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

DOCUMENT NUMBER: SD-WM-DP-148

SECTION 2 OF 4

TITLE: 60 DAY WASTE COMPATIBILITY SAFETY ISSUE + FINAL RESULTS FOR TANK 241-AN-101 GRAB SAMPLES 1AN-95-1 + 1AN-95-2 + 1AN-95-3

DATE: 11/02/95

ORIGINATOR: ESCH RA

CO: WHC

RECIPIENT:

CO:

REFERENCES: EDT-613463

BLANK

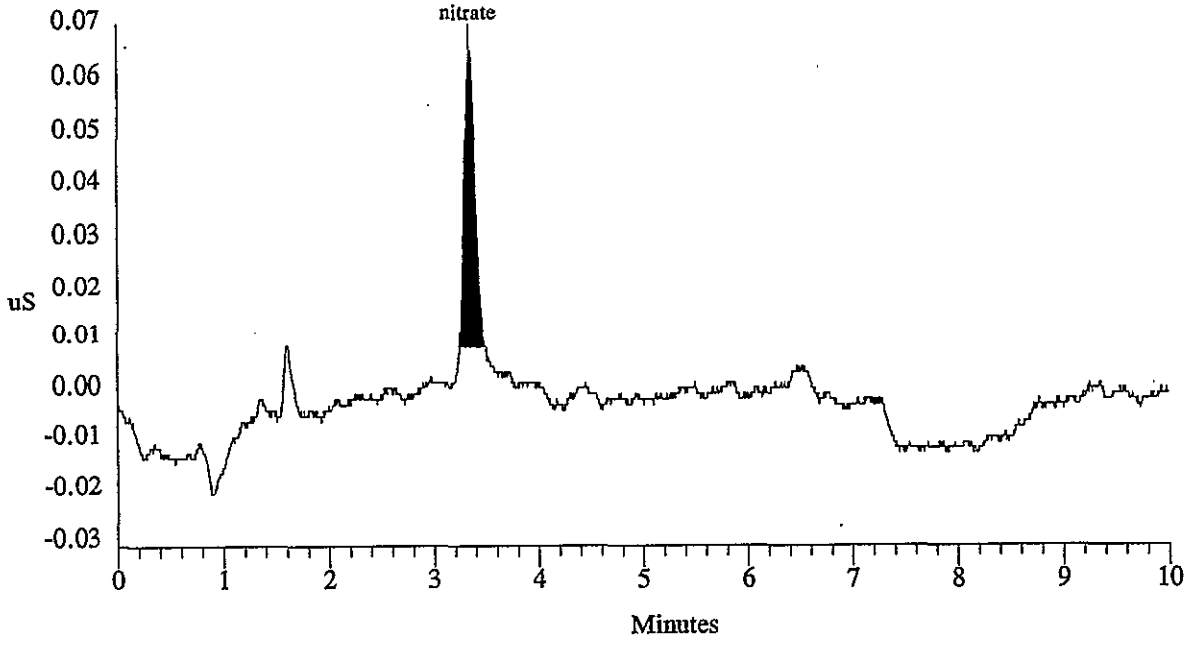
```
==============================================================================
| Sample Name: BLANK                          Date: 10/16/1995 22:44:11       |
| Data File  : C:\DX\DATA\95101511.D12                                        |
| Method     : C:\DX\METHOD\KIT.MET                                           |
| ACI Address: 1  System: 1  Inject#: 12                  Detector:CDM-1      |
| Analyst    :                Column: AG4A/AS4A anion column/SRS              |
==============================================================================
```

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	1	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	3.33	nitrate	0.375	55	395	1	5.71
		Totals	0.375	55	395		

File: 95101511.D12 Sample: BLANK



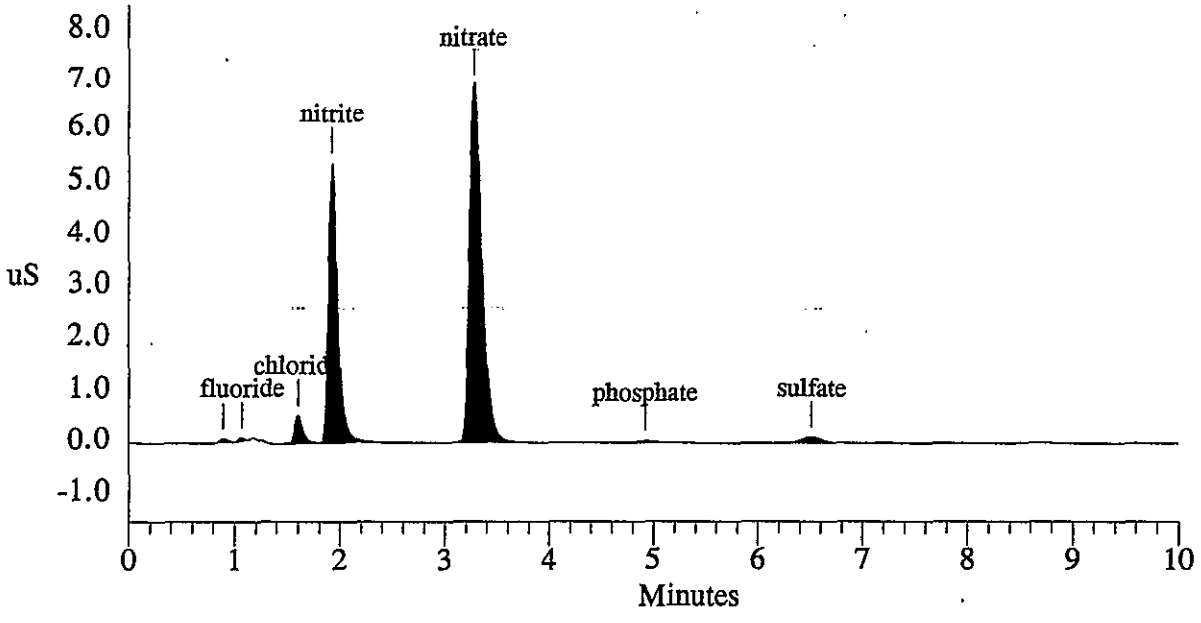
Sample Name: S95T002409 .100-10-.100-10 Date: 10/16/1995 22:58:20
Data File : C:\DX\DATA\95101511.D13
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	72	375	1	
2	1.07	fluoride	397.958	66	262	1	3.88
3	1.60	chloride	3301.004	555	3042	1	1.27
4	1.92	nitrite	50977.368	5361	33121	1	0.00
5	3.27	nitrate	100331.598	6945	58357	1	3.81
6	4.92	phosphate	3050.571	32	350	1	2.71
7	6.51	sulfate	4677.701	119	1576	1	2.36
		Totals	162736.201	13149	97084		

File: 95101511.D13 Sample: S95T002409



WHC-SD-WM-DP-148, REV. 0

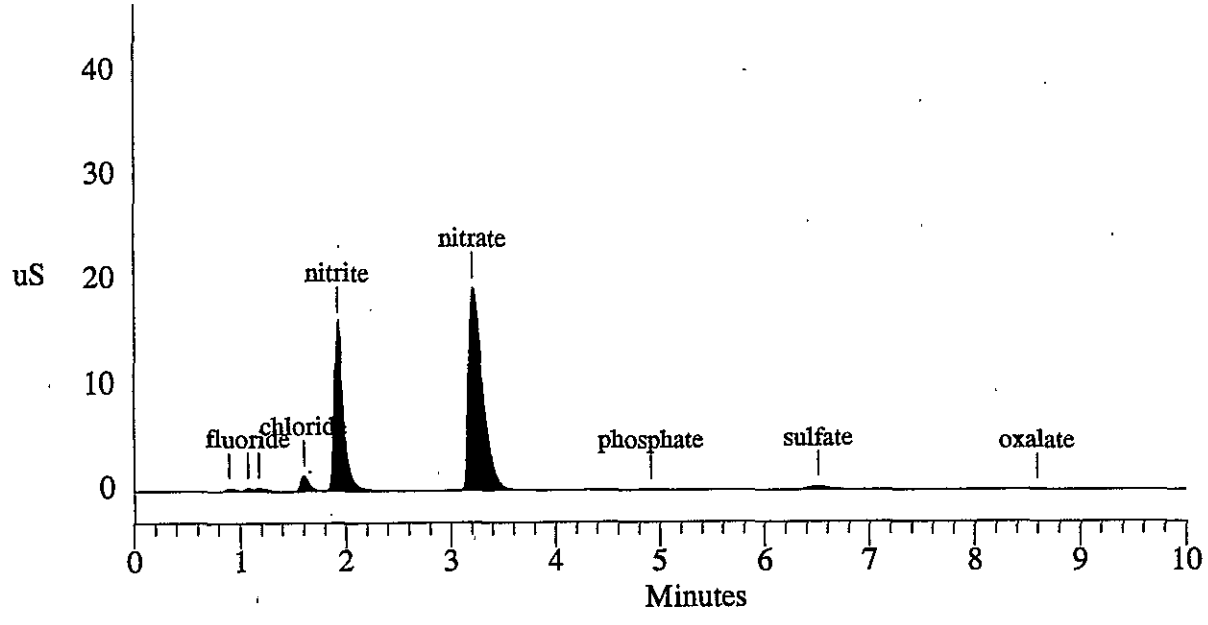
Sample Name: S95T002409 , 100-10-, 200-10 Date: 10/16/1995 23:16:21
Data File : C:\DX\DATA\95101511.D14
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 , System: 1 Inject#: 14 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	5151	3000	5Hz	0.00	10.00	200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	223	1331	2	
2	1.07	fluoride	604.148	281	1385	2	3.88
3	1.17		0.000	326	2431	2	
4	1.60	chloride	4563.411	1505	8544	1	1.27
5	1.92	nitrite	72591.332	15953	97078	1	0.00
6	3.21	nitrate	147064.968	19300	180983	1	1.90
7	4.91	phosphate	2884.007	100	1108	1	2.51
8	6.51	sulfate	4248.456	324	4451	1	2.36
9	8.59	oxalate	1392.540	29	403	1	2.75
		Totals	233348.861	38040	297714		

File: 95101511.D14 Sample: S95T002409



Data Reprocessed On 10/17/1995 06:50:21

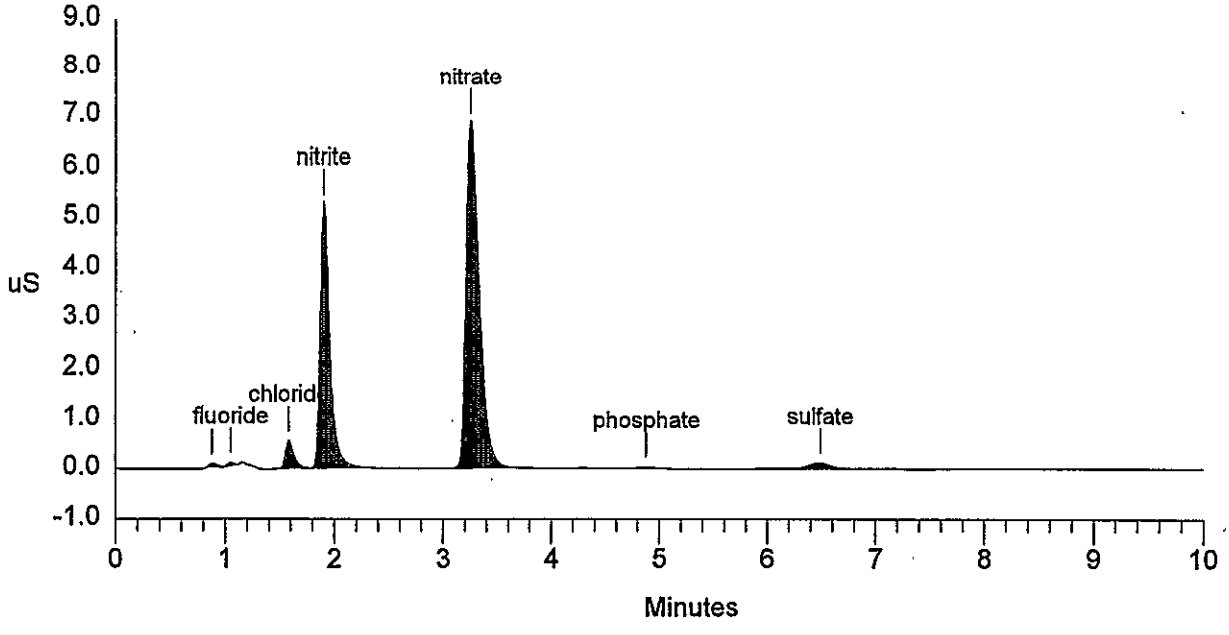
Sample Name: S95T002409-DUP .100-10-.100-10 Date: 10/17/1995 01:54:31
Data File : C:\DX\DATA\95101521.D01
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 1 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	70	369	1	
2	1.05	fluoride	407.426	70	276	1	1.94
3	1.58	chloride	3232.584	563	2977	1	0.00
4	1.90	nitrite	49255.710	5268	31946	1	-1.04
5	3.25	nitrate	100116.717	6853	58225	1	3.17
6	4.88	phosphate	2843.934	29	291	1	1.88
7	6.49	sulfate	4683.815	117	1581	1	2.04
		Totals	160540.187	12971	95665		

File: 95101521.D01 Sample: S95T002409-DUP



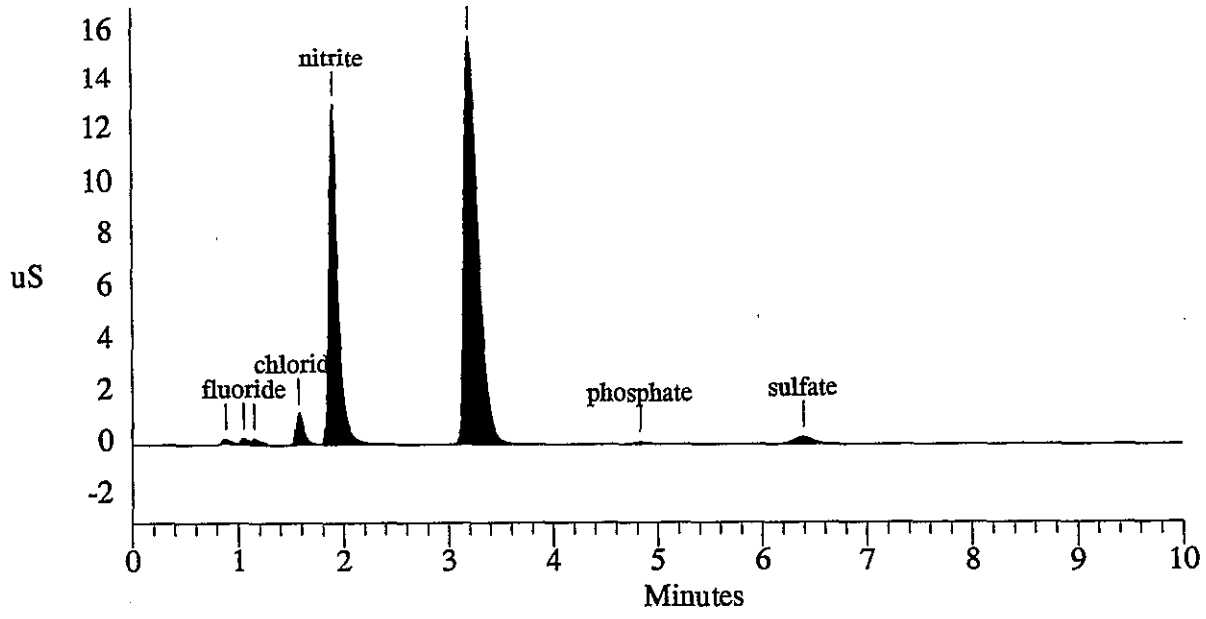
Sample Name: S95T002409 DUP ~~10-200~~ 100-10-200-10 Date: 10/17/1995 21:38:54
Data File : C:\DX\DATA\95101531.D12
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 12 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	178	1013	2	
2	1.05	fluoride	510.219	233	1123	2	1.94
3	1.15		0.000	256	1909	2	
~~4~~	~~1.57~~	~~chloride~~	~~3573.562~~	~~1216~~	~~6654~~	1	-0.63
5	1.90	nitrite	58488.820	13074	77698	1	-1.04
6	3.19	nitrate	120587.472	15743	146127	1	1.27
7	4.83	phosphate	2723.476	91	1017	1	0.84
8	6.39	sulfate	3909.571	285	3934	1	0.47
		Totals	189793.121	31077	239475		

File: 95101531.D12 Sample: S95T002409



WHC-SD-WM-DP-148, REV. 0

LABCORE Completed Worklist Report for Worklist# 2974

Analyst: eal **Instrument:** IC01 **Book#** 10919A

95000135
AN-101

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-101 IC was part of WKL 2572 originally.JMF

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	CCB			0	@IC-QC F-QC	QC	1	<.013		ug/mL
1	CCB			0	@IC-QC CL-QC	QC	1	<.017		ug/mL
1	CCB			0	@IC-QC NO2-QC	QC	1	<.107		ug/mL
1	CCB			0	@IC-QC BR-QC	QC	n\a	n\a		ug/mL
1	CCB			0	@IC-QC NO3-QC	QC	1	<.140		ug/mL
1	CCB			0	@IC-QC PO4-QC	QC	1	<.296		ug/mL
1	CCB			0	@IC-QC SO4-QC	QC	1	<.136		ug/mL
1	CCB			0	@IC-QC OXALATQC	QC	n\a	n\a		ug/mL
2	CCV			0	@IC-QC F-QC	QC	59	58.5	99.150	% Recovery
2	CCV			0	@IC-QC CL-QC	QC	79	76.5	96.840	% Recovery
2	CCV			0	@IC-QC NO2-QC	QC	533	500.1	93.830	% Recovery
2	CCV			0	@IC-QC BR-QC	QC	n\a	n\a		% Recovery
2	CCV			0	@IC-QC NO3-QC	QC	614	584.5	95.200	% Recovery
2	CCV			0	@IC-QC PO4-QC	QC	546	524.2	96.010	% Recovery
2	CCV			0	@IC-QC SO4-QC	QC	631	598.7	94.880	% Recovery
2	CCV			0	@IC-QC OXALATQC	QC	n\a	n\a		% Recovery
3	SAMPLE	S95T002410		0	@IC-01 F-02	LIQUID	N/A	4.25e2	67.000	ug/mL
3	SAMPLE	S95T002410		0	@IC-01 CL-02	LIQUID	N/A	3.04e3	173.000	ug/mL
3	SAMPLE	S95T002410		0	@IC-01 NO2-02	LIQUID	N/A	4.60e4	1.090e+003	ug/mL
3	SAMPLE	S95T002410		0	@IC-01 NO3-02	LIQUID	N/A	9.42e4	1.430e+003	ug/mL
3	SAMPLE	S95T002410		0	@IC-01 PO4-02	LIQUID	N/A	2.17e3	1.520e+003	ug/mL
3	SAMPLE	S95T002410		0	@IC-01 SO4-02	LIQUID	N/A	3.46e3	701.000	ug/mL
4	DUP	S95T002410		0	@IC-01 F-02	LIQUID	4.25e2	4.23e2	0.470	RPD
4	DUP	S95T002410		0	@IC-01 CL-02	LIQUID	3.04e3	3.70e3	19.580	RPD
4	DUP	S95T002410		0	@IC-01 NO2-02	LIQUID	4.60e4	4.54e4	1.310	RPD
4	DUP	S95T002410		0	@IC-01 BR-02	LIQUID	n\a	n\a		RPD
4	DUP	S95T002410		0	@IC-01 NO3-02	LIQUID	9.42e4	9.40e4	0.210	RPD
4	DUP	S95T002410		0	@IC-01 PO4-02	LIQUID	2.17e3	2.17e3	0.000	RPD
4	DUP	S95T002410		0	@IC-01 SO4-02	LIQUID	3.46e3	3.43e3	0.870	RPD
4	DUP	S95T002410		0	@IC-01 OXALATE2	LIQUID	n\a	n\a		RPD

Final page for worklist# 2974

Analyst Signature Date

Analyst Signature Date

Reviewer Signature Date 10/25/95

Units shown for QC (BLK/BKG) may not reflect the actual units.

LABCORE Data Entry Template for Worklist# 2974

Analyst: EAL, KGH **Instrument:** IC01 IC01 **Book #** 109N9A

Method: LA-533-105 Rev/Mod D-1

Worklist Comment: AN-101 IC was part of WKL 2572 originally.JMF

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST		MATRIX	ACTUAL	FOUND	DL	UNIT
		1	CCB			@IC-QC	F-QC		QC	1	<.013	N/A	ug/mL
		1	CCB			@IC-QC	CL-QC		QC	1	<.017	N/A	ug/mL
		1	CCB			@IC-QC	NO2-QC		QC	1	<.107	N/A	ug/mL
		1	CCB			@IC-QC	BR-QC		QC	NA	NA	N/A	ug/mL
		1	CCB			@IC-QC	NO3-QC		QC	1	<.140	N/A	ug/mL
		1	CCB			@IC-QC	PO4-QC		QC	1	<.296	N/A	ug/mL
		1	CCB			@IC-QC	SO4-QC		QC	1	<.136	N/A	ug/mL
		1	CCB			@IC-QC	OXALATQC		QC	NA	NA	N/A	ug/mL
		2	CCV			@IC-QC	F-QC		QC	59	58.5	N/A	ug/mL
		2	CCV			@IC-QC	CL-QC		QC	79	76.5	N/A	ug/mL
		2	CCV			@IC-QC	NO2-QC		QC	533	500.1	N/A	ug/mL
		2	CCV			@IC-QC	BR-QC		QC	NA	NA	N/A	ug/mL
		2	CCV			@IC-QC	NO3-QC		QC	614	584.5	N/A	ug/mL
		2	CCV			@IC-QC	PO4-QC		QC	546	524.2	N/A	ug/mL
		2	CCV			@IC-QC	SO4-QC		QC	631	598.7	N/A	ug/mL
		2	CCV			@IC-QC	OXALATQC		QC	NA	NA	N/A	ug/mL
95000135	AN-101 GRAB	3	SAMPLE	S95T002410	0	@IC-01	F-02		LIQUID	N/A	4.25^{+2}	6.70^{+1}	ug/mL
95000135	AN-101 GRAB	3	SAMPLE	S95T002410	0	@IC-01	CL-02		LIQUID	N/A	3.04^{+3}	1.73^{+2}	ug/mL

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 2974

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
95000135	AN-101 GRAB	3 SAMPLE	S95T002410	0	@IC-01	NO2-02	LIQUID	N/A	4.60^{+4}	1.09^{+3}	ug/mL
95000135	AN-101 GRAB	3 SAMPLE	S95T002410	0	@IC-01	NO3-02	LIQUID	N/A	9.42^{+4}	1.43^{+3}	ug/mL
95000135	AN-101 GRAB	3 SAMPLE	S95T002410	0	@IC-01	PO4-02	LIQUID	N/A	2.17^{+3}	1.52^{+3}	ug/mL
95000135	AN-101 GRAB	3 SAMPLE	S95T002410	0	@IC-01	SO4-02	LIQUID	N/A	3.46^{+3}	7.01^{+2}	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	F-02	LIQUID	4.25^{+2}	4.23^{+2}	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	CL-02	LIQUID	3.04^{+3}	3.70^{+3}	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	NO2-02	LIQUID	4.60^{+4}	4.54^{+4}	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	BR-02	LIQUID	NA	NA	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	NO3-02	LIQUID	9.42^{+4}	9.40^{+4}	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	PO4-02	LIQUID	2.17^{+3}	2.17^{+3}	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	SO4-02	LIQUID	3.46^{+3}	3.43^{+3}	N/A	ug/mL
95000135	AN-101 GRAB	4 DUP	S95T002410	0	@IC-01	OXALATE2	LIQUID	NA	NA	N/A	ug/mL

Final page for worklist # 2974

Was originally signed by
Analyst Signature Date
Ann Lambel & Kristin Higbee 10/17/95
Edited by Jerry Faye 10/19/95
Verified 10/25/95 J.M. Faye

Analyst Signature Date 10-22-95

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

WESTINGHOUSE HANFORD COMPANY
222-S LABORATORY
INORGANIC ANALYTICAL BATCH AND SUMMARY SHEET

ANION ANALYSIS ON DIONEX

SAMPLE #:	S95T002410		
TEST CODE:	@IC-01	ANALYST:	EAL/KGH
INSTRUMENT:	IC01	ANALYSIS DATE:	10/17/95
WORK LIST #:	2974	SAMPLE POINT:	AN-101
BATCH ID:	N\A	SAMPLE PREP:	DIRECT

94.88 % RDE 11/1/95

Result Units µg/mL	Fluoride	Chloride	Nitrite	Nitrate	Phosphate	Sulfate	Bromide	Oxalate
109N9A	99.2%	96.8%	93.8%	95.2%	96.0%	~~109.7%~~	96.5%	106.6%
S95T002410	4.25E+02	3.04E+03	4.60E+04	9.42E+04	2.17E+03	3.46E+03	<649.03	<540.86
S95T002410DUP	4.23E+02	3.70E+03	4.54E+04	9.40E+04	2.17E+03	3.43E+03	<649.03	<540.86
Duplicate 1 RPD	0.5%	19.7%	1.3%	0.3%	0.4%	0.9%	N/A	N/A
	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00
	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00
Duplicate 2 RPD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NARRATIVE: **Analyst Comments:**

Chemist Comments:

Form Completed By:	[signature]	Date:	10-22-95
Chemist Approval:	[signature]	Date:	10/23/95

75.20

WHC-SD-WM-DP-148, REV. 0

LAB LEADER INFO	
Method:	LA-533-105
Matrix:	LIQUID
Test Code:	@IC-01
Work List #:	2974
Batch #:	N\A
Result Units	
(µg/g or µg/mL):	µg/mL
Spike Book Number:	N\A
Enter Spike Sample # (1-4):	N\A
Prepared By:	RCJ
Prepared Date:	10/22/95
Chemist:	JMF
Analyst:	EAL/KGH
Analysis Date:	10/17/95
Time Complete:	10:00 PM
Instrument Code:	IC01
Rerun:	0
Sample Prep:	DIRECT
Sample Point:	AN-101
Sample Type	
STANDARD	109N9A
SAMPLE 1	S95T002410
DUPLICATE 1	S95T002410DUP
SAMPLE 2	
DUPLICATE 2	
SAMPLE 3	
DUPLICATE 3	
SAMPLE 4	
DUPLICATE 4	
SPIKE	
SPIKE DUPLICATE	

PRINT

TECH INFO	Fluoride	Chloride	Nitrite	Nitrate	Phosphate	Sulfate	Bromide	Oxalate
Blank Data (µg/mL)	<.013	<.017	<.107	<.140	<.296	<.136	<.126	<.105
Standard Data (µg/mL)	58.5	76.5	500.1	584.5	524.2	598.7	554.6	560.9
Sample 1 Data (µg/mL)	4.25E+02	3.04E+03	4.60E+04	9.42E+04	2.17E+03	3.46E+03	<.126	<.105
Sample 1 Dilution Factor	5151	10201	10201	10201	5151	5151	5151	5151
Sample 1 Prep DF	1	1	1	1	1	1	1	1
Duplicate 1 Data (µg/mL)	4.23E+02	3.70E+03	4.64E+04	9.40E+04	2.17E+03	3.43E+03	<.126	<.105
Duplicate 1 Dilution Factor	5151	10201	10201	10201	5151	5151	5151	5151
Duplicate 1 Prep DF	1	1	1	1	1	1	1	1
Sample 2 Data (µg/mL)								
Sample 2 Dilution Factor								
Sample 2 Prep DF								
Duplicate 2 Data (µg/mL)								
Duplicate 2 Dilution Factor								
Duplicate 2 Prep DF								
Sample 3 Data (µg/mL)								
Sample 3 Dilution Factor								
Sample 3 Prep DF								
Duplicate 3 Data (µg/mL)								
Duplicate 3 Dilution Factor								
Duplicate 3 Prep DF								
Sample 4 Data (µg/mL)								
Sample 4 Dilution Factor								
Sample 4 Prep DF								
Duplicate 4 Data (µg/mL)								
Duplicate 4 Dilution Factor								
Duplicate 4 Prep DF								
Spike + Sample (µg/mL)								
Spike + Dup (µg/mL)								
Spike Volume (mL)								
Total Volume (mL)						RCE 11/1/95		
Std. Conc. (µg/mL)	59	79	533	614	546	631 ~~546~~	575	526
Detection Limit	0.013	0.017	0.107	0.140	0.296	0.136	0.126	0.105
Matrix Detection Limit 1	6.70E+01	1.73E+02	1.09E+03	1.43E+03	1.52E+03	7.01E+02	6.49E+02	5.41E+02
Matrix Detection Limit 2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Matrix Detection Limit 3	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Matrix Detection Limit 4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Spike Recovery = [((Spike+Sample)-(Sample)*(Total Volume))/((Spike Vol.)*(Spike Std.)*(Sample DF))]*100%
Note: (For spike recovery when the sample conc. is less than detection limit you do NOT subtract sample conc.)
Duplicate Relative % Difference = ((Sample - Duplicate) / ((Sample + Duplicate) / 2) * 100%)
Less than Values are Calculated from the Detection Limit*Dilution Factor

94.88% RCE 11/1/95

v RESULTS v	Fluoride	Chloride	Nitrite	Nitrate	Phosphate	Sulfate	Bromide	Oxalate
Standard % Recovery	99.2%	96.8%	93.8%	95.2%	98.0%	~~108.7%~~	96.6%	106.6%
Sample 1 in µg/mL	4.25E+02	3.04E+03	4.60E+04	9.42E+04	2.17E+03	3.46E+03	<649.03	<540.86
Duplicate 1 in µg/mL	4.23E+02	3.70E+03	4.64E+04	9.40E+04	2.17E+03	3.43E+03	<649.03	<540.86
Duplicate 1 RPD	0.5%	19.7%	1.3%	0.3%	0.4%	0.9%	N/A	N/A
Sample 2 in µg/mL	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00
Duplicate 2 in µg/mL	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00	<0.00
Duplicate 2 RPD	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Data Entry by: RCJones Date: 10/22/95
Approved by: [signature] Date: 10/22/95
Form DIONEX.WB1 Rev. 1.3

75.21

Sample Name: 109N9-A STD Date: 10/17/1995 21:26:52
Data File : C:\DX\DATA\95101531.D11
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 11 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

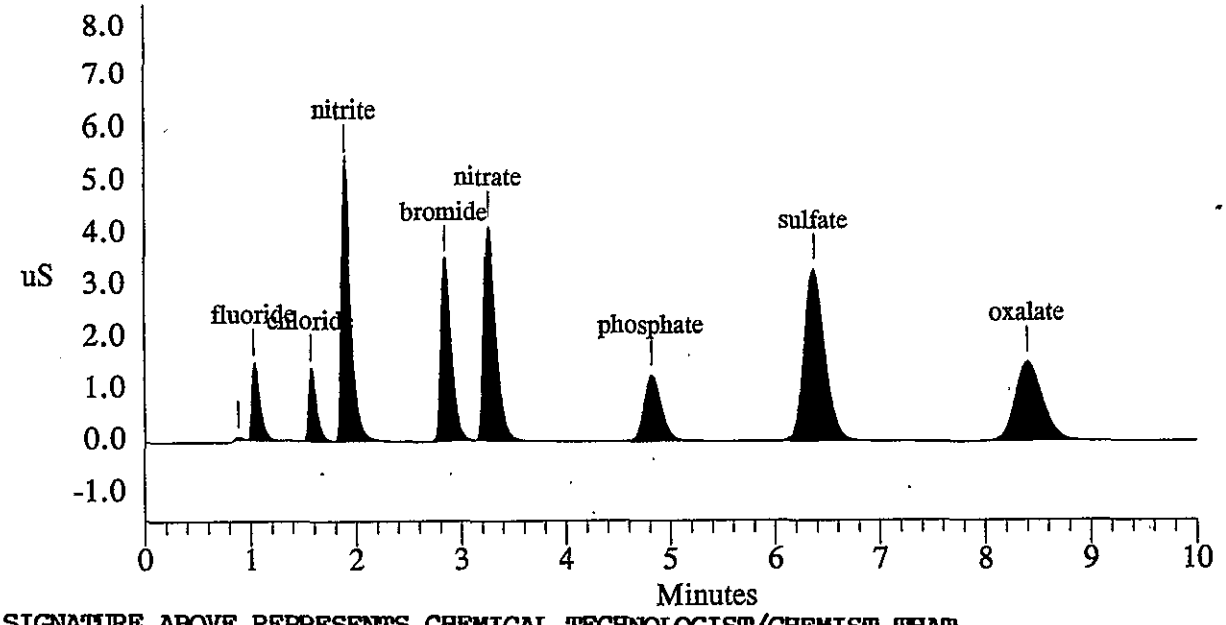
10/25/95

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	101	3000	5Hz	0.00	10.00	200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	64	298	2	
2	1.03	fluoride	58.457	1467	8065	2	0.00
3	1.57	chloride	76.460	1372	7275	1	-0.63
4	1.89	nitrite	500.118	5390	32803	1	-1.56
5	2.84	bromide	554.591	3471	24366	1	1.07
6	3.26	nitrate	584.537	4129	33259	1	3.49
7	4.82	phosphate	524.157	1287	14757	1	0.63
8	6.37	sulfate	598.718	3310	45090	1	0.16
9	8.40	oxalate	560.909	1532	27762	1	0.48
		Totals	3457.946	22022	193674		

File: 95101531.D11 Sample: 109N9-A



SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 7522 TO 7527

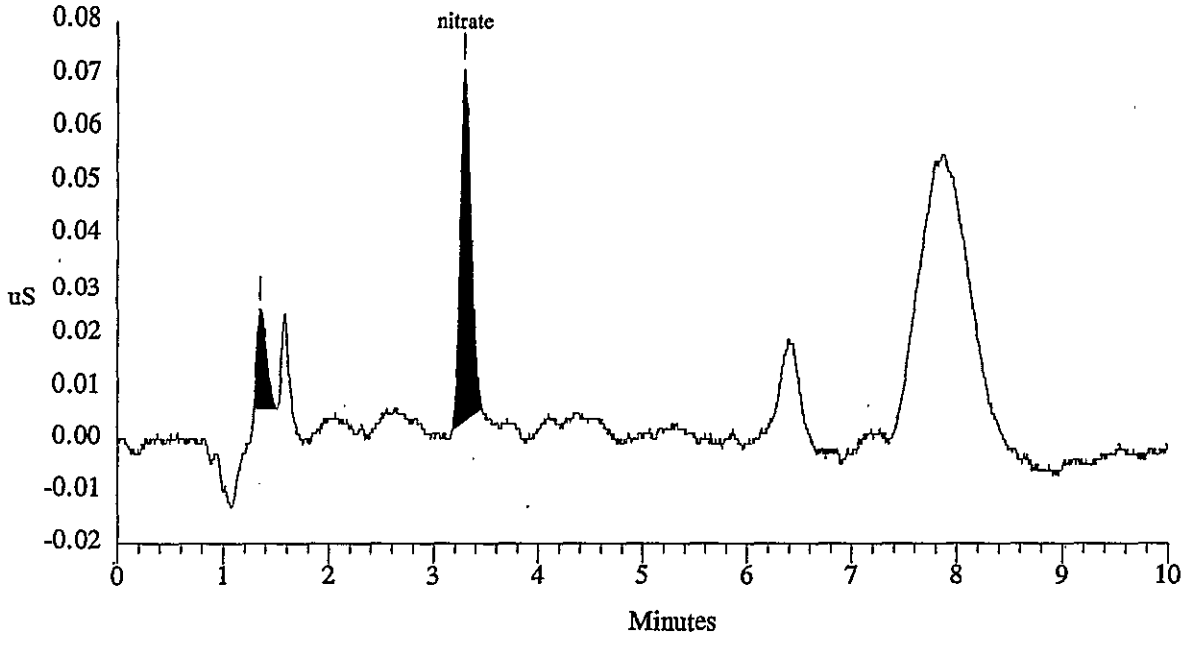
Sample Name: BLANK Date: 10/17/1995 19:31:57
Data File : C:\DX\DATA\95101531.D09
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 9 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area Reject
External	1	1	3000	5Hz	0.00	10.00	200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
2	3.30	nitrate	0.389	67	475	1	4.76
		Totals	0.389	67	475		

File: 95101531.D09 Sample: BLANK



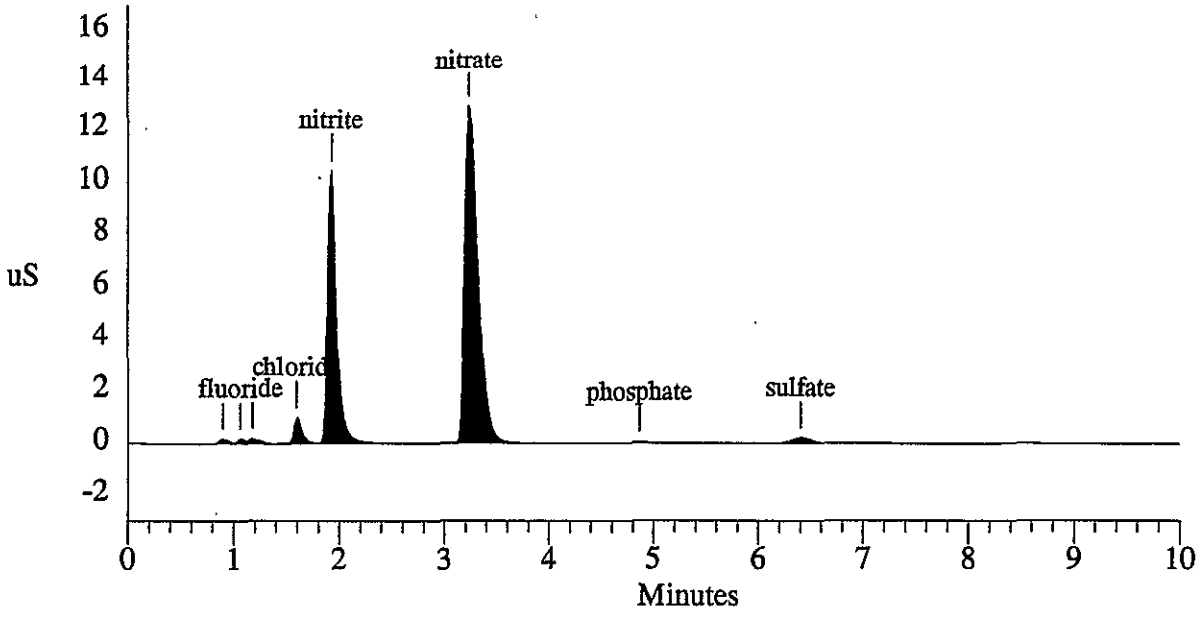
Sample Name: S95T002410 .100-10-,200-10 Date: 10/17/1995 21:58:05
Data File : C:\DX\DATA\95101531.D13
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 13 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	155	938	2	
2	1.06	fluoride	424.605	177	885	2	2.91
3	1.17		0.000	198	1421	2	
4	1.59	chloride	2912.831	985	5398	1	0.63
5	1.92	nitrite	47368.121	10425	62494	1	0.00
6	3.23	nitrate	96903.069	12892	115736	1	2.54
7	4.86	phosphate	2165.466	65	703	1	1.46
8	6.40	sulfate	3459.491	234	3248	1	0.63
		Totals	153233.584	25131	190822		

File: 95101531.D13 Sample: S95T002410



Data Reprocessed On 10/17/1995 06:53:44

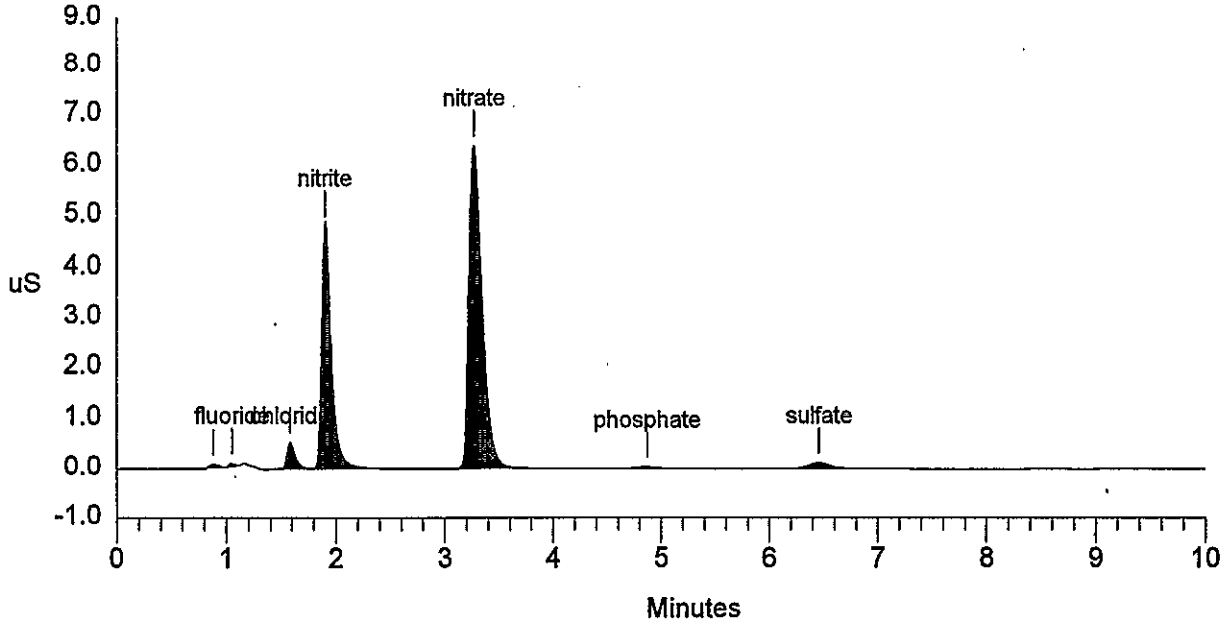
Sample Name: S95T002410-SAM .100-10-.100-10 Date: 10/17/1995 04:41:33
Data File : C:\DX\DATA\95101521.D05
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 5 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	66	347	1	
2	1.05	fluoride	394.470	66	257	1	1.94
3	1.58	chloride	3037.553	530	2791	1	0.00
4	1.90	nitrite	45980.661	4790	29711	1	-1.04
5	3.27	nitrate	94249.692	6384	54631	1	3.81
6	4.87	phosphate	2999.265	31	336	1	1.67
7	6.46	sulfate	4604.721	116	1520	1	1.57
		Totals	151266.363	11982	89594		

File: 95101521.D05 Sample: S95T002410-SAM



Data Reprocessed On 10/17/1995 06:56:03

Sample Name: S95T002410-DUP 100-10 100-10 Date: 10/17/1995 04:58:45
Data File : C:\DX\DATA\95101521.D06
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 6 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

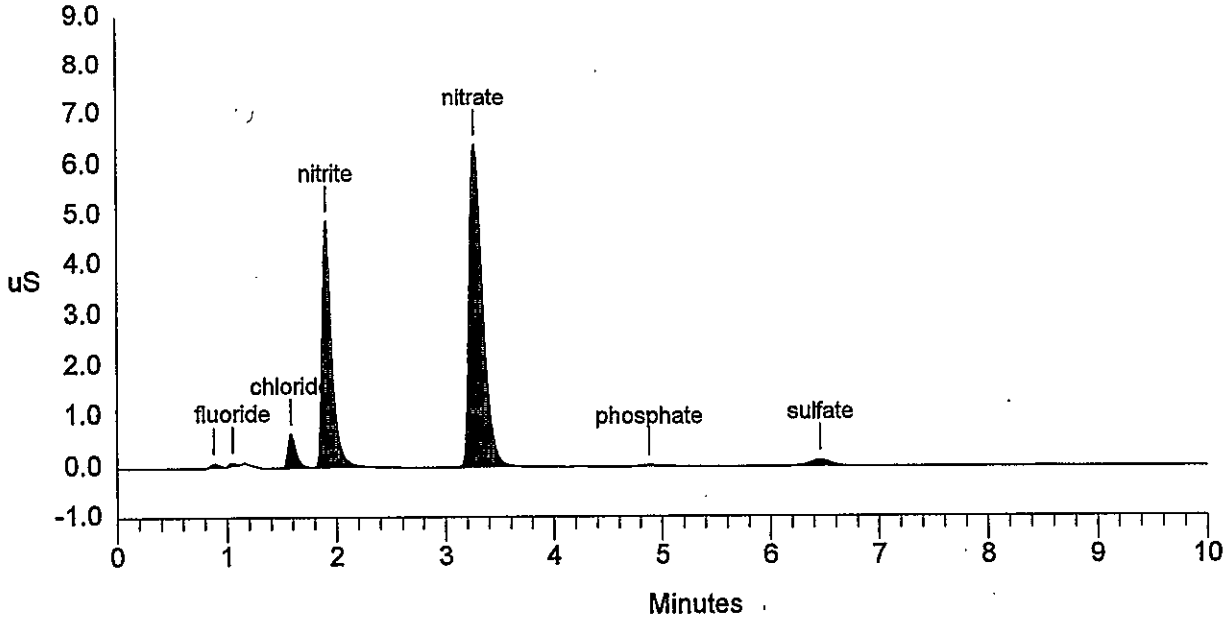
10/17/95

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	10201	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.88		0.000	66	342	1	
2	1.05	fluoride	396.606	66	260	1	1.94
3	1.58	chloride	3700.025	650	3422	1	0.00
4	1.91	nitrite	45393.950	4890	29311	1	-0.52
5	3.27	nitrate	93996.130	6371	54476	1	3.81
6	4.88	phosphate	2824.253	28	286	1	1.88
7	6.46	sulfate	4636.333	117	1545	1	1.57
		Totals	150947.296	12189	89642		

File: 95101521.D06 Sample: S95T002410-DUP



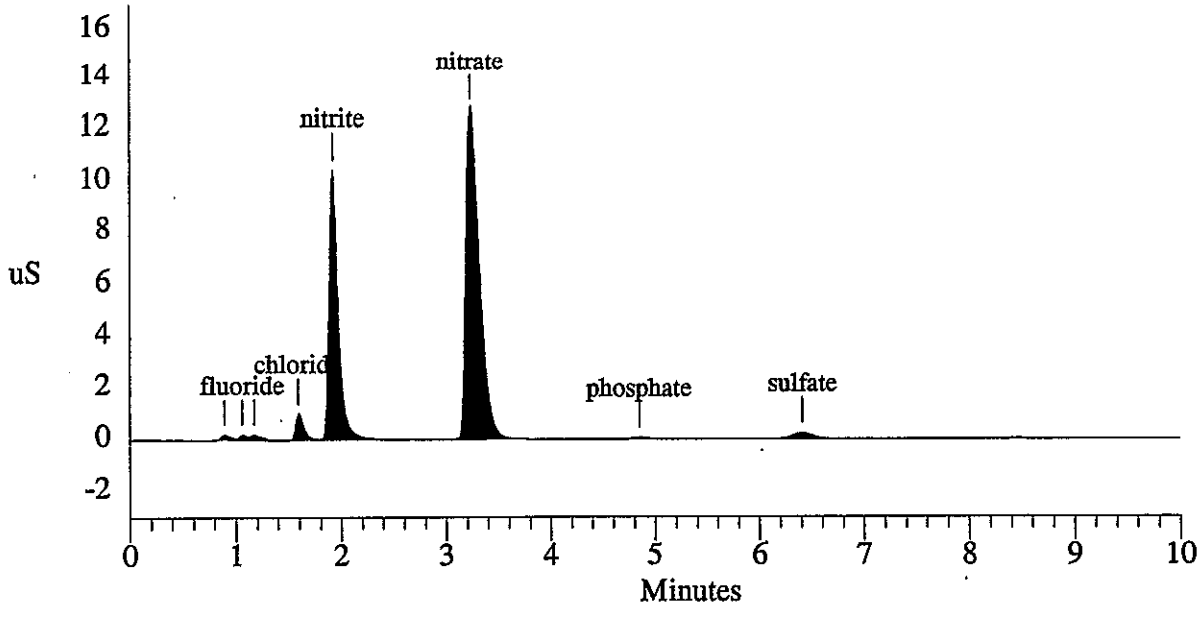
Sample Name: S95T002410 DUP .100-10-.200-10 Date: 10/17/1995 22:09:00
Data File : C:\DX\DATA\95101531.D14
Method : C:\DX\METHOD\KIT.MET
ACI Address: 1 System: 1 Inject#: 14 Detector:CDM-1
Analyst : Column: AG4A/AS4A anion column/SRS

Calibration	Volume	Dilution	Points	Rate	Start	Stop	Area	Reject
External	1	5151	3000	5Hz	0.00	10.00		200

********** Peak Report: All Peaks **********

Pk. Num	Ret Time	Component Name	Concentration ug/ml	Height	Area	Bl. Code	%Delta
1	0.89		0.000	152	919	2	
2	1.06	fluoride	422.599	176	879	2	2.91
3	1.17		0.000	197	1390	2	
4	1.59	chloride	2912.463	997	5397	1	0.63
5	1.92	nitrite	46812.077	10435	61736	1	0.00
6	3.23	nitrate	96430.002	12743	115137	1	2.54
7	4.85	phosphate	2174.687	66	708	1	1.25
8	6.41	sulfate	3427.668	236	3200	1	0.79
		Totals	152179.494	25002	189365		

File: 95101531.D14 Sample: S95T002410 DUP



FILE # 0950926C

09/25/95 06:58
A-0004-1

LABCORE Data Entry Template for Worklist# 2558

Analyst: D. GOECKE Instrument: ~~ICP01~~ ICP02 9-26-95 Book# 95B9E4

Method: LA-505-~~151~~ 164 9-26-95 Rev/Mod 0-0

Worklist Comment: ICP AN-101 (DIRECT) WHC-SD-WM-DP-148, REV. 0

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
1	ICV				@ICP-QC	QC		
2	ICB				@ICP-QC	QC		
3	ICSA				@ICP-QC	QC		
4	ICSAB				@ICP-QC	QC		
5	SAMPLE	S95T002408	0	D	@ICP-D01	LIQUID	95000135	AN-101 GRAB
	Analytes Requested: AL-D-01 , FE-D-01 , NA-D-01							
6	DUP	S95T002408	0	D	@ICP-D01	LIQUID		
7	SPK	S95T002408	0	D	@ICP-D01	LIQUID		
8	SAMPLE	S95T002409	0	D	@ICP-D01	LIQUID	95000135	AN-101 GRAB
	Analytes Requested: AL-D-01 , FE-D-01 , NA-D-01							
9	DUP	S95T002409	0	D	@ICP-D01	LIQUID		
10	SPK	S95T002409	0	D	@ICP-D01	LIQUID		
11	CCV				@ICP-QC	QC		
12	CCB				@ICP-QC	QC		
13	SAMPLE	S95T002410	0	D	@ICP-D01	LIQUID	95000135	AN-101 GRAB
	Analytes Requested: AL-D-01 , FE-D-01 , NA-D-01							
14	DUP	S95T002410	0	D	@ICP-D01	LIQUID		
15	SPK	S95T002410	0	D	@ICP-D01	LIQUID		
16	ICSA				@ICP-QC	QC		
17	ICSAB				@ICP-QC	QC		

Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

LABCORE Data Entry Template for Worklist# 2558

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
18	CCV				@ICP-QC	QC		
19	CCB				@ICP-QC	QC		

WHC-SD-WM-DP-148, REV. 0

Final page for worklist # 2558

Analyst Signature — Date: 9-26-95

Reviewed by: Analyst Signature — Date: 09/27/95

		D.F.
SSSTOO2408_L	.025mL - 10mL - 2mL - 8mL	2005
SSSTOO2408	.025mL - 10mL	401
SSSTOO2408_D	.025mL - 10mL	401
SSSTOO2408_A	.025mL - 2mL - 8mL	401
SSSTOO2409_L	.025 - 10mL - 2mL - 8mL	2005
SSSTOO2409	.025mL - 10mL	401
SSSTOO2409_D	.025mL - 10mL	401
SSSTOO2409_A	.025mL - 2mL - 8mL	401
SSSTOO2410_L	.025mL - 10mL - 2mL - 8mL	2005
SSSTOO2410	.025mL - 10mL	401
SSSTOO2410_D	.025mL - 10mL	401
SSSTOO2410_A	.025mL - 2mL - 8mL	401

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Data Entry Comments:

S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

Analysis Report Summary Tue 09-26-95 03:18:11 PM page 1

#	Sample Name	File	Method	Date	Time	OpID	Type	Mode
1	ICV	950926C	ICP2	09/26/95	13:57	BJG	Q	CONC
2	ICB	950926C	ICP2	09/26/95	14:01	BJG	Q	CONC
3	ICSA	950926C	ICP2	09/26/95	14:05	BJG	Q	CONC
4	ICSAB	950926C	ICP2	09/26/95	14:08	BJG	Q	CONC
5	S95T002408_L	950926C	ICP2	09/26/95	14:13	BJG	S	CONC
6	S95T002408	950926C	ICP2	09/26/95	14:16	BJG	S	CONC
7	S95T002408_D	950926C	ICP2	09/26/95	14:20	BJG	S	CONC
8	S95T002408_A	950926C	ICP2	09/26/95	14:23	BJG	S	CONC
9	S95T002409_L	950926C	ICP2	09/26/95	14:29	BJG	S	CONC
10	S95T002409	950926C	ICP2	09/26/95	14:32	BJG	S	CONC
11	S95T002409_D	950926C	ICP2	09/26/95	14:35	BJG	S	CONC
12	S95T002409_A	950926C	ICP2	09/26/95	14:39	BJG	S	CONC
13	CCV	950926C	ICP2	09/26/95	14:44	BJG	Q	CONC
14	CCB	950926C	ICP2	09/26/95	14:47	BJG	Q	CONC
15	S95T002410_L	950926C	ICP2	09/26/95	14:50	BJG	S	CONC
16	S95T002410	950926C	ICP2	09/26/95	14:54	BJG	S	CONC
17	S95T002410_D	950926C	ICP2	09/26/95	14:57	BJG	S	CONC
18	S95T002410_A	950926C	ICP2	09/26/95	15:00	BJG	S	CONC
19	ICSA	950926C	ICP2	09/26/95	15:06	BJG	Q	CONC
20	ICSAB	950926C	ICP2	09/26/95	15:09	BJG	Q	CONC
21	CCV_1	950926C	ICP2	09/26/95	15:12	BJG	Q	CONC
22	CCB_1	950926C	ICP2	09/26/95	15:15	BJG	Q	CONC

9-26-95
AN-101
S95T002408-10
Al, Fe, Na - only
.025ml-10-L

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SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 78 TO 82.

#	Sample Name	Ag	Al	As	B	Ba	Be
1	ICV	4.934	4.908	5.094	4.972	4.853	5.110
2	ICB	.0002	-.0013	.0070	.0030	-.0001	.0001
3	ICSA	-.0137	244.9	-.0882	-.0031	.0033	.0000
4	ICSAB	.9261	243.1	-.0800	-.0058	.4536	.4671
5	S95T002408_L	.7400	23400.	-9.214	6.887	-.2533	.1961
6	S95T002408_	.7575	22180.	-19.40	11.86	-.0125	.3312
7	S95T002408_D	1.046	21940.	-18.90	12.72	-.0257	.3041
8	S95T002408_A	371.6	22470.	388.4	400.9	373.1	398.7
9	S95T002409_L	-1.432	20720.	.0217	12.03	-.3229	.1980
10	S95T002409_	-.0991	19580.	-19.01	13.23	.0290	.2781
11	S95T002409_D	-.2448	19460.	-25.60	12.03	-.0247	.2251
12	S95T002409_A	365.7	20210.	384.8	399.5	370.8	396.9
13	CCV	4.940	4.905	5.109	4.970	4.866	5.124
14	CCB	-.0005	-.0018	.0147	.0064	-.0001	.0000
15	S95T002410_L	1.465	21130.	-27.94	18.05	-.1200	.0648
16	S95T002410_	.0951	20800.	-24.98	10.83	.0157	.2383
17	S95T002410_D	-.0534	21500.	-28.35	13.06	-.0280	.2644
18	S95T002410_A	369.6	20650.	385.5	406.7	376.4	401.5
19	ICSA	-.0130	244.7	-.0911	-.0058	.0033	.0001
20	ICSAB	.9298	243.7	-.0520	.0005	.4550	.4695
21	CCV_1	4.901	4.878	5.091	4.936	4.863	5.070
22	CCB_1	-.0006	-.0084	-.0057	.0030	-.0001	.0000

#	Sample Name	Bi	Ca	Cd	Ce	Co	Cr
1	ICV	4.981	5.184	5.041	5.018	5.029	5.088
2	ICB	.0125	.0011	.0009	-.0011	-.0001	.0003
3	ICSA	.0048	244.6	-.0005	.0024	.0004	-.0050
4	ICSAB	.0035	245.8	.9206	.0081	.4562	.4583
5	S95T002408_L	53.15	-46.14	.3022	8.400	-3.991	252.1
6	S95T002408_	-2.504	-4.782	.0216	-2.883	1.024	245.6
7	S95T002408_D	10.18	-6.540	-.0282	.4621	.2668	241.9
8	S95T002408_A	384.8	406.1	392.6	390.2	390.3	637.6
9	S95T002409_L	15.17	-47.89	.5687	-8.303	2.009	254.2
10	S95T002409_	1.588	22.67	.2370	-.7516	.4892	247.1
11	S95T002409_D	5.869	-6.897	-.1512	-2.984	.3563	243.2
12	S95T002409_A	393.1	404.7	391.9	386.1	391.1	642.3
13	CCV	5.009	5.267	5.076	5.009	5.050	5.107
14	CCB	.0170	.0006	-.0003	-.0033	-.0004	.0002
15	S95T002410_L	-6.370	-51.81	1.573	14.56	-1.548	264.0
16	S95T002410_	1.282	13.15	-.0743	.1407	.5345	258.1
17	S95T002410_D	10.76	-7.981	-.0341	-.3217	.1754	266.3
18	S95T002410_A	399.9	411.4	396.6	393.7	394.9	652.3
19	ICSA	.0292	249.1	.0007	.0044	-.0008	-.0063
20	ICSAB	.0069	248.5	.9246	.0063	.4600	.4616
21	CCV_1	4.942	5.197	4.983	5.007	4.978	5.043
22	CCB_1	.0061	-.0008	-.0005	-.0030	-.0008	-.0006

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#	Sample Name	Cu	Eu	Fe	K	La	Li
1	ICV	5.018	.0073	5.077	4.653	4.960	4.897
2	ICB	-.0004	.0001	-.0006	-.1234	.0000	.0004
3	ICSA	-.0093	-.0028	91.30	.0425	-.0048	.0029
4	ICSAB	.4652	-.0027	91.03	-.0836	-.0043	.9528
5	S95T002408_L	-.1142	.4678	3.361	3410.	-1.161	.9885
6	S95T002408	.5430	.0286	5.635	3747.	-.3522	.1186
7	S95T002408_D	.3812	.0001	5.571	3636.	-.2865	.1186
8	S95T002408_A	390.8	.4734	399.2	4156.	389.1	384.6
9	S95T002409_L	-1.344	.4358	.6428	3360.	-1.557	.7908
10	S95T002409	.3739	.1599	3.490	3631.	-.1330	.2373
11	S95T002409_D	.1379	-.0233	2.529	3542.	-.5340	.1186
12	S95T002409_A	388.0	.6446	397.0	4007.	387.0	380.2
13	CCV	5.019	.0070	5.107	4.623	4.963	4.856
14	CCB	-.0012	.0001	.0004	-.0455	-.0004	.0019
15	S95T002410_L	-.1475	.2867	1.922	3538.	1.115	.5931
16	S95T002410	.6167	.0343	3.522	3839.	.1262	.1186
17	S95T002410_D	.1256	-.1301	2.945	3849.	-.0720	.0791
18	S95T002410_A	393.8	.4429	401.7	4136.	391.7	384.5
19	ICSA	-.0097	-.0115	92.06	-.0312	-.0042	.0029
20	ICSAB	.4662	-.0079	91.72	-.1455	-.0042	.9518
21	CCV_1	5.004	.0074	5.029	4.651	4.951	4.925
22	CCB_1	-.0004	.0003	-.0006	-.1375	-.0013	.0009

#	Sample Name	Mg	Mn	Mo	Na	Nd	Ni
1	ICV	4.927	4.915	5.112	4.900	5.102	4.998
2	ICB	-.0025	.0002	-.0017	.0039	.0008	-.0002
3	ICSA	246.5	-.0080	-.0133	189.8	.0157	-.0127
4	ICSAB	245.5	.4345	-.0155	189.3	.0158	.8689
5	S95T002408_L	-10.95	-.1235	29.64	127200.	-4.730	-4.612
6	S95T002408	-4.968	-.0753	32.74	123600.	-.6278	-1.305
7	S95T002408_D	-4.559	-.1041	33.29	122800.	-1.218	1.455
8	S95T002408_A	375.6	373.8	433.6	124600.	399.9	386.5
9	S95T002409_L	-6.370	.0460	33.61	130100.	-.0632	-6.762
10	S95T002409	-.1910	-.0386	35.00	125700.	.0335	3.547
11	S95T002409_D	-4.976	-.0698	34.63	125000.	-.3657	1.916
12	S95T002409_A	375.8	373.7	434.4	127200.	398.6	384.0
13	CCV	4.925	4.942	5.134	4.849	5.097	5.017
14	CCB	-.0055	.0003	.0012	.0032	-.0003	-.0091
15	S95T002410_L	.6056	-.2432	33.29	137500.	2.044	-1.704
16	S95T002410	-2.076	-.0548	36.46	133900.	.3553	1.079
17	S95T002410_D	-6.260	-.1517	36.04	138300.	-1.104	3.976
18	S95T002410_A	378.7	377.0	439.0	130600.	403.3	389.3
19	ICSA	247.1	-.0079	-.0131	187.9	.0141	-.0229
20	ICSAB	246.5	.4370	-.0129	188.9	.0147	.8909
21	CCV_1	4.890	4.882	5.078	4.899	5.088	4.934
22	CCB_1	-.0104	.0002	-.0011	.0075	-.0011	.0000

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#	Sample Name	P	Pb	S	Sb	Se	Si
1	ICV	5.246	5.031	5.031	4.811	5.020	5.002
2	ICB	.0141	-.0043	-.0076	.0046	.0314	.0036
3	ICSA	.0357	.0393	.0364	.0052	-.1036	.0093
4	ICSAB	.0263	.9881	.0190	.0040	-.1023	.0137
5	S95T002408_L	555.0	42.50	575.0	18.03	16.06	22.97
6	S95T002408_	540.0	59.86	584.4	3.235	15.33	26.07
7	S95T002408_D	545.6	38.59	530.9	3.789	11.98	24.75
8	S95T002408_A	955.4	436.3	941.6	380.4	419.2	425.0
9	S95T002409_L	809.6	40.64	916.9	11.87	45.64	25.40
10	S95T002409_	731.0	40.61	891.4	1.088	14.31	26.88
11	S95T002409_D	709.2	38.59	856.6	-2.372	11.12	25.55
12	S95T002409_A	1146.	432.1	1291.	380.7	416.5	424.0
13	CCV	5.264	5.073	5.055	4.830	5.078	5.016
14	CCB	-.0047	-.0172	-.0087	.0074	.0211	.0052
15	S95T002410_L	798.5	35.27	931.7	8.211	30.96	25.46
16	S95T002410_	763.8	40.88	937.9	.8635	9.240	28.92
17	S95T002410_D	800.8	38.27	963.7	4.077	5.003	28.49
18	S95T002410_A	1187.	434.5	1313.	378.2	415.1	429.3
19	ICSA	.0165	.0411	.0328	.0042	-.0739	.0136
20	ICSAB	.0344	.9983	.0116	.0074	-.0794	.0119
21	CCV_1	5.263	4.983	5.057	4.761	5.001	4.959
22	CCB_1	.0109	-.0088	-.0143	-.0010	.0157	.0042

#	Sample Name	Sm	Sr	Th	Ti	Tl	U
1	ICV	4.982	4.898	.0430	4.889	4.935	9.939
2	ICB	.0058	.0001	-.0015	.0002	-.0014	.0124
3	ICSA	-.0105	-.0041	.0011	.0018	.0468	-.2543
4	ICSAB	-.0013	-.0041	.0088	.0022	.0048	-.2576
5	S95T002408_L	9.349	.0765	-2.956	-.3968	-19.09	46.12
6	S95T002408_	.5883	.0609	-1.630	.1534	-4.682	27.27
7	S95T002408_D	.6936	.0609	-1.679	.0737	5.548	28.15
8	S95T002408_A	391.4	382.7	.9117	382.5	371.5	801.6
9	S95T002409_L	7.444	.0747	-3.499	1.589	44.85	67.45
10	S95T002409_	1.582	.0594	-.7477	-.0008	9.354	33.35
11	S95T002409_D	1.356	.0447	-3.701	-.0133	4.024	33.56
12	S95T002409_A	387.9	381.1	.8316	380.4	375.8	805.9
13	CCV	4.979	4.891	.0540	4.903	4.956	9.913
14	CCB	.0039	-.0008	-.0001	.0006	.0217	.0082
15	S95T002410_L	9.223	-1.582	10.31	.8527	13.95	51.91
16	S95T002410_	1.574	-.3189	-1.089	.1571	2.896	29.81
17	S95T002410_D	-.9045	-.3183	-1.214	-.0064	-2.445	30.87
18	S95T002410_A	391.6	385.0	1.889	384.3	384.9	808.3
19	ICSA	-.0037	-.0042	.0048	.0016	.0448	-.2753
20	ICSAB	-.0063	-.0041	.0075	.0016	.0373	-.2685
21	CCV_1	4.966	4.879	.0405	4.866	4.951	9.887
22	CCB_1	.0045	-.0008	-.0000	.0000	-.0123	.0176

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#	Sample Name	V	Y	Zn	Zr
1	ICV	4.987	.0138	5.056	4.983
2	ICB	.0003	.0000	.0007	.0001
3	ICSA	-.0017	.0190	-.0059	-.0029
4	ICSAB	.4579	.0192	.9466	-.0028
5	S95T002408_L	.5104	.1572	8.055	.1665
6	S95T002408	.3473	.0629	6.970	1.410
7	S95T002408_D	.2204	.0314	7.002	1.413
8	S95T002408_A	388.8	1.038	403.4	393.0
9	S95T002409_L	1.091	.1572	15.56	.1843
10	S95T002409	.5181	.0629	16.16	1.218
11	S95T002409_D	.4016	-.0314	13.05	1.012
12	S95T002409_A	389.1	1.132	406.2	392.1
13	CCV	5.004	.0139	5.072	4.993
14	CCB	.0003	.0001	.0005	.0000
15	S95T002410_L	1.087	.4716	-2.834	-.8971
16	S95T002410	.3364	.0314	29.46	.6931
17	S95T002410_D	-.0377	-.0629	6.004	.0460
18	S95T002410_A	392.2	.9747	408.6	395.5
19	ICSA	-.0013	.0194	-.0072	-.0025
20	ICSAB	.4591	.0195	.9499	-.0028
21	CCV_1	4.956	.0137	5.007	4.958
22	CCB_1	.0009	.0002	-.0005	-.0000

BEST AVAILABLE COPY

LABCORE Data Entry Template for Worklist# 2526

Analyst: raw **Instrument:** TOC01 WC 39937 **Book #** 16N12-B

Method: LA-344-105 Rev/Mod C-O

Worklist Comment: TOC combustion AN-101

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOC-01	LIQUID	1	6.00e0	N/A	ug/mL
		2	STD				TOC-01	LIQUID	3.00e3	3.04e3	N/A	ug/mL
95000135	AN-101 GRAB	3	SAMPLE	S95T002408	0		TOC-01	LIQUID	N/A	3.67e3	5.50e1	ug/mL
95000135	AN-101 GRAB	4	DUP	S95T002408	0		TOC-01	LIQUID	3.67e3	3.50e3	N/A	ug/mL
95000135	AN-101 GRAB	5	SAMPLE	S95T002409	0		TOC-01	LIQUID	N/A	2.15e3	5.50e1	ug/mL
95000135	AN-101 GRAB	6	DUP	S95T002409	0		TOC-01	LIQUID	2.15e3	2.18e3	N/A	ug/mL
95000135	AN-101 GRAB	7	SPK	S95T002409	0		TOC-01	LIQUID	100	99.5	N/A	ug/mL
95000135	AN-101 GRAB	8	SAMPLE	S95T002410	0		TOC-01	LIQUID	N/A	2.15e3	5.50e1	ug/mL
95000135	AN-101 GRAB	9	DUP	S95T002410	0		TOC-01	LIQUID	2.15e3	2.17e3	N/A	ug/mL

Final page for worklist # 2526

For Robby Wendland
Robert W. Schroeder 9/26/95
Analyst Signature **Date**

[illegible] 9/29/95
Analyst Signature **Date**

Reviewed
Robert W Schroeder 9/29/95

Data Entry Comments:

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			BLANK
Type	Sample Volume in mL	(SS)	0.200
BLANK	H2SO4 Volume in mL	(VR)	0.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	1
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	3
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	6.00E-03

Sample #
BLK
Instrument Code
WC39937
Analyst
R. WENDLAND
Date
09/26/95
Time

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \text{ µg C} * DF * DDF}{VI}$

µg Carbon/mL =	6.00E+00	DETECTION LEVEL in µg/mL
		5.00E+00

Data Entry by:	RW Schroeder	Date:	09/27/95
Approved by:	RW Schroeder	Date:	9/28/95

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			STANDARD
Type	Sample Volume in mL	(SS)	0.200
STANDARD	H2SO4 Volume in mL	(VR)	2.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	11
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	57
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	3.04E+00
Sample #			
STD			
Instrument Code			
WC39937			
Analyst			
R. WENDLAND			
Date			
09/26/95			
Time			

$$\text{g of Carbon/L} = \frac{(C1-C2) * DF * DDF}{VI * 1000}$$

$$\text{µg of Carbon/mL} = \text{g of Carbon/L} * 1000000\ \text{µg/g} / 1000\ \text{mL/L}$$

$$\text{Detection Level (µg/mL)} = \frac{1\ \text{µg C} * DF * DDF}{VI}$$

µg Carbon/mL =	3.04E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	RW Schroeder	Date:	09/27/95
Approved by:	RW Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			SAMPLE
Sample Volume in mL	(SS)		0.200
H2SO4 Volume in mL	(VR)		2.000
Volume Injected in mL	(VI)		0.200
Dilution Factor	(DF)		11
Digest Dilution Factor	(DDF)		1
µg of Carbon in Sample	(C1)		68.6
µg of Carbon in Blank	(C2)		1.8
g of Carbon/L		=	3.67E+00

Type
SAMPLE
Work List
2526
Test Code
TOC
Matrix
LIQUID
Sample #
S95T002408
Instrument Code
WC39937
Analyst
R. WENDLAND
Date
09/26/95
Time

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \text{ µg C} * DF * DDF}{VI}$

µg Carbon/mL =	3.67E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	Rw Schroeder	Date:	09/27/95
Approved by:	Rw Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			DUPLICATE
Type	Sample Volume in mL	(SS)	0.200
DUPLICATE	H2SO4 Volume in mL	(VR)	2.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	11
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	65.4
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	3.50E+00

Sample #
S95T002408
Instrument Code
WC39937
Analyst
R. WENDLAND
Date
09/26/95
Time

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \mu g C * DF * DDF}{VI}$

µg Carbon/mL =	3.50E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	Ron Schroeder	Date:	09/27/95
Approved by:	Ron Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			SAMPLE
Type	Sample Volume in mL	(SS)	0.200
SAMPLE	H2SO4 Volume in mL	(VR)	2.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	11
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	40.8
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	2.15E+00

Sample #	S95T002409
Instrument Code	WC39937
Analyst	R. WENDLAND
Date	09/26/95
Time	

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \mu g C * DF * DDF}{VI}$

µg Carbon/mL =	2.15E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	RW Schroeder	Date:	09/27/95
Approved by:	RW Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			DUPLICATE
Type	Sample Volume in mL	(SS)	0.200
DUPLICATE	H2SO4 Volume in mL	(VR)	2.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	11
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	41.4
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	2.18E+00

Sample #
S95T002409
Instrument Code
WC39937
Analyst
R. WENDLAND
Date
09/26/95
Time

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \text{ µg C} * DF * DDF}{VI}$

µg Carbon/mL =	2.18E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	RW Schroeder	Date:	09/27/95
Approved by:	RW Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW-DO NOT WRITE IN SPACE

WHC-SD-WM-DP-148, REV. 0

TOC: LA-344-105 SPIKED SAMPLE

SPIKE

Type	>>>>>> Sample Vial Data <<<<<<		>>>>> Spiked Vial Data <<<<<	
SPIKE	Sample Volume in mL	0.200	Sample Size in mL (SS)	0.200
Work List	H2SO4 Volume in mL	2.000	Spike Volume in mL	0.200
2526	Volume Injected in mL	0.200	H2SO4 Volume in mL	0.000
Test Code	µg of Carbon in Sample	40.8	Volume Injected in mL	0.200
toc01	µg of Carbon in Blank	1.8	Sample Pre-Spike Dil. Factor (PDF)	11
Matrix			Spike Value (µg/ml)	750
LIQUID			µg C in Sample + Spike	96.8
Sample #			µg C in Blank	2.7
S95T002409				
Instrument Code				
WC39937				
Analyst				
R. WENDLAND				
Date				
09/28/95				
Time				

PERCENT SPIKE REC = $\frac{\text{µg Carbon Recovered from Spike} * 100}{\text{µg Carbon in Spike}}$

WHERE : µg Carbon Recovered from Spike =
[(µgC in sample + spike - µgC in blank) * (Spike Correction Factor)]
- [(µgC sample - µgC blank) * (Sample Correction Factor) * (Sample Size Correction Factor) * (PDF)]

Spike Correction Factor = $\frac{\text{Total volume in spiked sample vial (mL)}}{\text{Volume injected (mL)}}$

Sample Correction Factor = $\frac{\text{Total volume in sample vial (mL)}}{\text{Volume injected (mL)}}$

Sample Size Correction Factor = $\frac{\text{Sample size in (mL) in spiked vial}}{\text{Sample size (mL) in sample}}$

Sample Pre-Spike Dilution Factor = $\frac{1}{\text{Dilution of Sample Before Added to Spike Vial}}$

WHERE : µg Carbon in Spike = Spike Value (µg/mL) * Spike Volume (mL)

Percent Spike Recovery 99.5%

Data Entry by:	Ru Schroeder	Date: 29-Sep-95
Approved by:	Ru Schroeder	Date: 9/29/95

Form X Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			SAMPLE
Type	Sample Volume in mL	(SS)	0.200
SAMPLE	H2SO4 Volume in mL	(VR)	2.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	11
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	40.8
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	2.15E+00

Sample #
S95T002410
Instrument Code
WC39937
Analyst
R. WENDLAND
Date
09/26/95
Time

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \mu g C * DF * DDF}{VI}$

µg Carbon/mL =	2.15E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	Ron Schroeder	Date:	09/27/95
Approved by:	Ron Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TOC : LA-344-105 (C-0) LIQUIDS

			DUPLICATE
Type	Sample Volume in mL	(SS)	0.200
DUPLICATE	H2SO4 Volume in mL	(VR)	2.000
Work List	Volume Injected in mL	(VI)	0.200
2526	Dilution Factor	(DF)	11
Test Code	Digest Dilution Factor	(DDF)	1
TOC	µg of Carbon in Sample	(C1)	41.2
Matrix	µg of Carbon in Blank	(C2)	1.8
LIQUID	g of Carbon/L	=	2.17E+00
Sample #			
S95T002410			
Instrument Code			
WC39937			
Analyst			
R. WENDLAND			
Date			
09/26/95			
Time			

g of Carbon/L = $\frac{(C1-C2) * DF * DDF}{VI * 1000}$

µg of Carbon/mL = g of Carbon/L * 1000000 µg/g / 1000 mL/L

Detection Level (µg/mL) = $\frac{1 \mu g C * DF * DDF}{VI}$

µg Carbon/mL =	2.17E+03	DETECTION LEVEL in µg/mL
		5.50E+01

Data Entry by:	RW Schroeder	Date:	09/27/95
Approved by:	RW Schroeder	Date:	9/28/95

Form 344105_C Rev. 1.1

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 09/26/95 Time: 08:22:13

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994439 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	37.90	98.68
3	1.51	47.60	20.38
4	2.01	50.60	5.93
5	2.51	52.60	3.80
6	3.01	54.00	2.59
7	3.51	55.20	2.17
8	4.01	55.90	1.25
9	4.51	56.60	1.24
10	5.00	57.00	0.70

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 93 **TO** 106.

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(57 - 3.000018)(11)/(200) = +2.97E+00 g/L Carbon
(57 - 3.000018)(11)/(200)(12) = +2.47E-01 Molar Carbon

Sample Run By: RW 9-26-95
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 09/26/95 Time: 08:16:39

Sample Size = 200 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.60	66.67
3	1.50	0.90	33.33
4	2.00	1.10	18.18
5	2.50	1.50	26.67
6	3.00	1.80	16.67
7	3.50	2.00	10.00
8	4.00	2.30	13.04
9	4.50	2.60	11.54
10	5.00	3.00	13.33

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BASE Date: 09/26/95 Time: 06:20:55

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 0 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.30	66.67
3	1.51	0.50	40.00
4	2.01	0.60	16.67
5	2.51	0.90	33.33
6	3.01	1.00	10.00
7	3.51	1.20	16.67
8	4.00	1.40	14.29
9	4.50	1.70	17.65
10	5.00	1.80	5.56

USER INPUT BLANK VALUE
BLANK VALUE = 0 micrograms carbon
BLANK FACTOR = 0 / 0 = +0.0E+00 ug/min Carbon

SAMPLE RESULTS:
(1.8 - 0)(1)/(200) = +9.0E-03 g/L Carbon
(1.8 - 0)(1)/(200)(12) = +7.5E-04 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 8 Date: 09/26/95 Time: 08:34:19

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994439 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	46.50	95.70
3	1.51	55.70	16.52
4	2.00	59.20	5.91
5	2.50	61.60	3.90
6	3.00	63.80	3.45
7	3.50	65.30	2.30
8	4.00	66.50	1.80
9	4.50	67.50	1.48
10	5.00	68.60	1.60

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(68.6 - 3.000018)(11)/(200) = +3.61E+00 g/L Carbon
(68.6 - 3.000018)(11)/(200)(12) = +3.01E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 8D Date: 09/26/95 Time: 08:40:22

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994439 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	5.00	0.00
2	1.01	43.80	88.58
3	1.51	51.90	15.61
4	2.00	55.40	6.32
5	2.50	58.10	4.65
6	3.00	60.10	3.33
7	3.50	61.80	2.75
8	4.00	63.30	2.37
9	4.50	64.50	1.86
10	5.00	65.40	1.38

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(65.4 - 3.000036)(11)/(200) = +3.43E+00 g/L Carbon
(65.4 - 3.000036)(11)/(200)(12) = +2.86E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 9 Date: 09/26/95 Time: 08:46:07

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994439 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	25.20	96.43
3	1.51	29.80	15.44
4	2.01	32.30	7.74
5	2.51	34.60	6.65
6	3.01	36.10	4.16
7	3.51	37.40	3.48
8	4.01	38.60	3.11
9	4.50	39.80	3.02
10	5.01	40.80	2.45

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(40.8 - 3.000512)(11)/(200) = +2.08E+00 g/L Carbon
(40.8 - 3.000512)(11)/(200)(12) = +1.73E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 9D Date: 09/26/95 Time: 08:51:41

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994439 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.90	0.00
2	1.01	21.50	91.16
3	1.51	30.00	28.33
4	2.00	32.70	8.26
5	2.50	34.80	6.03
6	3.00	36.50	4.66
7	3.50	37.90	3.69
8	4.00	39.10	3.07
9	4.50	40.30	2.98
10	5.00	41.40	2.66

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(41.4 - 3.000036)(11)/(200) = +2.11E+00 g/L Carbon
(41.4 - 3.000036)(11)/(200)(12) = +1.76E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 09/28/95 Time: 10:03:36

Sample Size = 200 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.90	66.67
3	1.51	1.10	18.18
4	2.01	1.30	15.38
5	2.51	1.80	27.78
6	3.01	1.90	5.26
7	3.51	2.10	9.52
8	4.01	2.60	19.23
9	4.50	2.70	3.70
10	5.00	3.00	10.00

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.0047 = +6.0E-01 ug/min Carbon

Sample Run By: RW
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BASE Date: 09/28/95 Time: 10:09:28

Sample Size = 200 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .5994366 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.50	40.00
3	1.51	0.90	44.44
4	2.01	1.10	18.18
5	2.51	1.40	21.43
6	3.01	1.80	22.22
7	3.51	2.00	10.00
8	4.01	2.20	9.09
9	4.50	2.70	18.52
10	5.00	2.70	0.00

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.0047 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(2.7 - 2.999854)(1)/(200) = < 5.00 E-3 g/L Carbon
(2.7 - 2.999854)(1)/(200)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 09/28/95 Time: 10:15:54

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994366 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	32.50	99.38
3	1.51	45.20	28.10
4	2.01	50.10	9.78
5	2.51	52.60	4.75
6	3.01	54.50	3.49
7	3.51	55.30	1.45
8	4.01	56.40	1.95
9	4.50	56.60	0.35
10	5.00	57.10	0.88

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.0047 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(57.1 - 3)(11)/(200) = +2.98E+00 g/L Carbon
(57.1 - 3)(11)/(200)(12) = +2.48E-01 Molar Carbon

Sample Run By: RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 2409SPK Date: 09/28/95 Time: 10:22:12

Sample Size = 200 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .5994366 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	52.40	99.24
3	1.51	72.10	27.32
4	2.01	80.30	10.21
5	2.51	85.50	6.08
6	3.01	88.80	3.72
7	3.51	91.60	3.06
8	4.00	93.90	2.45
9	4.50	95.50	1.68
10	5.00	96.80	1.34

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.0047 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(96.8 - 2.99989)(1)/(200) = +4.69E-01 g/L Carbon
(96.8 - 2.99989)(1)/(200)(12) = +3.91E-02 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 09/28/95 Time: 10:33:50

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994366 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	29.80	98.66
3	1.51	46.10	35.36
4	2.01	50.40	8.53
5	2.51	53.20	5.26
6	3.01	55.10	3.45
7	3.51	56.60	2.65
8	4.01	57.80	2.08
9	4.50	58.80	1.70
10	5.00	59.60	1.34

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.0047 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(59.6 - 3)(11)/(200) = +3.11E+00 g/L Carbon
(59.6 - 3)(11)/(200)(12) = +2.59E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

WHC-SD-WM-DP-148, REV. 0

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 10 Date: 09/26/95 Time: 08:57:02

Sample Size = 200 uL
Dil Factor = 11
Blank ID # = BLK
Blank Value = .5994439 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	23.80	94.96
3	1.51	29.30	18.77
4	2.01	32.20	9.01
5	2.51	34.10	5.57
6	3.01	35.80	4.75
7	3.51	37.30	4.02
8	4.00	38.50	3.12
9	4.50	39.70	3.02
10	5.00	40.80	2.70

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(40.8 - 2.99989)(11)/(200) = +2.08E+00 g/L Carbon
(40.8 - 2.99989)(11)/(200)(12) = +1.73E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 10D Date: 09/26/95 Time: 09:02:20

Sample Size = 200 uL Analyst : RA WENDLAND
Dil Factor = 11 Min Readings = 10
Blank ID # = BLK Max Readings = 10
Blank Value = .5994439 ug/minute C % Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.40	0.00
2	1.01	23.20	93.97
3	1.51	29.00	20.00
4	2.00	31.90	9.09
5	2.50	34.10	6.45
6	3.00	36.00	5.28
7	3.50	37.40	3.74
8	4.00	38.80	3.61
9	4.50	40.00	3.00
10	5.00	41.20	2.91

BLANK VALUE = 3 micrograms carbon
BLANK FACTOR = 3 / 5.004639 = +6.0E-01 ug/min Carbon

SAMPLE RESULTS:
(41.2 - 2.999524)(11)/(200) = +2.10E+00 g/L Carbon
(41.2 - 2.999524)(11)/(200)(12) = +1.75E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

LABCORE Data Entry Template for Worklist# 2525

Analyst: RAW **Instrument:** TIC01 WC39937 **Book #** 17 NIZ-A

Method: LA-622-102 Rev/Mod C-0

Worklist Comment: TIC AN-101

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TIC-01	LIQUID	1	< 5.0	N/A	ug/mL
		2	STD				TIC-01	LIQUID	6.00 E02	5.83 E02	N/A	ug/mL
95000135	AN-101 GRAB	3	SAMPLE	S95T002408	0		TIC-01	LIQUID	N/A	2.54 E03	2.00 e1	ug/mL
95000135	AN-101 GRAB	4	DUP	S95T002408	0		TIC-01	LIQUID	2.54 E03	2.61 E03	N/A	ug/mL
95000135	AN-101 GRAB	5	SPK	S95T002408	0		TIC-01	LIQUID	100	103.3	N/A	ug/mL
95000135	AN-101 GRAB	6	SAMPLE	S95T002409	0		TIC-01	LIQUID	N/A	2.41 E03	2.00 e1	ug/mL
95000135	AN-101 GRAB	7	DUP	S95T002409	0		TIC-01	LIQUID	2.41 E03	2.39 E03	N/A	ug/mL
95000135	AN-101 GRAB	8	SAMPLE	S95T002410	0		TIC-01	LIQUID	N/A	2.38 E03	2.00 e1	ug/mL
95000135	AN-101 GRAB	9	DUP	S95T002410	0		TIC-01	LIQUID	2.38 E03	2.35 E03	N/A	ug/mL

Final page for worklist # 2525

R. WENDLAND 9-22-95
Analyst Signature **Date**

[illegible] 9-26-95
Analyst Signature **Date**

Reviewed by Robert W Schroeder 9/27/95

Data Entry Comments: SAMPLE — .050 mL
SPK — .200 SPK — .200 SAM — .050 INJ

Units shown for QC (SPK & STD) may not reflect the actual units. DL = Detection Limit, S = Worklist Slot Number, R = Replicate Number, A = Aliquot Code.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-148, REV. 0

TIC : LA-622-102 (C-0) SPIKED SAMPLE

SPIKE

Type	>>>>>> Sample Vial Data <<<<<<		>>>>> Spiked Vial Data <<<<<	
SPIKE	Sample Volume in mL	0.050	Sample Volume in mL	0.200
Work List	µg of Carbon in Sample	129.8	Spike Volume in mL	0.200
2525	µg of Carbon in Blank	2.6	Volume Injected in mL	0.050
Test Code			Spike Value (µg/mL)	600
TIC-01			µg C in Sample + Spike	81.7
Matrix			µg C in Blank	2.6
LIQUID				
Sample #				
S95T002408				
Instrument Code				
TIC01				
Analyst				
R WENDLAND				
Date				
09/22/95				
Time				
09:08 AM				

PERCENT SPIKE RECOVERY = $\frac{\text{µg Carbon Recovered from Spike} * 100}{\text{µg Carbon in Spike}}$

WHERE : µg Carbon Recovered from Spike =
[(µgC in sample + spike - µgC in blank) * (Spike Correction Factor)]
- [(µgC sample - µgC blank) * (Sample Size Correction Factor)]

Spike Correction Factor = $\frac{\text{Total volume in spiked sample vial (mL)}}{\text{Volume injected (mL)}}$

Sample Size Correction Factor = $\frac{\text{Sample size in (mL) in spiked vial}}{\text{Sample size (mL) in sample}}$

WHERE : µg Carbon in Spike =
[Spike Value (µg/mL) * Spike Volume (mL)]

Percent Spike Recovery = 103.3%

Data Entry by:	[signature]	Date:	09/22/95
Approved by:	RW Johnsen	Date:	9/27/95

Form 622102X2 Rev. 1.2

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 09/22/95 Time: 08:38:33

Sample Size = 200 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = N/A

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.50	0.70	28.57
4	2.00	1.10	36.36
5	2.50	1.30	15.38
6	3.00	1.60	18.75
7	3.51	1.90	15.79
8	4.00	2.10	9.52
9	4.50	2.50	16.00
10	5.00	2.60	3.85

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 109 **TO** 119.

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

Sample Run By: RW 9/22/95
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BASE Date: 09/22/95 Time: 10:54:15

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.51	0.60	16.67
4	2.00	0.90	33.33
5	2.50	1.10	18.18
6	3.00	1.40	21.43
7	3.50	1.60	12.50
8	4.00	1.80	11.11
9	4.50	2.00	10.00
10	5.00	2.20	9.09

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(2.2 - 2.599683)(1)/(50) = < 5.00 E-3 g/L Carbon
(2.2 - 2.599683)(1)/(50)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: STD Date: 09/22/95 Time: 08:46:26

Sample Size = 200 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	21.80	94.50
3	1.51	52.60	58.56
4	2.01	77.70	32.30
5	2.51	94.80	18.04
6	3.01	105.40	10.06
7	3.51	112.00	5.89
8	4.01	115.60	3.11
9	4.51	117.80	1.87
10	5.01	119.20	1.17

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(119.2 - 2.600539)(1)/(200) = +5.830E-01 g/L Carbon
(119.2 - 2.600539)(1)/(200)(12) = +4.858E-02 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 08 Date: 09/22/95 Time: 08:57:30

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	42.60	99.30
3	1.51	86.50	50.75
4	2.00	108.10	19.98
5	2.50	119.10	9.24
6	3.00	124.60	4.41
7	3.50	127.30	2.12
8	4.01	128.50	0.93
9	4.50	129.20	0.54
10	5.00	129.80	0.46

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(129.8 - 2.600127)(1)/(50) = +2.544E+00 g/L Carbon
(129.8 - 2.600127)(1)/(50)(12) = +2.120E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 08D Date: 09/22/95 Time: 09:02:48

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	47.40	98.95
3	1.51	90.30	47.51
4	2.01	111.70	19.16
5	2.51	122.20	8.59
6	3.01	127.40	4.08
7	3.51	130.20	2.15
8	4.01	131.50	0.99
9	4.51	132.30	0.60
10	5.01	133.00	0.53

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(133 - 2.600539)(1)/(50) = +2.608E+00 g/L Carbon
(133 - 2.600539)(1)/(50)(12) = +2.173E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 08S Date: 09/22/95 Time: 09:08:07

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	31.20	98.08
3	1.51	56.60	44.88
4	2.00	69.00	17.97
5	2.50	75.00	8.00
6	3.00	78.00	3.85
7	3.50	79.80	2.26
8	4.00	80.60	0.99
9	4.50	81.20	0.74
10	5.00	81.70	0.61

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(81.7 - 2.600127)(1)/(50) = +1.58E+00 g/L Carbon
(81.7 - 2.600127)(1)/(50)(12) = +1.32E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 08S (DUP) Date: 09/22/95 Time: 09:18:36

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	28.90	98.62
3	1.51	54.40	46.88
4	2.00	67.60	19.53
5	2.50	74.70	9.50
6	3.00	78.40	4.72
7	3.50	80.50	2.61
8	4.00	81.70	1.47
9	4.50	82.60	1.09
10	5.00	83.00	0.48

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(83 - 2.600127)(1)/(50) = +1.61E+00 g/L Carbon
(83 - 2.600127)(1)/(50)(12) = +1.34E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 09 Date: 09/22/95 Time: 09:13:21

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	50.00	98.40
3	1.51	87.90	43.12
4	2.01	105.50	16.68
5	2.51	114.20	7.62
6	3.01	118.40	3.55
7	3.51	120.50	1.74
8	4.00	121.70	0.99
9	4.50	122.50	0.65
10	5.01	123.00	0.41

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(123 - 2.600507)(1)/(50) = +2.408E+00 g/L Carbon
(123 - 2.600507)(1)/(50)(12) = +2.007E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 9D Date: 09/22/95 Time: 10:17:24

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	52.40	98.47
3	1.51	88.30	40.66
4	2.01	104.40	15.42
5	2.51	112.80	7.45
6	3.01	116.90	3.51
7	3.51	119.30	2.01
8	4.01	120.60	1.08
9	4.50	121.50	0.74
10	5.00	122.00	0.41

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(122 - 2.600095)(1)/(50) = +2.388E+00 g/L Carbon
(122 - 2.600095)(1)/(50)(12) = +1.990E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

P

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 10 Date: 09/22/95 Time: 10:35:15

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.60	0.00
2	1.01	58.80	93.88
3	1.51	90.60	35.10
4	2.01	105.30	13.96
5	2.51	113.00	6.81
6	3.01	116.90	3.34
7	3.51	118.80	1.60
8	4.01	120.20	1.16
9	4.50	121.00	0.66
10	5.00	121.70	0.58

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(121.7 - 2.600127)(1)/(50) = +2.382E+00 g/L Carbon
(121.7 - 2.600127)(1)/(50)(12) = +1.985E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 10D Date: 09/22/95 Time: 10:41:23

Sample Size = 50 uL
Dil Factor = 1
Blank ID # = BLK
Blank Value = .519537 ug/minute C

Analyst : RA WENDLAND
Min Readings = 10
Max Readings = 10
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.70	0.00
2	1.01	59.50	92.10
3	1.51	89.50	33.52
4	2.00	103.80	13.78
5	2.50	111.20	6.65
6	3.00	115.30	3.56
7	3.50	117.30	1.71
8	4.00	118.90	1.35
9	4.50	119.70	0.67
10	5.00	120.30	0.50

BLANK VALUE = 2.6 micrograms carbon
BLANK FACTOR = 2.6 / 5.004456 = +5.2E-01 ug/min Carbon

SAMPLE RESULTS:
(120.3 - 2.599556)(1)/(50) = +2.354E+00 g/L Carbon
(120.3 - 2.599556)(1)/(50)(12) = +1.962E-01 Molar Carbon

Sample Run By: _____
RA WENDLAND 00000