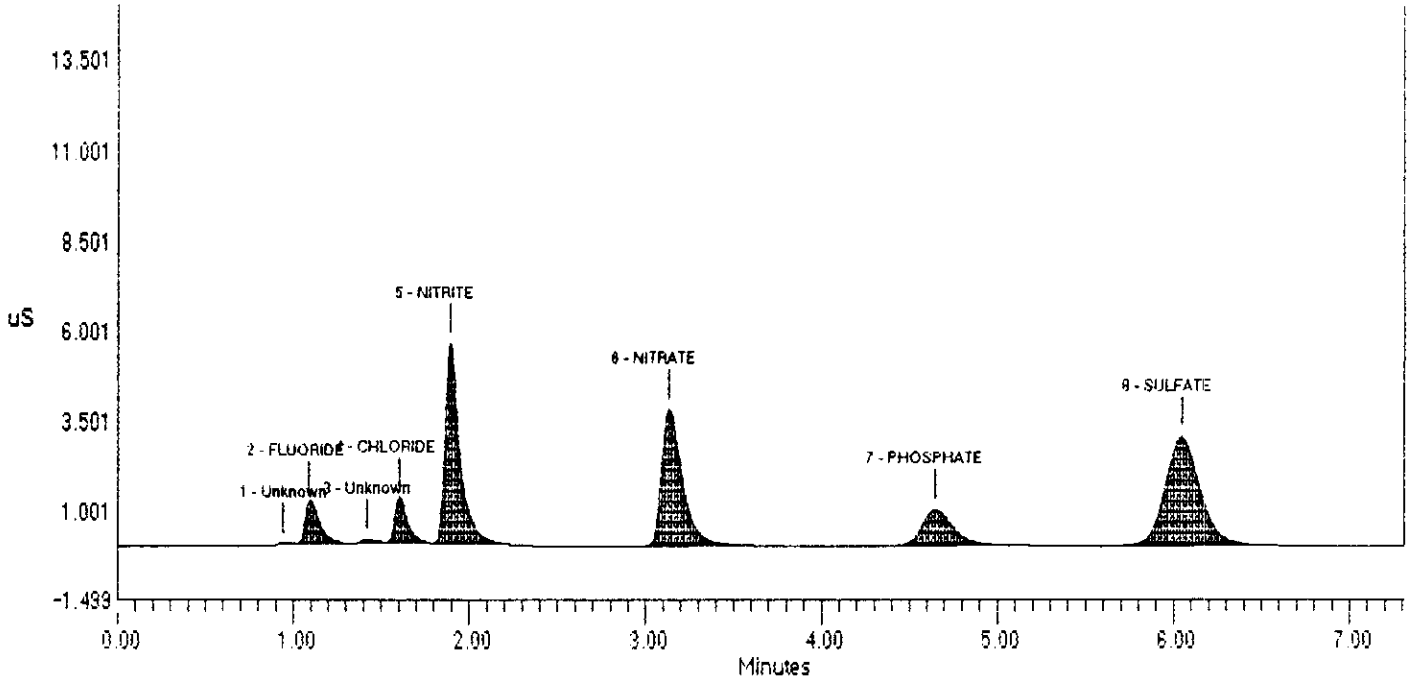
```
# Sample Name: LMCS                                   Date: Tue Aug [illegible] [illegible]
# Data File  : C:\DX\DATA\93080301.D10                                                    #
# Method     : C:\DX\METHOD\MEL.MET                                                       #
# ACI Address: 1        System : 1        Inject#: 10   Detector: CDM-1                  #
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA	REJ
External	1	101	2195	5Hz	0.00	7.32	[illegible]	[illegible]

Peak	Ret Time	Component	Concentration	Height	Area	Sep	[illegible]
[illegible]	[illegible]	FLUORIDE	[illegible]	[illegible]	[illegible]		
3	1.42		49815.067	[illegible]	[illegible]	[illegible]	
4	1.60	CHLORIDE	71.402	1276	5065		[illegible]
5	1.89	NITRITE	490.856	5341	32005	1	[illegible]
6	3.13	NITRATE	539.866	[illegible]	31145	1	-4.28
7	4.65	PHOSPHATE	[illegible]	1018	12712	1	[illegible]
8	6.35	SULFATE	596.089	1012	[illegible]	[illegible]	[illegible]

File: C:\DX\DATA\93080301.D10 Sample: LMCS



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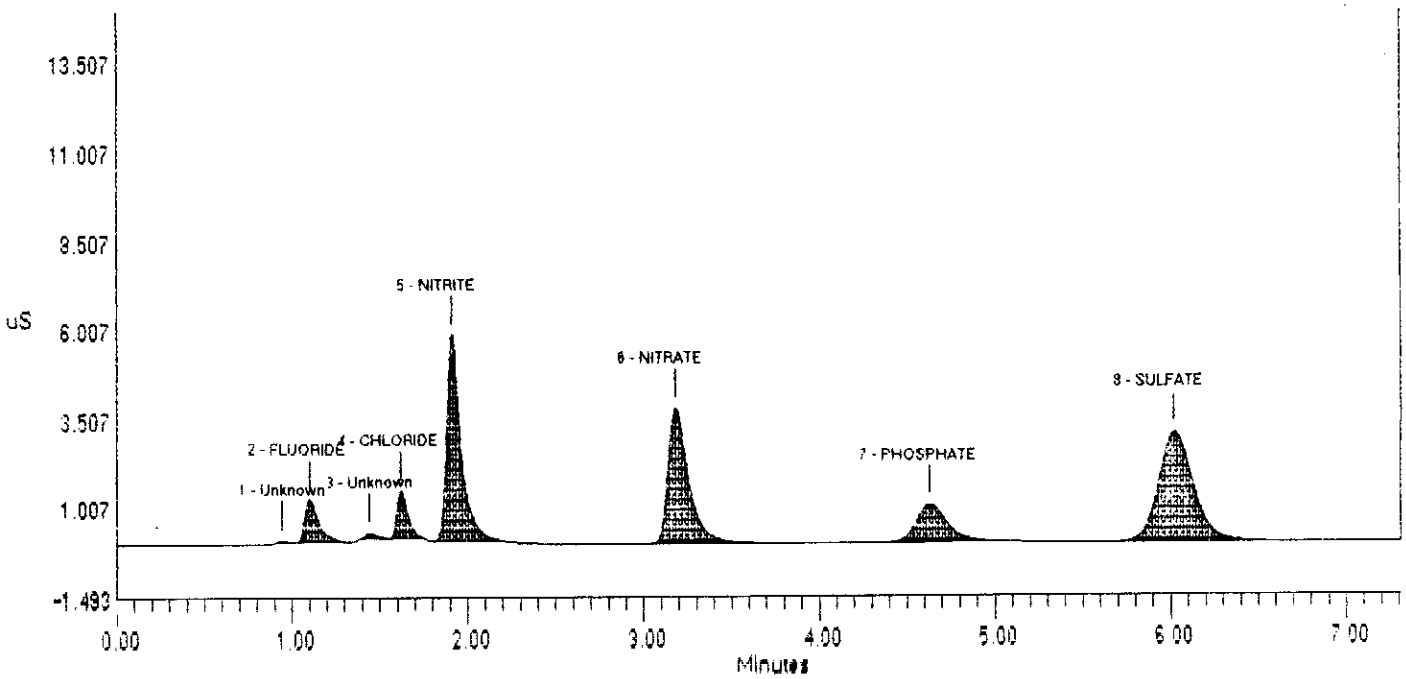
```
# Sample Name: LMCS                                    Date: Mon Aug 30 0 Sheet
# Data File   : C:\DX\DATA\93080311.D09                                          #
# Method      : C:\DX\METHOD\MEL.MET                                             #
# ACI Address: 1        System : 1        Injects:    9   Detector: CDM-1       #
```

REPORT	VOLUME	DILUTION	POINTS	RATE	START	STOP	AREA REJ
External	1	101	2195	5Hz	0.00	7.32	200

Pk. Num	Ret Time	Component Name	Concentration	Height	Area	Pk. Type	Delta Time
1	1.10	Unknown	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
3	1.44		61783.173	[illegible]	[illegible]	[illegible]	
4	1.62	CHLORIDE	70.839	1353	6011	2	-2.[illegible]
5	1.91	NITRITE	498.506	5782	32561	1	2.35
6	3.18	NITRATE	540.845	3802	31216	1	2.79
7	4.63	PHOSPHATE	528.735	1058	13202	1	-4.75
8	6.02	SULFATE	614.062	3100	42864	1	1.[illegible]3

File: C:\DX\DATA\93080311.D09 Sample: LMCS



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