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

DOCUMENT NUMBER: SD-WM-DP-164

SECTION 6 **OF** 12

TITLE: Final Report for Tank 241BY104 Rotary Mode Cores 116 & 117 [Pgs 996 Thru 1195]

DATE: 06/25/1996

ORIGINATOR: Benar, CJ

CO: WHC

RECIPIENT:

CO:

REFERENCES: ECN-629043

Identity 1: 595T003798_L Identity 2: 1ml-4ml-1ml-4ml 10:37 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 25.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.078	0.016	0.097	0.672	169.183	-0.095	0.001	0.016
S.D.	0.045	0.002	0.093	0.055	0.439	0.071	0.017	0.011
% R.S.D.	57.870	15.275	95.505	8.126	0.259	74.749	1297.326	65.414

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.547	0.053	0.045	0.157	0.544	0.513	0.119	1.270
S.D.	0.004	0.056	0.101	0.033	0.024	0.019	0.115	1.116
% R.S.D.	0.709	105.412	223.191	20.796	4.350	3.757	97.414	87.827

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.077	-0.015	0.012	8.662	30.526	0.100	-0.081	1117.769
S.D.	0.206	0.326	0.009	0.150	0.124	0.027	0.027	9.667
% R.S.D.	266.378	2198.075	80.494	1.737	0.406	27.228	33.001	0.865

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.184	-1.351	0.052	-0.234	0.005	0.069	0.141	21.580
S.D.	0.012	0.267	0.014	0.050	0.014	0.009	0.027	0.167
% R.S.D.	6.308	19.738	27.211	21.446	276.014	12.778	19.311	0.775

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.006	0.606	0.039	0.018	0.502
S.D.	0.007	0.171	0.032	0.005	0.596
% R.S.D.	109.805	28.204	81.664	29.726	118.778

Identity 1: S951003798 Identity 2: 1ml-4ml 10:40 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.036	0.005	0.043	0.580	171.993	-0.024	-0.013	-0.005
S.D.	0.010	0.001	0.045	0.022	0.480	0.008	0.002	0.003
% R.S.D.	28.750	17.971	106.325	3.755	0.279	34.232	16.096	60.214

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.006	0.052	0.019	0.070	0.047	0.416	0.004	1.348
S.D.	0.002	0.005	0.008	0.013	0.000	0.007	0.015	0.443
% R.S.D.	32.856	9.138	42.144	18.022	0.409	1.653	396.190	32.841

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.242	-3.185	-0.003	8.025	30.164	0.012	-0.037	1108.594
S.D.	0.099	0.084	0.002	0.204	0.431	0.001	0.003	7.951
% R.S.D.	41.040	2.623	59.370	2.545	1.428	6.818	8.525	0.717

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.189	-0.001	-0.011	-0.140	0.009	-0.004	0.058	20.101
S.D.	0.008	0.057	0.007	0.005	0.004	0.002	0.004	0.153
% R.S.D.	4.234	4701.851	62.382	3.515	47.002	47.563	7.116	0.761

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.040	-0.016	0.001	-0.339
S.D.	0.002	0.049	0.004	0.001	0.193
% R.S.D.	307.138	123.116	26.900	53.601	57.111

Identity 1: S95T003798_D Identity 2: 1ml-4ml 10:46 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.582	0.006	-0.010	-0.655	156.773	-0.016	-0.002	-0.001
S.D.	0.003	0.000	0.025	0.003	0.262	0.014	0.001	0.001
% R.S.D.	0.466	2.887	256.350	0.499	0.167	90.792	30.373	232.499

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.006	-0.200	-0.349	0.045	0.023	0.410	0.127	-25.591
S.D.	0.002	0.009	0.004	0.007	0.000	0.002	0.007	0.059
% R.S.D.	27.145	4.372	1.115	15.863	1.665	0.459	5.154	0.231

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.121	-5.364	-0.000	10.851	28.824	0.004	-0.013	1079.503
S.D.	0.017	0.009	0.000	0.250	0.138	0.000	0.012	3.049
% R.S.D.	14.092	0.169	43.301	2.301	0.480	10.825	89.085	0.282

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.163	-1.460	-0.006	-0.004	-0.200	0.002	0.066	18.440
S.D.	0.006	0.049	0.001	0.022	0.001	0.002	0.006	0.112
% R.S.D.	3.720	3.322	12.939	510.747	0.525	102.349	9.380	0.609

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.003	0.106	0.112	-0.002	-0.038
S.D.	0.001	0.086	0.004	0.001	0.017
% R.S.D.	29.380	81.341	3.258	83.523	44.571

Identity 1: S95T003798_A Identity 2: 1ml-1ml-3ml 10:49 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.016	5.045	5.007	5.516	176.782	5.189	5.088	4.856
S.D.	0.016	0.026	0.124	0.034	0.804	0.016	0.024	0.041
% R.S.D.	0.310	0.523	2.473	0.618	0.455	0.316	0.481	0.835

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.238	5.155	5.079	5.139	4.990	5.618	5.042	10.391
S.D.	0.018	0.009	0.029	0.020	0.022	0.021	0.057	0.164
% R.S.D.	0.352	0.177	0.573	0.392	0.435	0.368	1.126	1.580

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.102	5.121	5.028	12.936	35.280	5.016	5.248	1110.465
S.D.	0.041	0.032	0.026	0.123	0.193	0.017	0.039	7.784
% R.S.D.	0.802	0.619	0.508	0.952	0.547	0.344	0.737	0.701

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.338	4.786	3.355	5.107	4.995	5.112	5.103	25.336
S.D.	0.033	0.021	0.005	0.064	0.018	0.014	0.011	0.144
% R.S.D.	0.617	0.445	0.152	1.261	0.364	0.278	0.220	0.567

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.109	4.929	5.173	5.191	4.956
S.D.	0.018	0.059	0.019	0.027	0.086
% R.S.D.	0.349	1.205	0.372	0.527	1.732

Identity 1: ICSA Identity 2: Quality Control 10:53 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.006	0.002	-0.006	0.014	200.152	-0.005	-0.002	-0.001
S.D.	0.000	0.000	0.014	0.004	0.712	0.002	0.000	0.000
% R.S.D.	3.593	0.000	229.046	30.403	0.356	34.844	26.804	9.704

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.005	0.011	0.013	97.309	104.349	0.003	-0.025	0.220
S.D.	0.000	0.004	0.002	0.078	0.200	0.003	0.002	0.012
% R.S.D.	8.588	32.610	16.392	0.081	0.192	80.495	8.952	5.676

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.045	0.050	0.002	0.062	0.016	99.756	0.038	187.200
S.D.	0.004	0.002	0.000	0.018	0.019	0.089	0.004	0.876
% R.S.D.	8.762	4.060	2.338	28.432	117.839	0.090	9.388	0.468

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.003	-0.045	-0.001	-0.001	0.001	0.000	0.015	0.017
S.D.	0.001	0.005	0.000	0.003	0.001	0.001	0.001	0.008
% R.S.D.	34.968	11.351	19.784	358.012	63.340	135.126	5.169	45.813

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.030	-0.002	0.002	-0.022
S.D.	0.001	0.015	0.001	0.000	0.010
% R.S.D.	80.939	49.588	36.234	11.716	46.446

Identity 1: ICSAB Identity 2: Quality Control 10:56 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.000	0.002	-0.016	0.004	199.882	0.501	0.507	0.954
S.D.	0.001	0.000	0.005	0.002	0.096	0.003	0.001	0.004
% R.S.D.	156.634	1.750	33.092	34.723	0.048	0.567	0.274	0.433

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.001	0.994	0.005	97.077	104.167	0.507	-0.017	0.052
S.D.	0.001	0.004	0.004	0.147	0.095	0.006	0.003	0.031
% R.S.D.	0.113	0.370	74.629	0.152	0.091	1.147	21.001	59.998

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.003	0.025	0.515	0.016	0.023	98.582	0.041	196.255
S.D.	0.003	0.007	0.001	0.005	0.005	0.014	0.007	0.793
% R.S.D.	98.428	27.309	0.249	31.916	22.975	0.014	17.692	0.404

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	0.018	1.018	0.989	0.001	1.009	0.014	-0.007
S.D.	0.001	0.010	0.000	0.012	0.000	0.004	0.000	0.014
% R.S.D.	214.649	53.705	0.016	1.234	26.255	0.359	1.184	201.178

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.504	0.017	0.501	0.512	0.001
S.D.	0.001	0.015	0.002	0.001	0.011
% R.S.D.	0.256	90.256	0.315	0.108	1485.177

Identity 1: CCV Identity 2: Quality Control 10:59 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.993	5.013	5.038	4.760	5.015	5.163	5.086	5.061
S.D.	0.007	0.004	0.019	0.007	0.027	0.008	0.013	0.019
% R.S.D.	0.140	0.085	0.387	0.145	0.545	0.159	0.253	0.376

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.187	5.098	5.053	5.117	5.043	5.129	5.114	9.513
S.D.	0.006	0.002	0.017	0.021	0.020	0.005	0.012	0.031
% R.S.D.	0.118	0.032	0.345	0.415	0.402	0.094	0.234	0.327

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.079	5.057	5.023	5.164	5.065	5.012	5.138	5.106
S.D.	0.023	0.011	0.008	0.115	0.044	0.006	0.004	0.041
% R.S.D.	0.452	0.225	0.156	2.225	0.876	0.113	0.079	0.800

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.112	4.970	4.983	5.094	4.956	5.106	5.122	5.097
S.D.	0.013	0.043	0.008	0.020	0.004	0.004	0.024	0.039
% R.S.D.	0.248	0.856	0.154	0.402	0.085	0.076	0.470	0.769

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.067	4.748	5.140	5.241	4.873
S.D.	0.004	0.047	0.004	0.012	0.018
% R.S.D.	0.087	0.983	0.082	0.236	0.373

Identity 1: CCB Identity 2: Quality Control 11:05 AM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.006	0.001	0.008	0.011	0.007	-0.004	-0.001	0.001
S.D.	0.001	0.000	0.004	0.003	0.005	0.003	0.000	0.000
% R.S.D.	9.942	23.130	46.716	28.071	71.212	74.205	17.427	11.537

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.000	0.003	0.007	0.003	0.006	0.001	-0.001	0.269
S.D.	0.000	0.001	0.002	0.002	0.001	0.001	0.004	0.042
% R.S.D.	201.643	33.584	30.195	64.553	19.143	78.195	302.035	15.455

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.006	0.030	0.000	0.003	-0.002	0.005	-0.003	0.037
S.D.	0.007	0.005	0.000	0.007	0.004	0.001	0.001	0.005
% R.S.D.	112.138	18.304	7.070	273.697	219.939	20.177	44.075	14.740

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.000	-0.060	0.001	-0.024	0.002	0.002	0.003	0.013
S.D.	0.001	0.008	0.001	0.010	0.000	0.000	0.000	0.015
% R.S.D.	206.499	14.202	56.968	41.501	8.713	5.452	8.770	112.498

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	-0.039	-0.000	0.000	0.002
S.D.	0.000	0.021	0.001	0.000	0.018
% R.S.D.	38.908	52.943	142.019	345.786	851.809

FILE # 960403 B.DAT

03/15/96 10:16
A-0004-1

LABCORE Data Entry Template for Worklist# 6548

Analyst: B. GOECKE **Instrument:** ICP01 _____ **Book#** 53/34/5

Method: LA-505-151/~~161~~ 165 Rev/Mod D-3
4-3-96

Worklist Comment: ICP BY-104 (SOLID WATER DIGEST)

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	PREPBLKARL				@ICP-I01	SOLID		
6	SERDIL	S95T003684	0	W	@ICP-I01	SOLID		
7	SAMPLE	S95T003684	0	W	@ICP-I01	SOLID	95000180	BY104 ROTARY
	Analytes Requested:	AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 , MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01						
8	DUP	S95T003684	0	W	@ICP-I01	SOLID		
9	SPK	S95T003684	0	W	@ICP-I01	SOLID		
10	CCV				@ICP-QC	QC		
11	CCB				@ICP-QC	QC		
12	PREPBLKARL				@ICP-I01	SOLID		
13	SERDIL	S95T003685	0	W	@ICP-I01	SOLID		
14	SAMPLE	S95T003685	0	W	@ICP-I01	SOLID	95000180	BY104 ROTARY
	Analytes Requested:	AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 ,						

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 6548

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01			
15	DUP	S95T003685	0	W	@ICP-I01	SOLID		
16	SPK	S95T003685	0	W	@ICP-I01	SOLID		
17	ICSA				@ICP-QC	QC		
18	ICSAB				@ICP-QC	QC		
19	CCV				@ICP-QC	QC		
20	CCB				@ICP-QC	QC		

Final page for worklist # 6548

Reviewed by:
Saul M. Perez 4/3/96

Analyst Signature Date

4-3-96

Analyst Signature Date

		D.F.
PREPARATION	DIRECT	1
S95T003684-L	1mL-4mL-1mL-4mL	25
S95T003684	1mL-4mL	5
S95T003684-D	1mL-4mL	5
S95T003684-A	1mL-1mL-3mL	5
PREPARATION	DIRECT	1
S95T003685-L	1mL-4mL-1mL-4mL	25
S95T003685	1mL-4mL	5
S95T003685-D	1mL-4mL	5
S95T003685-A	1mL-1mL-3mL	5

Data Entry Comments:

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

Identity 1: ICV Identity 2: Quality Control 1:15 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.047	5.094	5.064	4.751	4.994	5.117	5.156	5.168
S.D.	0.013	0.017	0.047	0.013	0.020	0.024	0.017	0.044
% R.S.D.	0.253	0.338	0.936	0.278	0.394	0.469	0.329	0.857

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.136	5.080	5.130	5.159	5.085	5.092	5.294	10.109
S.D.	0.015	0.019	0.022	0.014	0.016	0.006	0.034	0.034
% R.S.D.	0.284	0.377	0.438	0.274	0.319	0.120	0.635	0.336

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.181	5.152	5.111	5.024	4.974	4.935	5.135	5.108
S.D.	0.013	0.010	0.019	0.113	0.023	0.013	0.008	0.035
% R.S.D.	0.245	0.197	0.373	2.242	0.453	0.260	0.147	0.679

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.094	5.038	4.981	5.114	4.986	5.096	5.181	5.136
S.D.	0.014	0.023	0.010	0.050	0.014	0.020	0.012	0.031
% R.S.D.	0.272	0.452	0.199	0.976	0.274	0.384	0.222	0.595

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.088	4.754	5.155	5.260	4.873
S.D.	0.012	0.021	0.009	0.013	0.010
% R.S.D.	0.234	0.450	0.167	0.241	0.198

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1006 TO 1025.

[signature]
4-3-96
BY-196 H_2O DIGEST
SSST003684-85
1mL-4mL
FILE # 960403B.DAT

Identity 1: ICB Identity 2: Quality Control 1:19 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.001	0.007	0.003	0.006	0.005	0.001	0.001
S.D.	0.001	0.000	0.001	0.001	0.003	0.002	0.000	0.000
% R.S.D.	264.978	10.073	11.430	45.843	55.350	34.506	37.526	15.534

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.002	-0.000	-0.000	0.001	0.000	-0.018	-0.048
S.D.	0.000	0.001	0.002	0.000	0.000	0.001	0.005	0.039
% R.S.D.	24.246	33.262	9333.273	44.356	15.308	313.090	29.054	82.760

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.015	-0.005	0.001	-0.005	-0.008	0.001	-0.004	0.009
S.D.	0.009	0.003	0.000	0.007	0.005	0.000	0.008	0.002
% R.S.D.	57.370	52.637	15.775	137.746	66.802	19.245	205.112	25.003

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.005	0.002	-0.017	0.001	0.001	0.004	-0.044
S.D.	0.001	0.014	0.000	0.001	0.000	0.001	0.000	0.012
% R.S.D.	55.106	279.734	30.280	5.864	30.825	173.430	12.798	26.955

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	0.003	0.001	0.001	-0.015
S.D.	0.000	0.009	0.000	0.000	0.010
% R.S.D.	160.530	356.881	33.949	37.493	70.417

dentity 1: ICSA Identity 2: Quality Control 1:22 PM April 3, 1996
ask name : OPTIMA
ample Weight : 1.0000 Solution Volume : 1.00
n-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
ean	0.001	0.003	-0.024	-0.001	196.254	0.003	0.001	0.000
.D.	0.002	0.000	0.012	0.005	0.547	0.003	0.001	0.000
R.S.D.	310.297	5.077	49.080	477.213	0.279	116.173	53.825	82.183

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
ean	-0.004	0.000	0.002	96.838	103.582	0.007	0.005	-0.013
.D.	0.000	0.001	0.003	0.218	0.130	0.002	0.011	0.065
R.S.D.	10.859	334.451	166.133	0.225	0.125	24.441	236.090	504.714

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
ean	0.025	0.023	0.004	0.034	0.002	101.933	0.027	185.134
.D.	0.017	0.011	0.000	0.013	0.009	0.263	0.008	1.471
R.S.D.	67.848	48.023	10.012	37.959	446.076	0.258	31.565	0.794

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
ean	-0.000	-0.051	0.001	-0.013	0.001	-0.000	0.016	0.032
.D.	0.001	0.013	0.000	0.016	0.001	0.001	0.000	0.017
R.S.D.	394.229	25.400	33.284	123.334	91.074	1206.111	3.053	53.978

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
ean	0.001	-0.035	0.002	0.003	0.009
.D.	0.001	0.017	0.000	0.000	0.040
R.S.D.	55.040	47.536	22.745	8.938	467.661

Identity 1: ICSAB Identity 2: Quality Control 1:25 PM April 3, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.029	-0.005	197.239	0.499	0.501	0.943
S.D.	0.001	0.000	0.013	0.001	0.785	0.003	0.002	0.002
% R.S.D.	91.387	9.082	44.782	25.717	0.398	0.654	0.302	0.230

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.010	0.990	-0.000	97.803	104.195	0.512	0.001	0.042
S.D.	0.000	0.010	0.002	0.361	0.358	0.001	0.008	0.046
% R.S.D.	0.018	0.965	6693.405	0.369	0.344	0.137	533.777	108.540

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.007	0.046	0.509	0.032	0.003	102.685	0.033	193.582
S.D.	0.008	0.008	0.002	0.003	0.007	0.324	0.006	0.449
% R.S.D.	112.541	16.755	0.389	10.963	203.152	0.316	17.927	0.232

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	-0.034	1.025	0.961	0.001	1.007	0.017	0.074
S.D.	0.001	0.019	0.002	0.007	0.000	0.000	0.001	0.016
% R.S.D.	219.494	56.133	0.186	0.738	35.286	0.049	3.903	21.186

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.508	0.003	0.500	0.507	-0.017
S.D.	0.001	0.020	0.001	0.001	0.016
% R.S.D.	0.294	636.694	0.297	0.100	92.285

Identity 1: PREPBLK Identity 2: Quality Control 1:28 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	-0.000	0.017	0.011	0.045	-0.002	-0.002	-0.000
S.D.	0.001	0.000	0.007	0.000	0.026	0.002	0.000	0.000
% R.S.D.	26.445	11.547	43.142	2.475	58.035	85.569	31.551	101.788

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	-0.001	0.002	0.019	0.025	-0.003	-0.020	0.139
S.D.	0.000	0.001	0.003	0.013	0.012	0.001	0.011	0.031
% R.S.D.	1659.867	134.913	121.999	68.296	48.928	36.889	54.339	22.444

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.014	0.025	-0.000	-0.007	-0.006	0.029	-0.008	0.075
S.D.	0.005	0.006	0.000	0.015	0.001	0.012	0.004	0.027
% R.S.D.	36.177	23.588	100.590	204.971	13.149	42.757	44.673	35.846

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.028	-0.002	-0.015	0.001	-0.001	0.001	0.016
S.D.	0.001	0.009	0.000	0.008	0.000	0.001	0.001	0.013
% R.S.D.	86.689	31.457	25.430	52.549	7.632	250.972	62.548	77.903

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.032	-0.003	-0.001	-0.104
S.D.	0.000	0.010	0.000	0.000	0.025
% R.S.D.	1.266	32.061	11.441	16.485	24.497

Identity 1: S95T003684_L Identity 2: 1ml-4ml-1ml-4ml 1:33 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 25.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.024	0.010	0.344	0.426	159.695	0.071	0.009	0.005
S.D.	0.024	0.002	0.299	0.047	0.458	0.071	0.007	0.005
% R.S.D.	99.854	15.789	86.922	11.146	0.287	100.005	76.523	114.686

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.015	0.032	-0.022	0.155	0.322	11.865	-0.525	0.684
S.D.	0.014	0.045	0.034	0.051	0.010	0.046	0.149	0.743
% R.S.D.	92.643	137.320	151.763	33.018	3.147	0.384	28.401	108.581

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.495	-0.039	0.006	13.438	47.588	0.203	-0.153	1451.568
S.D.	0.168	0.139	0.004	0.534	0.272	0.011	0.114	2.222
% R.S.D.	33.950	354.255	71.838	3.972	0.572	5.588	74.624	0.153

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Tl (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.191	-0.283	0.021	-0.363	0.006	0.006	0.061	25.881
S.D.	0.017	0.159	0.002	0.264	0.006	0.006	0.049	0.169
% R.S.D.	8.938	56.025	11.209	72.611	106.981	100.128	79.996	0.655

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.018	-1.072	0.009	-0.008	-0.127
S.D.	0.004	0.429	0.016	0.005	0.392
% R.S.D.	20.711	39.972	176.678	70.492	308.318

Identity 1 : S95T003684 Identity 2 : 1ml-4ml 1:36 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.008	0.009	0.081	0.391	161.287	0.028	0.001	-0.001
S.D.	0.002	0.000	0.077	0.018	0.613	0.014	0.002	0.002
% R.S.D.	19.093	4.174	94.254	4.652	0.380	49.836	112.069	221.399

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.003	0.047	-0.007	0.011	0.111	12.027	-0.119	-0.160
S.D.	0.002	0.014	0.010	0.005	0.003	0.045	0.062	0.147
% R.S.D.	70.149	29.061	150.190	43.177	2.336	0.378	51.921	91.900

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.016	0.055	0.000	13.848	47.984	0.011	-0.017	1399.532
S.D.	0.047	0.023	0.001	0.254	0.154	0.002	0.019	1.690
% R.S.D.	290.843	40.731	1800.000	1.831	0.321	15.232	112.286	0.121

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.225	0.230	-0.007	0.009	0.000	0.004	0.077	26.257
S.D.	0.004	0.116	0.002	0.036	0.003	0.004	0.004	0.045
% R.S.D.	1.939	50.435	24.877	428.973	1109.478	96.525	5.584	0.171

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.003	-0.028	0.010	-0.000	-0.087
S.D.	0.002	0.086	0.002	0.001	0.035
% R.S.D.	84.834	310.949	20.144	738.095	40.647

Identity 1: S95T003684_D Identity 2: 1ml-4ml 1:39 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.005	0.006	-0.010	0.333	129.035	0.014	-0.001	-0.002
S.D.	0.002	0.000	0.032	0.001	0.195	0.014	0.002	0.001
% R.S.D.	31.218	4.918	327.795	0.370	0.151	99.704	306.599	32.853

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.007	0.047	0.000	0.014	0.086	9.634	-0.085	0.416
S.D.	0.001	0.013	0.008	0.005	0.001	0.034	0.057	0.148
% R.S.D.	14.483	28.419	4124.018	35.296	1.028	0.349	67.082	35.576

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.082	0.106	-0.001	15.139	43.821	0.012	-0.017	1371.293
S.D.	0.029	0.024	0.001	0.030	0.347	0.002	0.011	4.284
% R.S.D.	35.861	22.623	40.415	0.200	0.791	13.334	67.286	0.312

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.171	0.000	-0.009	-0.168	0.003	-0.009	0.055	20.897
S.D.	0.004	0.070	0.001	0.041	0.000	0.004	0.001	0.181
% R.S.D.	2.609	39255.836	14.601	24.476	8.389	43.305	2.329	0.865

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.005	-0.098	0.004	-0.002	-0.252
S.D.	0.001	0.096	0.003	0.000	0.043
% R.S.D.	15.038	97.291	62.430	1.079	17.135

Identity 1: S95T003684_A Identity 2: 1ml-1ml-3ml 1:41 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.090	5.139	5.130	5.345	167.409	5.098	5.180	4.927
S.D.	0.009	0.014	0.057	0.011	0.508	0.008	0.016	0.034
% R.S.D.	0.177	0.279	1.118	0.200	0.304	0.160	0.315	0.688

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.132	5.116	5.191	5.253	5.132	17.086	5.347	10.298
S.D.	0.010	0.028	0.031	0.030	0.008	0.040	0.024	0.050
% R.S.D.	0.197	0.541	0.596	0.563	0.163	0.236	0.442	0.489

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.077	5.212	5.141	18.497	52.611	4.850	5.177	1427.803
S.D.	0.011	0.014	0.016	0.046	0.258	0.007	0.023	8.594
% R.S.D.	0.224	0.278	0.315	0.250	0.490	0.147	0.441	0.602

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.296	5.656	2.705	5.028	5.011	5.092	5.198	31.192
S.D.	0.002	0.094	0.008	0.021	0.013	0.021	0.002	0.259
% R.S.D.	0.031	1.659	0.310	0.418	0.259	0.416	0.030	0.832

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.128	4.777	5.218	5.221	4.745
S.D.	0.012	0.053	0.009	0.015	0.157
% R.S.D.	0.229	1.117	0.173	0.293	3.306

Identity 1: CCV Identity 2: Quality Control 1:45 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.011	5.010	5.030	4.705	4.942	5.041	5.105	5.015
S.D.	0.022	0.024	0.016	0.012	0.020	0.009	0.025	0.035
% R.S.D.	0.441	0.488	0.326	0.260	0.409	0.171	0.489	0.698

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.110	5.054	5.128	5.193	5.054	5.072	5.405	9.984
S.D.	0.007	0.011	0.026	0.021	0.021	0.013	0.017	0.042
% R.S.D.	0.146	0.215	0.514	0.412	0.408	0.259	0.314	0.423

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.042	5.112	5.033	4.831	4.842	4.882	5.084	5.065
S.D.	0.025	0.027	0.026	0.050	0.041	0.014	0.012	0.045
% R.S.D.	0.505	0.524	0.522	1.025	0.842	0.295	0.235	0.890

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.990	4.990	4.981	5.143	4.912	5.073	5.195	5.149
S.D.	0.017	0.019	0.011	0.013	0.020	0.013	0.029	0.015
% R.S.D.	0.336	0.374	0.225	0.256	0.415	0.262	0.559	0.300

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.086	4.729	5.135	5.224	4.915
S.D.	0.008	0.021	0.015	0.021	0.010
% R.S.D.	0.151	0.434	0.289	0.410	0.194

Identity 1: CCB Identity 2: Quality Control 1:48 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.000	0.001	0.017	0.002	0.004	0.004	0.000	0.001
S.D.	0.001	0.000	0.010	0.002	0.006	0.002	0.001	0.001
% R.S.D.	414.572	38.188	62.185	96.446	126.029	43.134	513.736	68.295

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.001	0.001	0.004	0.004	0.002	-0.008	-0.010
S.D.	0.000	0.001	0.006	0.002	0.001	0.002	0.008	0.050
% R.S.D.	13.155	48.655	698.432	45.321	20.146	72.909	100.184	516.012

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.013	0.016	0.001	0.005	0.003	0.004	0.003	0.063
S.D.	0.012	0.009	0.001	0.011	0.004	0.001	0.003	0.013
% R.S.D.	88.524	57.353	43.179	204.848	127.597	20.150	120.779	20.150

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.049	0.001	0.000	0.001	0.001	0.006	0.079
S.D.	0.001	0.007	0.001	0.001	0.001	0.000	0.001	0.017
% R.S.D.	73.123	15.291	134.165	277.303	40.332	39.148	17.379	21.152

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	0.008	-0.001	0.001	-0.035
S.D.	0.000	0.017	0.001	0.000	0.030
% R.S.D.	331.341	214.295	181.657	25.890	86.229

Identity 1: PREPBLK Identity 2: Quality Control 1:51 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.000	0.001	0.006	-0.006	-0.002	-0.001	0.000
S.D.	0.001	0.000	0.002	0.002	0.002	0.002	0.000	0.000
% R.S.D.	42.105	150.000	270.312	37.488	30.982	86.052	76.652	519.386

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	-0.001	0.001	-0.000	0.001	-0.002	-0.035	0.074
S.D.	0.000	0.001	0.002	0.002	0.000	0.001	0.003	0.029
% R.S.D.	103.856	148.266	149.957	1197.906	25.847	43.692	9.856	39.537

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.004	0.023	-0.000	-0.007	-0.003	0.005	-0.004	0.037
S.D.	0.012	0.005	0.000	0.003	0.002	0.000	0.003	0.000
% R.S.D.	304.388	20.139	1808.314	42.773	95.412	6.574	77.543	0.001

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.047	-0.001	-0.028	0.001	-0.000	0.002	0.040
S.D.	0.001	0.002	0.000	0.003	0.000	0.001	0.000	0.011
% R.S.D.	163.648	4.069	38.037	12.137	43.460	363.615	14.851	26.576

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	-0.001	-0.002	-0.000	-0.099
S.D.	0.000	0.021	0.001	0.000	0.012
% R.S.D.	30.867	1419.313	29.583	29.892	11.716

Identity 1: 395T003685_L Identity 2: 1ml-4ml-1ml-4ml 1:57 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 25.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.024	0.011	0.022	1.107	127.439	0.094	0.002	0.013
S.D.	0.015	0.001	0.298	0.034	0.441	0.041	0.009	0.001
% R.S.D.	61.410	8.248	1383.399	3.096	0.346	43.139	560.645	8.390

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.006	0.147	-0.023	0.069	0.340	5.288	-0.206	-0.562
S.D.	0.003	0.032	0.090	0.051	0.009	0.090	0.174	0.812
% R.S.D.	47.941	21.669	392.875	74.278	2.725	1.708	84.541	144.375

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.338	-0.327	0.006	6.240	46.361	0.096	0.123	1468.475
S.D.	0.162	0.200	0.003	0.262	0.736	0.006	0.119	3.317
% R.S.D.	48.028	61.144	54.991	4.197	1.587	6.278	96.614	0.226

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.185	-0.172	0.022	-0.095	0.001	-0.004	0.026	18.853
S.D.	0.008	0.309	0.016	0.153	0.009	0.029	0.008	0.242
% R.S.D.	4.460	179.592	71.991	161.915	1294.139	748.544	32.129	1.286

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.029	0.930	-0.008	-0.013	-0.592
S.D.	0.004	0.556	0.023	0.006	0.612
% R.S.D.	13.153	59.817	289.429	42.575	103.357

Identity 1: S95T003685 Identity 2: 1ml-4ml 2:02 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.009	0.011	-0.029	1.065	128.332	0.024	0.001	0.001
S.D.	0.006	0.000	0.081	0.019	0.811	0.008	0.003	0.001
% R.S.D.	74.813	4.406	276.490	1.823	0.632	34.513	445.268	152.717

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	0.021	-0.009	0.017	0.195	5.283	0.090	-0.200
S.D.	0.002	0.002	0.004	0.004	0.002	0.011	0.039	0.228
% R.S.D.	216.160	10.038	43.912	21.079	1.196	0.203	42.793	114.202

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.075	-5.615	0.001	7.117	47.877	0.012	-0.038	1398.784
S.D.	0.050	0.051	0.001	0.085	0.761	0.001	0.031	12.008
% R.S.D.	66.768	0.905	102.528	1.188	1.589	7.531	81.997	0.858

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.173	0.012	-0.001	-0.057	0.001	-0.005	0.070	20.134
S.D.	0.006	0.034	0.004	0.013	0.003	0.006	0.006	0.020
% R.S.D.	3.740	278.008	740.179	23.319	186.265	118.230	8.353	0.097

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.002	0.179	0.002	0.001	-0.217
S.D.	0.002	0.125	0.004	0.001	0.169
% R.S.D.	79.152	69.527	290.020	209.276	78.125

Identity 1: S95T003685_D Identity 2: 1ml-4ml 2:06 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.011	0.032	1.067	134.136	0.014	0.002	0.001
S.D.	0.005	0.000	0.004	0.008	0.286	0.000	0.002	0.001
% R.S.D.	1331.077	4.537	12.426	0.725	0.213	0.181	92.306	121.697

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.037	0.051	0.009	-0.009	0.210	5.457	-0.053	0.177
S.D.	0.001	0.004	0.014	0.010	0.002	0.025	0.033	0.201
% R.S.D.	1.542	8.654	149.451	119.542	0.749	0.464	63.652	113.340

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.068	0.048	0.001	5.534	44.951	0.007	-0.014	1390.320
S.D.	0.084	0.046	0.001	0.131	0.118	0.000	0.020	8.130
% R.S.D.	123.008	96.003	90.185	2.370	0.263	6.928	142.526	0.585

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.180	0.226	0.004	-0.089	0.003	-0.005	0.057	20.795
S.D.	0.006	0.068	0.001	0.075	0.002	0.003	0.000	0.090
% R.S.D.	3.495	30.103	22.051	84.558	58.502	58.218	0.667	0.432

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.002	-0.080	-0.009	-0.001	-0.112
S.D.	0.001	0.103	0.003	0.000	0.165
% R.S.D.	32.669	128.589	38.689	4.717	147.751

Identity 1: S95I003685_A Identity 2: 1ml-1ml-3ml 2:10 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.014	5.058	5.053	6.272	134.560	5.107	5.094	4.845
S.D.	0.012	0.015	0.081	0.021	0.358	0.014	0.018	0.027
% R.S.D.	0.243	0.296	1.607	0.338	0.266	0.276	0.346	0.555

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.155	5.095	5.105	5.177	5.179	10.384	5.236	9.972
S.D.	0.004	0.001	0.030	0.005	0.018	0.030	0.071	0.170
% R.S.D.	0.069	0.028	0.595	0.106	0.345	0.287	1.361	1.702

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.212	5.068	5.043	12.196	53.375	4.845	5.130	1425.696
S.D.	0.028	0.013	0.018	0.275	0.681	0.003	0.028	8.004
% R.S.D.	0.534	0.266	0.357	2.254	1.276	0.053	0.544	0.561

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.217	5.049	3.958	5.033	4.949	5.047	5.122	25.359
S.D.	0.013	0.066	0.096	0.062	0.009	0.006	0.011	0.131
% R.S.D.	0.258	1.301	2.419	1.224	0.174	0.114	0.223	0.518

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.104	4.812	5.167	5.154	4.815
S.D.	0.009	0.109	0.011	0.009	0.098
% R.S.D.	0.184	2.268	0.206	0.184	2.033

Identity 1: ICSA Identity 2: Quality Control 2:13 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.002	-0.010	0.000	195.631	-0.001	0.001	0.001
S.D.	0.001	0.000	0.008	0.002	0.323	0.002	0.000	0.000
% R.S.D.	162.317	2.752	81.888	1891.217	0.165	167.959	37.338	45.848

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.005	0.005	0.007	97.067	102.983	0.004	0.003	-0.071
S.D.	0.000	0.001	0.002	0.379	0.242	0.001	0.012	0.049
% R.S.D.	8.077	17.155	23.713	0.390	0.235	16.849	365.145	68.934

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.023	0.036	0.003	0.036	0.015	102.236	0.031	183.601
S.D.	0.013	0.006	0.000	0.013	0.005	0.208	0.003	1.433
% R.S.D.	57.126	17.430	3.222	35.240	34.847	0.204	8.079	0.780

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	-0.054	-0.000	-0.008	0.001	-0.001	0.017	0.147
S.D.	0.002	0.017	0.001	0.016	0.000	0.001	0.001	0.010
% R.S.D.	60.085	31.975	529.052	197.306	53.139	60.873	5.113	7.049

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.019	0.000	0.002	-0.011
S.D.	0.000	0.013	0.001	0.000	0.016
% R.S.D.	40.305	68.141	2330.409	5.371	141.239

Identity 1: ICSAB Identity 2: Quality Control 2:15 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.002	-0.004	0.002	197.138	0.496	0.501	0.936
S.D.	0.002	0.000	0.011	0.003	1.271	0.002	0.003	0.008
% R.S.D.	98.436	8.553	294.763	145.941	0.645	0.329	0.598	0.830

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.007	0.992	0.001	98.442	104.420	0.504	0.003	0.038
S.D.	0.004	0.005	0.001	0.254	0.480	0.004	0.009	0.080
% R.S.D.	0.414	0.465	143.167	0.258	0.460	0.708	273.728	212.768

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.005	0.035	0.509	0.015	-0.001	101.881	0.035	192.734
S.D.	0.017	0.015	0.003	0.007	0.006	0.437	0.003	1.649
% R.S.D.	328.808	43.146	0.632	47.431	455.837	0.429	8.458	0.856

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	0.014	1.024	1.002	0.001	1.005	0.016	0.071
S.D.	0.001	0.005	0.003	0.011	0.000	0.005	0.001	0.019
% R.S.D.	40.750	31.648	0.286	1.115	24.713	0.459	5.712	26.959

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.508	-0.042	0.498	0.506	-0.061
S.D.	0.001	0.007	0.002	0.002	0.027
% R.S.D.	0.153	16.514	0.344	0.374	44.648

Identity 1: CCV Identity 2: Quality Control 2:18 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.008	5.022	5.056	4.702	4.988	5.037	5.112	5.052
S.D.	0.014	0.022	0.012	0.007	0.025	0.014	0.020	0.019
% R.S.D.	0.272	0.429	0.228	0.157	0.509	0.282	0.391	0.370

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.094	5.043	5.118	5.234	5.084	5.053	5.415	10.040
S.D.	0.009	0.014	0.019	0.022	0.026	0.003	0.032	0.020
% R.S.D.	0.175	0.272	0.370	0.429	0.513	0.055	0.597	0.201

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.065	5.123	5.046	4.831	4.801	4.903	5.076	5.138
S.D.	0.026	0.017	0.023	0.113	0.046	0.019	0.003	0.039
% R.S.D.	0.519	0.333	0.463	2.349	0.959	0.385	0.063	0.752

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	4.980	4.965	4.966	5.096	4.913	5.055	5.178	5.186
S.D.	0.015	0.021	0.007	0.003	0.016	0.009	0.016	0.028
% R.S.D.	0.307	0.419	0.145	0.061	0.320	0.171	0.314	0.543

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.073	4.741	5.124	5.220	4.870
S.D.	0.005	0.025	0.008	0.017	0.005
% R.S.D.	0.103	0.521	0.155	0.323	0.092

Identity 1: CCB Identity 2: Quality Control 2:21 PM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.002	0.001	0.012	-0.001	0.002	0.008	0.001	0.002
S.D.	0.002	0.000	0.002	0.000	0.002	0.003	0.000	0.001
% R.S.D.	126.475	16.901	15.193	44.944	66.908	33.202	16.750	38.545

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	-0.000	-0.002	0.004	0.003	0.005	0.001	-0.069
S.D.	0.000	0.001	0.002	0.005	0.001	0.001	0.005	0.088
% R.S.D.	7.172	188.669	85.781	112.793	15.167	28.019	351.943	126.404

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.026	-0.014	0.001	0.010	-0.003	0.004	-0.007	0.034
S.D.	0.021	0.015	0.000	0.002	0.001	0.001	0.003	0.005
% R.S.D.	81.776	110.872	24.393	18.080	28.976	15.062	48.843	14.194

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.002	-0.022	0.002	-0.014	0.001	0.001	0.007	0.057
S.D.	0.001	0.013	0.001	0.007	0.000	0.000	0.002	0.024
% R.S.D.	65.511	58.962	60.996	51.706	34.586	56.819	23.908	42.553

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.024	-0.000	0.001	-0.010
S.D.	0.000	0.023	0.001	0.000	0.046
% R.S.D.	32.865	95.641	410.688	24.027	454.207

03/15/95 10:27
A-0004-1

FILE # 9609048.D-1F

LABCORE Data Entry Template for Worklist# 6555

Analyst: B. Goecke **Instrument:** ICP01 _____ **Book#** 5384F5

Method: LA-505-151/~~161~~ 148c Rev/Mod 0-3

Worklist Comment: ICP BY-104 (SOLID WATER DIGEST)

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	PREPBLKARL				@ICP-I01	SOLID		
6	SERDIL	S95T003697	0	W	@ICP-I01	SOLID		
7	SAMPLE	S95T003697	0	W	@ICP-I01	SOLID	95000180	BY104 ROTARY
	Analytes Requested:				AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 , MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01			
8	DUP	S95T003697	0	W	@ICP-I01	SOLID		
9	SPK	S95T003697	0	W	@ICP-I01	SOLID		
10	CCV				@ICP-QC	QC		
11	CCB				@ICP-QC	QC		
12	PREPBLKARL				@ICP-I01	SOLID		
13	SERDIL	S95T003698	0	W	@ICP-I01	SOLID		
14	SAMPLE	S95T003698	0	W	@ICP-I01	SOLID	95000180	BY104 ROTARY
	Analytes Requested:				AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 ,			

Data Entry Comments:

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

03/15/96 10:27
A-0004-1

LABCORE Data Entry Template for Worklist# 6555

S	Type	Sample#	R	A	Test	Matrix	Group#	Project
					MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01			
15	DUP	S95T003698	0	W	@ICP-I01	SOLID		
16	SPK	S95T003698	0	W	@ICP-I01	SOLID		
17	ICSA				@ICP-QC	QC		
18	ICSAB				@ICP-QC	QC		
19	CCV				@ICP-QC	QC		
20	CCB				@ICP-QC	QC		

Final page for worklist # 6555

Reviewed by:

Analyst Signature: [illegible] Date: 4-4-96

Analyst Signature: Saul M. Parry Date: 4/4/96

		D.F.
PREPBLKAML	DIRECT	1
S95T003697-L	1-L-4-L-1-L-4-L	25
S95T003697	1-L-4-L	5
S95T003697-D	1-L-4-L	5
S95T003697-A	1-L-1-L-3-L	5
PREPBLKAML	DIRECT	1
S95T003698-L	1-L-4-L-1-L-4-L	25
S95T003698	1-L-4-L	5
S95T003698-D	1-L-4-L	5
S95T003698-A	1-L-1-L-3-L	5

Data Entry Comments:

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

Identity 1: ICV Identity 2: Quality Control 12:13 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.034	5.093	5.040	4.753	5.008	5.149	5.141	5.150
S.D.	0.014	0.020	0.021	0.007	0.013	0.017	0.010	0.014
% R.S.D.	0.280	0.385	0.408	0.143	0.257	0.333	0.199	0.264

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.126	5.082	5.102	5.095	5.078	5.106	5.202	9.717
S.D.	0.010	0.010	0.016	0.018	0.015	0.011	0.020	0.034
% R.S.D.	0.194	0.206	0.317	0.345	0.290	0.209	0.389	0.352

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.228	5.156	5.105	5.288	5.104	4.985	5.160	5.104
S.D.	0.031	0.012	0.018	0.107	0.047	0.018	0.024	0.014
% R.S.D.	0.585	0.230	0.345	2.017	0.916	0.364	0.470	0.278

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.116	5.018	4.935	5.051	4.975	5.098	5.130	4.980
S.D.	0.027	0.025	0.008	0.024	0.016	0.021	0.003	0.040
% R.S.D.	0.530	0.488	0.168	0.477	0.320	0.417	0.062	0.810

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.034	4.739	5.142	5.279	4.870
S.D.	0.014	0.038	0.013	0.014	0.020
% R.S.D.	0.276	0.808	0.257	0.258	0.417

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1028 TO 1047

4-4-96
BY-106 H2O DIGEST
S95T003697-98
Inc-4-L
FILE # 9604043.DAT

Identity 1: ICB Identity 2: Quality Control 12:15 PM April 4, 1995
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.002	-0.009	0.007	-0.002	0.002	0.001	0.002
S.D.	0.002	0.002	0.002	0.002	0.006	0.000	0.002	0.002
% R.S.D.	41.509	66.744	18.008	27.912	302.673	0.351	136.568	81.652

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.004	0.003	0.004	0.003	0.002	-0.018	0.082
S.D.	0.001	0.001	0.002	0.004	0.001	0.001	0.007	0.052
% R.S.D.	55.119	26.892	57.541	83.828	41.202	40.097	42.141	62.759

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.009	0.001	0.002	0.023	-0.002	0.002	-0.001	0.002
S.D.	0.012	0.012	0.002	0.012	0.005	0.001	0.003	0.006
% R.S.D.	134.595	1833.327	78.934	54.307	241.293	59.177	411.610	264.638

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.004	-0.062	0.002	-0.005	0.003	0.002	0.007	-0.081
S.D.	0.001	0.002	0.002	0.001	0.002	0.002	0.001	0.008
% R.S.D.	34.731	3.855	142.014	30.788	67.294	63.448	13.196	10.046

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.002	0.051	-0.000	0.002	0.033
S.D.	0.001	0.030	0.002	0.001	0.025
% R.S.D.	79.636	58.883	24979.045	58.077	73.833

Identity 1: ICSA Identity 2: Quality Control 12:18 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.007	0.003	-0.008	0.013	199.284	0.002	0.001	0.000
S.D.	0.002	0.000	0.014	0.001	0.521	0.003	0.000	0.000
% R.S.D.	23.061	15.275	170.298	9.376	0.261	170.534	15.082	135.524

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.005	0.008	0.009	96.759	103.725	0.003	0.002	0.184
S.D.	0.000	0.001	0.001	0.050	0.256	0.002	0.005	0.047
% R.S.D.	9.740	10.080	15.331	0.052	0.247	68.427	234.989	25.544

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.001	0.002	0.003	0.034	0.027	99.533	0.029	186.029
S.D.	0.011	0.008	0.000	0.014	0.008	0.155	0.003	0.703
% R.S.D.	759.471	321.272	14.778	42.007	30.741	0.156	9.245	0.378

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.066	-0.000	-0.044	0.002	-0.000	0.016	-0.019
S.D.	0.002	0.014	0.001	0.008	0.000	0.001	0.001	0.018
% R.S.D.	200.110	20.957	3154.524	17.937	25.516	445.975	5.284	94.068

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.011	0.001	0.003	0.018
S.D.	0.001	0.018	0.001	0.000	0.015
% R.S.D.	88.803	168.686	136.179	17.819	84.440

Identity 1: ICSAB Identity 2: Quality Control 12:20 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.002	-0.015	0.005	199.521	0.502	0.500	0.937
S.D.	0.001	0.000	0.006	0.001	0.255	0.002	0.001	0.004
% R.S.D.	16.997	2.830	37.252	13.662	0.128	0.327	0.170	0.424

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.013	0.994	0.003	96.728	103.470	0.510	-0.003	0.160
S.D.	0.002	0.005	0.004	0.296	0.220	0.002	0.007	0.039
% R.S.D.	0.234	0.526	135.876	0.306	0.213	0.360	200.508	24.172

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.010	0.035	0.511	0.035	0.034	100.177	0.035	193.204
S.D.	0.004	0.006	0.001	0.010	0.021	0.145	0.006	0.874
% R.S.D.	38.163	15.754	0.254	28.888	60.796	0.145	16.739	0.452

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.048	1.020	1.000	0.002	1.010	0.017	0.049
S.D.	0.002	0.005	0.002	0.019	0.000	0.001	0.000	0.014
% R.S.D.	150.984	11.087	0.157	1.899	29.674	0.093	1.644	28.537

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.505	0.022	0.502	0.510	0.005
S.D.	0.001	0.020	0.002	0.002	0.021
% R.S.D.	0.190	90.724	0.302	0.443	404.702

Identity 1: PREPBLK Identity 2: Quality Control 12:23 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.005	-0.000	0.025	0.014	0.010	-0.007	-0.003	-0.001
S.D.	0.002	0.000	0.006	0.001	0.003	0.003	0.000	0.000
% R.S.D.	39.175	21.822	23.902	5.770	33.948	42.610	13.664	13.092

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	0.006	0.003	0.005	0.004	-0.002	-0.020	0.193
S.D.	0.000	0.002	0.002	0.002	0.001	0.001	0.005	0.048
% R.S.D.	30.872	38.059	72.609	30.072	15.150	35.695	26.643	24.782

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.053	0.030	-0.001	0.009	-0.010	0.010	0.004	0.024
S.D.	0.010	0.006	0.000	0.006	0.001	0.001	0.003	0.004
% R.S.D.	19.171	20.928	18.700	68.651	9.724	7.185	97.638	14.782

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.046	-0.004	-0.020	0.001	-0.000	0.001	0.039
S.D.	0.001	0.008	0.001	0.007	0.000	0.001	0.001	0.024
% R.S.D.	64.009	16.958	15.808	33.709	34.743	407.211	90.707	62.898

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.000	0.010	-0.004	-0.000	-0.079
S.D.	0.000	0.018	0.001	0.000	0.027
% R.S.D.	136.886	174.574	30.292	48.935	34.453

Identity 1: S95T003697_L Identity 2: 1ml-4ml-1ml-4ml 12:27 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 25.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.093	0.012	0.024	0.743	134.376	-0.119	-0.026	-0.005
S.D.	0.013	0.003	0.208	0.026	0.269	0.041	0.001	0.007
% R.S.D.	14.200	23.619	869.933	3.550	0.200	34.660	4.073	135.731

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.011	0.082	0.091	1.689	0.213	2.675	-0.358	4.024
S.D.	0.004	0.047	0.038	0.126	0.079	0.022	0.082	1.563
% R.S.D.	36.492	56.487	41.537	7.488	37.275	0.833	22.919	38.839

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.444	0.145	-0.005	8.042	34.342	0.180	0.108	1040.400
S.D.	0.423	0.316	0.007	0.379	0.664	0.080	0.047	6.726
% R.S.D.	95.274	218.703	144.338	4.712	1.932	44.129	43.283	0.646

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.147	-1.342	-0.027	-0.166	0.023	0.042	0.009	13.342
S.D.	0.013	0.242	0.014	0.169	0.006	0.030	0.023	0.815
% R.S.D.	9.041	18.065	51.794	101.843	27.700	72.725	257.785	6.111

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.455	-0.056	-0.009	-0.482
S.D.	0.008	0.431	0.012	0.000	0.695
% R.S.D.	503.577	94.726	20.415	2.346	144.051

Identity 1: S95T003697 Identity 2: 1ml-4ml 12:31 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.018	0.013	-0.002	0.626	136.363	0.014	-0.004	-0.000
S.D.	0.001	0.000	0.060	0.015	0.169	0.008	0.000	0.001
% R.S.D.	5.716	3.819	2696.313	2.426	0.124	58.190	11.062	403.761

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.027	0.034	0.005	0.143	0.110	2.728	-0.036	0.886
S.D.	0.002	0.002	0.014	0.019	0.006	0.014	0.013	0.100
% R.S.D.	5.570	5.981	284.696	13.406	5.274	0.525	35.130	11.285

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.077	-0.065	-0.000	8.090	35.299	0.037	0.009	1015.029
S.D.	0.045	0.012	0.001	0.282	0.329	0.006	0.011	2.737
% R.S.D.	57.916	19.165	301.993	3.490	0.931	16.886	123.173	0.270

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.141	-0.281	-0.004	-0.114	-0.000	-0.004	0.038	15.576
S.D.	0.002	0.049	0.001	0.078	0.001	0.004	0.002	0.077
% R.S.D.	1.504	17.479	31.718	68.692	1950.019	97.943	5.387	0.496

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	0.018	-0.014	-0.001	0.140
S.D.	0.001	0.137	0.002	0.001	0.062
% R.S.D.	315.091	747.407	16.182	117.691	44.412

Identity 1: S95T003697_D Identity 2: 1ml-4ml 12:34 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.026	0.025	-0.034	0.885	173.843	-0.019	-0.007	-0.002
S.D.	0.012	0.001	0.043	0.002	0.163	0.000	0.002	0.002
% R.S.D.	44.748	2.521	126.182	0.269	0.094	0.259	26.095	88.574

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.000	0.052	0.010	0.141	0.054	3.419	-0.129	1.254
S.D.	0.001	0.001	0.012	0.015	0.002	0.006	0.036	0.385
% R.S.D.	259.277	2.618	123.568	10.890	4.425	0.162	27.689	30.686

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.105	0.025	-0.001	11.580	38.182	0.025	-0.027	881.064
S.D.	0.088	0.071	0.002	0.206	0.281	0.002	0.015	5.877
% R.S.D.	83.858	289.625	178.049	1.779	0.735	9.474	54.640	0.667

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.173	-0.258	-0.007	-0.007	0.005	0.005	0.052	19.479
S.D.	0.004	0.046	0.006	0.033	0.003	0.005	0.004	0.176
% R.S.D.	2.103	17.905	74.584	462.596	64.964	104.157	8.568	0.902

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.000	0.029	-0.013	0.000	-0.240
S.D.	0.001	0.189	0.006	0.001	0.168
% R.S.D.	318.940	644.519	47.498	273.718	70.274

Identity 1: S95T003697_A Identity 2: 1ml-1ml-3ml 12:37 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.103	5.232	5.161	5.826	141.137	5.174	5.283	5.041
S.D.	0.014	0.015	0.031	0.001	0.193	0.016	0.020	0.039
% R.S.D.	0.271	0.293	0.597	0.019	0.137	0.317	0.386	0.764

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.276	5.199	5.271	5.261	5.194	7.896	5.356	10.830
S.D.	0.008	0.021	0.010	0.046	0.017	0.030	0.028	0.199
% R.S.D.	0.157	0.408	0.194	0.869	0.320	0.375	0.517	1.841

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.201	5.187	5.226	13.019	39.567	5.028	5.250	1027.448
S.D.	0.084	0.036	0.019	0.149	0.217	0.003	0.019	6.834
% R.S.D.	1.615	0.687	0.356	1.142	0.548	0.061	0.369	0.665

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.304	5.085	4.948	5.127	5.081	5.164	5.182	20.297
S.D.	0.035	0.072	0.006	0.040	0.008	0.005	0.014	0.053
% R.S.D.	0.662	1.412	0.117	0.782	0.154	0.090	0.271	0.259

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.129	4.907	5.249	5.320	4.887
S.D.	0.011	0.044	0.007	0.007	0.129
% R.S.D.	0.213	0.901	0.130	0.133	2.648

Identity 1: CCV Identity 2: Quality Control 12:40 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.043	5.070	5.060	4.766	5.014	5.154	5.131	5.073
S.D.	0.029	0.041	0.038	0.014	0.022	0.018	0.046	0.066
% R.S.D.	0.571	0.811	0.743	0.287	0.448	0.345	0.887	1.298

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.159	5.111	5.118	5.145	5.083	5.122	5.260	9.666
S.D.	0.013	0.009	0.037	0.020	0.039	0.013	0.041	0.033
% R.S.D.	0.243	0.179	0.728	0.398	0.767	0.245	0.781	0.338

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.179	5.128	5.080	5.116	5.015	4.998	5.141	5.127
S.D.	0.024	0.032	0.046	0.073	0.049	0.014	0.038	0.057
% R.S.D.	0.472	0.618	0.903	1.428	0.986	0.270	0.748	1.115

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.099	5.010	4.973	5.109	4.968	5.112	5.159	5.028
S.D.	0.015	0.037	0.017	0.048	0.029	0.016	0.024	0.016
% R.S.D.	0.290	0.746	0.349	0.942	0.576	0.314	0.459	0.320

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.068	4.743	5.170	5.276	4.892
S.D.	0.018	0.015	0.023	0.031	0.024
% R.S.D.	0.357	0.317	0.442	0.582	0.483

Identity 1: CCB Identity 2: Quality Control 12:43 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.008	0.003	0.023	0.015	0.016	-0.000	0.002	0.002
S.D.	0.002	0.002	0.005	0.002	0.005	0.004	0.002	0.002
% R.S.D.	24.657	67.015	21.928	13.361	30.619	15356.543	96.733	80.573

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.003	0.003	0.008	0.001	0.005	0.004	0.001	0.220
S.D.	0.002	0.003	0.001	0.001	0.002	0.001	0.004	0.036
% R.S.D.	67.820	81.624	10.079	86.578	36.337	27.991	622.234	16.271

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.004	0.027	0.003	0.016	-0.004	0.004	0.007	0.069
S.D.	0.015	0.008	0.002	0.015	0.004	0.002	0.002	0.016
% R.S.D.	323.998	30.827	70.095	94.706	97.800	42.309	29.581	23.205

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.003	-0.063	0.003	0.000	0.004	0.004	0.009	0.039
S.D.	0.004	0.011	0.002	0.004	0.002	0.002	0.001	0.016
% R.S.D.	110.217	17.318	57.782	8469.694	44.610	36.937	15.000	40.725

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.002	0.011	0.002	0.002	0.013
S.D.	0.002	0.014	0.002	0.002	0.020
% R.S.D.	80.909	125.918	97.761	78.830	155.887

Identity 1: PREPBLK Identity 2: Quality Control 12:47 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	-0.000	0.002	0.017	-0.012	-0.002	-0.003	-0.001
S.D.	0.001	0.000	0.012	0.000	0.003	0.002	0.000	0.000
% R.S.D.	30.336	38.490	524.876	2.204	26.527	85.709	2.095	17.626

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.002	0.001	0.002	-0.007	-0.003	-0.002	-0.005	0.164
S.D.	0.000	0.003	0.001	0.000	0.000	0.000	0.004	0.013
% R.S.D.	20.486	307.330	71.908	3.243	4.879	14.918	79.229	7.814

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.032	0.016	-0.001	0.009	-0.006	0.001	-0.005	0.021
S.D.	0.008	0.004	0.000	0.007	0.007	0.000	0.002	0.002
% R.S.D.	26.777	24.187	23.316	82.972	102.528	27.273	40.088	11.110

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.001	-0.045	-0.003	-0.036	0.001	-0.001	0.001	-0.019
S.D.	0.001	0.013	0.000	0.019	0.000	0.000	0.001	0.003
% R.S.D.	246.685	29.057	8.917	52.619	60.452	11.602	62.988	13.043

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	0.019	-0.003	-0.000	0.006
S.D.	0.000	0.019	0.000	0.000	0.020
% R.S.D.	0.175	99.108	5.702	93.447	358.105

WHC-SD-WM-DP-164, REV. 1

Identity 1: S95T003698_L Identity 2: 1ml-4ml-1ml-4ml 12:50 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 25.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.091	0.004	-0.263	0.360	47.239	-0.095	-0.026	0.002
S.D.	0.026	0.003	0.269	0.088	0.266	0.071	0.012	0.004
% R.S.D.	28.693	78.062	102.138	24.560	0.563	74.490	46.339	217.539

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.017	0.008	0.058	0.109	0.176	0.110	-0.191	4.450
S.D.	0.008	0.018	0.019	0.022	0.006	0.034	0.220	0.632
% R.S.D.	46.738	222.123	33.059	20.516	3.594	30.639	114.962	14.192

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.002	0.135	0.004	0.474	9.605	0.040	-0.080	350.169
S.D.	0.241	0.161	0.005	0.344	0.186	0.006	0.064	2.762
% R.S.D.	11129.286	118.924	145.861	72.461	1.932	15.275	79.319	0.789

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.009	-0.744	0.003	-0.331	0.022	-0.038	0.008	5.943
S.D.	0.014	0.475	0.020	0.084	0.010	0.006	0.010	0.159
% R.S.D.	163.555	63.786	637.185	25.550	46.527	15.013	120.380	2.678

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.016	-0.005	-0.043	-0.003	0.244
S.D.	0.004	0.631	0.008	0.006	0.220
% R.S.D.	23.351	13837.142	17.985	180.590	90.139

B
Identity 1: S95T003698 Identity 2: 1ml-4ml 12:53 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.032	0.001	0.099	0.160	48.125	-0.014	-0.004	0.000
S.D.	0.008	0.001	0.042	0.019	0.273	0.008	0.005	0.003
% R.S.D.	23.631	87.797	41.931	12.056	0.567	56.833	120.576	853.700

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.001	0.034	0.014	0.132	0.042	0.105	0.008	1.468
S.D.	0.002	0.011	0.010	0.014	0.001	0.003	0.067	0.410
% R.S.D.	155.742	32.140	73.823	10.400	2.100	2.996	836.124	27.919

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.057	-0.029	0.001	0.979	9.981	0.009	-0.052	345.130
S.D.	0.083	0.071	0.002	0.089	0.069	0.001	0.012	2.545
% R.S.D.	145.589	248.142	150.741	9.090	0.694	16.238	24.101	0.737

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.064	-0.271	0.001	-0.114	0.008	0.001	0.023	7.679
S.D.	0.002	0.023	0.006	0.005	0.004	0.003	0.003	0.112
% R.S.D.	3.916	8.431	911.607	4.227	47.586	373.752	13.489	1.463

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.002	0.039	-0.004	-0.000	-0.009
S.D.	0.002	0.082	0.006	0.003	0.177
% R.S.D.	99.776	212.943	162.393	1808.188	2020.966

Identity 1: S95T003698_D Identity 2: 1ml-4ml 12:57 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.033	0.012	0.027	0.233	73.210	-0.000	-0.003	-0.002
S.D.	0.007	0.001	0.088	0.016	0.121	0.008	0.002	0.002
% R.S.D.	19.610	4.767	321.639	6.679	0.165	3860.481	59.520	96.055

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.004	0.038	0.037	0.162	0.005	0.078	-0.044	1.664
S.D.	0.004	0.005	0.007	0.014	0.001	0.002	0.047	0.162
% R.S.D.	97.554	12.822	18.534	8.453	11.177	3.191	106.963	9.759

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.106	0.172	-0.001	4.095	12.451	0.004	0.022	343.419
S.D.	0.051	0.033	0.001	0.050	0.067	0.001	0.011	1.310
% R.S.D.	48.375	19.408	89.783	1.229	0.538	21.651	51.499	0.381

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.060	-0.193	-0.003	0.011	0.010	0.004	0.013	7.271
S.D.	0.005	0.053	0.003	0.031	0.002	0.002	0.003	0.026
% R.S.D.	7.718	27.393	79.653	274.776	22.939	56.763	26.256	0.362

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.144	-0.011	0.001	-0.377
S.D.	0.000	0.099	0.004	0.001	0.106
% R.S.D.	1.701	69.036	32.240	188.332	28.036

Identity 1: S95T003698_A Identity 2: 1ml-1ml-3ml 12:59 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.163	5.254	5.090	5.174	53.708	5.236	5.345	5.192
S.D.	0.008	0.012	0.090	0.030	0.110	0.036	0.009	0.029
% R.S.D.	0.158	0.219	1.765	0.586	0.205	0.684	0.165	0.559

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.283	5.229	5.260	5.355	5.205	5.298	5.413	10.621
S.D.	0.003	0.054	0.018	0.037	0.004	0.031	0.028	0.170
% R.S.D.	0.050	1.036	0.336	0.686	0.076	0.589	0.522	1.600

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.279	5.305	5.256	6.370	15.074	5.058	5.290	362.117
S.D.	0.043	0.037	0.009	0.116	0.101	0.010	0.027	1.794
% R.S.D.	0.806	0.700	0.163	1.814	0.668	0.203	0.509	0.495

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.260	5.049	4.992	5.075	5.090	5.202	5.228	12.442
S.D.	0.025	0.056	0.007	0.038	0.013	0.010	0.009	0.073
% R.S.D.	0.482	1.119	0.134	0.744	0.252	0.193	0.177	0.587

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.160	4.858	5.255	5.411	4.829
S.D.	0.013	0.053	0.009	0.007	0.064
% R.S.D.	0.244	1.087	0.178	0.121	1.326

Identity 1: ICSA Identity 2: Quality Control 1:02 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.006	0.002	-0.026	0.012	200.141	-0.002	0.001	0.000
S.D.	0.001	0.000	0.015	0.003	0.963	0.004	0.000	0.000
% R.S.D.	10.119	8.767	58.535	22.005	0.481	233.643	59.650	253.652

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.006	0.008	0.005	96.866	103.877	0.004	0.007	0.172
S.D.	0.001	0.000	0.001	0.121	0.287	0.001	0.005	0.026
% R.S.D.	9.466	5.635	14.099	0.125	0.276	16.394	62.896	15.146

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.007	0.021	0.003	0.014	0.015	99.198	0.039	188.567
S.D.	0.010	0.005	0.000	0.001	0.003	0.464	0.005	0.826
% R.S.D.	137.253	23.611	6.195	6.874	17.220	0.468	12.396	0.438

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Tl (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.079	0.001	-0.026	0.001	-0.001	0.014	-0.049
S.D.	0.001	0.015	0.001	0.009	0.001	0.001	0.001	0.006
% R.S.D.	98.684	18.864	38.219	32.799	69.060	103.491	7.559	11.946

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.021	-0.001	0.002	0.000
S.D.	0.000	0.012	0.001	0.000	0.002
% R.S.D.	12.618	57.464	63.323	8.857	2418.074

Identity 1: ICSAB Identity 2: Quality Control 1:05 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	0.002	-0.022	0.010	201.108	0.506	0.505	0.949
S.D.	0.001	0.000	0.002	0.002	0.357	0.003	0.001	0.004
% R.S.D.	36.433	4.493	11.128	22.278	0.178	0.562	0.132	0.407

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.014	0.994	0.006	97.378	104.049	0.505	-0.005	0.200
S.D.	0.003	0.003	0.001	0.402	0.154	0.001	0.008	0.024
% R.S.D.	0.284	0.314	21.441	0.413	0.148	0.199	147.284	12.242

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.006	0.044	0.515	0.040	0.023	99.982	0.037	196.149
S.D.	0.007	0.008	0.001	0.018	0.008	0.125	0.002	0.776
% R.S.D.	104.847	18.196	0.147	44.651	35.390	0.125	6.138	0.396

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.025	1.021	0.997	0.002	1.019	0.015	0.019
S.D.	0.001	0.013	0.002	0.013	0.000	0.002	0.001	0.009
% R.S.D.	60.794	53.652	0.192	1.331	10.496	0.189	4.732	48.025

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.505	0.006	0.504	0.513	-0.008
S.D.	0.000	0.030	0.000	0.001	0.014
% R.S.D.	0.077	479.578	0.042	0.195	167.927

Identity 1: CCV Identity 2: Quality Control 1:08 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.094	5.125	5.117	4.796	5.128	5.189	5.170	5.070
S.D.	0.016	0.016	0.014	0.011	0.015	0.011	0.025	0.036
% R.S.D.	0.311	0.310	0.266	0.221	0.295	0.222	0.481	0.704

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.185	5.154	5.181	5.277	5.167	5.162	5.347	9.844
S.D.	0.007	0.007	0.019	0.009	0.023	0.021	0.076	0.029
% R.S.D.	0.135	0.133	0.366	0.173	0.442	0.400	1.423	0.297

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.219	5.208	5.132	5.231	5.070	5.076	5.195	5.177
S.D.	0.014	0.014	0.020	0.173	0.051	0.005	0.013	0.046
% R.S.D.	0.269	0.272	0.380	3.303	1.014	0.094	0.250	0.887

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.138	5.028	4.992	5.128	5.005	5.168	5.187	4.996
S.D.	0.006	0.019	0.010	0.013	0.014	0.012	0.029	0.043
% R.S.D.	0.125	0.386	0.209	0.258	0.288	0.241	0.559	0.862

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.108	4.847	5.211	5.329	4.869
S.D.	0.019	0.015	0.015	0.016	0.003
% R.S.D.	0.368	0.318	0.284	0.303	0.051

Identity 1: CCB Identity 2: Quality Control 1:10 PM April 4, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.002	0.001	0.014	0.005	0.012	-0.006	-0.000	0.001
S.D.	0.002	0.001	0.009	0.006	0.009	0.002	0.001	0.001
% R.S.D.	85.031	52.790	64.548	116.466	79.835	28.752	1664.093	111.899

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	0.004	0.004	0.011	0.016	-0.000	-0.011	0.024
S.D.	0.001	0.002	0.002	0.002	0.002	0.000	0.016	0.045
% R.S.D.	60.281	41.856	57.682	16.071	14.718	114.990	147.075	188.163

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.027	0.001	0.001	-0.002	-0.005	0.015	-0.006	0.042
S.D.	0.012	0.008	0.001	0.007	0.005	0.003	0.006	0.008
% R.S.D.	45.389	1299.124	61.081	443.815	103.589	16.613	102.887	20.031

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.003	-0.036	0.000	-0.009	0.001	0.002	0.004	-0.105
S.D.	0.002	0.015	0.001	0.006	0.001	0.001	0.000	0.022
% R.S.D.	48.053	40.946	268.235	70.577	85.511	43.658	10.130	20.859

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	-0.001	-0.002	0.001	0.005
S.D.	0.001	0.021	0.001	0.001	0.034
% R.S.D.	54.634	1627.676	45.137	107.405	653.770

File # 9604034.DAT WHC-SD-WM-DP-164, REV. 1

03/15/96 10:33
A-0004-1

LABCORE Data Entry Template for Worklist# 6557

Analyst: B. Goeck **Instrument:** ICP01 _____ **Book#** 538485

Method: LA-505-151/~~161~~ 162 Rev/Mod 0-3 9-7-96

Worklist Comment: ICP BY-104 (SOLID WATER DIGEST)

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	PREPBLKARL				@ICP-I01	SOLID		
6	SERDIL	S95T003813	0	W	@ICP-I01	SOLID		
7	SAMPLE	S95T003813	0	W	@ICP-I01	SOLID	95000200	BY104 ROTARY
		Analytes Requested:			AG-I-01 , AL-I-01 , AS-I-01 , B-I-01 , BA-I-01 , BE-I-01 , BI-I-01 , CA-I-01 , CD-I-01 , CE-I-01 , CO-I-01 , CR-I-01 , CU-I-01 , FE-I-01 , K-I-01 , LA-I-01 , LI-I-01 , MG-I-01 , MN-I-01 , MO-I-01 , NA-I-01 , ND-I-01 , NI-I-01 , P-I-01 , PB-I-01 , S-I-01 , SB-I-01 , SE-I-01 , SI-I-01 , SM-I-01 , SR-I-01 , TI-I-01 , TL-I-01 , U-I-01 , V-I-01 , ZN-I-01 , ZR-I-01		
8	DUP	S95T003813	0	W	@ICP-I01	SOLID		
9	SPK	S95T003813	0	W	@ICP-I01	SOLID		
10	ICSA				@ICP-QC	QC		
11	ICSAB				@ICP-QC	QC		
12	CCV				@ICP-QC	QC		
13	CCB				@ICP-QC	QC		

Data Entry Comments:

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

LABCORE Data Entry Template for Worklist# 6557

S Type	Sample#	R	A	Test	Matrix	Group#	Project

Final page for worklist # 6557

Analyst Signature: [signature] Date: 4-3-96

Reviewed by: Analyst Signature: [signature] Date: 4/3/96

		D.F.
PREPBLK ALL	DIRECT	1
SSSTDD 3813 – L	1mL-4mL 1mL-4mL	2.5
SSSTDD 3813	1mL-4mL	5
SSSTDD 3813 – D	1mL-4mL	5
SSSTDD 3813 – A	1mL-1mL-3mL	5

Data Entry Comments:

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

Identity 1: ICV Identity 2: Quality Control 10:09 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.059	5.096	5.075	4.750	4.989	5.089	5.207	5.195
S.D.	0.013	0.019	0.027	0.010	0.017	0.019	0.012	0.010
% R.S.D.	0.256	0.365	0.529	0.210	0.343	0.369	0.238	0.198

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.119	5.080	5.164	5.161	5.140	5.115	5.337	10.281
S.D.	0.005	0.003	0.014	0.012	0.014	0.017	0.032	0.022
% R.S.D.	0.094	0.067	0.272	0.226	0.269	0.327	0.609	0.216

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.087	5.217	5.140	5.092	5.011	4.906	5.118	5.111
S.D.	0.020	0.010	0.019	0.054	0.044	0.016	0.026	0.002
% R.S.D.	0.384	0.190	0.368	1.063	0.873	0.319	0.509	0.045

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.066	5.095	5.000	5.082	5.014	5.099	5.222	5.150
S.D.	0.022	0.034	0.008	0.017	0.018	0.005	0.003	0.028
% R.S.D.	0.425	0.673	0.161	0.326	0.364	0.108	0.066	0.548

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.115	4.765	5.163	5.285	4.898
S.D.	0.016	0.031	0.010	0.011	0.014
% R.S.D.	0.321	0.648	0.184	0.206	0.292

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1050 TO 1062.

[signature]
4-3-96
84-106 H_2O DIGEST
595TW3F13
1ml-4-c
FILE # 960403A.DAT

Identity 1 : ICB Identity 2: Quality Control 10:13 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.000	0.002	0.005	0.002	-0.007	0.000	0.001	0.002
S.D.	0.001	0.001	0.008	0.003	0.002	0.005	0.001	0.001
% R.S.D.	1034.318	76.655	157.718	142.815	26.122	49994.876	146.612	83.648

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.003	0.000	0.003	0.003	0.004	-0.007	-0.076
S.D.	0.002	0.001	0.000	0.002	0.002	0.002	0.005	0.026
% R.S.D.	88.961	31.956	2.951	77.756	53.323	61.460	68.333	34.640

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.006	0.005	0.002	-0.004	-0.001	0.003	0.007	-0.000
S.D.	0.011	0.007	0.001	0.013	0.003	0.002	0.007	0.002
% R.S.D.	162.695	125.084	65.721	352.839	390.942	51.837	107.282	218861.780

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.004	-0.015	0.002	-0.010	0.002	0.002	0.004	-0.084
S.D.	0.002	0.012	0.001	0.005	0.002	0.002	0.002	0.010
% R.S.D.	62.450	85.058	54.943	46.915	96.965	98.054	54.152	11.588

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	-0.022	-0.001	0.001	-0.037
S.D.	0.001	0.009	0.002	0.001	0.022
% R.S.D.	86.756	39.238	169.645	102.564	61.197

Identity 1: ICSA Identity 2: Quality Control 10:16 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.001	0.002	-0.022	0.002	196.882	0.006	0.001	0.001
S.D.	0.002	0.000	0.006	0.001	0.829	0.002	0.000	0.000
% R.S.D.	243.194	7.190	25.431	49.736	0.421	28.619	44.284	74.689

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.006	0.004	0.004	97.058	104.748	0.004	-0.003	0.018
S.D.	0.000	0.002	0.002	0.339	0.379	0.002	0.007	0.062
% R.S.D.	4.433	54.053	51.747	0.349	0.362	40.463	279.228	350.476

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.016	0.045	0.003	0.019	-0.034	98.836	0.033	188.029
S.D.	0.015	0.013	0.000	0.003	0.010	0.317	0.007	0.955
% R.S.D.	92.555	29.866	7.585	18.458	29.728	0.320	20.669	0.508

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.002	-0.041	0.001	-0.014	0.001	-0.002	0.014	-0.131
S.D.	0.001	0.012	0.001	0.001	0.000	0.001	0.001	0.020
% R.S.D.	74.075	30.714	70.000	7.576	80.481	32.472	9.767	15.315

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	0.010	-0.002	0.002	-0.026
S.D.	0.000	0.011	0.001	0.000	0.025
% R.S.D.	21.544	115.451	52.494	0.345	94.324

Identity 1: ICSAB Identity 2: Quality Control 10:18 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.003	0.002	-0.037	-0.001	197.306	0.485	0.514	0.967
S.D.	0.001	0.000	0.004	0.003	0.516	0.003	0.001	0.007
% R.S.D.	41.414	2.679	10.122	338.919	0.262	0.671	0.225	0.739

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.986	0.970	0.004	97.831	104.965	0.502	-0.003	0.027
S.D.	0.001	0.003	0.002	0.234	0.309	0.002	0.005	0.045
% R.S.D.	0.067	0.333	50.203	0.239	0.294	0.397	167.280	168.388

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.025	0.017	0.517	0.027	-0.030	98.861	0.034	196.600
S.D.	0.012	0.011	0.001	0.004	0.007	0.235	0.003	1.244
% R.S.D.	48.981	67.985	0.239	13.937	24.418	0.238	8.128	0.633

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	-0.010	1.019	0.988	0.000	0.998	0.014	-0.102
S.D.	0.001	0.014	0.001	0.012	0.000	0.003	0.001	0.018
% R.S.D.	264.808	141.496	0.063	1.207	97.854	0.336	4.026	18.103

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.502	-0.015	0.500	0.509	-0.029
S.D.	0.002	0.019	0.002	0.002	0.011
% R.S.D.	0.307	126.875	0.363	0.345	38.180

Identity 1: PREPBLK Identity 2: Quality Control 10:24 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.001	0.000	-0.002	0.001	0.011	0.003	-0.001	0.001
S.D.	0.000	0.000	0.018	0.002	0.004	0.000	0.000	0.000
% R.S.D.	78.199	86.603	925.066	185.471	35.990	0.068	7.054	19.096

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.001	-0.000	0.001	0.006	0.008	0.005	-0.011	-0.022
S.D.	0.000	0.001	0.002	0.003	0.001	0.001	0.003	0.015
% R.S.D.	27.233	1175.561	153.661	44.369	17.642	23.502	23.332	68.179

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.009	0.017	0.000	-0.007	-0.004	0.010	0.004	0.031
S.D.	0.001	0.003	0.000	0.005	0.006	0.002	0.003	0.001
% R.S.D.	14.165	20.070	70.470	76.348	137.567	15.582	85.380	4.330

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.014	-0.001	-0.029	0.000	-0.001	0.003	0.123
S.D.	0.001	0.002	0.000	0.004	0.000	0.000	0.000	0.021
% R.S.D.	140.775	17.370	12.229	13.799	128.125	10.850	16.387	17.052

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.001	-0.000	-0.001	-0.000	-0.016
S.D.	0.000	0.027	0.001	0.000	0.009
% R.S.D.	33.452	8057.402	158.468	149.778	60.534

Identity 1: S95T003813_L Identity 2: 1ml-4ml-1ml-4ml 10:33 AM April 1, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 25.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.039	0.001	-0.082	0.664	157.439	0.023	-0.017	0.006
S.D.	0.019	0.002	0.096	0.032	0.575	0.041	0.005	0.004
% R.S.D.	47.426	229.129	116.605	4.892	0.365	174.951	26.111	62.787

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.030	0.093	0.035	-0.005	0.054	1.311	0.512	2.250
S.D.	0.009	0.034	0.052	0.015	0.005	0.055	0.268	0.582
% R.S.D.	28.914	37.063	148.821	314.086	9.352	4.171	52.249	25.863

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.260	-21.857	0.001	20.104	19.774	0.029	-0.165	1176.098
S.D.	0.260	0.176	0.005	0.275	0.491	0.002	0.060	2.877
% R.S.D.	100.191	0.804	611.010	1.369	2.485	7.873	36.419	0.245

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.152	-0.167	-0.005	-1.021	0.025	-0.041	0.040	19.938
S.D.	0.004	0.093	0.015	0.367	0.008	0.015	0.010	0.074
% R.S.D.	2.490	55.735	301.337	35.973	32.914	37.888	25.128	0.371

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.032	-0.236	-0.056	-0.016	-1.014
S.D.	0.010	0.347	0.009	0.003	0.541
% R.S.D.	32.464	146.802	16.890	19.996	53.411

Identity 1: S95T003813 Identity 2: 1ml-4ml 10:36 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.004	0.002	0.002	0.502	158.753	0.019	-0.004	-0.002
S.D.	0.005	0.000	0.020	0.019	1.036	0.008	0.003	0.001
% R.S.D.	136.295	26.956	862.644	3.809	0.652	43.416	82.981	86.292

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.003	0.023	-0.002	-0.026	0.099	1.308	-0.090	-0.074
S.D.	0.001	0.017	0.010	0.002	0.001	0.011	0.034	0.274
% R.S.D.	25.495	73.732	451.077	8.307	0.513	0.866	37.539	372.767

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.009	0.093	-0.000	20.344	20.294	0.005	-0.033	1127.681
S.D.	0.064	0.050	0.001	0.200	0.138	0.001	0.023	10.158
% R.S.D.	686.120	53.615	306.951	0.982	0.680	14.286	69.457	0.901

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.183	-0.052	-0.004	-0.076	-0.002	0.002	0.061	20.869
S.D.	0.008	0.045	0.005	0.096	0.004	0.003	0.005	0.207
% R.S.D.	4.403	86.312	102.329	125.987	176.518	215.854	8.249	0.992

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.003	-0.061	0.011	0.001	-0.101
S.D.	0.000	0.133	0.004	0.001	0.179
% R.S.D.	1.159	217.352	31.698	42.892	177.621

Identity 1: S95T003813_D Identity 2: 1mL-4ml 10:40 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.009	0.003	-0.007	0.466	147.778	0.005	-0.002	0.001
S.D.	0.004	0.000	0.020	0.005	0.105	0.008	0.001	0.001
% R.S.D.	46.156	0.000	276.791	1.121	0.071	172.438	32.828	51.322

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.004	0.024	-0.009	-0.010	0.035	1.239	-0.017	-0.040
S.D.	0.001	0.014	0.004	0.007	0.001	0.013	0.025	0.104
% R.S.D.	33.435	57.496	43.509	71.474	1.469	1.032	144.429	260.382

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.093	0.051	0.002	20.758	20.776	0.007	0.034	1165.625
S.D.	0.006	0.021	0.001	0.199	0.119	0.000	0.002	1.914
% R.S.D.	6.031	41.235	31.926	0.959	0.572	6.186	4.491	0.164

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	0.172	-0.153	0.002	-0.006	-0.002	0.001	0.059	19.592
S.D.	0.006	0.018	0.004	0.022	0.002	0.003	0.002	0.155
% R.S.D.	3.326	11.999	170.006	393.299	94.464	345.729	3.687	0.791

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	-0.004	-0.116	0.021	0.000	-0.225
S.D.	0.000	0.102	0.001	0.001	0.027
% R.S.D.	0.297	88.363	3.639	204.803	11.886

Identity 1: S95T003813_A Identity 2: 1ml-1ml-3ml 10:43 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 5.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	5.023	5.040	5.129	5.561	164.670	5.168	5.086	4.882
S.D.	0.005	0.004	0.026	0.005	0.287	0.033	0.005	0.014
% R.S.D.	0.107	0.088	0.505	0.088	0.174	0.631	0.107	0.292

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.225	5.159	5.103	5.130	4.958	6.513	5.048	10.265
S.D.	0.011	0.026	0.024	0.046	0.004	0.016	0.050	0.043
% R.S.D.	0.203	0.496	0.478	0.902	0.075	0.253	0.993	0.420

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.006	5.159	5.032	25.790	25.809	4.909	5.169	1135.806
S.D.	0.019	0.026	0.004	0.169	0.053	0.007	0.029	2.491
% R.S.D.	0.385	0.495	0.070	0.654	0.206	0.138	0.570	0.219

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.320	5.285	2.826	5.107	5.000	5.106	5.180	26.192
S.D.	0.014	0.044	0.018	0.089	0.006	0.016	0.012	0.039
% R.S.D.	0.259	0.824	0.622	1.735	0.118	0.316	0.237	0.149

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.148	4.898	5.201	5.190	4.765
S.D.	0.017	0.063	0.008	0.005	0.040
% R.S.D.	0.326	1.294	0.161	0.099	0.830

Identity 1: CSA Identity 2: Quality Control 10:46 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.004	0.002	-0.019	0.008	199.230	-0.004	-0.001	-0.000
S.D.	0.000	0.000	0.007	0.001	0.294	0.002	0.000	0.000
% R.S.D.	11.334	5.329	36.974	11.538	0.148	42.468	50.868	40.123

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	-0.006	0.008	0.004	97.856	105.128	0.002	-0.017	0.118
S.D.	0.000	0.001	0.002	0.051	0.104	0.001	0.007	0.039
% R.S.D.	7.686	10.244	51.468	0.052	0.099	68.495	42.605	32.954

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	-0.007	0.051	0.003	0.016	-0.017	102.221	0.030	187.407
S.D.	0.013	0.009	0.000	0.006	0.007	0.212	0.002	0.496
% R.S.D.	178.972	17.937	8.171	39.221	38.711	0.208	6.661	0.265

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.003	-0.026	0.000	-0.028	0.001	-0.002	0.014	0.006
S.D.	0.001	0.009	0.001	0.007	0.001	0.000	0.001	0.004
% R.S.D.	21.653	33.914	4353.850	24.522	50.824	22.437	6.191	65.435

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	-0.031	-0.002	0.002	-0.036
S.D.	0.001	0.005	0.001	0.000	0.018
% R.S.D.	47.284	16.644	52.804	16.382	48.359

Identity 1: ICSAB Identity 2: Quality Control 10:49 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	-0.004	0.002	-0.023	-0.007	198.698	0.498	0.507	0.953
S.D.	0.002	0.000	0.004	0.004	0.603	0.003	0.002	0.008
% R.S.D.	47.152	5.660	19.032	58.377	0.303	0.568	0.453	0.799

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	1.004	0.987	0.003	97.626	104.518	0.510	0.005	-0.025
S.D.	0.001	0.003	0.001	0.316	0.376	0.002	0.015	0.060
% R.S.D.	0.127	0.284	28.654	0.324	0.360	0.398	301.999	237.213

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.024	0.030	0.514	0.029	-0.022	101.707	0.022	195.226
S.D.	0.013	0.012	0.003	0.014	0.009	0.071	0.006	1.307
% R.S.D.	52.327	38.548	0.516	48.626	42.236	0.070	27.712	0.670

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.001	-0.018	1.026	1.007	0.000	1.006	0.014	0.012
S.D.	0.001	0.011	0.001	0.018	0.001	0.006	0.001	0.022
% R.S.D.	90.407	61.644	0.142	1.811	454.120	0.616	6.800	175.728

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.507	0.052	0.504	0.509	0.046
S.D.	0.001	0.024	0.001	0.000	0.033
% R.S.D.	0.274	46.857	0.209	0.074	71.905

Identity 1: CCV Identity 2: Quality Control 10:52 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	4.970	4.973	5.003	4.713	5.051	5.073	5.072	5.037
S.D.	0.010	0.013	0.015	0.012	0.046	0.014	0.011	0.031
% R.S.D.	0.200	0.259	0.295	0.252	0.902	0.278	0.217	0.625

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	5.152	5.059	5.056	5.188	5.054	5.092	5.212	9.847
S.D.	0.009	0.008	0.009	0.017	0.019	0.014	0.047	0.025
% R.S.D.	0.166	0.167	0.178	0.326	0.371	0.271	0.906	0.252

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	5.018	5.048	4.993	4.944	4.936	4.948	5.089	5.112
S.D.	0.023	0.011	0.012	0.012	0.018	0.022	0.014	0.036
% R.S.D.	0.449	0.219	0.242	0.234	0.369	0.446	0.273	0.701

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	5.032	5.000	4.993	5.131	4.921	5.069	5.141	5.183
S.D.	0.016	0.029	0.011	0.031	0.011	0.012	0.011	0.037
% R.S.D.	0.319	0.576	0.222	0.600	0.230	0.236	0.220	0.715

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	5.078	4.707	5.122	5.197	4.874
S.D.	0.009	0.042	0.009	0.009	0.010
% R.S.D.	0.170	0.882	0.182	0.176	0.209

Identity 1: CCB Identity 2: Quality Control 10:55 AM April 3, 1996
Task name : OPTIMA
Sample Weight : 1.0000 Solution Volume : 1.00
On-Peak Integrations : 3 Off-Peak Integrations : 1

	Zr (ppm)	Sr (ppm)	Bi (ppm)	Si (ppm)	Al (ppm)	Co (ppm)	Cu (ppm)	Li (ppm)
Mean	0.003	0.001	0.002	0.003	0.028	0.002	0.000	0.001
S.D.	0.001	0.000	0.017	0.001	0.029	0.004	0.001	0.000
% R.S.D.	20.868	28.799	1053.455	24.675	100.416	230.475	416.433	35.153

	Zn (ppm)	Ni (ppm)	La (ppm)	Fe (ppm)	Ca (ppm)	Cr (ppm)	Nd (ppm)	U (ppm)
Mean	0.002	0.001	0.000	0.023	0.018	0.004	0.003	0.073
S.D.	0.001	0.001	0.001	0.013	0.012	0.001	0.006	0.033
% R.S.D.	40.782	138.604	277.317	59.080	65.520	23.059	242.004	45.073

	Ce (ppm)	Sm (ppm)	Ba (ppm)	P (ppm)	S (ppm)	Mg (ppm)	As (ppm)	Na (ppm)
Mean	0.011	0.021	0.001	-0.003	-0.001	0.018	-0.008	0.052
S.D.	0.002	0.006	0.000	0.001	0.002	0.012	0.005	0.031
% R.S.D.	20.123	26.946	19.933	32.911	135.700	63.798	67.734	59.900

	Mo (ppm)	Se (ppm)	Ag (ppm)	Pb (ppm)	Ti (ppm)	Cd (ppm)	B (ppm)	K (ppm)
Mean	-0.000	-0.048	0.000	-0.026	0.002	0.001	0.008	0.134
S.D.	0.002	0.003	0.000	0.003	0.000	0.001	0.001	0.006
% R.S.D.	870.099	6.877	5181.853	9.775	23.042	131.481	11.648	4.809

	Mn (ppm)	Sb (ppm)	V (ppm)	Be (ppm)	Tl (ppm)
Mean	0.001	-0.012	0.000	0.001	-0.030
S.D.	0.001	0.022	0.000	0.000	0.013
% R.S.D.	68.224	181.267	110.449	53.555	44.093

LABCORE Data Entry Template for Worklist# 4876

Analyst: KRM **Instrument:** CARB2 **Book #** 16N12C

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: TOC-02 BY-104 KRM WHC-SD-WM-DP-164, REV. 1

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOC-02	LIQUID	1	0.1	N/A	ug/mL
		2	STD				TOC-02	LIQUID	3.00E3	2.93E3	N/A	ug/mL
95000200	BY104 ROTARY	3	SAMPLE	S95T003761	0		TOC-02	LIQUID	N/A	2.20E3	400	ug/mL
95000200	BY104 ROTARY	4	DUP	S95T003761	0		TOC-02	LIQUID	2.20E3	2.41E3	N/A	ug/mL
95000200	BY104 ROTARY	5	SPK	S95T003761	0		TOC-02	LIQUID	100	102	N/A	ug/mL
95000200	BY104 ROTARY	6	SAMPLE	S95T003775	0		TOC-02	LIQUID	N/A	2.42E3	40.0	ug/mL
95000200	BY104 ROTARY	7	DUP	S95T003775	0		TOC-02	LIQUID	2.42E3	2.46E3	N/A	ug/mL

Final page for worklist # 4876

1-14-96 11:00
Analyst Signature **Date**

1-14-96
Analyst Signature **Date**

Reviewed RW Schroeder 1/15/96

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.

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

WHC-SD-WM-DP-164, REV. I

Sample: BLK Date: 01/14/96 Time: 06:35:02

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.51	1.00	50.00
4	2.00	1.40	28.57
5	2.50	1.90	26.32
6	3.00	2.10	9.52
7	3.50	2.40	12.50
8	4.00	2.80	14.29
9	4.50	3.00	6.67
10	5.00	3.30	9.09
11	5.50	3.60	8.33
12	6.00	3.80	5.26
13	6.50	4.10	7.32
14	7.00	4.50	8.89
15	7.50	4.70	4.26
16	8.00	5.00	6.00
17	8.50	5.20	3.85
18	9.00	5.50	5.45
19	9.50	5.80	5.17
20	10.00	6.00	3.33
21	10.50	6.30	4.76
22	11.00	6.70	5.97

BLANK VALUE = 6.7 micrograms carbon
BLANK FACTOR = 6.7 / 11.0015 = +6.1E-01 ug/min Carbon

Sample Run By: KR MONTEITH 1-14-96 00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1064 TO 1077.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-DP-164, REV. 1
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 01/14/96 Time: 06:47:12

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	2.80	92.86
3	1.51	9.60	70.83
4	2.00	14.40	33.33
5	2.50	16.70	13.77
6	3.00	18.20	8.24
7	3.50	19.50	6.67
8	4.00	20.40	4.41
9	4.50	21.30	4.23
10	5.00	21.90	2.74
11	5.50	22.40	2.23
12	6.00	22.80	1.75
13	6.50	23.50	2.98
14	7.00	23.90	1.67
15	7.50	24.30	1.65
16	8.00	24.60	1.22
17	8.50	25.00	1.60
18	9.00	25.40	1.57
19	9.50	25.80	1.55
20	10.00	26.00	0.77
21	10.50	26.30	1.14
22	11.00	26.70	1.50

BLANK VALUE = 26.7 micrograms carbon
BLANK FACTOR = 26.7 / 10.99884 = +2.43E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/14/96 Time: 07:04:39

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.00	23.70	98.73
3	1.50	138.20	82.85
4	2.00	281.10	50.84
5	2.50	401.50	29.99
6	3.00	484.10	17.06
7	3.50	539.50	10.27
8	4.00	575.50	6.26
9	4.50	594.70	3.23
10	5.00	601.90	1.20
11	5.50	605.00	0.51
12	6.00	606.50	0.25
13	6.50	607.30	0.13
14	7.00	607.80	0.08
15	7.50	608.20	0.07
16	8.00	608.50	0.05
17	8.50	608.80	0.05
18	9.00	609.10	0.05
19	9.50	609.50	0.07
20	10.00	609.80	0.05
21	10.50	610.00	0.03
22	11.00	610.40	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(610.4 - 6.710298)(1)/(1000) = +6.037E-01 g/L Carbon
(610.4 - 6.710298)(1)/(1000)(12) = +5.031E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

PP

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/14/96 Time: 07:16:44

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	30.60	99.35
3	1.51	182.10	83.20
4	2.00	403.50	54.87
5	2.50	521.10	22.57
6	3.00	570.80	8.71
7	3.50	595.30	4.12
8	4.00	602.20	1.15
9	4.50	604.70	0.41
10	5.00	605.90	0.20
11	5.50	606.80	0.15
12	6.00	607.70	0.15
13	6.50	608.30	0.10
14	7.00	608.90	0.10
15	7.50	609.50	0.10
16	8.00	609.90	0.07
17	8.50	610.40	0.08
18	9.00	610.90	0.08
19	9.50	611.30	0.07
20	10.00	611.60	0.05
21	10.50	612.00	0.07
22	11.00	612.40	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(612.4 - 26.72919)(1)/(200) = +2.928E+00 g/L Carbon
(612.4 - 26.72919)(1)/(200)(12) = +2.440E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/14/96 Time: 07:32:36

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.50	1.00	40.00
4	2.01	1.60	37.50
5	2.51	2.00	20.00
6	3.00	2.40	16.67
7	3.50	2.70	11.11
8	4.00	2.90	6.90
9	4.50	3.20	9.37
10	5.00	3.40	5.88
11	5.50	3.80	10.53
12	6.00	4.10	7.32
13	6.50	4.30	4.65
14	7.00	4.60	6.52
15	7.50	4.80	4.17
16	8.00	5.10	5.88
17	8.50	5.40	5.56
18	9.00	5.70	5.26
19	9.50	5.90	3.39
20	10.00	6.20	4.84
21	10.50	6.40	3.13
22	11.00	6.70	4.48

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(6.7 - 6.709795)(1)/(1) = < 5.00 E-3 g/L Carbon
(6.7 - 6.709795)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/14/96 Time: 07:44:31

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.20	83.33
3	1.51	6.30	80.95
4	2.00	12.30	48.78
5	2.50	16.10	23.60
6	3.00	18.40	12.50
7	3.50	19.60	6.12
8	4.00	20.50	4.39
9	4.50	21.10	2.84
10	5.00	21.60	2.31
11	5.50	22.20	2.70
12	6.00	22.70	2.20
13	6.50	23.40	2.99
14	7.00	23.70	1.27
15	7.50	24.10	1.66
16	8.00	24.50	1.63
17	8.50	24.90	1.61
18	9.00	25.30	1.58
19	9.50	25.60	1.17
20	10.00	25.90	1.16
21	10.50	26.20	1.15
22	11.00	26.60	1.50

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(26.6 - 26.73171)(1)/(1) = < 5.00 E-3 g/L Carbon
(26.6 - 26.73171)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3761 Date: 01/14/96 Time: 08:00:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.30	76.92
3	1.51	5.00	74.00
4	2.00	23.00	78.26
5	2.50	53.80	57.25
6	3.00	83.50	35.57
7	3.50	106.40	21.52
8	4.00	125.20	15.02
9	4.50	143.20	12.57
10	5.00	169.00	15.27
11	5.50	196.50	13.99
12	6.00	218.80	10.19
13	6.50	235.90	7.25
14	7.00	249.40	5.41
15	7.50	260.00	4.08
16	8.00	268.60	3.20
17	8.50	275.90	2.65
18	9.00	281.80	2.09
19	9.50	286.50	1.64
20	10.00	291.00	1.55
21	10.50	294.60	1.22
22	11.00	297.40	0.94

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(297.4 - 6.709795)(1)/(1) = +2.907E+02 g/L Carbon
(297.4 - 6.709795)(1)/(1)(12) = +2.422E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3761 Date: 01/14/96 Time: 09:18:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.80	0.00
2	1.01	6.70	73.13
3	1.51	36.50	81.64
4	2.00	114.90	68.23
5	2.50	177.60	35.30
6	3.00	207.50	14.41
7	3.50	220.00	5.68
8	4.00	225.50	2.44
9	4.50	228.80	1.44
10	5.00	231.20	1.04
11	5.50	233.40	0.94
12	6.00	235.60	0.93
13	6.50	237.40	0.76
14	7.00	238.90	0.63
15	7.50	240.20	0.54
16	8.00	241.20	0.41
17	8.50	242.30	0.45
18	9.00	243.10	0.33
19	9.50	244.10	0.41
20	10.00	245.00	0.37
21	10.50	245.70	0.28
22	11.00	246.30	0.24

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(246.3 - 26.72726)(1)/(1) = +2.196E+02 g/L Carbon
(246.3 - 26.72726)(1)/(1)(12) = +1.830E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

$\frac{219.6}{.1\,mL} = 2.20E^{3}$

1071

PP

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3761 Date: 01/14/96 Time: 09:33:46

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	1.20	100.00
3	1.50	5.30	77.36
4	2.00	22.50	76.44
5	2.50	48.60	53.70
6	3.01	74.30	34.59
7	3.51	97.20	23.56
8	4.00	117.90	17.56
9	4.50	142.90	17.49
10	5.00	176.60	19.08
11	5.50	213.60	17.32
12	6.00	243.20	12.17
13	6.50	266.00	8.57
14	7.00	283.70	6.24
15	7.50	297.70	4.70
16	8.00	308.80	3.59
17	8.50	317.80	2.83
18	9.00	324.80	2.16
19	9.50	330.40	1.69
20	10.00	335.50	1.52
21	10.50	339.70	1.24
22	11.00	343.30	1.05

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(343.3 - 6.710931)(1)/(1) = +3.366E+02 g/L Carbon
(343.3 - 6.710931)(1)/(1)(12) = +2.805E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-DP-164, REV. 1

Sample: 3761 Date: 01/14/96 Time: 09:45:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.20	0.00
2	1.01	9.60	66.67
3	1.51	38.80	75.26
4	2.00	120.70	67.85
5	2.50	188.50	35.97
6	3.00	222.20	15.17
7	3.50	236.80	6.17
8	4.00	243.00	2.55
9	4.50	247.10	1.66
10	5.00	249.80	1.08
11	5.50	252.60	1.11
12	6.00	254.40	0.71
13	6.50	256.20	0.70
14	7.00	258.10	0.74
15	7.50	259.50	0.54
16	8.00	260.90	0.54
17	8.50	262.20	0.50
18	9.00	263.30	0.42
19	9.50	264.40	0.42
20	10.00	265.30	0.34
21	10.50	266.30	0.38
22	11.00	267.50	0.45

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(267.5 - 26.7297)(1)/(1) = +2.408E+02 g/L Carbon
(267.5 - 26.7297)(1)/(1)(12) = +2.006E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

1073

$\frac{240.8}{.1} = 2.4 \times 10^3$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV. 1

Sample: 3761 + SPK Date: 01/14/96 Time: 09:57:39

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	2.50	64.00
3	1.51	14.20	82.39
4	2.00	53.80	73.61
5	2.50	105.20	48.86
6	3.00	147.80	28.82
7	3.50	179.90	17.84
8	4.00	207.40	13.26
9	4.50	231.30	10.33
10	5.00	252.00	8.21
11	5.50	269.60	6.53
12	6.00	284.20	5.14
13	6.50	296.10	4.02
14	7.00	306.00	3.24
15	7.50	314.10	2.58
16	8.00	321.00	2.15
17	8.50	326.60	1.71
18	9.00	331.30	1.42
19	9.50	335.70	1.31
20	10.00	339.20	1.03
21	10.50	342.20	0.88
22	11.00	344.80	0.75

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(344.8 - 6.710372)(1)/(1) = +3.381E+02 g/L Carbon
(344.8 - 6.710372)(1)/(1)(12) = +2.817E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3761 + SPK Date: 01/14/96 Time: 10:09:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.90	0.00
2	1.01	11.20	74.11
3	1.51	57.50	80.52
4	2.01	203.80	71.79
5	2.51	385.60	47.15
6	3.01	467.70	17.55
7	3.51	508.30	7.99
8	4.01	528.10	3.75
9	4.50	535.00	1.29
10	5.00	538.90	0.72
11	5.50	542.00	0.57
12	6.00	544.50	0.46
13	6.50	546.50	0.37
14	7.00	548.30	0.33
15	7.50	550.00	0.31
16	8.00	551.30	0.24
17	8.50	553.00	0.31
18	9.00	554.20	0.22
19	9.50	555.60	0.25
20	10.00	556.90	0.23
21	10.50	558.40	0.27
22	11.00	559.60	0.21

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(559.6 - 26.73148)(1)/(1) = +5.329E+02 g/L Carbon
(559.6 - 26.73148)(1)/(1)(12) = +4.441E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

559.6

$\left[\left(\frac{246.3}{.1}\right)(.1) + 300\right]$ = 102% REC

1075

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3775 Date: 01/14/96 Time: 10:22:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	3.30	54.55
3	1.51	7.50	56.00
4	2.00	24.40	69.26
5	2.50	53.50	54.39
6	3.00	81.30	34.19
7	3.50	103.80	21.68
8	4.00	122.40	15.20
9	4.50	138.80	11.82
10	5.00	153.80	9.75
11	5.50	170.80	9.95
12	6.00	204.60	16.52
13	6.50	238.20	14.11
14	7.00	264.50	9.94
15	7.50	285.60	7.39
16	8.00	302.50	5.59
17	8.50	316.20	4.33
18	9.00	327.30	3.39
19	9.50	336.40	2.71
20	10.00	343.60	2.10
21	10.50	349.80	1.77
22	11.00	355.00	1.46

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(355 - 6.709293)(1)/(1) = +3.483E+02 g/L Carbon
(355 - 6.709293)(1)/(1)(12) = +2.902E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3775 Date: 01/14/96 Time: 10:34:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.40	0.00
2	1.01	11.20	60.71
3	1.50	43.40	74.19
4	2.00	122.00	64.43
5	2.50	187.00	34.76
6	3.00	220.70	15.27
7	3.50	234.90	6.05
8	4.00	241.20	2.61
9	4.50	245.30	1.67
10	5.00	248.40	1.25
11	5.50	250.90	1.00
12	6.00	252.90	0.79
13	6.50	255.10	0.86
14	7.00	256.90	0.70
15	7.50	258.50	0.62
16	8.00	260.50	0.77
17	8.50	261.80	0.50
18	9.00	263.40	0.61
19	9.50	264.80	0.53
20	10.00	266.20	0.53
21	10.50	267.40	0.45
22	11.00	268.90	0.56

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(268.9 - 26.72718)(1)/(1) = +2.422E+02 g/L Carbon
(268.9 - 26.72718)(1)/(1)(12) = +2.018E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

$\frac{242.2}{.1} = 2.42E^3$

1077

P

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3775 Date: 01/14/96 Time: 10:49:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .61 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.60	0.00
2	1.01	3.60	55.56
3	1.51	7.30	50.68
4	2.00	23.00	68.26
5	2.50	49.20	53.25
6	3.00	75.60	34.92
7	3.50	99.30	23.87
8	4.00	121.10	18.00
9	4.50	140.40	13.75
10	5.00	164.90	14.86
11	5.50	200.00	17.55
12	6.00	232.50	13.98
13	6.50	259.50	10.40
14	7.00	282.60	8.17
15	7.50	302.00	6.42
16	8.00	317.70	4.94
17	8.50	331.20	4.08
18	9.00	342.30	3.24
19	9.50	351.50	2.62
20	10.00	359.60	2.25
21	10.50	366.30	1.83
22	11.00	371.60	1.43

USER INPUT BLANK VALUE
BLANK VALUE = 6.709293 micrograms carbon
BLANK FACTOR = 6.709293 / 10.99884 = +6.1E-01 ug/min Carbon

SAMPLE RESULTS:
(371.6 - 6.709814)(1)/(1) = +3.649E+02 g/L Carbon
(371.6 - 6.709814)(1)/(1)(12) = +3.041E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV. 1

Sample: 3775 Date: 01/14/96 Time: 11:01:31

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.43 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.10	0.00
2	1.01	10.70	61.68
3	1.51	42.00	74.52
4	2.01	120.90	65.26
5	2.51	185.60	34.86
6	3.01	220.30	15.75
7	3.51	235.90	6.61
8	4.01	242.40	2.68
9	4.51	246.40	1.62
10	5.01	249.30	1.16
11	5.51	252.60	1.31
12	6.00	255.30	1.06
13	6.50	257.50	0.85
14	7.00	259.80	0.89
15	7.50	261.80	0.76
16	8.00	263.60	0.68
17	8.50	265.10	0.57
18	9.00	266.80	0.64
19	9.50	268.20	0.52
20	10.00	269.50	0.48
21	10.50	270.90	0.52
22	11.00	272.20	0.48

USER INPUT BLANK VALUE
BLANK VALUE = 26.72718 micrograms carbon
BLANK FACTOR = 26.72718 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(272.2 - 26.73415)(1)/(1) = +2.455E+02 g/L Carbon
(272.2 - 26.73415)(1)/(1)(12) = +2.046E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

$\frac{245.5}{.1} = 2.46E^3$

LABCORE Data Entry Template for Worklist# 5192

Analyst: KRM **Instrument:** CARB2 **Book #** 16N 12C

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: TOC-02 BY-104, BY-106 KRM WHC-SD-WM-DP-164, REV. 1

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOC-02	LIQUID	1	3.2	N/A	ug/mL
		2	STD				TOC-02	LIQUID	3.00a[3]	2.94a[3]	N/A	ug/mL
95000180	BY104 ROTARY	3	SAMPLE	S95T003713	0		TOC-02	LIQUID	N/A	<40	40	ug/mL
95000180	BY104 ROTARY	4	DUP	S95T003713	0		TOC-02	LIQUID	<40	<40	N/A	ug/mL
95000180	BY104 ROTARY	5	SPK	S95T003713	0		TOC-02	LIQUID	100	94.1	N/A	ug/mL
95000229	BY-106	6	SAMPLE	S96T000279	0		TOC-02	LIQUID	N/A	<40	40	ug/mL
95000229	BY-106	7	DUP	S96T000279	0		TOC-02	LIQUID	<40	<40	N/A	ug/mL
95000229	BY-106	8	SPK	S96T000279	0		TOC-02	LIQUID	100	90.6	N/A	ug/mL

Final page for worklist # 5192

Analyst Signature Date 1-25-96

Analyst Signature Date 1/29/96

Reviewed RW Schroeder 2/1/96

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.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>> WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/25/96 Time: 06:28:29

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.60	66.67
3	1.51	1.00	40.00
4	2.00	1.40	28.57
5	2.50	1.80	22.22
6	3.00	2.10	14.29
7	3.50	2.40	12.50
8	4.00	2.60	7.69
9	4.50	2.90	10.34
10	5.00	3.10	6.45
11	5.50	3.40	8.82
12	6.00	3.60	5.56
13	6.50	3.80	5.26
14	7.00	4.10	7.32
15	7.50	4.30	4.65
16	8.00	4.50	4.44
17	8.50	4.80	6.25
18	9.00	5.00	4.00
19	9.50	5.20	3.85
20	10.00	5.50	5.45
21	10.50	5.70	3.51
22	11.00	5.90	3.39

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1081 TO 1111.

BLANK VALUE = 5.9 micrograms carbon
BLANK FACTOR = 5.9 / 10.99985 = +5.4E-01 ug/min Carbon

Sample Run By: 1-25-96
KR MONTEITH 00000

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

WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/25/96 Time: 06:44:46

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	4.40	86.36
3	1.51	9.00	51.11
4	2.00	12.30	26.83
5	2.50	13.70	10.22
6	3.00	14.60	6.16
7	3.50	15.20	3.95
8	4.00	15.70	3.18
9	4.50	16.40	4.27
10	5.00	16.90	2.96
11	5.50	17.30	2.31
12	6.00	17.90	3.35
13	6.50	18.20	1.65
14	7.00	18.70	2.67
15	7.50	19.00	1.58
16	8.00	19.40	2.06
17	8.50	19.70	1.52
18	9.00	20.00	1.50
19	9.50	20.30	1.48
20	10.00	20.60	1.46
21	10.50	20.90	1.44
22	11.00	21.10	0.95

BLANK VALUE = 21.1 micrograms carbon
BLANK FACTOR = 21.1 / 11.0015 = +1.92E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/25/96 Time: 07:05:52

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.00	98.80	99.90
3	1.50	281.90	64.95
4	2.00	414.70	32.02
5	2.50	499.50	16.98
6	3.00	546.60	8.62
7	3.50	571.10	4.29
8	4.00	582.60	1.97
9	4.50	587.90	0.90
10	5.00	590.20	0.39
11	5.50	591.10	0.15
12	6.00	591.80	0.12
13	6.50	592.20	0.07
14	7.00	592.60	0.07
15	7.50	592.90	0.05
16	8.00	593.20	0.05
17	8.50	593.60	0.07
18	9.00	593.80	0.03
19	9.50	594.10	0.05
20	10.00	594.40	0.05
21	10.50	594.60	0.03
22	11.00	594.90	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(594.9 - 5.939901)(1)/(1000) = +5.890E-01 g/L Carbon
(594.9 - 5.939901)(1)/(1000)(12) = +4.908E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/25/96 Time: 07:18:26

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	84.50	99.05
3	1.50	291.00	70.96
4	2.01	482.20	39.65
5	2.51	565.20	14.69
6	3.00	590.80	4.33
7	3.50	598.40	1.27
8	4.00	601.10	0.45
9	4.50	602.50	0.23
10	5.00	603.30	0.13
11	5.50	604.00	0.12
12	6.00	604.60	0.10
13	6.50	605.20	0.10
14	7.00	605.50	0.05
15	7.50	606.00	0.08
16	8.00	606.30	0.05
17	8.50	606.70	0.07
18	9.00	607.00	0.05
19	9.50	607.40	0.07
20	10.00	607.70	0.05
21	10.50	607.90	0.03
22	11.00	608.20	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(608.2 - 21.12129)(1)/(200) = +2.935E+00 g/L Carbon
(608.2 - 21.12129)(1)/(200)(12) = +2.446E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/25/96 Time: 07:30:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.30	100.00
3	1.50	3.50	34.29
4	2.00	4.10	14.63
5	2.50	4.50	8.89
6	3.00	4.90	8.16
7	3.50	5.10	3.92
8	4.00	5.30	3.77
9	4.50	5.50	3.64
10	5.00	5.70	3.51
11	5.50	5.90	3.39
12	6.00	6.10	3.28
13	6.50	6.30	3.17
14	7.00	6.50	3.08
15	7.50	6.70	2.99
16	8.00	6.90	2.90
17	8.50	7.10	2.82
18	9.00	7.30	2.74
19	9.50	7.50	2.67
20	10.00	7.70	2.60
21	10.50	7.90	2.53
22	11.00	8.10	2.47

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(8.1 - 5.940808)(1)/(1) = +2.2E+00 g/L Carbon
(8.1 - 5.940808)(1)/(1)(12) = +1.8E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/25/96 Time: 07:42:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	2.30	86.96
3	1.50	6.20	62.90
4	2.00	9.60	35.42
5	2.50	11.50	16.52
6	3.00	12.50	8.00
7	3.50	13.00	3.85
8	4.00	13.40	2.99
9	4.50	14.00	4.29
10	5.00	14.40	2.78
11	5.50	14.70	2.04
12	6.00	15.10	2.65
13	6.50	15.40	1.95
14	7.00	15.90	3.14
15	7.50	16.10	1.24
16	8.00	16.40	1.83
17	8.50	16.70	1.80
18	9.00	16.90	1.18
19	9.50	17.10	1.17
20	10.00	17.40	1.72
21	10.50	17.60	1.14
22	11.00	17.90	1.68

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(17.9 - 21.11971)(1)/(1) = < 5.00 E-3 g/L Carbon
(17.9 - 21.11971)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3713 Date: 01/25/96 Time: 07:55:56

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	2.30	91.30
3	1.50	4.40	47.73
4	2.00	5.20	15.38
5	2.50	5.90	11.86
6	3.00	6.30	6.35
7	3.50	6.60	4.55
8	4.00	6.90	4.35
9	4.50	7.20	4.17
10	5.00	7.30	1.37
11	5.50	7.50	2.67
12	6.00	7.70	2.60
13	6.50	7.90	2.53
14	7.00	8.10	2.47
15	7.50	8.20	1.22
16	8.00	8.50	3.53
17	8.50	8.70	2.30
18	9.00	8.80	1.14
19	9.50	9.00	2.22
20	10.00	9.20	2.17
21	10.50	9.40	2.13
22	11.00	9.60	2.08

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(9.6 - 5.94089)(1)/(1) = +3.7E+00 g/L Carbon
(9.6 - 5.94089)(1)/(1)(12) = +3.0E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3713 Date: 01/25/96 Time: 09:37:00

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.00	1.70	88.24
3	1.50	6.00	71.67
4	2.00	9.90	39.39
5	2.50	12.20	18.85
6	3.00	13.30	8.27
7	3.50	14.00	5.00
8	4.00	14.50	3.45
9	4.50	14.90	2.68
10	5.00	15.20	1.97
11	5.50	15.50	1.94
12	6.00	15.80	1.90
13	6.50	16.00	1.25
14	7.00	16.40	2.44
15	7.50	16.60	1.20
16	8.00	16.80	1.19
17	8.50	17.10	1.75
18	9.00	17.30	1.16
19	9.50	17.60	1.70
20	10.00	17.70	0.56
21	10.50	18.00	1.67
22	11.00	18.20	1.10

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(18.2 - 21.1193)(1)/(1) = < 5.00 E-3 g/L Carbon
(18.2 - 21.1193)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

L 40

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3713 Date: 01/25/96 Time: 09:55:53

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.40	100.00
3	1.50	3.90	38.46
4	2.00	4.90	20.41
5	2.50	5.50	10.91
6	3.00	6.00	8.33
7	3.50	6.20	3.23
8	4.00	6.50	4.62
9	4.50	6.70	2.99
10	5.00	6.80	1.47
11	5.50	7.00	2.86
12	6.00	7.20	2.78
13	6.50	7.40	2.70
14	7.00	7.50	1.33
15	7.50	7.70	2.60
16	8.00	7.90	2.53
17	8.50	8.00	1.25
18	9.00	8.20	2.44
19	9.50	8.30	1.20
20	10.00	8.50	2.35
21	10.50	8.70	2.30
22	11.00	8.90	2.25

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(8.9 - 5.94033)(1)/(1) = +3.0E+00 g/L Carbon
(8.9 - 5.94033)(1)/(1)(12) = +2.5E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3713 Date: 01/25/96 Time: 10:08:55

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	3.90	92.31
3	1.50	10.20	61.76
4	2.00	14.50	29.66
5	2.50	16.40	11.59
6	3.00	17.40	5.75
7	3.50	18.10	3.87
8	4.00	18.60	2.69
9	4.50	19.00	2.11
10	5.00	19.40	2.06
11	5.50	19.70	1.52
12	6.00	20.00	1.50
13	6.50	20.30	1.48
14	7.00	20.50	0.98
15	7.50	20.80	1.44
16	8.00	21.00	0.95
17	8.50	21.20	0.94
18	9.00	21.40	0.93
19	9.50	21.60	0.93
20	10.00	21.80	0.92
21	10.50	22.10	1.36
22	11.00	22.30	0.90

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(22.3 - 21.1159)(1)/(1) = +1.18E+00 g/L Carbon
(22.3 - 21.1159)(1)/(1)(12) = +9.87E-02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

< 40

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 3713 + SPK Date: 01/25/98 Time: 10:20:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	3.20	93.75
3	1.51	5.10	37.25
4	2.00	5.90	13.56
5	2.50	6.60	10.61
6	3.00	6.90	4.35
7	3.50	7.10	2.82
8	4.00	7.40	4.05
9	4.50	7.60	2.63
10	5.00	7.70	1.30
11	5.50	7.90	2.53
12	6.00	8.10	2.47
13	6.50	8.30	2.41
14	7.00	8.50	2.35
15	7.50	8.60	1.16
16	8.00	8.80	2.27
17	8.50	9.00	2.22
18	9.00	9.10	1.10
19	9.50	9.40	3.19
20	10.00	9.50	1.05
21	10.50	9.70	2.06
22	11.00	9.90	2.02

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(9.9 - 5.939901)(1)/(1) = +4.0E+00 g/L Carbon
(9.9 - 5.939901)(1)/(1)(12) = +3.3E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV. 1

Sample: 3713 + SPK Date: 01/25/96 Time: 10:32:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	15.10	100.00
3	1.51	106.20	85.78
4	2.00	217.20	51.10
5	2.50	270.70	19.76
6	3.00	287.30	5.78
7	3.50	292.20	1.68
8	4.01	294.10	0.65
9	4.50	295.10	0.34
10	5.00	295.80	0.24
11	5.50	296.30	0.17
12	6.00	296.80	0.17
13	6.50	297.10	0.10
14	7.00	297.50	0.13
15	7.50	297.90	0.13
16	8.00	298.10	0.07
17	8.50	298.40	0.10
18	9.00	298.60	0.07
19	9.50	298.90	0.10
20	10.00	299.10	0.07
21	10.50	299.30	0.07
22	11.00	299.50	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(299.5 - 21.12141)(1)/(1) = +2.784E+02 g/L Carbon
(299.5 - 21.12141)(1)/(1)(12) = +2.320E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

$\frac{299.5}{\left[\left(\frac{18.2}{.5}\right)(.5) + 300\right]}$ = 94.1% Rec

1092

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S96T279 Date: 01/25/96 Time: 14:02:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	1.60	100.00
3	1.50	3.90	58.97
4	2.00	4.60	15.22
5	2.50	5.20	11.54
6	3.00	5.50	5.45
7	3.50	5.80	5.17
8	4.00	5.90	1.69
9	4.50	6.20	4.84
10	5.00	6.20	0.00
11	5.50	6.40	3.13
12	6.00	6.60	3.03
13	6.50	6.70	1.49
14	7.00	6.90	2.90
15	7.50	7.00	1.43
16	8.00	7.10	1.41
17	8.50	7.30	2.74
18	9.00	7.50	2.67
19	9.50	7.60	1.32
20	10.00	7.80	2.56
21	10.50	7.90	1.27
22	11.00	8.00	1.25

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(8 - 5.939934)(1)/(1) = +2.1E+00 g/L Carbon
(8 - 5.939934)(1)/(1)(12) = +1.7E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV. 1

Sample: S96T279 Date: 01/25/96 Time: 14:22:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.90	88.89
3	1.51	4.80	81.25
4	2.00	9.20	47.83
5	2.50	12.00	23.33
6	3.00	13.30	9.77
7	3.50	14.00	5.00
8	4.00	14.60	4.11
9	4.50	14.80	1.35
10	5.00	15.20	2.63
11	5.50	15.50	1.94
12	6.00	15.80	1.90
13	6.50	16.00	1.25
14	7.00	16.30	1.84
15	7.50	16.50	1.21
16	8.00	16.70	1.20
17	8.50	16.90	1.18
18	9.00	17.10	1.17
19	9.50	17.20	0.58
20	10.00	17.40	1.15
21	10.50	17.70	1.69
22	11.00	17.80	0.56

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(17.8 - 21.11965)(1)/(1) = < 5.00 E-3 g/L Carbon
(17.8 - 21.11965)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

∠ 40

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. I

Sample: S96T279 Date: 01/25/96 Time: 14:36:15

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.20	100.00
3	1.51	3.70	40.54
4	2.00	4.50	17.78
5	2.51	4.90	8.16
6	3.00	5.20	5.77
7	3.50	5.50	5.45
8	4.00	5.70	3.51
9	4.50	5.80	1.72
10	5.00	6.00	3.33
11	5.50	6.10	1.64
12	6.00	6.30	3.17
13	6.50	6.40	1.56
14	7.00	6.50	1.54
15	7.50	6.70	2.99
16	8.00	6.80	1.47
17	8.50	6.90	1.45
18	9.00	7.10	2.82
19	9.50	7.20	1.39
20	10.00	7.40	2.70
21	10.50	7.50	1.33
22	11.00	7.70	2.60

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(7.7 - 5.940791)(1)/(1) = +1.8E+00 g/L Carbon
(7.7 - 5.940791)(1)/(1)(12) = +1.5E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S96T279 Date: 01/25/96 Time: 15:44:51

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C'

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	2.00	95.00
3	1.51	6.30	68.25
4	2.00	10.10	37.62
5	2.50	12.40	18.55
6	3.00	13.70	9.49
7	3.50	14.30	4.20
8	4.00	14.60	2.05
9	4.50	15.00	2.67
10	5.00	15.20	1.32
11	5.50	15.60	2.56
12	6.00	15.80	1.27
13	6.50	15.90	0.63
14	7.00	16.20	1.85
15	7.50	16.40	1.22
16	8.00	16.60	1.20
17	8.50	16.80	1.19
18	9.00	16.90	0.59
19	9.50	17.10	1.17
20	10.00	17.30	1.16
21	10.50	17.40	0.57
22	11.00	17.60	1.14

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(17.6 - 21.12129)(1)/(1) = < 5.00 E-3 g/L Carbon
(17.6 - 21.12129)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

L 40

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T279 + SPK Date: 01/25/96 Time: 15:59:28

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .54 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	1.80	100.00
3	1.51	3.40	47.06
4	2.00	4.30	20.93
5	2.50	4.90	12.24
6	3.00	5.20	5.77
7	3.50	5.50	5.45
8	4.00	5.50	0.00
9	4.50	5.70	3.51
10	5.00	5.90	3.39
11	5.50	6.00	1.67
12	6.00	6.20	3.23
13	6.50	6.30	1.59
14	7.00	6.50	3.08
15	7.50	6.60	1.52
16	8.00	6.80	2.94
17	8.50	6.90	1.45
18	9.00	7.00	1.43
19	9.50	7.20	2.78
20	10.00	7.40	2.70
21	10.50	7.50	1.33
22	11.00	7.60	1.32

USER INPUT BLANK VALUE
BLANK VALUE = 5.940808 micrograms carbon
BLANK FACTOR = 5.940808 / 11.0015 = +5.4E-01 ug/min Carbon

SAMPLE RESULTS:
(7.6 - 5.939341)(1)/(1) = +1.7E+00 g/L Carbon
(7.6 - 5.939341)(1)/(1)(12) = +1.4E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S96T279 Date: 01/25/96 Time: 16:11:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.92 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	35.20	100.00
3	1.51	264.20	86.68
4	2.01	769.40	65.66
5	2.50	1161.90	33.78
6	3.00	1301.20	10.71
7	3.50	1344.00	3.18
8	4.00	1356.90	0.95
9	4.50	1360.80	0.29
10	5.00	1362.50	0.12
11	5.50	1363.70	0.09
12	6.00	1364.60	0.07
13	6.50	1366.40	0.13
14	7.00	1368.70	0.17
15	7.50	1370.50	0.13
16	8.00	1371.50	0.07
17	8.50	1372.40	0.07
18	9.00	1373.10	0.05
19	9.50	1373.60	0.04
20	10.00	1374.00	0.03
21	10.50	1374.40	0.03
22	11.00	1374.80	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 21.12287 micrograms carbon
BLANK FACTOR = 21.12287 / 11.0015 = +1.9E+00 ug/min Carbon

SAMPLE RESULTS:
(1374.8 - 21.12129)(1)/(1) = +1.3537E+03 g/L Carbon
(1374.8 - 21.12129)(1)/(1)(12) = +1.1281E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

$$\frac{1374.8}{\left[\left(\frac{17.8}{.5}\right)(.5) + 1500\right]} = 90.6$$

1098

54-3000-101 (9-59)

DON'T SAY IT --- *Write It!*

DATE

TO ROB SCHROEDER

FROM KEN M

CN TEST # 2 BLKS

TIC 2.5

30 MIN - 2641.8 TOC 26.5

"TO MAKE LIFE LAST, PUT SAFETY FIRST"

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: CN TEST #2 Date: 01/23/96 Time: 15:50:58

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .23 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.90	100.00
3	1.50	20.40	85.78
4	2.00	40.70	49.88
5	2.50	55.80	27.06
6	3.00	64.50	13.49
7	3.50	68.50	5.84
8	4.00	70.70	3.11
9	4.50	71.60	1.26
10	5.00	72.30	0.97
11	5.50	72.90	0.82
12	6.00	73.30	0.55
13	6.50	73.80	0.68
14	7.00	74.40	0.81
15	7.50	74.80	0.53
16	8.00	75.20	0.53
17	8.50	75.90	0.92
18	9.00	76.40	0.65
19	9.50	76.90	0.65
20	10.00	77.50	0.77
21	10.50	77.90	0.51
22	11.00	78.40	0.64

USER INPUT BLANK VALUE
BLANK VALUE = 2.529733 micrograms carbon
BLANK FACTOR = 2.529733 / 10.99884 = +2.3E-01 ug/min Carbon

SAMPLE RESULTS:
(78.4 - 2.530154)(1)/(1) = +7.59E+01 g/L Carbon
(78.4 - 2.530154)(1)/(1)(12) = +6.32E+00 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: CN TEST #2 Date: 01/23/96 Time: 16:04:10

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	1.90	100.00
3	1.51	32.20	94.10
4	2.01	118.30	72.78
5	2.51	262.30	54.90
6	3.01	410.90	36.16
7	3.51	530.40	22.53
8	4.01	632.50	16.14
9	4.50	725.30	12.79
10	5.00	814.70	10.97
11	5.50	901.70	9.65
12	6.00	988.50	8.78
13	6.50	1076.20	8.15
14	7.00	1163.80	7.53
15	7.50	1250.70	6.95
16	8.00	1337.60	6.50
17	8.50	1422.80	5.99
18	9.00	1504.50	5.43
19	9.50	1581.40	4.86
20	10.00	1654.10	4.40
21	10.50	1722.00	3.94
22	11.00	1784.50	3.50

USER INPUT BLANK VALUE
BLANK VALUE = 26.50721 micrograms carbon
BLANK FACTOR = 26.50721 / 10.99884 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(1784.5 - 26.51368)(1)/(1) = +1.7580E+03 g/L Carbon
(1784.5 - 26.51368)(1)/(1)(12) = +1.4650E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>>
WHC-SD-WM-DP-164, REV. 1

Sample: TOTC BLK Date: 01/23/96 Time: 14:20:21

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	3.70	72.97
3	1.51	5.30	30.19
4	2.00	7.80	32.05
5	2.50	11.20	30.36
6	3.00	15.00	25.33
7	3.50	18.00	16.67
8	4.00	20.10	10.45
9	4.50	21.80	7.80
10	5.00	22.90	4.80
11	5.50	23.70	3.38
12	6.00	24.80	4.44
13	6.50	25.30	1.98
14	7.00	25.80	1.94
15	7.50	26.60	3.01
16	8.00	27.40	2.92
17	8.50	28.00	2.14
18	9.00	28.60	2.10
19	9.50	29.20	2.05
20	10.00	30.00	2.67
21	10.50	30.50	1.64
22	11.00	31.10	1.93

BLANK VALUE = 31.1 micrograms carbon
BLANK FACTOR = 31.1 / 10.99884 = +2.83E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. I

Sample: TOTC CN TEST Date: 01/23/96 Time: 14:33:21

Sample Size = ~~1 ml~~ 0.500ml
Dil Factor = 1
Blank ID # = TOTC BLK
Blank Value = 2.827571 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	5.50	63.64
3	1.50	24.60	77.64
4	2.01	54.20	54.61
5	2.51	76.30	28.96
6	3.01	92.20	17.25
7	3.50	103.30	10.75
8	4.00	111.10	7.02
9	4.50	115.80	4.06
10	5.00	119.50	3.10
11	5.50	122.70	2.61
12	6.00	125.30	2.08
13	6.50	128.10	2.19
14	7.00	130.50	1.84
15	7.50	133.30	2.10
16	8.00	136.10	2.06
17	8.50	139.50	2.44
18	9.00	143.00	2.45
19	9.50	145.50	1.72
20	10.00	147.20	1.15
21	10.50	148.50	0.88
22	11.00	149.60	0.74

BLANK VALUE = 31.1 micrograms carbon
BLANK FACTOR = 31.1 / 10.99884 = +2.8E+00 ug/min Carbon

SAMPLE RESULTS:
(149.6 - 31.10518)(1)/(1) = +1.185E+02 g/L Carbon
(149.6 - 31.10518)(1)/(1)(12) = +9.875E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: CN STD 71N8E Date: 01/23/96 Time: 12:06:40

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .23 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	1.70	100.00
3	1.50	4.80	64.58
4	2.00	6.80	29.41
5	2.50	8.10	16.05
6	3.00	9.00	10.00
7	3.50	9.70	7.22
8	4.00	10.40	6.73
9	4.50	10.90	4.59
10	5.00	11.50	5.22
11	5.50	12.10	4.96
12	6.00	12.70	4.72
13	6.50	13.30	4.51
14	7.00	14.00	5.00
15	7.50	14.60	4.11
16	8.00	15.10	3.31
17	8.50	15.70	3.82
18	9.00	16.30	3.68
19	9.50	16.90	3.55
20	10.00	17.40	2.87
21	10.50	18.10	3.87
22	11.00	18.70	3.21

USER INPUT BLANK VALUE
BLANK VALUE = 2.529726 micrograms carbon
BLANK FACTOR = 2.529726 / 10.99881 = +2.3E-01 ug/min Carbon

SAMPLE RESULTS:
(18.7 - 2.529733)(1)/(1) = +1.62E+01 g/L Carbon
(18.7 - 2.529733)(1)/(1)(12) = +1.35E+00 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: CN STD 71N8E Date: 01/23/96 Time: 14:05:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.41 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	2.60	76.92
3	1.50	10.00	74.00
4	2.00	16.40	39.02
5	2.50	19.80	17.17
6	3.00	21.50	7.91
7	3.50	22.80	5.70
8	4.00	24.10	5.39
9	4.50	25.70	6.23
10	5.00	27.30	5.86
11	5.50	30.20	9.60
12	6.00	32.30	6.50
13	6.50	33.90	4.72
14	7.00	35.20	3.69
15	7.50	36.10	2.49
16	8.00	37.10	2.70
17	8.50	38.00	2.37
18	9.00	39.00	2.56
19	9.50	40.00	2.50
20	10.00	40.70	1.72
21	10.50	41.50	1.93
22	11.00	42.40	2.12

USER INPUT BLANK VALUE
BLANK VALUE = 26.50713 micrograms carbon
BLANK FACTOR = 26.50713 / 10.99881 = +2.4E+00 ug/min Carbon

SAMPLE RESULTS:
(42.4 - 26.50927)(1)/(1) = +1.59E+01 g/L Carbon
(42.4 - 26.50927)(1)/(1)(12) = +1.32E+00 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

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

WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/24/96 Time: 10:34:40

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	2.10	100.00
3	1.51	9.00	76.67
4	2.00	12.90	30.23
5	2.50	14.60	11.64
6	3.00	15.80	7.59
7	3.50	16.70	5.39
8	4.00	17.40	4.02
9	4.50	18.00	3.33
10	5.00	18.60	3.23
11	5.50	19.10	2.62
12	6.00	19.50	2.05
13	6.50	20.00	2.50
14	7.00	20.40	1.96
15	7.50	20.70	1.45
16	8.00	21.00	1.43
17	8.50	21.30	1.41
18	9.00	21.60	1.39
19	9.50	21.90	1.37
20	10.00	22.10	0.90
21	10.50	22.40	1.34
22	11.00	22.50	0.44

BLANK VALUE = 22.5 micrograms carbon
BLANK FACTOR = 22.5 / 10.99988 = +2.05E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/24/96 Time: 10:49:50

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .33 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	100.90	99.80
3	1.51	288.90	65.07
4	2.00	423.90	31.85
5	2.50	513.50	17.45
6	3.00	561.50	8.55
7	3.50	583.60	3.79
8	4.00	592.80	1.55
9	4.50	596.50	0.62
10	5.00	598.00	0.25
11	5.50	598.80	0.13
12	6.00	599.10	0.05
13	6.50	599.60	0.08
14	7.00	599.90	0.05
15	7.50	600.20	0.05
16	8.00	600.50	0.05
17	8.50	600.70	0.03
18	9.00	600.90	0.03
19	9.50	601.20	0.05
20	10.00	601.40	0.03
21	10.50	601.70	0.05
22	11.00	601.90	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 3.62996 micrograms carbon
BLANK FACTOR = 3.62996 / 10.99988 = +3.3E-01 ug/min Carbon

SAMPLE RESULTS:
(601.9 - 3.629295)(1)/(1000) = +5.983E-01 g/L Carbon
(601.9 - 3.629295)(1)/(1000)(12) = +4.986E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/24/96 Time: 11:02:00

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.60	0.00
2	1.01	104.30	96.55
3	1.51	348.10	70.04
4	2.00	527.80	34.05
5	2.50	589.40	10.45
6	3.00	606.70	2.85
7	3.50	611.80	0.83
8	4.00	613.60	0.29
9	4.50	615.00	0.23
10	5.00	615.90	0.15
11	5.50	616.80	0.15
12	6.00	617.80	0.16
13	6.50	618.30	0.08
14	7.00	619.00	0.11
15	7.50	619.40	0.06
16	8.00	619.80	0.06
17	8.50	620.30	0.08
18	9.00	620.60	0.05
19	9.50	620.90	0.05
20	10.00	621.40	0.08
21	10.50	621.80	0.06
22	11.00	622.20	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 22.54975 micrograms carbon
BLANK FACTOR = 22.54975 / 10.99988 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(622.2 - 22.54975)(1)/(200) = +2.998E+00 g/L Carbon
(622.2 - 22.54975)(1)/(200)(12) = +2.499E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/24/96 Time: 11:16:14

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .33 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.00	0.50	60.00
3	1.50	1.10	54.55
4	2.00	1.40	21.43
5	2.50	1.80	22.22
6	3.00	2.00	10.00
7	3.50	2.40	16.67
8	4.00	2.50	4.00
9	4.50	2.80	10.71
10	5.00	3.00	6.67
11	5.50	3.20	6.25
12	6.00	3.50	8.57
13	6.50	3.80	7.89
14	7.00	4.00	5.00
15	7.50	4.30	6.98
16	8.00	4.50	4.44
17	8.50	4.80	6.25
18	9.00	5.10	5.88
19	9.50	5.40	5.56
20	10.00	5.60	3.57
21	10.50	5.90	5.08
22	11.00	6.10	3.28

USER INPUT BLANK VALUE
BLANK VALUE = 3.62996 micrograms carbon
BLANK FACTOR = 3.62996 / 10.99988 = +3.3E-01 ug/min Carbon

SAMPLE RESULTS:
(6.1 - 3.630222)(1)/(1) = +2.5E+00 g/L Carbon
(6.1 - 3.630222)(1)/(1)(12) = +2.1E-01 Molar Carbon

Sample Run By: KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/24/96 Time: 11:28:46

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.05 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	2.50	88.00
3	1.51	8.40	70.24
4	2.00	12.70	33.86
5	2.50	15.00	15.33
6	3.00	16.20	7.41
7	3.50	17.00	4.71
8	4.00	17.70	3.95
9	4.50	18.30	3.28
10	5.00	18.90	3.17
11	5.50	19.60	3.57
12	6.00	20.30	3.45
13	6.50	20.80	2.40
14	7.00	21.30	2.35
15	7.50	21.80	2.29
16	8.00	22.30	2.24
17	8.50	22.70	1.76
18	9.00	23.10	1.73
19	9.50	23.50	1.70
20	10.00	23.80	1.26
21	10.50	24.20	1.65
22	11.00	24.60	1.63

USER INPUT BLANK VALUE
BLANK VALUE = 22.54975 micrograms carbon
BLANK FACTOR = 22.54975 / 10.99988 = +2.0E+00 ug/min Carbon

SAMPLE RESULTS:
(24.6 - 22.54962)(1)/(1) = +2.05E+00 g/L Carbon
(24.6 - 22.54962)(1)/(1)(12) = +1.71E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

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

WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/24/96 Time: 10:22:08

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.30	66.67
3	1.51	0.60	50.00
4	2.01	0.80	25.00
5	2.51	1.00	20.00
6	3.01	1.30	23.08
7	3.51	1.60	18.75
8	4.01	1.60	0.00
9	4.50	1.70	5.88
10	5.00	1.90	10.53
11	5.50	2.10	9.52
12	6.00	2.20	4.55
13	6.50	2.30	4.35
14	7.00	2.50	8.00
15	7.50	2.60	3.85
16	8.00	2.70	3.70
17	8.50	2.90	6.90
18	9.00	3.00	3.33
19	9.50	3.20	6.25
20	10.00	3.30	3.03
21	10.50	3.50	5.71
22	11.00	3.60	2.78

BLANK VALUE = 3.6 micrograms carbon
BLANK FACTOR = 3.6 / 11.00171 = +3.3E-01 ug/min Carbon

Sample Run By: KR MONTEITH 00000

worklistrpt Version 2.1 05/15/95
04/01/96 14:54

LABCORE Data Entry Template for Worklist# 7132

Analyst: jds **Instrument:** CARB2 _____ **Book #** 17N12F 17N12G

Method: LA-342-100 Rev/Mod C-0 WHC-SD-WM-DP-164, REV.

Worklist Comment: BY-104 TOTC-02 (use TIC std and spike) due 4/1/96

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOTC-02	SOLID	1	10.3	N/A	ug/g
		2	STD				TOTC-02	SOLID	3.00e3	2.76e3	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003636	0		TOTC-02	SOLID	N/A	2.28e4	40.0	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003636	0		TOTC-02	SOLID	2.28e4	2.49e4	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003636	0		TOTC-02	SOLID	100	104.7	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		TOTC-02	SOLID	N/A	2.40e4	40.0	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		TOTC-02	SOLID	2.40e4	2.41e4	N/A	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003647	0		TOTC-02	SOLID	N/A	1.57e4	40.0	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003647	0		TOTC-02	SOLID	1.57e4	1.56e4	N/A	ug/g
95000180	BY104 ROTARY	10	SAMPLE	S95T003528	0		TOTC-02	SOLID	N/A	3.73e4	40.0	ug/g
95000180	BY104 ROTARY	11	DUP	S95T003528	0		TOTC-02	SOLID	3.73e4	3.93e4	N/A	ug/g

Final page for worklist # 7132

See attached WL for analyst signature

Analyst Signature **Date**

RW Schroeder 4/2/96

Analyst Signature **Date**

Reviewed RW Schroeder 4/2/96

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# 7132

Analyst: Sds **Instrument:** CARB2 _____ **Book #** 17N12 F

Method: LA-342-100 Rev/Mod C-0 WHC-SD-WM-DP-164, REV. 17N12 6

Worklist Comment: BY-104 TOTC-02 (use TIC std and spike) due 4/1/96

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				TOTC-02	SOLID			N/A	ug/g
		2	STD				TOTC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003636	0		TOTC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	4	DUP	S95T003636	0		TOTC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003636	0		TOTC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		TOTC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		TOTC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003647	0		TOTC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	9	DUP	S95T003647	0		TOTC-02	SOLID			N/A	ug/g

Final page for worklist # 7132

Jah 3/31/96
Analyst Signature **Date**

4/2/96
Analyst Signature **Date**

add Sample # ~~S95T00~~ 3/31/96
S95T003528 and Dup

Data Entry Comments:

No traveler, all weights are on the individual sheets

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.

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

Sample: BASELINE Date: 03/30/96 Time: 07:49:35

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

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	3.70	81.08
3	1.51	5.60	33.93
4	2.01	7.80	28.21
5	2.51	11.50	32.17
6	3.00	15.60	26.28
7	3.50	19.30	19.17
8	4.00	22.40	13.84
9	4.50	24.50	8.57
10	5.00	26.00	5.77
11	5.50	27.30	4.76
12	6.00	28.30	3.53
13	6.50	29.20	3.08
14	7.00	30.00	2.67
15	7.50	30.60	1.96
16	8.00	31.20	1.92
17	8.50	31.80	1.89
18	9.00	32.30	1.55
19	9.50	32.80	1.52
20	10.00	33.30	1.50
21	10.50	33.90	1.77
22	11.00	34.40	1.45

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1114 TO 1129

BLANK VALUE = 34.4 micrograms carbon
BLANK FACTOR = 34.4 / 11.00171 = +3.13E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: Robert W. Schroeder
JD SPELLMAN 00000

4/10/96
For JD Spellman

lm/ 17N12F

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 17N12F Date: 03/30/96 Time: 08:10:07

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	4.30	0.00
2	1.01	44.10	90.25
3	1.50	165.60	73.37
4	2.00	290.60	43.01
5	2.50	388.50	25.20
6	3.01	463.20	16.13
7	3.50	515.70	10.18
8	4.00	547.50	5.81
9	4.50	563.40	2.82
10	5.00	569.80	1.12
11	5.50	572.80	0.52
12	6.00	574.40	0.28
13	6.50	575.50	0.19
14	7.00	576.60	0.19
15	7.50	578.40	0.31
16	8.00	580.20	0.31
17	8.50	581.60	0.24
18	9.00	582.60	0.17
19	9.50	583.70	0.19
20	10.00	584.70	0.17
21	10.50	585.60	0.15
22	11.00	586.50	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(586.5 - 34.42905)(1)/(1) = +5.521E+02 g/L Carbon
(586.5 - 34.42905)(1)/(1)(12) = +4.601E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

552 / .200 = 2.76e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 03/30/96 Time: 08:35:22

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	1.50	73.33
3	1.50	4.10	63.41
4	2.00	8.10	49.38
5	2.50	12.10	33.06
6	3.00	14.70	17.69
7	3.50	16.20	9.26
8	4.00	16.80	3.57
9	4.50	17.50	4.00
10	5.00	18.10	3.31
11	5.50	18.70	3.21
12	6.00	19.20	2.60
13	6.50	19.70	2.54
14	7.00	20.40	3.43
15	7.50	21.10	3.32
16	8.00	21.50	1.86
17	8.50	22.00	2.27
18	9.00	22.40	1.79
19	9.50	22.80	1.75
20	10.00	23.30	2.15
21	10.50	23.70	1.69
22	11.00	24.10	1.66

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(24.1 - 34.43516)(1)/(1) = < 5.00 E-3 g/L Carbon
(24.1 - 34.43516)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

$|24.1 - 34.4| = 10.3$

Sample Run By: _____
JD SPELLMAN 00000

.0907g

OO

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S95T003636 Date: 03/30/96 Time: 11:15:13

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	2.00	0.00
2	1.01	6.40	68.75
3	1.51	23.90	73.22
4	2.00	64.00	62.66
5	2.50	131.60	51.37
6	3.00	235.30	44.07
7	3.50	380.60	38.18
8	4.00	561.10	32.17
9	4.50	798.70	29.75
10	5.00	1097.90	27.25
11	5.50	1378.70	20.37
12	6.00	1592.70	13.44
13	6.50	1760.70	9.54
14	7.00	1887.20	6.70
15	7.50	1965.80	4.00
16	8.00	2012.00	2.30
17	8.50	2040.90	1.42
18	9.00	2061.20	0.98
19	9.50	2076.50	0.74
20	10.00	2088.50	0.57
21	10.50	2097.70	0.44
22	11.00	2105.60	0.38

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(2105.6 - 34.43459)(1)/(1) = +2.0712E+03 g/L Carbon
(2105.6 - 34.43459)(1)/(1)(12) = +1.7260E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

2071/.0907 = 2.28e4

.0971/5

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S95T003636DUP Date: 03/30/96 Time: 13:54:57

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.00	0.00
2	1.01	27.50	89.09
3	1.51	75.00	63.33
4	2.01	137.70	45.53
5	2.50	236.80	41.85
6	3.00	417.00	43.21
7	3.50	682.70	38.92
8	4.00	940.50	27.41
9	4.50	1187.00	20.77
10	5.00	1520.10	21.91
11	5.50	1947.70	21.95
12	6.00	2187.00	10.94
13	6.50	2285.20	4.30
14	7.00	2337.50	2.24
15	7.50	2370.30	1.38
16	8.00	2392.20	0.92
17	8.50	2408.50	0.68
18	9.00	2421.40	0.53
19	9.50	2431.60	0.42
20	10.00	2440.40	0.36
21	10.50	2448.00	0.31
22	11.00	2455.00	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(2455 - 34.42943)(1)/(1) = +2.4206E+03 g/L Carbon
(2455 - 34.42943)(1)/(1)(12) = +2.0171E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: JD SPELLMAN 00000

2421/0.0971 = 2.49e4

1118

+.500 17N12F
.0549g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S95T003636SPK Date: 03/30/96 Time: 14:31:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	105.60	0.00
2	1.01	200.60	47.36
3	1.50	272.60	26.41
4	2.00	328.70	17.07
5	2.50	395.90	16.97
6	3.00	503.20	21.32
7	3.50	647.90	22.33
8	4.00	814.10	20.42
9	4.50	974.30	16.44
10	5.00	1131.50	13.89
11	5.50	1307.70	13.47
12	6.00	1426.30	8.32
13	6.50	1489.30	4.23
14	7.00	1528.80	2.58
15	7.50	1555.00	1.68
16	8.00	1574.60	1.24
17	8.50	1592.30	1.11
18	9.00	1611.40	1.19
19	9.50	1623.40	0.74
20	10.00	1633.20	0.60
21	10.50	1641.70	0.52
22	11.00	1649.00	0.44

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(1649 - 34.42905)(1)/(1) = +1.6146E+03 g/L Carbon
(1649 - 34.42905)(1)/(1)(12) = +1.3455E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

$$\frac{1649 \times 100}{\left(\frac{2105.6}{.0907}\right) \cdot .0549 + 300} = 104.7\% \text{ recovery}$$

.0633

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S95T003645 Date: 03/30/96 Time: 16:53:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	18.50	0.00
2	1.01	63.20	70.73
3	1.51	123.60	48.87
4	2.00	224.90	45.04
5	2.50	434.20	48.20
6	3.00	1033.00	57.97
7	3.50	1367.80	24.48
8	4.00	1454.20	5.94
9	4.50	1485.60	2.11
10	5.00	1499.70	0.94
11	5.50	1509.10	0.62
12	6.00	1516.00	0.46
13	6.50	1523.10	0.47
14	7.00	1528.50	0.35
15	7.50	1533.10	0.30
16	8.00	1537.30	0.27
17	8.50	1540.80	0.23
18	9.00	1543.90	0.20
19	9.50	1546.60	0.17
20	10.00	1549.10	0.16
21	10.50	1551.20	0.14
22	11.00	1553.20	0.13

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(1553.2 - 34.4321)(1)/(1) = +1.5188E+03 g/L Carbon
(1553.2 - 34.4321)(1)/(1)(12) = +1.2656E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

1519/.0633 = 2.40e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

.0710g

Sample: S95T003645DUP Date: 03/30/96 Time: 17:14:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 3.13 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	17.30	0.00
2	1.01	368.40	95.30
3	1.50	698.40	47.25
4	2.00	980.10	28.74
5	2.50	1232.20	20.46
6	3.00	1455.70	15.35
7	3.50	1611.80	9.68
8	4.00	1667.90	3.36
9	4.50	1690.10	1.31
10	5.00	1700.00	0.58
11	5.50	1706.30	0.37
12	6.00	1711.70	0.32
13	6.50	1716.60	0.29
14	7.00	1721.00	0.26
15	7.50	1724.90	0.23
16	8.00	1728.30	0.20
17	8.50	1731.40	0.18
18	9.00	1734.30	0.17
19	9.50	1736.80	0.14
20	10.00	1739.00	0.13
21	10.50	1741.10	0.12
22	11.00	1742.80	0.10

USER INPUT BLANK VALUE
BLANK VALUE = 34.43535 micrograms carbon
BLANK FACTOR = 34.43535 / 11.00171 = +3.1E+00 ug/min Carbon

SAMPLE RESULTS:
(1742.8 - 34.4321)(1)/(1) = +1.7084E+03 g/L Carbon
(1742.8 - 34.4321)(1)/(1)(12) = +1.4236E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

1708/.0710 = 2.41e4

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

Sample: BASELINE Date: 03/31/96 Time: 11:41:15

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

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	2.10	57.14
3	1.51	2.60	19.23
4	2.00	3.70	29.73
5	2.50	4.60	19.57
6	3.00	6.00	23.33
7	3.50	7.70	22.08
8	4.00	9.90	22.22
9	4.50	11.90	16.81
10	5.00	14.10	15.60
11	5.50	16.10	12.42
12	6.00	17.70	9.04
13	6.50	19.10	7.33
14	7.00	20.20	5.45
15	7.50	21.40	5.61
16	8.00	22.50	4.89
17	8.50	23.50	4.26
18	9.00	24.70	4.86
19	9.50	25.70	3.89
20	10.00	26.70	3.75
21	10.50	27.70	3.61
22	11.00	28.60	3.15

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.60E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 17N12F Date: 03/31/96 Time: 12:12:22

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = 2.600043 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	8.20	0.00
2	1.01	83.90	90.23
3	1.50	219.30	61.74
4	2.00	344.10	36.27
5	2.50	435.50	20.99
6	3.00	490.80	11.27
7	3.50	525.50	6.60
8	4.00	547.70	4.05
9	4.50	560.60	2.30
10	5.00	567.90	1.29
11	5.50	572.30	0.77
12	6.00	576.00	0.64
13	6.50	579.80	0.66
14	7.00	583.80	0.69
15	7.50	589.10	0.90
16	8.00	595.10	1.01
17	8.50	601.80	1.11
18	9.00	609.20	1.21
19	9.50	615.20	0.98
20	10.00	621.10	0.95
21	10.50	625.60	0.72
22	11.00	630.50	0.78

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(630.5 - 28.59968)(1)/(1) = +6.019E+02 g/L Carbon
(630.5 - 28.59968)(1)/(1)(12) = +5.016E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

6.02/.12 = 3010

1123

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: BLK Date: 03/31/96 Time: 14:52:41

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = 2.600043 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	2.30	69.57
3	1.50	3.50	34.29
4	2.00	4.40	20.45
5	2.50	5.40	18.52
6	3.00	6.10	11.48
7	3.50	7.00	12.86
8	4.00	7.10	1.41
9	4.50	7.90	10.13
10	5.00	8.50	7.06
11	5.50	10.30	17.48
12	6.00	15.90	35.22
13	6.50	19.60	18.88
14	7.00	22.20	11.71
15	7.50	24.10	7.88
16	8.00	25.50	5.49
17	8.50	26.80	4.85
18	9.00	28.10	4.63
19	9.50	28.90	2.77
20	10.00	30.00	3.67
21	10.50	31.30	4.15
22	11.00	32.30	3.10

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(32.3 - 28.59968)(1)/(1) = +3.70E+00 g/L Carbon
(32.3 - 28.59968)(1)/(1)(12) = +3.08E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

|32.3-28.6| = 3.7

.0670

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S95T0003647 Date: 03/31/96 Time: 15:11:16

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = 2.600043 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.60	0.00
2	1.01	6.70	76.12
3	1.51	17.70	62.15
4	2.00	31.10	43.09
5	2.50	49.20	36.79
6	3.00	74.60	34.05
7	3.50	104.20	28.41
8	4.00	133.90	22.18
9	4.50	166.70	19.68
10	5.00	200.70	16.94
11	5.50	234.20	14.30
12	6.00	266.40	12.09
13	6.50	299.60	11.08
14	7.00	335.50	10.70
15	7.50	377.10	11.03
16	8.00	433.90	13.09
17	8.50	534.20	18.78
18	9.00	685.80	22.11
19	9.50	828.90	17.26
20	10.00	933.70	11.22
21	10.50	1009.50	7.51
22	11.00	1078.60	6.41

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(1078.6 - 28.60444)(1)/(1) = +1.0500E+03 g/L Carbon
(1078.6 - 28.60444)(1)/(1)(12) = +8.7500E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

1050/0.0670 = 1.57e4

E

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

.0625g

Sample: S95T003647DUP Date: 03/31/96 Time: 15:46:24

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = 2.600043 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.80	0.00
2	1.01	7.20	47.22
3	1.51	14.70	51.02
4	2.01	30.30	51.49
5	2.50	56.80	46.65
6	3.00	111.20	48.92
7	3.50	189.90	41.44
8	4.00	282.70	32.83
9	4.50	392.20	27.92
10	5.00	499.10	21.42
11	5.50	587.50	15.05
12	6.00	651.10	9.77
13	6.50	698.00	6.72
14	7.00	735.30	5.07
15	7.50	765.70	3.97
16	8.00	792.60	3.39
17	8.50	817.20	3.01
18	9.00	845.80	3.38
19	9.50	880.90	3.98
20	10.00	918.60	4.10
21	10.50	950.60	3.37
22	11.00	974.80	2.48

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(974.8 - 28.60222)(1)/(1) = +9.462E+02 g/L Carbon
(974.8 - 28.60222)(1)/(1)(12) = +7.885E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

974.8/.0625= 1.56e4

.0847g

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: S95T003528 Date: 03/31/96 Time: 16:08:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = 2.600043 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	3.00	0.00
2	1.01	79.80	96.24
3	1.50	298.70	73.28
4	2.00	578.30	48.35
5	2.50	1002.00	42.29
6	3.00	1454.50	31.11
7	3.50	1837.50	20.84
8	4.00	2183.60	15.85
9	4.50	2460.70	11.26
10	5.00	2647.20	7.05
11	5.50	2766.30	4.31
12	6.00	2850.20	2.94
13	6.50	2913.70	2.18
14	7.00	2965.70	1.75
15	7.50	3009.90	1.47
16	8.00	3046.80	1.21
17	8.50	3079.30	1.06
18	9.00	3107.30	0.90
19	9.50	3130.70	0.75
20	10.00	3152.70	0.70
21	10.50	3172.20	0.61
22	11.00	3189.80	0.55

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(3189.8 - 28.5954)(1)/(1) = +3.1612E+03 g/L Carbon
(3189.8 - 28.5954)(1)/(1)(12) = +2.6343E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

3161/.0847 = 3.73e4 **1127**

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

.1013

Sample: S95T003528DUP Date: 03/31/96 Time: 16:24:47

Sample Size = 1 uL
Dil Factor = 1
Blank ID # = BASELINE
Blank Value = 2.600043 ug/minute C

Analyst : JD SPELLMAN
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	10.00	0.00
2	1.01	114.50	91.27
3	1.51	401.60	71.49
4	2.00	673.30	40.35
5	2.50	994.30	32.28
6	3.00	1422.20	30.09
7	3.50	1876.00	24.19
8	4.00	2271.90	17.43
9	4.50	2588.50	12.23
10	5.00	2871.50	9.86
11	5.50	3125.30	8.12
12	6.00	3331.60	6.19
13	6.50	3491.10	4.57
14	7.00	3608.10	3.24
15	7.50	3693.00	2.30
16	8.00	3761.30	1.82
17	8.50	3817.70	1.48
18	9.00	3865.20	1.23
19	9.50	3907.60	1.09
20	10.00	3943.50	0.91
21	10.50	3978.00	0.87
22	11.00	4006.30	0.71

BLANK VALUE = 28.6 micrograms carbon
BLANK FACTOR = 28.6 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(4006.3 - 28.60238)(1)/(1) = +3.9777E+03 g/L Carbon
(4006.3 - 28.60238)(1)/(1)(12) = +3.3147E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

3978/0.1013 = 3.93e4

/m/

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

Sample: 17N12G Date: 03/31/96 Time: 16:57:05

Sample Size = 1 uL Analyst : JD SPELLMAN
Dil Factor = 1 Min Readings = 22
Blank ID # = Max Readings = 22
Blank Value = 2.6 ug/minute C % Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	345.30	99.91
3	1.51	1092.00	68.38
4	2.01	1838.90	40.62
5	2.50	2585.40	28.87
6	3.01	3332.70	22.42
7	3.51	4079.40	18.30
8	4.00	4826.50	15.48
9	4.50	5450.20	11.44
10	5.00	5467.70	0.32
11	5.50	5467.70	0.00
12	6.00	5474.70	0.13
13	6.50	5481.50	0.12
14	7.00	5487.00	0.10
15	7.50	5491.70	0.09
16	8.00	5496.30	0.08
17	8.50	5500.30	0.07
18	9.00	5504.30	0.07
19	9.50	5507.70	0.06
20	10.00	5510.80	0.06
21	10.50	5513.50	0.05
22	11.00	5515.80	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 28.59952 micrograms carbon
BLANK FACTOR = 28.59952 / 10.99982 = +2.6E+00 ug/min Carbon

SAMPLE RESULTS:
(5515.8 - 28.60619)(1)/(1) = +5.4872E+03 g/L Carbon
(5515.8 - 28.60619)(1)/(1)(12) = +4.5727E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
JD SPELLMAN 00000

LABCORE Data Entry Template for Worklist# 4894

Analyst: krm **Instrument:** CARB2 _____ **Book #** 17N12D 16N12C

Method: LA-342-100 Rev/Mod C-O

Worklist Comment: Triplicate TIC for WL#4875

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1 BLNK			TIC-02	SOLID	1	0.7	N/A	ug/g
		2 STD			TIC-02	RWS 1/16/96 SOLID	6.00e2 ~~1~~	6.10e2 ~~1.5~~	N/A	ug/g
95000200	BY104 ROTARY	3 SAMPLE	S95T003782	0	TIC-02	SOLID	N/A	6.42	5.00	ug/g

Final page for worklist # 4894

Run with WL#4875
Analyst Signature **Date**
See for signature

[signature] 1-16-96
Analyst Signature **Date**
Reviewed RW Schroeder 1/18/96

Data Entry Comments: Triplicate for S95T003782 on WL#4875

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.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>> WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/13/96 Time: 07:02:13

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	0.60	50.00
3	1.50	1.00	40.00
4	2.00	1.70	41.18
5	2.50	2.00	15.00
6	3.00	2.40	16.67
7	3.50	2.70	11.11
8	4.00	3.10	12.90
9	4.50	3.30	6.06
10	5.00	3.70	10.81
11	5.50	3.90	5.13
12	6.00	4.30	9.30
13	6.50	4.60	6.52
14	7.00	4.90	6.12
15	7.50	5.10	3.92
16	8.00	5.50	7.27
17	8.50	5.80	5.17
18	9.00	6.00	3.33
19	9.50	6.30	4.76
20	10.00	6.60	4.55
21	10.50	6.90	4.35
22	11.00	7.20	4.17

BLANK VALUE = 7.2 micrograms carbon
BLANK FACTOR = 7.2 / 10.99966 = +6.5E-01 ug/min Carbon

Sample Run By: 1-13-96
KR MONTEITH 00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1131 TO 1134

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. /

Sample: STD Date: 01/13/96 Time: 07:30:01

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	61.40	98.05
3	1.51	213.80	71.28
4	2.00	366.60	41.68
5	2.50	479.90	23.61
6	3.00	546.80	12.23
7	3.50	581.80	6.02
8	4.00	598.30	2.76
9	4.50	606.10	1.29
10	5.00	610.10	0.66
11	5.50	612.00	0.31
12	6.00	613.20	0.20
13	6.50	613.80	0.10
14	7.00	614.30	0.08
15	7.50	614.70	0.07
16	8.00	615.20	0.08
17	8.50	615.60	0.06
18	9.00	616.00	0.06
19	9.50	616.40	0.06
20	10.00	616.80	0.06
21	10.50	617.10	0.05
22	11.00	617.50	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 7.150436 micrograms carbon
BLANK FACTOR = 7.150436 / 11.00067 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(617.5 - 7.150456)(1)/(1000) = +6.103E-01 g/L Carbon
(617.5 - 7.150456)(1)/(1000)(12) = +5.086E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/13/96 Time: 08:00:49

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.50	60.00
3	1.51	1.00	50.00
4	2.00	1.50	33.33
5	2.50	2.00	25.00
6	3.00	2.30	13.04
7	3.50	2.60	11.54
8	4.00	2.90	10.34
9	4.50	3.20	9.37
10	5.00	3.50	8.57
11	5.50	3.70	5.41
12	6.00	4.00	7.50
13	6.50	4.20	4.76
14	7.00	4.50	6.67
15	7.50	4.80	6.25
16	8.00	5.00	4.00
17	8.50	5.20	3.85
18	9.00	5.50	5.45
19	9.50	5.80	5.17
20	10.00	6.00	3.33
21	10.50	6.30	4.76
22	11.00	6.50	3.08

USER INPUT BLANK VALUE
BLANK VALUE = 7.150436 micrograms carbon
BLANK FACTOR = 7.150436 / 11.00067 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(6.5 - 7.149226)(1)/(1) = < 5.00 E-3 g/L Carbon
(6.5 - 7.149226)(1)/(1)(12) = < 4.17 E-4 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3782 TRIPL Date: 01/13/96 Time: 11:25:00

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .65 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	3.00	70.00
3	1.50	23.60	87.29
4	2.00	157.50	85.02
5	2.50	369.40	57.36
6	3.00	502.30	26.46
7	3.50	577.20	12.98
8	4.00	624.70	7.60
9	4.50	651.90	4.17
10	5.00	663.40	1.73
11	5.50	669.20	0.87
12	6.00	673.40	0.62
13	6.50	676.70	0.49
14	7.00	679.60	0.43
15	7.50	682.20	0.38
16	8.00	684.50	0.34
17	8.50	686.70	0.32
18	9.00	688.90	0.32
19	9.50	690.60	0.25
20	10.00	692.30	0.25
21	10.50	693.90	0.23
22	11.00	695.30	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 7.150436 micrograms carbon
BLANK FACTOR = 7.150436 / 11.00067 = +6.5E-01 ug/min Carbon

SAMPLE RESULTS:
(695.3 - 7.149801)(1)/(1) = +6.882E+02 g/L Carbon
(695.3 - 7.149801)(1)/(1)(12) = +5.735E+01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

1134

$\frac{688.2}{.1072} = 6.42E^{3}$

LABCORE Data Entry Template for Worklist# 4870

Analyst: KRM **Instrument:** CARB2 _____ **Book #** 17N12D 16N12C

Method: LA-342-100 Rev/Mod C-0

Worklist Comment: TICTOC BY-104 KRM

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	4.0	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	1.0	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.00E2	6.12E2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	3.00E3	2.99E3	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003636	0		@TICTOC1 TIC-02	SOLID	N/A	2.57E3	5.00	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003636	0		@TICTOC1 TOC-02	SOLID	N/A	1.35E4	40.0	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003636	0		@TICTOC1 TIC-02	SOLID	2.57E3	2.97E3	N/A	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003636	0		@TICTOC1 TOC-02	SOLID	1.35E4	1.62E4	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003636	0		@TICTOC1 TIC-02	SOLID	100	117	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003636	0		@TICTOC1 TOC-02	SOLID	100	125	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003639	0		@TICTOC1 TIC-02	SOLID	N/A	1.44E4	5.0	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003639	0		@TICTOC1 TOC-02	SOLID	N/A	4.05E3	40.0	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003639	0		@TICTOC1 TIC-02	SOLID	1.44E4	1.46E4	N/A	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003639	0		@TICTOC1 TOC-02	SOLID	4.05E3	3.93E3	N/A	ug/g

Final page for worklist # 4870

1-13-96
Analyst Signature **Date** ~~0500~~ 1700

1-13-96
Analyst Signature **Date**

Reviewed RN Schwab 1-15-96

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.

<EE<

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
<<< BLANK ANALYSIS >>> WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/12/96 Time: 10:09:39

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	0.40	50.00
3	1.50	0.70	42.86
4	2.00	1.30	46.15
5	2.50	1.60	18.75
6	3.01	1.90	15.79
7	3.51	2.10	9.52
8	4.00	2.40	12.50
9	4.50	2.50	4.00
10	5.00	2.80	10.71
11	5.50	3.00	6.67
12	6.00	3.20	6.25
13	6.50	3.50	8.57
14	7.00	3.70	5.41
15	7.50	3.90	5.13
16	8.00	4.20	7.14
17	8.50	4.40	4.55
18	9.00	4.70	6.38
19	9.50	4.70	0.00
20	10.00	5.10	7.84
21	10.50	5.30	3.77
22	11.00	5.50	3.64

BLANK VALUE = 5.5 micrograms carbon
BLANK FACTOR = 5.5 / 11.0025 = +5.0E-01 ug/min Carbon

Sample Run By: 1-12-96
KR MONTEITH 00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1136 TO 1151.

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-DP-164, REV. 1
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 01/12/96 Time: 10:23:18

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

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.30	84.62
3	1.51	4.50	71.11
4	2.00	7.80	42.31
5	2.50	10.30	24.27
6	3.00	11.80	12.71
7	3.50	12.50	5.60
8	4.00	13.00	3.85
9	4.50	13.40	2.99
10	5.00	13.80	2.90
11	5.50	14.00	1.43
12	6.00	14.30	2.10
13	6.50	14.60	2.05
14	7.00	15.00	2.67
15	7.50	15.20	1.32
16	8.00	15.50	1.94
17	8.50	15.70	1.27
18	9.00	16.00	1.88
19	9.50	16.20	1.23
20	10.00	16.50	1.82
21	10.50	16.70	1.20
22	11.00	17.00	1.76

BLANK VALUE = 17 micrograms carbon
BLANK FACTOR = 17 / 11.00153 = +1.55E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/12/96 Time: 10:36:23

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	5.70	96.49
3	1.51	108.40	94.74
4	2.00	278.80	61.12
5	2.50	423.90	34.23
6	3.00	518.40	18.23
7	3.50	567.60	8.67
8	4.00	592.90	4.27
9	4.50	604.70	1.95
10	5.00	610.10	0.89
11	5.50	612.60	0.41
12	6.00	613.60	0.16
13	6.50	614.30	0.11
14	7.00	614.90	0.10
15	7.50	615.20	0.05
16	8.00	615.70	0.08
17	8.50	616.00	0.05
18	9.00	616.20	0.03
19	9.50	616.60	0.06
20	10.00	616.90	0.05
21	10.50	617.20	0.05
22	11.00	617.40	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(617.4 - 5.500336)(1)/(1000) = +6.119E-01 g/L Carbon
(617.4 - 5.500336)(1)/(1000)(12) = +5.099E-02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/12/96 Time: 10:48:32

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	20.50	98.05
3	1.51	146.60	86.02
4	2.01	379.30	61.35
5	2.51	528.10	28.18
6	3.01	583.70	9.53
7	3.51	601.80	3.01
8	4.01	607.10	0.87
9	4.50	609.30	0.36
10	5.00	610.50	0.20
11	5.50	611.30	0.13
12	6.00	611.90	0.10
13	6.50	612.50	0.10
14	7.00	613.00	0.08
15	7.50	613.50	0.08
16	8.00	613.90	0.07
17	8.50	614.20	0.05
18	9.00	614.70	0.08
19	9.50	614.90	0.03
20	10.00	615.20	0.05
21	10.50	615.70	0.08
22	11.00	615.90	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(615.9 - 17.05265)(1)/(200) = +2.994E+00 g/L Carbon
(615.9 - 17.05265)(1)/(200)(12) = +2.495E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/12/96 Time: 11:00:31

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	1.90	89.47
3	1.51	3.90	51.28
4	2.00	4.90	20.41
5	2.50	5.20	5.77
6	3.00	5.60	7.14
7	3.50	6.00	6.67
8	4.00	6.20	3.23
9	4.50	6.40	3.13
10	5.00	6.70	4.48
11	5.50	7.00	4.29
12	6.00	7.20	2.78
13	6.50	7.40	2.70
14	7.00	7.70	3.90
15	7.50	7.90	2.53
16	8.00	8.20	3.66
17	8.50	8.40	2.38
18	9.00	8.60	2.33
19	9.50	8.70	1.15
20	10.00	9.00	3.33
21	10.50	9.20	2.17
22	11.00	9.50	3.16

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(9.5 - 5.498932)(1)/(1) = +4.0E+00 g/L Carbon
(9.5 - 5.498932)(1)/(1)(12) = +3.3E-01 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: R BLK Date: 01/12/96 Time: 11:12:38

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.00	1.00	90.00
3	1.50	4.10	75.61
4	2.00	7.50	45.33
5	2.50	9.60	21.88
6	3.00	10.90	11.93
7	3.50	11.50	5.22
8	4.00	12.00	4.17
9	4.50	12.40	3.23
10	5.00	12.70	2.36
11	5.50	13.10	3.05
12	6.00	13.40	2.24
13	6.50	13.70	2.19
14	7.00	14.00	2.14
15	7.50	14.30	2.10
16	8.00	14.50	1.38
17	8.50	14.90	2.68
18	9.00	15.00	0.67
19	9.50	15.30	1.96
20	10.00	15.60	1.92
21	10.50	15.80	1.27
22	11.00	16.00	1.25

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(16 - 17.04659)(1)/(1) = < 5.00 E-3 g/L Carbon
(16 - 17.04659)(1)/(1)(12) = < 4.17 E-4 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3636 Date: 01/12/96 Time: 11:26:17

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	2.10	90.48
3	1.50	13.30	84.21
4	2.00	37.10	64.15
5	2.50	75.90	51.12
6	3.00	124.60	39.09
7	3.50	179.00	30.39
8	4.00	221.30	19.11
9	4.50	245.00	9.67
10	5.00	257.00	4.67
11	5.50	263.00	2.28
12	6.00	266.30	1.24
13	6.50	268.30	0.75
14	7.00	269.80	0.56
15	7.50	271.00	0.44
16	8.00	272.40	0.51
17	8.50	273.20	0.29
18	9.00	274.30	0.40
19	9.50	275.10	0.29
20	10.00	276.10	0.36
21	10.50	276.70	0.22
22	11.00	277.40	0.25

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(277.4 - 5.500763)(1)/(1) = +2.719E+02 g/L Carbon
(277.4 - 5.500763)(1)/(1)(12) = +2.266E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

$\frac{271.9}{.1059} = 2.57_{\#}^{3}$

1142

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3636 Date: 01/12/96 Time: 11:39:31

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	1.20	91.67
3	1.51	6.00	80.00
4	2.00	80.10	92.51
5	2.50	258.80	69.05
6	3.01	493.20	47.53
7	3.51	702.60	29.80
8	4.01	863.80	18.66
9	4.50	984.60	12.27
10	5.00	1077.30	8.60
11	5.50	1152.80	6.55
12	6.00	1213.20	4.98
13	6.50	1261.50	3.83
14	7.00	1302.20	3.13
15	7.50	1335.50	2.49
16	8.00	1362.80	2.00
17	8.50	1385.30	1.62
18	9.00	1403.80	1.32
19	9.50	1419.10	1.08
20	10.00	1432.30	0.92
21	10.50	1443.30	0.76
22	11.00	1452.50	0.63

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(1452.5 - 17.04962)(1)/(1) = +1.4355E+03 g/L Carbon
(1452.5 - 17.04962)(1)/(1)(12) = +1.1962E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

1143

$\frac{1435.5}{.1059} = 1.35E^4$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3636 Date: 01/12/96 Time: 11:52:14

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	5.50	0.00
2	1.01	10.00	45.00
3	1.51	16.00	37.50
4	2.00	33.60	52.38
5	2.50	71.50	53.01
6	3.00	135.40	47.19
7	3.50	209.10	35.25
8	4.00	261.50	20.04
9	4.50	289.70	9.73
10	5.00	303.60	4.58
11	5.50	311.00	2.38
12	6.00	314.90	1.24
13	6.50	317.30	0.76
14	7.00	319.20	0.60
15	7.50	321.00	0.56
16	8.00	322.60	0.50
17	8.50	323.70	0.34
18	9.00	325.10	0.43
19	9.50	326.50	0.43
20	10.00	327.50	0.31
21	10.50	328.60	0.33
22	11.00	329.90	0.39

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(329.9 - 5.499939)(1)/(1) = +3.244E+02 g/L Carbon
(329.9 - 5.499939)(1)/(1)(12) = +2.703E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

$\frac{324.4}{.1092} = 2.97E^{3}$

1144

EE

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3636 Date: 01/12/96 Time: 13:14:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	38.90	96.92
3	1.50	204.60	80.99
4	2.00	460.80	55.60
5	2.50	747.00	38.31
6	3.00	972.20	23.16
7	3.50	1135.50	14.38
8	4.00	1259.80	9.87
9	4.50	1359.30	7.32
10	5.00	1441.30	5.69
11	5.50	1507.80	4.41
12	6.00	1563.30	3.55
13	6.50	1607.90	2.77
14	7.00	1643.60	2.17
15	7.50	1673.60	1.79
16	8.00	1697.90	1.43
17	8.50	1718.40	1.19
18	9.00	1735.30	0.97
19	9.50	1750.10	0.85
20	10.00	1762.40	0.70
21	10.50	1773.40	0.62
22	11.00	1781.90	0.48

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(1781.9 - 17.04943)(1)/(1) = +1.7649E+03 g/L Carbon
(1781.9 - 17.04943)(1)/(1)(12) = +1.4707E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

$\frac{1764.9}{.1092} = 1.62E4$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3636 + SPK Date: 01/12/96 Time: 14:06:17

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	4.20	80.95
3	1.50	74.80	94.39
4	2.00	183.10	59.15
5	2.50	290.10	36.88
6	3.00	385.70	24.79
7	3.50	461.70	16.46
8	4.00	513.50	10.09
9	4.50	544.00	5.61
10	5.00	558.80	2.65
11	5.50	566.20	1.31
12	6.00	570.80	0.81
13	6.50	573.70	0.51
14	7.00	576.00	0.40
15	7.50	577.70	0.29
16	8.00	579.40	0.29
17	8.50	580.70	0.22
18	9.00	582.40	0.29
19	9.50	583.60	0.21
20	10.00	584.80	0.21
21	10.50	586.10	0.22
22	11.00	587.30	0.20

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(587.3 - 5.500336)(1)/(1) = +5.818E+02 g/L Carbon
(587.3 - 5.500336)(1)/(1)(12) = +4.848E+01 Molar Carbon

Sample Run By: KR MONTEITH 00000

$$\frac{587.3}{\left[\left(\frac{277.4}{.1059}\right)(.0897) + 300\right]} = 117$$

1146

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3636 + SPK Date: 01/12/96 Time: 14:19:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	45.40	97.14
3	1.51	240.00	81.08
4	2.00	610.80	60.71
5	2.50	934.80	34.66
6	3.00	1150.10	18.72
7	3.50	1301.20	11.61
8	4.00	1418.30	8.26
9	4.50	1512.90	6.25
10	5.00	1590.80	4.90
11	5.50	1654.40	3.84
12	6.00	1705.40	2.99
13	6.50	1748.90	2.49
14	7.00	1782.50	1.88
15	7.50	1809.20	1.48
16	8.00	1831.30	1.21
17	8.50	1849.20	0.97
18	9.00	1864.10	0.80
19	9.50	1876.70	0.67
20	10.00	1888.30	0.61
21	10.50	1898.00	0.51
22	11.00	1906.40	0.44

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(1906.4 - 17.05104)(1)/(1) = +1.8893E+03 g/L Carbon
(1906.4 - 17.05104)(1)/(1)(12) = +1.5745E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: KR MONTEITH 00000

1147

$$\frac{1906.4}{\left[\left(\frac{1452.5}{.1059}\right)(.0897)+300\right]} = 125\% \text{ Rec}$$

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3639 Date: 01/12/96 Time: 14:38:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.40	0.00
2	1.01	4.90	71.43
3	1.51	47.80	89.75
4	2.00	327.00	85.38
5	2.50	848.60	61.47
6	3.00	1210.90	29.92
7	3.50	1372.40	11.77
8	4.00	1450.60	5.39
9	4.50	1493.10	2.85
10	5.00	1510.30	1.14
11	5.50	1517.10	0.45
12	6.00	1521.00	0.26
13	6.50	1523.70	0.18
14	7.00	1525.70	0.13
15	7.50	1527.80	0.14
16	8.00	1529.60	0.12
17	8.50	1531.50	0.12
18	9.00	1532.70	0.08
19	9.50	1534.30	0.10
20	10.00	1535.60	0.08
21	10.50	1536.80	0.08
22	11.00	1537.90	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(1537.9 - 5.499939)(1)/(1) = +1.5324E+03 g/L Carbon
(1537.9 - 5.499939)(1)/(1)(12) = +1.2770E+02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

1148

$\frac{1532.4}{.1065} = 1.44E4$

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3639 Date: 01/12/96 Time: 14:50:59

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	45.90	97.39
3	1.51	201.30	77.20
4	2.00	311.60	35.40
5	2.50	374.60	16.82
6	3.00	405.10	7.53
7	3.50	416.20	2.67
8	4.00	421.00	1.14
9	4.50	425.00	0.94
10	5.00	427.80	0.65
11	5.50	430.00	0.51
12	6.00	432.30	0.53
13	6.50	434.90	0.60
14	7.00	436.70	0.41
15	7.50	438.10	0.32
16	8.00	439.90	0.41
17	8.50	441.50	0.36
18	9.00	442.70	0.27
19	9.50	443.70	0.23
20	10.00	444.90	0.27
21	10.50	446.50	0.36
22	11.00	447.80	0.29

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(447.8 - 17.0482)(1)/(1) = +4.308E+02 g/L Carbon
(447.8 - 17.0482)(1)/(1)(12) = +3.590E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

$\frac{430.8}{.1065} = 4.05E^{3}$

1149

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3639 Date: 01/12/96 Time: 15:03:52

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .5 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	2.80	64.29
3	1.50	65.70	95.74
4	2.00	480.40	86.32
5	2.50	994.20	51.68
6	3.00	1270.10	21.72
7	3.50	1391.90	8.75
8	4.00	1457.50	4.50
9	4.50	1492.30	2.33
10	5.00	1505.20	0.86
11	5.50	1510.50	0.35
12	6.00	1514.40	0.26
13	6.50	1517.00	0.17
14	7.00	1518.90	0.13
15	7.50	1521.10	0.14
16	8.00	1522.90	0.12
17	8.50	1524.60	0.11
18	9.00	1526.00	0.09
19	9.50	1527.50	0.10
20	10.00	1528.70	0.08
21	10.50	1530.20	0.10
22	11.00	1531.30	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.500763 micrograms carbon
BLANK FACTOR = 5.500763 / 11.00153 = +5.0E-01 ug/min Carbon

SAMPLE RESULTS:
(1531.3 - 5.499817)(1)/(1) = +1.5258E+03 g/L Carbon
(1531.3 - 5.499817)(1)/(1)(12) = +1.2715E+02 Molar Carbon

Sample Run By: _____
KR MONTEITH 00000

$\frac{1525.8}{.1047} = 1.46E4$

1150

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: 3639 Date: 01/12/96 Time: 17:07:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 1.55 ug/minute C

Analyst : KR MONTEITH
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	46.90	97.44
3	1.51	195.90	76.06
4	2.01	304.60	35.69
5	2.51	365.70	16.71
6	3.01	394.60	7.32
7	3.51	403.90	2.30
8	4.00	408.40	1.10
9	4.50	411.50	0.75
10	5.00	414.00	0.60
11	5.50	416.20	0.53
12	6.00	417.90	0.41
13	6.50	419.50	0.38
14	7.00	420.80	0.31
15	7.50	422.00	0.28
16	8.00	423.00	0.24
17	8.50	423.60	0.14
18	9.00	424.60	0.24
19	9.50	425.70	0.26
20	10.00	426.70	0.23
21	10.50	427.60	0.21
22	11.00	428.60	0.23

USER INPUT BLANK VALUE
BLANK VALUE = 17.05236 micrograms carbon
BLANK FACTOR = 17.05236 / 11.00153 = +1.5E+00 ug/min Carbon

SAMPLE RESULTS:
(428.6 - 17.05113)(1)/(1) = +4.115E+02 g/L Carbon
(428.6 - 17.05113)(1)/(1)(12) = +3.430E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
KR MONTEITH 00000

$\frac{411.5}{.1047} = 3.93E3$

1151

LABCORE Data Entry Template for Worklist# 4873

Analyst: SLH **Instrument:** CARB2 _____ **Book #** TIC 17N12-D
TOC 16N12-D

Method: LA-342-100 Rev/Mod C-O

Worklist Comment: @TICTOC1 BY-104 WHC-SD-WM-DP-164, REV. 1

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	0.5	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	0.9	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.00e2	5.81e2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	3.00e3	2.90e3	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003644	0		@TICTOC1 TIC-02	SOLID	N/A	2.30e4	5.00	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003644	0		@TICTOC1 TOC-02	SOLID	N/A	8.50e3	40.0	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003644	0		@TICTOC1 TIC-02	SOLID	2.30e4	2.28e4	N/A	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003644	0		@TICTOC1 TOC-02	SOLID	8.50e3	8.43e3	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003644	0		@TICTOC1 TIC-02	SOLID	100	85.3	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003644	0		@TICTOC1 TOC-02	SOLID	100	96.8	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003648	0		@TICTOC1 TIC-02	SOLID	N/A	3.04e3	5.00	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003648	0		@TICTOC1 TOC-02	SOLID	N/A	6.75e3	40.0	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003648	0		@TICTOC1 TIC-02	SOLID	3.04e3	3.11e3	N/A	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003648	0		@TICTOC1 TOC-02	SOLID	6.75e3	7.07e3	N/A	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003643	0		@TICTOC1 TIC-02	SOLID	N/A	2.08e4	5.00	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003643	0		@TICTOC1 TOC-02	SOLID	N/A	5.39e3	40.0	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003643	0		@TICTOC1 TIC-02	SOLID	2.08e4	1.97e4	N/A	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003643	0		@TICTOC1 TOC-02	SOLID	5.39e3	5.16e3	N/A	ug/g

Data Entry Comments: S95T0 3357 TRP Ran w/ this WL from 4863

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# 4873

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 4873

Sandra Elliott Boatright
Analyst Signature Date 1-14-96

Analyst Signature Date 1-20-96
Reviewed RW Schneider 1/22/96

WHC-SD-WM-DP-164, REV. 1

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.

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

WHC-SD-WM-DP-164, REV. 1

Sample: BLK Date: 01/13/96 Time: 22:55:24

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

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.30	0.00
2	1.01	1.20	75.00
3	1.51	2.40	50.00
4	2.01	3.20	25.00
5	2.51	3.60	11.11
6	3.00	3.90	7.69
7	3.50	4.20	7.14
8	4.00	4.50	6.67
9	4.50	4.70	4.26
10	5.00	5.00	6.00
11	5.50	5.30	5.66
12	6.00	5.60	5.36
13	6.50	5.80	3.45
14	7.00	6.10	4.92
15	7.50	6.30	3.17
16	8.00	6.60	4.55
17	8.50	6.80	2.94
18	9.00	7.10	4.23
19	9.50	7.30	2.74
20	10.00	7.50	2.67
21	10.50	7.90	5.06
22	11.00	8.10	2.47

SIGNATURE BELOW REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1164 **TO** 1174.

BLANK VALUE = 8.1 micrograms carbon
BLANK FACTOR = 8.1 / 10.99805 = +7.4E-01 ug/min Carbon

Sample Run By: Sandra Hood Beatright 1-14-96
SL HOOD 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/13/96 Time: 23:25:53

Sample Size = 1000 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	36.70	99.73
3	1.51	214.30	82.87
4	2.00	360.00	40.47
5	2.50	466.00	22.75
6	3.00	527.20	11.61
7	3.50	559.60	5.79
8	4.00	574.50	2.59
9	4.50	581.40	1.19
10	5.00	584.10	0.46
11	5.50	585.30	0.21
12	6.00	586.10	0.14
13	6.50	586.60	0.09
14	7.00	586.90	0.05
15	7.50	587.30	0.07
16	8.00	587.70	0.07
17	8.50	587.90	0.03
18	9.00	588.30	0.07
19	9.50	588.50	0.03
20	10.00	588.80	0.05
21	10.50	589.10	0.05
22	11.00	589.30	0.03

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(589.3 - 8.141084)(1)/(1000) = +5.812E-01 g/L Carbon
(589.3 - 8.141084)(1)/(1000)(12) = +4.843E-02 Molar Carbon

Sample Run By: _____
SL HOOD 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: B-2 Date: 01/13/96 Time: 23:50:05

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	1.60	68.75
3	1.50	3.40	52.94
4	2.00	4.20	19.05
5	2.50	4.80	12.50
6	3.00	5.20	7.69
7	3.50	5.40	3.70
8	4.00	5.70	5.26
9	4.50	5.90	3.39
10	5.00	6.10	3.28
11	5.50	6.30	3.17
12	6.00	6.50	3.08
13	6.50	6.80	4.41
14	7.00	7.00	2.86
15	7.50	7.20	2.78
16	8.00	7.40	2.70
17	8.50	7.60	2.63
18	9.00	7.80	2.56
19	9.50	8.00	2.50
20	10.00	8.20	2.44
21	10.50	8.40	2.38
22	11.00	8.60	2.33

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(8.6 - 8.140451)(1)/(1) = +4.6E-01 g/L Carbon
(8.6 - 8.140451)(1)/(1)(12) = +3.8E-02 Molar Carbon

Sample Run By: _____
SL HOOD 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03351 TRP Date: 01/14/96 Time: 05:15:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.00	119.60	99.50
3	1.50	858.10	86.06
4	2.00	1605.20	46.54
5	2.50	2351.80	31.75
6	3.00	3098.80	24.11
7	3.50	3846.00	19.43
8	4.00	4292.80	10.41
9	4.50	4335.20	0.98
10	5.00	4351.70	0.38
11	5.50	4358.40	0.15
12	6.00	4361.90	0.08
13	6.50	4364.40	0.06
14	7.00	4366.30	0.04
15	7.50	4367.70	0.03
16	8.00	4369.10	0.03
17	8.50	4370.20	0.03
18	9.00	4371.10	0.02
19	9.50	4372.00	0.02
20	10.00	4372.80	0.02
21	10.50	4373.60	0.02
22	11.00	4374.20	0.01

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(4374.2 - 8.139774)(1)/(1) = +4.3661E+03 g/L Carbon
(4374.2 - 8.139774)(1)/(1)(12) = +3.6384E+02 Molar Carbon

SS .1127g

Sample Run By: SL HOOD 00000

Ran w/ wL 4873
Belongs with wL 4863

1157

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

Sample: BLK Date: 01/13/96 Time: 23:11:19

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

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.00	1.20	83.33
3	1.50	4.60	73.91
4	2.00	8.70	47.13
5	2.50	12.30	29.27
6	3.00	14.10	12.77
7	3.50	15.60	9.62
8	4.00	16.80	7.14
9	4.50	17.80	5.62
10	5.00	18.80	5.32
11	5.50	19.50	3.59
12	6.00	20.30	3.94
13	6.50	21.10	3.79
14	7.00	22.00	4.09
15	7.50	22.50	2.22
16	8.00	23.20	3.02
17	8.50	23.80	2.52
18	9.00	24.20	1.65
19	9.50	24.60	1.63
20	10.00	25.00	1.60
21	10.50	25.40	1.57
22	11.00	25.70	1.17

BLANK VALUE = 25.7 micrograms carbon
BLANK FACTOR = 25.7 / 10.99963 = +2.34E+00 ug/min Carbon

<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/13/96 Time: 23:38:18

Sample Size = 200 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	3.30	96.97
3	1.51	59.90	94.49
4	2.00	242.70	75.32
5	2.50	447.70	45.79
6	3.00	548.70	18.41
7	3.50	581.10	5.58
8	4.00	590.80	1.64
9	4.50	594.80	0.67
10	5.00	596.40	0.27
11	5.50	598.00	0.27
12	6.00	599.20	0.20
13	6.50	600.00	0.13
14	7.00	601.00	0.17
15	7.50	601.80	0.13
16	8.00	602.40	0.10
17	8.50	603.10	0.12
18	9.00	603.80	0.12
19	9.50	604.30	0.08
20	10.00	604.70	0.07
21	10.50	605.30	0.10
22	11.00	605.80	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(605.8 - 25.744)(1)/(200) = +2.900E+00 g/L Carbon
(605.8 - 25.744)(1)/(200)(12) = +2.417E-01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: B-2 Date: 01/14/96 Time: 00:54:29

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.00	1.00	80.00
3	1.50	4.60	78.26
4	2.00	9.70	52.58
5	2.50	14.00	30.71
6	3.00	16.80	16.67
7	3.50	18.20	7.69
8	4.00	19.10	4.71
9	4.50	19.90	4.02
10	5.00	20.70	3.86
11	5.50	21.50	3.72
12	6.00	22.20	3.15
13	6.50	23.10	3.90
14	7.00	23.70	2.53
15	7.50	24.10	1.66
16	8.00	24.60	2.03
17	8.50	25.00	1.60
18	%-1431.00	25.40	1.57
19	%-1430.50	25.70	1.17
20	%-1430.00	26.00	1.15
21	%-1429.50	26.30	1.14
22	%-1429.00	26.60	1.13

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(26.6 --3343.861)(1)/(1) = +3.37E+03 g/L Carbon
(26.6 --3343.861)(1)/(1)(12) = +2.81E+02 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

Sample Run By: _____
SL HOOD 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03644 Date: 01/14/96 Time: 01:10:39

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	7.40	100.00
3	1.51	305.90	97.58
4	2.00	978.90	68.75
5	2.50	1580.40	38.06
6	3.00	1883.00	16.07
7	3.50	2013.30	6.47
8	4.00	2069.20	2.70
9	4.50	2091.60	1.07
10	5.00	2100.50	0.42
11	5.50	2105.10	0.22
12	6.00	2108.00	0.14
13	6.50	2110.60	0.12
14	7.00	2112.50	0.09
15	7.50	2114.40	0.09
16	8.00	2115.60	0.06
17	8.50	2117.10	0.07
18	9.00	2118.20	0.05
19	9.50	2119.00	0.04
20	10.00	2119.90	0.04
21	10.50	2120.80	0.04
22	11.00	2121.70	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(2121.7 - 8.139881)(1)/(1) = +2.1136E+03 g/L Carbon
(2121.7 - 8.139881)(1)/(1)(12) = +1.7613E+02 Molar Carbon

SS .0920g

Sample Run By: SL HOOD 00000

2114/0.0920 = 2.298 e4

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV.)

Sample: S95T03644 Date: 01/14/96 Time: 01:22:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	56.60	98.23
3	1.51	359.30	84.25
4	2.01	601.30	40.25
5	2.51	719.90	16.47
6	3.01	763.90	5.76
7	3.51	780.10	2.08
8	4.00	787.40	0.93
9	4.50	791.80	0.56
10	5.00	794.90	0.39
11	5.50	797.20	0.29
12	6.00	798.80	0.20
13	6.50	800.20	0.17
14	7.00	801.40	0.15
15	7.50	802.40	0.12
16	8.00	803.30	0.11
17	8.50	804.20	0.11
18	9.00	804.80	0.07
19	9.50	805.40	0.07
20	10.00	806.10	0.09
21	10.50	806.80	0.09
22	11.00	807.30	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(807.3 - 25.74157)(1)/(1) = +7.816E+02 g/L Carbon
(807.3 - 25.74157)(1)/(1)(12) = +6.513E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS .0920g

Sample Run By: _____
SL HOOD 00000

782/0.0920 = 8.5e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0
WHC-SD-WM-DP-164, REV. 1

Sample: S95T03644 DUP Date: 01/14/96 Time: 01:34:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.70	0.00
2	1.01	4.60	84.78
3	1.50	199.80	97.70
4	2.00	815.50	75.50
5	2.50	1532.30	46.78
6	3.00	1928.10	20.53
7	3.50	2101.50	8.25
8	4.00	2179.60	3.58
9	4.50	2217.30	1.70
10	5.00	2233.70	0.73
11	5.50	2240.90	0.32
12	6.00	2245.00	0.18
13	6.50	2248.30	0.15
14	7.00	2250.50	0.10
15	7.50	2252.50	0.09
16	8.00	2254.20	0.08
17	8.50	2255.80	0.07
18	9.00	2257.10	0.06
19	9.50	2258.40	0.06
20	10.00	2259.50	0.05
21	10.50	2260.60	0.05
22	11.00	2261.50	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(2261.5 - 8.141236)(1)/(1) = +2.2534E+03 g/L Carbon
(2261.5 - 8.141236)(1)/(1)(12) = +1.8778E+02 Molar Carbon

SS .0988

Sample Run By: _____
SL HOOD 00000

2253/.0988 = 2.28e4

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03644 DUP Date: 01/14/96 Time: 01:47:27

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.10	0.00
2	1.01	41.00	97.32
3	1.50	326.30	87.43
4	2.00	586.20	44.34
5	2.50	732.30	19.95
6	3.00	795.50	7.94
7	3.50	822.80	3.32
8	4.00	833.30	1.26
9	4.50	838.80	0.66
10	5.00	842.00	0.38
11	5.50	844.70	0.32
12	6.00	846.80	0.25
13	6.50	848.60	0.21
14	7.00	850.10	0.18
15	7.50	851.50	0.16
16	8.00	852.70	0.14
17	8.50	853.90	0.14
18	9.00	855.30	0.16
19	9.50	856.30	0.12
20	10.00	857.00	0.08
21	10.50	857.80	0.09
22	11.00	858.30	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(858.3 - 25.73921)(1)/(1) = +8.326E+02 g/L Carbon
(858.3 - 25.73921)(1)/(1)(12) = +6.938E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS .0988

Sample Run By: _____
SL HOOD 00000

833/0.0988 = 8.43e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03644 SPK Date: 01/14/96 Time: 02:00:50

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	23.00	97.83
3	1.50	471.30	95.12
4	2.00	1142.40	58.74
5	2.50	1605.20	28.83
6	3.00	1841.80	12.85
7	3.50	1950.70	5.58
8	4.00	2006.80	2.80
9	4.50	2032.80	1.28
10	5.00	2042.20	0.46
11	5.50	2047.10	0.24
12	6.00	2050.90	0.19
13	6.50	2054.00	0.15
14	7.00	2056.40	0.12
15	7.50	2058.70	0.11
16	8.00	2060.80	0.10
17	8.50	2062.30	0.07
18	9.00	2063.80	0.07
19	9.50	2065.10	0.06
20	10.00	2066.40	0.06
21	10.50	2067.40	0.05
22	11.00	2068.40	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(2068.4 - 8.139876)(1)/(1) = +2.0603E+03 g/L Carbon
(2068.4 - 8.139876)(1)/(1)(12) = +1.7169E+02 Molar Carbon

SS .0921g

Sample Run By: _____
SL HOOD 00000

$$\frac{2068.4}{\left(\frac{2121.7}{0.0920}\right)0.0921+300} \times 100 = 85.3\%$$

1165

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-DP-164, REV. 1

Sample: S95T03644 SPK Date: 01/14/96 Time: 02:13:21

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.00	0.00
2	1.01	32.60	96.93
3	1.51	280.90	88.39
4	2.00	603.80	53.48
5	2.50	863.00	30.03
6	3.00	973.60	11.36
7	3.50	1021.00	4.64
8	4.00	1042.50	2.06
9	4.50	1050.30	0.74
10	5.00	1054.90	0.44
11	5.50	1057.90	0.28
12	6.00	1060.50	0.25
13	6.50	1062.60	0.20
14	7.00	1064.40	0.17
15	7.50	1065.80	0.13
16	8.00	1067.00	0.11
17	8.50	1068.30	0.12
18	9.00	1069.10	0.07
19	9.50	1070.10	0.09
20	10.00	1070.90	0.07
21	10.50	1071.70	0.07
22	11.00	1072.50	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(1072.5 - 25.74157)(1)/(1) = +1.0468E+03 g/L Carbon
(1072.5 - 25.74157)(1)/(1)(12) = +8.7230E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS .0921g

Sample Run By: SL HOOD 00000

$$\frac{1072.5}{\left(\frac{807.3}{0.0920}\right)0.0921+300} \times 100 = 96.8\%$$

1166

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03648 Date: 01/14/96 Time: 02:25:51

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.80	0.00
2	1.01	2.30	65.22
3	1.51	7.40	68.92
4	2.00	29.70	75.08
5	2.50	69.80	57.45
6	3.00	113.20	38.34
7	3.50	144.40	21.61
8	4.00	161.30	10.48
9	4.50	169.30	4.73
10	5.00	173.70	2.53
11	5.50	176.30	1.47
12	6.00	178.30	1.12
13	6.50	180.10	1.00
14	7.00	181.80	0.94
15	7.50	183.10	0.71
16	8.00	184.30	0.65
17	8.50	185.40	0.59
18	9.00	186.40	0.54
19	9.50	187.50	0.59
20	10.00	188.40	0.48
21	10.50	189.30	0.48
22	11.00	190.20	0.47

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(190.2 - 8.140509)(1)/(1) = +1.821E+02 g/L Carbon
(190.2 - 8.140509)(1)/(1)(12) = +1.517E+01 Molar Carbon

SS .0599g Sample Run By: _____
SL HOOD 00000

182/0.0599 = 3.04e3

1167

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03648 Date: 01/14/96 Time: 02:37:54

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	7.50	88.00
3	1.50	56.20	86.65
4	2.00	145.30	61.32
5	2.50	231.60	37.26
6	3.00	286.70	19.22
7	3.50	321.40	10.80
8	4.00	344.70	6.76
9	4.50	362.20	4.83
10	5.00	376.30	3.75
11	5.50	387.20	2.82
12	6.00	395.90	2.20
13	6.50	403.30	1.83
14	7.00	408.90	1.37
15	7.50	413.50	1.11
16	8.00	417.40	0.93
17	8.50	420.40	0.71
18	9.00	422.70	0.54
19	9.50	425.10	0.56
20	10.00	426.80	0.40
21	10.50	428.50	0.40
22	11.00	430.20	0.40

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(430.2 - 25.73961)(1)/(1) = +4.045E+02 g/L Carbon
(430.2 - 25.73961)(1)/(1)(12) = +3.371E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS .0599g

Sample Run By: _____
SL HOOD 00000

404.5/0.0599 = 6.75e3

1168

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03648 DUP Date: 01/14/96 Time: 02:50:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	2.90	58.62
3	1.51	5.80	50.00
4	2.01	11.80	50.85
5	2.51	25.80	54.26
6	3.01	50.00	48.40
7	3.51	85.10	41.25
8	4.01	125.20	32.03
9	4.50	158.50	21.01
10	5.00	177.40	10.65
11	5.50	186.40	4.83
12	6.00	191.00	2.41
13	6.50	193.70	1.39
14	7.00	196.00	1.17
15	7.50	197.70	0.86
16	8.00	199.30	0.80
17	8.50	200.80	0.75
18	9.00	202.10	0.64
19	9.50	203.40	0.64
20	10.00	204.40	0.49
21	10.50	205.60	0.58
22	11.00	206.60	0.48

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(206.6 - 8.141231)(1)/(1) = +1.985E+02 g/L Carbon
(206.6 - 8.141231)(1)/(1)(12) = +1.654E+01 Molar Carbon

SS .0638g

Sample Run By: _____
SL HOOD 00000

798.5/0.0638 = 3.11e3

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03648 DUP Date: 01/14/96 Time: 04:10:01

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.30	0.00
2	1.01	8.40	84.52
3	1.50	59.20	85.81
4	2.00	149.00	60.27
5	2.50	237.90	37.37
6	3.00	299.90	20.67
7	3.51	339.90	11.77
8	4.00	367.30	7.46
9	4.50	387.40	5.19
10	5.00	404.00	4.11
11	5.50	417.90	3.33
12	6.00	429.00	2.59
13	6.50	438.10	2.08
14	7.00	445.80	1.73
15	7.50	452.30	1.44
16	8.00	457.70	1.18
17	8.50	462.00	0.93
18	9.00	465.90	0.84
19	9.50	469.10	0.68
20	10.00	472.10	0.64
21	10.50	474.60	0.53
22	11.00	476.90	0.48

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(476.9 - 25.74582)(1)/(1) = +4.512E+02 g/L Carbon
(476.9 - 25.74582)(1)/(1)(12) = +3.760E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS ~~.063~~ SLHB
.0638g

Sample Run By: _____
SL HOOD 00000

451.2/0.0638 = 7.072e3

1170

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03643 Date: 01/14/96 Time: 04:36:39

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.20	0.00
2	1.01	21.90	94.52
3	1.51	172.00	87.27
4	2.00	336.90	48.95
5	2.50	443.10	23.97
6	3.00	494.80	10.45
7	3.50	519.80	4.81
8	4.00	529.30	1.79
9	4.50	533.30	0.75
10	5.00	536.10	0.52
11	5.50	538.10	0.37
12	6.00	539.80	0.31
13	6.50	541.20	0.26
14	7.00	542.40	0.22
15	7.50	543.50	0.20
16	8.00	544.40	0.17
17	8.50	545.20	0.15
18	9.00	545.90	0.13
19	9.50	546.70	0.15
20	10.00	547.70	0.18
21	10.50	548.30	0.11
22	11.00	548.90	0.11

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(548.9 - 25.74157)(1)/(1) = +5.232E+02 .g/L Carbon
(548.9 - 25.74157)(1)/(1)(12) = +4.360E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS .0971g

Sample Run By: _____
SL HOOD 00000

523/0.0971 = 5.39 e3

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03643 Date: 01/14/96 Time: 04:24:08

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.00	0.00
2	1.01	13.00	100.00
3	1.51	388.70	96.66
4	2.00	1090.30	64.35
5	2.50	1588.20	31.35
6	3.00	1815.60	12.52
7	3.50	1912.00	5.04
8	4.00	1963.10	2.60
9	4.50	1988.30	1.27
10	5.00	1997.90	0.48
11	5.50	2003.00	0.25
12	6.00	2006.40	0.17
13	6.50	2008.90	0.12
14	7.00	2011.40	0.12
15	7.50	2013.70	0.11
16	8.00	2015.30	0.08
17	8.50	2017.00	0.08
18	9.00	2018.50	0.07
19	9.50	2019.80	0.06
20	10.00	2021.00	0.06
21	10.50	2022.20	0.06
22	11.00	2023.10	0.04

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(2023.1 - 8.139865)(1)/(1) = +2.0150E+03 g/L Carbon
(2023.1 - 8.139865)(1)/(1)(12) = +1.6791E+02 Molar Carbon

SS .0971g

Sample Run By: SL HOOD 00000

2015/0.0971 = 2.075e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03643 DUP Date: 01/14/96 Time: 04:48:42

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .74 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	8.60	93.02
3	1.50	319.60	97.31
4	2.00	978.00	67.32
5	2.50	1458.30	32.94
6	3.00	1686.50	13.53
7	3.50	1788.10	5.68
8	4.00	1843.10	2.98
9	4.50	1872.20	1.55
10	5.00	1884.30	0.64
11	5.50	1891.50	0.38
12	6.00	1897.20	0.30
13	6.50	1901.70	0.24
14	7.00	1905.80	0.22
15	7.50	1909.00	0.17
16	8.00	1911.50	0.13
17	8.50	1913.70	0.11
18	9.00	1915.60	0.10
19	9.50	1917.30	0.09
20	10.00	1918.80	0.08
21	10.50	1920.20	0.07
22	11.00	1921.60	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 8.139729 micrograms carbon
BLANK FACTOR = 8.139729 / 10.99963 = +7.4E-01 ug/min Carbon

SAMPLE RESULTS:
(1921.6 - 8.139865)(1)/(1) = +1.9135E+03 g/L Carbon
(1921.6 - 8.139865)(1)/(1)(12) = +1.5946E+02 Molar Carbon

SS .0972g

Sample Run By: SL HOOD 00000

1914/0.0972 = 1.97e4

1173

TOC- TOTAL ORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. I

Sample: S95T03643 DUP Date: 01/14/96 Time: 05:01:30

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = 2.34 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.40	0.00
2	1.01	28.60	95.10
3	1.50	186.60	84.67
4	2.00	342.50	45.52
5	2.50	433.60	21.01
6	3.00	479.10	9.50
7	3.50	499.40	4.06
8	4.00	506.80	1.46
9	4.50	510.70	0.76
10	5.00	513.30	0.51
11	5.50	515.60	0.45
12	6.00	517.30	0.33
13	6.50	518.80	0.29
14	7.00	520.10	0.25
15	7.50	521.80	0.33
16	8.00	523.00	0.23
17	8.50	523.90	0.17
18	9.00	524.90	0.19
19	9.50	525.70	0.15
20	10.00	526.40	0.13
21	10.50	527.00	0.11
22	11.00	527.80	0.15

USER INPUT BLANK VALUE
BLANK VALUE = 25.73914 micrograms carbon
BLANK FACTOR = 25.73914 / 10.99963 = +2.3E+00 ug/min Carbon

SAMPLE RESULTS:
(527.8 - 25.73736)(1)/(1) = +5.021E+02 g/L Carbon
(527.8 - 25.73736)(1)/(1)(12) = +4.184E+01 Molar Carbon
<<<< WARNING - BLANK VALUE EXCEEDS 1.5 ug/min Carbon!!!!!>>>>

SS .0972g

Sample Run By: SL HOOD 00000

502/0.0972 = 5.16E3

1174

LABCORE Data Entry Template for Worklist# 4874

Analyst: slh **Instrument:** CARB2 _____ **Book #** TIC 17N12D TOC 16N12D

Method: LA-342-100 Rev/Mod C-0

WHC-SD-WM-DP-164, REV. 1

Worklist Comment: @TICTOC1 BY-104

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID	1	2.8	N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID	1	5.7	N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID	6.00e2	5.82e2	N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID	3.00e3	2.84e3	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003642	0		@TICTOC1 TIC-02	SOLID	N/A	1.91e4	5.00	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003642	0		@TICTOC1 TOC-02	SOLID	N/A	5.04e3	40.0	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003642	0		@TICTOC1 TIC-02	SOLID	1.91e4	2.03e4	N/A	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003642	0		@TICTOC1 TOC-02	SOLID	5.04e3	6.05e3	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003642	0		@TICTOC1 TIC-02	SOLID	100	103.9	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003642	0		@TICTOC1 TOC-02	SOLID	100	138.0	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		@TICTOC1 TIC-02	SOLID	N/A	1.99e4	5.00	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		@TICTOC1 TOC-02	SOLID	N/A	6.26e3	40.0	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		@TICTOC1 TIC-02	SOLID	1.99e4	2.02e4	N/A	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		@TICTOC1 TOC-02	SOLID	6.26e3	6.28e3	N/A	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003633	0		@TICTOC1 TIC-02	SOLID	N/A	2.27e4	5.00	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003633	0		@TICTOC1 TOC-02	SOLID	N/A	6.41e3	40.0	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003633	0		@TICTOC1 TIC-02	SOLID	2.27e4	2.34e4	N/A	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003633	0		@TICTOC1 TOC-02	SOLID	6.41e3	6.17e3	N/A	ug/g

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# 4874

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
95000180	BY104 ROTARY	10	SAMPLE	S95T003634	0		@TICTOC1 TIC-02	SOLID	N/A	1.69e4	5.00	ug/g
95000180	BY104 ROTARY	10	SAMPLE	S95T003634	0		@TICTOC1 TOC-02	SOLID	N/A	4.85e3	40.0	ug/g
95000180	BY104 ROTARY	11	DUP	S95T003634	0		@TICTOC1 TIC-02	SOLID	1.69e4	1.88e4	N/A	ug/g
95000180	BY104 ROTARY	11	DUP	S95T003634	0		@TICTOC1 TOC-02	SOLID	4.85e3	4.96e3	N/A	ug/g
95000180	BY104 ROTARY	12	SAMPLE	S95T003635	0		@TICTOC1 TIC-02	SOLID	N/A	1.66e4	5.00	ug/g
95000180	BY104 ROTARY	12	SAMPLE	S95T003635	0		@TICTOC1 TOC-02	SOLID	N/A	6.31e3	40	ug/g
95000180	BY104 ROTARY	13	DUP	S95T003635	0		@TICTOC1 TIC-02	SOLID	1.66e4	1.92e4	N/A	ug/g
95000180	BY104 ROTARY	13	DUP	S95T003635	0		@TICTOC1 TOC-02	SOLID	6.31e3	7.31e3	N/A	ug/g
95000180	BY104 ROTARY	14	SAMPLE	S95T003638	0		@TICTOC1 TIC-02	SOLID	N/A	2.07e4	5.00	ug/g
95000180	BY104 ROTARY	14	SAMPLE	S95T003638	0		@TICTOC1 TOC-02	SOLID	N/A	6.02e3	40.0	ug/g
95000180	BY104 ROTARY	15	DUP	S95T003638	0		@TICTOC1 TIC-02	SOLID	2.07e4	2.34e4	N/A	ug/g
95000180	BY104 ROTARY	15	DUP	S95T003638	0		@TICTOC1 TOC-02	SOLID	6.02e3	6.57e3	N/A	ug/g
95000180	BY104 ROTARY	16	SAMPLE	S95T003702	0		@TICTOC1 TIC-02	SOLID	N/A	2.41e4	5.00	ug/g
95000180	BY104 ROTARY	16	SAMPLE	S95T003702	0		@TICTOC1 TOC-02	SOLID	N/A	4.00e3	40.0	ug/g
95000180	BY104 ROTARY	17	DUP	S95T003702	0		@TICTOC1 TIC-02	SOLID	2.41e4	1.82e4	N/A	ug/g
95000180	BY104 ROTARY	17	DUP	S95T003702	0		@TICTOC1 TOC-02	SOLID	4.00e3	4.19e3	N/A	ug/g
95000180	BY104 ROTARY	18	TRIPL	S95T003702	0		@TICTOC1 TIC-02	SOLID	2.41e4	1.75e4	N/A	ug/g
95000180	BY104 ROTARY	18	TRIPL	S95T003702	0		@TICTOC1 TOC-02	SOLID	N/A	N/A	N/A	ug/g

Final page for worklist # 4874

See attached WL for analysts Signature

Analyst Signature **Date**

1-20-96

Analyst Signature **Date**

Reviewed RW Schroeder 1/22/96

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# 4874

Analyst: SUH **Instrument:** CARB2 **Book #** TIC 17N12-D
TOC 16N12-D

Method: LA-342-100 Rev/Mod C-0 WHC-SD-WM-DP-164, REV. 1

Worklist Comment: @TICTOC1 BY-104

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID			N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID			N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID			N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003642	0		@TICTOC1 TIC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003642	0		@TICTOC1 TOC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	4	DUP	S95T003642	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003642	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003642	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003642	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		@TICTOC1 TIC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		@TICTOC1 TOC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003633	0		@TICTOC1 TIC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003633	0		@TICTOC1 TOC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	9	DUP	S95T003633	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003633	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g

Data Entry Comments:
On STD used ss 1 instead of 1000
Please check S95T03638 TOC — recalculate
WL 4877 has been added to this work list S95T03634
3635
3702

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# 4874

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 4874

Sandra L Hood Boatright
Analyst Signature Date 1-15-96

Analyst Signature Date

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# 4877

Analyst: SLH **Instrument:** CARB2 **Book #** TIC 17N12-D
TOC 16N12-D

Method: LA-342-100 Rev/Mod C-D

Worklist Comment: @TICTOC1 BY-104

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				@TICTOC1 TIC-02	SOLID			N/A	ug/g
		1	BLNK				@TICTOC1 TOC-02	SOLID			N/A	ug/g
		2	STD				@TICTOC1 TIC-02	SOLID			N/A	ug/g
		2	STD				@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003634	0		@TICTOC1 TIC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003634	0		@TICTOC1 TOC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	4	DUP	S95T003634	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003634	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003634	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003634	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003635	0		@TICTOC1 TIC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003635	0		@TICTOC1 TOC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	7	DUP	S95T003635	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003635	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003702	0		@TICTOC1 TIC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	8	SAMPLE	S95T003702	0		@TICTOC1 TOC-02	SOLID	N/A			ug/g
95000180	BY104 ROTARY	9	DUP	S95T003702	0		@TICTOC1 TIC-02	SOLID			N/A	ug/g
95000180	BY104 ROTARY	9	DUP	S95T003702	0		@TICTOC1 TOC-02	SOLID			N/A	ug/g

Data Entry Comments: This WL added to WL #4874

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# 4877

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT

Final page for worklist # 4877

Sandra Hood Boatright
Analyst Signature Date
1-15-96

Analyst Signature Date

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.

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0 WHC-SD-WM-DP-164, REV. 1
<<< BLANK ANALYSIS >>>

Sample: BLK Date: 01/14/96 Time: 18:21:20

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

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	0.20	50.00
3	1.51	0.60	66.67
4	2.01	1.00	40.00
5	2.50	1.40	28.57
6	3.00	1.70	17.65
7	3.50	2.10	19.05
8	4.00	2.30	8.70
9	4.50	2.40	4.17
10	5.00	2.60	7.69
11	5.50	2.80	7.14
12	6.00	3.00	6.67
13	6.50	3.40	11.76
14	7.00	3.40	0.00
15	7.50	3.70	8.11
16	8.00	3.90	5.13
17	8.50	4.10	4.88
18	9.00	4.30	4.65
19	9.50	4.60	6.52
20	10.00	4.70	2.13
21	10.50	4.90	4.08
22	11.00	5.10	3.92

BLANK VALUE = 5.1 micrograms carbon
BLANK FACTOR = 5.1 / 11.00073 = +4.6E-01 ug/min Carbon

Sample Run By: Sandra L Hood Boatright 1-15-96
SL HOOD 00000

SIGNATURE ABOVE REPRESENTS CHEMICAL TECHNOLOGIST/CHEMIST THAT COMPLETED/VERIFIED THE CALIBRATION/ANALYSIS ON PAGES 1181 TO 1217

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: STD Date: 01/14/96 Time: 18:57:25

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	31.30	99.68
3	1.50	190.60	83.58
4	2.00	340.20	43.97
5	2.50	450.20	24.43
6	3.00	515.80	12.72
7	3.50	554.50	6.98
8	4.00	572.40	3.13
9	4.50	579.40	1.21
10	5.00	582.30	0.50
11	5.50	583.60	0.22
12	6.00	584.40	0.14
13	6.50	584.90	0.09
14	7.00	585.20	0.05
15	7.50	585.60	0.07
16	8.00	585.90	0.05
17	8.50	586.30	0.07
18	9.00	586.50	0.03
19	9.50	586.80	0.05
20	10.00	587.10	0.05
21	10.50	587.20	0.02
22	11.00	587.60	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(587.6 - 5.059439)(1)/(1) = +5.825E+02 g/L Carbon
(587.6 - 5.059439)(1)/(1)(12) = +4.855E+01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

STD needs to be changed
sample size used 1 instead of 1000

1182

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: B-2 Date: 01/14/96 Time: 19:23:03

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	1.30	92.31
3	1.50	3.00	56.67
4	2.00	4.00	25.00
5	2.50	4.20	4.76
6	3.00	4.70	10.64
7	3.50	5.00	6.00
8	4.00	5.10	1.96
9	4.50	5.40	5.56
10	5.00	5.50	1.82
11	5.50	5.80	5.17
12	6.00	5.90	1.69
13	6.50	6.10	3.28
14	7.00	6.40	4.69
15	7.50	6.50	1.54
16	8.00	6.90	5.80
17	8.50	7.00	1.43
18	9.00	7.20	2.78
19	9.50	7.30	1.37
20	10.00	7.50	2.67
21	10.50	7.70	2.60
22	11.00	7.90	2.53

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(7.9 - 5.060786)(1)/(1) = +2.8E+00 g/L Carbon
(7.9 - 5.060786)(1)/(1)(12) = +2.4E-01 Molar Carbon

Sample Run By: _____
SL HOOD 00000

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03642 Date: 01/14/96 Time: 19:49:43

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.10	0.00
2	1.01	12.80	99.22
3	1.50	363.90	96.48
4	2.00	873.40	58.34
5	2.50	1196.10	26.98
6	3.00	1365.10	12.38
7	3.50	1442.20	5.35
8	4.00	1481.30	2.64
9	4.50	1498.70	1.16
10	5.00	1507.80	0.60
11	5.50	1513.90	0.40
12	6.00	1518.00	0.27
13	6.50	1521.10	0.20
14	7.00	1524.20	0.20
15	7.50	1526.40	0.14
16	8.00	1528.70	0.15
17	8.50	1530.50	0.12
18	9.00	1531.80	0.08
19	9.50	1533.30	0.10
20	10.00	1534.50	0.08
21	10.50	1535.50	0.07
22	11.00	1536.60	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1536.6 - 5.05899)(1)/(1) = +1.5315E+03 g/L Carbon
(1536.6 - 5.05899)(1)/(1)(12) = +1.2763E+02 Molar Carbon

SS .0801g

Sample Run By: _____
SL HOOD 00000

1532/0.0801 - 1.91e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03642 DUP Date: 01/14/96 Time: 21:19:03

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	8.30	97.59
3	1.51	360.70	97.70
4	2.00	996.00	63.79
5	2.50	1382.80	27.97
6	3.01	1580.00	12.48
7	3.51	1671.30	5.46
8	4.01	1716.90	2.66
9	4.50	1739.60	1.30
10	5.00	1750.10	0.60
11	5.50	1757.30	0.41
12	6.00	1764.50	0.41
13	6.50	1769.30	0.27
14	7.00	1773.70	0.25
15	7.50	1776.30	0.15
16	8.00	1779.20	0.16
17	8.50	1781.20	0.11
18	9.00	1783.10	0.11
19	9.50	1784.80	0.10
20	10.00	1786.60	0.10
21	10.50	1787.70	0.06
22	11.00	1788.90	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1788.9 - 5.06073)(1)/(1) = +1.7838E+03 g/L Carbon
(1788.9 - 5.06073)(1)/(1)(12) = +1.4865E+02 Molar Carbon

SS .0879g Sample Run By: _____
SL HOOD 00000

1784/0.0879 = 2.03e4

1185

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03642 SPK Date: 01/14/96 Time: 21:48:35

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.00	17.30	97.11
3	1.50	411.20	95.79
4	2.00	1027.30	59.97
5	2.50	1449.20	29.11
6	3.00	1680.00	13.74
7	3.50	1789.00	6.09
8	4.00	1841.40	2.85
9	4.50	1867.70	1.41
10	5.00	1879.40	0.62
11	5.50	1886.70	0.39
12	6.00	1892.20	0.29
13	6.50	1896.10	0.21
14	7.00	1900.00	0.21
15	7.50	1902.80	0.15
16	8.00	1905.20	0.13
17	8.50	1907.40	0.12
18	9.00	1909.30	0.10
19	9.50	1911.30	0.10
20	10.00	1912.80	0.08
21	10.50	1914.10	0.07
22	11.00	1915.20	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1915.2 - 5.060618)(1)/(1) = +1.9101E+03 g/L Carbon
(1915.2 - 5.060618)(1)/(1)(12) = +1.5918E+02 Molar Carbon

SS .0804g

Sample Run By: _____
SL HOOD 00000

$$\frac{1915.2}{\left(\frac{1536.6}{6.081}\right)0.0804 + 300} \times 100 = 103.9\%$$

1186

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. I

Sample: S95T03645 Date: 01/14/96 Time: 22:13:08

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.50	0.00
2	1.01	15.10	96.69
3	1.50	438.50	96.56
4	2.00	1184.80	62.99
5	2.50	1700.50	30.33
6	3.00	1942.10	12.44
7	3.50	2060.10	5.73
8	4.00	2120.30	2.84
9	4.50	2152.20	1.48
10	5.00	2167.30	0.70
11	5.50	2176.90	0.44
12	6.00	2183.10	0.28
13	6.50	2188.50	0.25
14	7.00	2192.80	0.20
15	7.50	2196.80	0.18
16	8.00	2199.80	0.14
17	8.50	2202.40	0.12
18	9.00	2204.90	0.11
19	9.50	2206.80	0.09
20	10.00	2208.60	0.08
21	10.50	2210.00	0.06
22	11.00	2211.60	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(2211.6 - 5.06073)(1)/(1) = +2.2065E+03 g/L Carbon
(2211.6 - 5.06073)(1)/(1)(12) = +1.8388E+02 Molar Carbon

SS .1109g

Sample Run By: _____
SL HOOD 00000

2206/0.1109 = 1.99e4

1187

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03645 DUP Date: 01/14/96 Time: 22:37:36

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.90	0.00
2	1.01	5.90	84.75
3	1.51	188.20	96.87
4	2.00	720.10	73.86
5	2.50	1093.30	34.14
6	3.00	1286.70	15.03
7	3.50	1376.00	6.49
8	4.00	1423.60	3.34
9	4.50	1448.80	1.74
10	5.00	1460.00	0.77
11	5.50	1466.20	0.42
12	6.00	1471.30	0.35
13	6.50	1475.60	0.29
14	7.00	1478.80	0.22
15	7.50	1482.10	0.22
16	8.00	1484.70	0.18
17	8.50	1486.90	0.15
18	9.00	1489.50	0.17
19	9.50	1491.20	0.11
20	10.00	1492.80	0.11
21	10.50	1494.10	0.09
22	11.00	1495.30	0.08

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1495.3 - 5.059888)(1)/(1) = +1.4902E+03 g/L Carbon
(1495.3 - 5.059888)(1)/(1)(12) = +1.2419E+02 Molar Carbon

SS .0737g

Sample Run By: _____
SL HOOD 00000

1188

1490/0.0737 = 2.02 E4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03633 Date: 01/14/96 Time: 23:03:20

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	15.30	97.39
3	1.50	403.90	96.21
4	2.00	1073.50	62.38
5	2.50	1490.80	27.99
6	3.00	1703.90	12.51
7	3.50	1800.20	5.35
8	4.00	1851.50	2.77
9	4.50	1878.50	1.44
10	5.00	1891.00	0.66
11	5.50	1898.10	0.37
12	6.00	1903.10	0.26
13	6.50	1907.60	0.24
14	7.00	1911.50	0.20
15	7.50	1914.70	0.17
16	8.00	1917.10	0.13
17	8.50	1919.60	0.13
18	9.00	1921.60	0.10
19	9.50	1923.50	0.10
20	10.00	1925.20	0.09
21	10.50	1926.90	0.09
22	11.00	1927.80	0.05

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1927.8 - 5.060281)(1)/(1) = +1.9227E+03 g/L Carbon
(1927.8 - 5.060281)(1)/(1)(12) = +1.6023E+02 Molar Carbon

SS .0847g

Sample Run By: _____
SL HOOD 00000

1189

1923/0.0847 = 2.27e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03633 DUP Date: 01/14/96 Time: 23:29:48

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	1.50	0.00
2	1.01	19.30	92.23
3	1.51	502.50	96.16
4	2.01	1215.50	58.66
5	2.51	1626.40	25.26
6	3.01	1828.90	11.07
7	3.50	1921.90	4.84
8	4.00	1971.50	2.52
9	4.50	1998.50	1.35
10	5.00	2013.80	0.76
11	5.50	2022.50	0.43
12	6.00	2029.50	0.34
13	6.50	2035.50	0.29
14	7.00	2041.40	0.29
15	7.50	2045.90	0.22
16	8.00	2048.80	0.14
17	8.50	2051.70	0.14
18	9.00	2053.50	0.09
19	9.50	2055.60	0.10
20	10.00	2057.00	0.07
21	10.50	2058.60	0.08
22	11.00	2059.90	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(2059.9 - 5.060786)(1)/(1) = +2.0548E+03 g/L Carbon
(2059.9 - 5.060786)(1)/(1)(12) = +1.7124E+02 Molar Carbon

SS .0882g

Sample Run By: SL HOOD 00000

2059.9/0.0882 = 2.34 e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03634 Date: 01/15/96 Time: 02:08:32

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.40	0.00
2	1.01	9.80	95.92
3	1.51	376.90	97.40
4	2.00	892.10	57.75
5	2.50	1160.50	23.13
6	3.00	1264.30	8.21
7	3.50	1313.00	3.71
8	4.00	1339.80	2.00
9	4.50	1354.50	1.09
10	5.00	1361.20	0.49
11	5.50	1366.00	0.35
12	6.00	1370.10	0.30
13	6.50	1373.50	0.25
14	7.00	1376.40	0.21
15	7.50	1378.80	0.17
16	8.00	1381.20	0.17
17	8.50	1383.20	0.14
18	9.00	1385.20	0.14
19	9.50	1386.70	0.11
20	10.00	1388.00	0.09
21	10.50	1389.20	0.09
22	11.00	1390.50	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1390.5 - 5.059849)(1)/(1) = +1.3854E+03 g/L Carbon
(1390.5 - 5.059849)(1)/(1)(12) = +1.1545E+02 Molar Carbon

SS .0819g

Sample Run By: _____
SL HOOD 00000

1385/0.0819 = 1.69e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03634 DUP Date: 01/15/96 Time: 02:33:21

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	9.00	93.33
3	1.50	323.80	97.22
4	2.00	1025.40	68.42
5	2.50	1479.20	30.68
6	3.00	1671.50	11.50
7	3.50	1751.80	4.58
8	4.00	1795.30	2.42
9	4.50	1819.10	1.31
10	5.00	1830.20	0.61
11	5.50	1839.40	0.50
12	6.00	1845.40	0.33
13	6.50	1850.20	0.26
14	7.00	1854.80	0.25
15	7.50	1858.10	0.18
16	8.00	1861.30	0.17
17	8.50	1864.00	0.14
18	9.00	1866.30	0.12
19	9.50	1868.70	0.13
20	10.00	1870.60	0.10
21	10.50	1872.30	0.09
22	11.00	1874.00	0.09

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1874 - 5.059081)(1)/(1) = +1.8689E+03 g/L Carbon
(1874 - 5.059081)(1)/(1)(12) = +1.5575E+02 Molar Carbon

SS .0995g

Sample Run By: _____
SL HOOD 00000

1869/0.0995 = 1.88E4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV.1

Sample: S95T03635 Date: 01/15/96 Time: 02:58:11

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	3.10	93.55
3	1.51	105.90	97.07
4	2.01	622.20	82.98
5	2.50	1157.70	46.26
6	3.00	1438.20	19.50
7	3.50	1555.90	7.56
8	4.00	1619.10	3.90
9	4.50	1659.20	2.42
10	5.00	1683.50	1.44
11	5.50	1698.90	0.91
12	6.00	1708.90	0.59
13	6.50	1716.60	0.45
14	7.00	1723.30	0.39
15	7.50	1728.30	0.29
16	8.00	1733.10	0.28
17	8.50	1737.50	0.25
18	9.00	1741.20	0.21
19	9.50	1744.70	0.20
20	10.00	1752.30	0.43
21	10.50	1757.30	0.28
22	11.00	1761.20	0.22

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1761.2 - 5.059923)(1)/(1) = +1.7561E+03 g/L Carbon
(1761.2 - 5.059923)(1)/(1)(12) = +1.4635E+02 Molar Carbon

SS .1058g

Sample Run By: _____
SL HOOD 00000

1756/0.1058 = 1.66e4

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV. 1

Sample: S95T03635 DUP Date: 01/15/96 Time: 04:07:00

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.20	0.00
2	1.01	8.10	97.53
3	1.50	285.60	97.16
4	2.00	942.20	69.69
5	2.50	1414.10	33.37
6	3.00	1627.10	13.09
7	3.50	1718.10	5.30
8	4.00	1769.50	2.90
9	4.50	1799.70	1.68
10	5.00	1816.40	0.92
11	5.50	1825.20	0.48
12	6.00	1831.50	0.34
13	6.50	1836.40	0.27
14	7.00	1840.30	0.21
15	7.50	1843.60	0.18
16	8.00	1846.40	0.15
17	8.50	1848.90	0.14
18	9.00	1850.90	0.11
19	9.50	1853.00	0.11
20	10.00	1854.60	0.09
21	10.50	1856.20	0.09
22	11.00	1857.40	0.06

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1857.4 - 5.060232)(1)/(1) = +1.8523E+03 g/L Carbon
(1857.4 - 5.060232)(1)/(1)(12) = +1.5436E+02 Molar Carbon

SS .0965g Sample Run By: SL HOOD 00000

1852/0.0965 = 1.92e4

1194

TIC- TOTAL INORGANIC CARBON ANALYSIS REPORT
TICTOC REV 2.0

WHC-SD-WM-DP-164, REV.)

Sample: S95T03638 Date: 01/14/96 Time: 23:56:00

Sample Size = 1 uL
Dil Factor = 1
Blank ID # =
Blank Value = .46 ug/minute C

Analyst : SL HOOD
Min Readings = 22
Max Readings = 22
% Difference = 10

== Reading	==== Analysis Time	==== Coulometer	==== % Difference ==
1	0.51	0.60	0.00
2	1.01	11.90	94.96
3	1.51	385.00	96.91
4	2.00	1025.60	62.46
5	2.50	1452.30	29.38
6	3.00	1669.90	13.03
7	3.50	1771.20	5.72
8	4.00	1823.60	2.87
9	4.50	1851.60	1.51
10	5.00	1865.10	0.72
11	5.50	1871.80	0.36
12	6.00	1877.00	0.28
13	6.50	1881.20	0.22
14	7.00	1884.50	0.18
15	7.50	1887.70	0.17
16	8.00	1889.90	0.12
17	8.50	1892.30	0.13
18	9.00	1894.00	0.09
19	9.50	1895.40	0.07
20	10.00	1897.00	0.08
21	10.50	1898.20	0.06
22	11.00	1899.50	0.07

USER INPUT BLANK VALUE
BLANK VALUE = 5.060281 micrograms carbon
BLANK FACTOR = 5.060281 / 11.00061 = +4.6E-01 ug/min Carbon

SAMPLE RESULTS:
(1899.5 - 5.060337)(1)/(1) = +1.8944E+03 g/L Carbon
(1899.5 - 5.060337)(1)/(1)(12) = +1.5787E+02 Molar Carbon

SS .0915g

Sample Run By: _____
SL HOOD 00000

1894/0.0915 = 2.07e4