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 2 **OF** 12

TITLE: Final Report for Tank 241BY104 Rotary Mode Cores 116 & 117 [Pgs 197 Thru 397]

DATE: 06/25/1996

ORIGINATOR: Benar CJ

CO: WHC

RECIPIENT:

CO:

REFERENCES: ECN-629043

LABCORE Data Entry Template for Worklist# 4278

GROUP	PROJECT	S TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
95000180	BY104 ROTARY	19 DUP	S95T003676	0 A	ACIDIG01	SOLID	5.0900	5.3200	N/A	g/L
		.2660g → .050l								
95000180	BY104 ROTARY	20 DUP	S95T003676	0 A	DOSE-02	SOLID	7	4	N/A	mrad/hour
95000180	BY104 ROTARY	21 SAMPLE	S95T003677	0 A	ACIDIG01	SOLID	N/A	5.7580		g/L
		.2279g → .050l								
95000180	BY104 ROTARY	22 SAMPLE	S95T003677	0 A	DOSE-02	SOLID	N/A	8		mrad/hour
95000180	BY104 ROTARY	23 DUP	S95T003677	0 A	ACIDIG01	SOLID	5.7580	5.8820	N/A	g/L
		.2941g → .050l								
95000180	BY104 ROTARY	24 DUP	S95T003677	0 A	DOSE-02	SOLID	8	8	N/A	mrad/hour
95000180	BY104 ROTARY	25 SAMPLE	S95T003678	0 A	ACIDIG01	SOLID	N/A	4.9800		g/L
		.2496g → .050l								
95000180	BY104 ROTARY	26 SAMPLE	S95T003678	0 A	DOSE-02	SOLID	N/A	7		mrad/hour
95000180	BY104 ROTARY	27 DUP	S95T003678	0 A	ACIDIG01	SOLID	4.9800	5.1280	N/A	g/L
		.2564g → .050l								
95000180	BY104 ROTARY	28 DUP	S95T003678	0 A	DOSE-02	SOLID	7	7	N/A	mrad/hour

Final page for worklist # 4278

Murphy 12-23-95
Analyst Signature | Date

Keith Fuller 2/27/95
Analyst Signature Date

3634 → 3673 C 116 6a
3637 → 3674 6b
3643 → 3675 6c
3646 → 3676 6d
3635 → 3677 7a
3640 → 3678 7b

Reviewed by KK Fuller 2/27/95. On QC - entered on line 23 - 5.7850 instead of 5.7580.

Data Entry Comments:

On QC - Entered on line 23 - 5.7850 on actual instead of 5.7580 KK Fuller 2/27/95

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# 4279

Analyst: GAM **Instrument:** ACD01 SN16355 **Book #** WHC1A/G4JWHC1AN10 WHC2/L3MWHC2N15

Method: LA-505-159 Rev/Mod D-0

Worklist Comment: BY-104 Core 116 Seg 3UH,3LH,4a,7c,7d,8a,8d Acid Digest rkf

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
1		1	BLNK-PREP				ACIDIGO1	SOLID	1	.050	N/A	g/L
		2	STD-PREP				ACIDIGO1	SOLID	20	20	N/A	D.F. 12-20-95 GAM
95000180	BY104 ROTARY	3	SAMPLE	S95T003532 .5823g → ~~.100l~~ .050l	0	A	ACIDIGO1	SOLID	N/A	11.6460		g/L
95000180	BY104 ROTARY	4	SAMPLE	S95T003532	0	A	DOSE-02	SOLID	N/A	6		mrad/hour
95000180	BY104 ROTARY	5	DUP	S95T003532 .5516g → .050l	0	A	ACIDIGO1	SOLID	11.6460	11.0320	N/A	g/L
95000180	BY104 ROTARY	6	DUP	S95T003532	0	A	DOSE-02	SOLID	6	5	N/A	mrad/hour
95000180	BY104 ROTARY	7	SPK	S95T003532 .5591g → .050l	0	A	ACIDIGO1	SOLID	20	20	N/A	D.F. 12-20-95 GAM 11.1820g/l
95000180	BY104 ROTARY	8	SPK	S95T003532	0	A	DOSE-02	SOLID	NA	5	N/A	mrad/hour
95000180	BY104 ROTARY	9	SAMPLE	S95T003533 .5213g → .050l	0	A	ACIDIGO1	SOLID	N/A	10.4260		g/L
95000180	BY104 ROTARY	10	SAMPLE	S95T003533	0		DOSE-02	SOLID	N/A	9		mrad/hour
95000180	BY104 ROTARY	11	DUP	S95T003533 .5191g → .050l	0	A	ACIDIGO1	SOLID	10.4260	10.3820	N/A	g/L
95000180	BY104 ROTARY	12	DUP	S95T003533	0		DOSE-02	SOLID	9	9	N/A	mrad/hour
95000180	BY104 ROTARY	13	SAMPLE	S95T003666 .5265g → .050l	0	A	ACIDIGO1	SOLID	N/A	10.5300		g/L
95000180	BY104 ROTARY	14	SAMPLE	S95T003666	0	A	DOSE-02	SOLID	N/A	13		mrad/hour
95000180	BY104 ROTARY	15	DUP	S95T003666 .5593g → .050l	0	A	ACIDIGO1	SOLID	10.5300	11.1860	N/A	g/L
95000180	BY104 ROTARY	16	DUP	S95T003666	0	A	DOSE-02	SOLID	13	13	N/A	mrad/hour
95000180	BY104 ROTARY	17	SAMPLE	S95T003679 .5586g → .050l	0	A	ACIDIGO1	SOLID	N/A	11.1720		g/L
95000180	BY104 ROTARY	18	SAMPLE	S95T003679	0	A	DOSE-02	SOLID	N/A	14		mrad/hour

Data Entry Comments: Weighed at .50 - Normal weight is .25
<1% solids
HPT was Joe Valdez

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# 4279

GROUP	PROJECT	S TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
95000180	BY104 ROTARY	19 DUP	S95T003679	0	A	ACIDIG01	SOLID	11.1720	11.4260	N/A	g/L
		.5713g → .050l									
95000180	BY104 ROTARY	20 DUP	S95T003679	0	A	DOSE-02	SOLID	14	17	N/A	mrad/hour
95000180	BY104 ROTARY	21 SAMPLE	S95T003680	0	A	ACIDIG01	SOLID	N/A	4.8720		g/L
		.2436g → .050l									
95000180	BY104 ROTARY	22 SAMPLE	S95T003680	0	A	DOSE-02	SOLID	N/A	130		mrad/hour
95000180	BY104 ROTARY	23 DUP	S95T003680	0	A	ACIDIG01	SOLID	4.8720	4.8600	N/A	g/L
		.2436g → .050l									
95000180	BY104 ROTARY	24 DUP	S95T003680	0	A	DOSE-02	SOLID	130	140	N/A	mrad/hour
95000180	BY104 ROTARY	25 SAMPLE	S95T003681	0	A	ACIDIG01	SOLID	N/A	5.6180		g/L
		.2849g → .050l									
95000180	BY104 ROTARY	26 SAMPLE	S95T003681	0	A	DOSE-02	SOLID	N/A	150		mrad/hour
95000180	BY104 ROTARY	27 DUP	S95T003681	0	A	ACIDIG01	SOLID	5.6180	5.4320	N/A	g/L
		.2716g → .050l									
95000180	BY104 ROTARY	28 DUP	S95T003681	0	A	DOSE-02	SOLID	150	140	N/A	mrad/hour
95000180	BY104 ROTARY	29 SAMPLE	S95T003682	0	A	ACIDIG01	SOLID	N/A	10.4120		g/L
		.5266g → .050l									
95000180	BY104 ROTARY	30 SAMPLE	S95T003682	0	A	DOSE-02	SOLID	N/A	100		mrad/hour
95000180	BY104 ROTARY	31 DUP	S95T003682	0	A	ACIDIG01	SOLID	10.4120	11.1580	N/A	g/L
		.5579g → .050l									
95000180	BY104 ROTARY	32 DUP	S95T003682	0	A	DOSE-02	SOLID	100	90	N/A	mrad/hour

Final page for worklist # 4279

Analyst Signature / Date: 12-20-95

Analyst Signature / Date: 12-27-95

3703 → 3532 C116 S 3uH
3702 → 3533 3LH
3632 → 3666 4a
3644 → 3679 7c
3647 → 3680 7d

3636 → 3681 8a
3648 → 3682 8b

Reviewed by RKFuller 12/27/95

Data Entry Comments: S95T003651 weighed .25 & .27 Due to lack of sample

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# 4439

Analyst: [illegible] **Instrument:** ACD01 SN16355 **Book #** WHC1A/G4JWHC1A1G WHC2/L3MLHC2N19

Method: LA-505-159 Rev/Mod DC

Worklist Comment: BY-104 Core 117 Seg 2a,2d,3c/d,5a,5c Acid Digest rkf

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP				ACIDIG01	SOLID	1	.050	N/A	g/L
		2	STD-PREP				ACIDIG01	SOLID	20	20	N/A	~~g/L~~ DF [illegible] 12-21-95
95000200	BY104 ROTARY	3	SAMPLE .2026g → .050 l	S95T003791	0	A	ACIDIG01	SOLID	N/A	4.0520		g/L
95000200	BY104 ROTARY	4	SAMPLE	S95T003791	0		DOSE-02	SOLID	N/A	3.5		mrad/hour
95000200	BY104 ROTARY	5	DUP .2040g → .050 l	S95T003791	0	A	ACIDIG01	SOLID	4.0520	4.0500	N/A	g/L
95000200	BY104 ROTARY	6	DUP	S95T003791	0		DOSE-02	SOLID	3.5	2.5	N/A	mrad/hour
95000200	BY104 ROTARY	7	SPK .2016g → .050 l	S95T003791	0	A	ACIDIG01	SOLID	20	20	N/A	~~g/L~~ DF [illegible] 12-21-95 4.0520 g/l
95000200	BY104 ROTARY	8	SPK	S95T003791	0		DOSE-02	SOLID	NA	3	N/A	mrad/hour
95000200	BY104 ROTARY	9	SAMPLE .2261g → .050 l	S95T003792	0	A	ACIDIG01	SOLID	N/A	4.5220		g/L
95000200	BY104 ROTARY	10	SAMPLE	S95T003792	0		DOSE-02	SOLID	N/A	6		mrad/hour
95000200	BY104 ROTARY	11	DUP .2229g → .050 l	S95T003792	0	A	ACIDIG01	SOLID	4.5220	4.4580	N/A	g/L
95000200	BY104 ROTARY	12	DUP	S95T003792	0		DOSE-02	SOLID	6	8	N/A	mrad/hour
95000200	BY104 ROTARY	13	SAMPLE .2716g → .050 l	S95T003793	0	A	ACIDIG01	SOLID	N/A	5.4320		g/L
95000200	BY104 ROTARY	14	SAMPLE	S95T003793	0		DOSE-02	SOLID	N/A	25		mrad/hour
95000200	BY104 ROTARY	15	DUP .2685g → .050 l	S95T003793	0	A	ACIDIG01	SOLID	5.4320	5.3620	N/A	g/L
95000200	BY104 ROTARY	16	DUP	S95T003793	0		DOSE-02	SOLID	25	25	N/A	mrad/hour
95000200	BY104 ROTARY	17	SAMPLE .2536g → .050 l	S95T003794	0	A	ACIDIG01	SOLID	N/A	5.0720		g/L
95000200	BY104 ROTARY	18	SAMPLE	S95T003794	0		DOSE-02	SOLID	N/A	8		mrad/hour

Data Entry Comments: <1% acid

PT was Charlene Cooper

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# 4439

GROUP	PROJECT	S TYPE	SAMPLE#	R A	-------TEST------	MATRIX	ACTUAL	FOUND	DL	UNIT
95000200	BY104 ROTARY	19 DUP	S95T003794	0 A	ACIDIG01	SOLID	5.0720	5.1800	N/A	g/L
		.2590g → .0500								
95000200	BY104 ROTARY	20 DUP	S95T003794	0	DOSE-02	SOLID	8	5	N/A	mrad/hour
95000200	BY104 ROTARY	21 SAMPLE	S95T003795	0 A	ACIDIG01	SOLID	N/A	5.3120		g/L
		.2656g → .0500								
95000200	BY104 ROTARY	22 SAMPLE	S95T003795	0	DOSE-02	SOLID	N/A	4		mrad/hour
95000200	BY104 ROTARY	23 DUP	S95T003795	0 A	ACIDIG01	SOLID	5.3120	5.1440	N/A	g/L
		.2572g → .0500								
95000200	BY104 ROTARY	24 DUP	S95T003795	0	DOSE-02	SOLID	4	5	N/A	mrad/hour

Final page for worklist # 4439

[signature] 12-31-95
Analyst Signature **Date**

[signature] 1/2/96
Analyst Signature **Date**

3781 → 3791
3782 → 3792
3783 → 3793
3784 → 3794
3785 → 3795

C117 2a
2d
3c/d
5a
5c

Reviewed by RK Fuller 1/2/96

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# 5647

Analyst: JM **Instrument:** ACD01 SN116355 **Book #** WHC1A JL6 JLWHC1AN5 / WHC2 JL6 JLWHC2N2

Method: LA-505-159 Rev/Mod D-0

Worklist Comment: BY-104, C116, S4B,S4C,S5A,S5B,S5C,S5D, ACIDIG01 skm

GROUP	PROJECT	S	TYPE	SAMPLE#	R A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK-PREP			ACIDIG01	SOLID	1	.050	N/A	g/L
		2	STD-PREP			ACIDIG01	SOLID	20	20	N/A	D.F. 2-26-96 ~~g/L~~ SKM
95000180	BY104 ROTARY	3	SAMPLE	S96T000604	0 A	ACIDIG01	SOLID	N/A	4.4660		g/L
			.2233g → .050l								
95000180	BY104 ROTARY	4	SAMPLE	S96T000604	0	DOSE-02	SOLID	N/A	5		mrad/hour
95000180	BY104 ROTARY	5	DUP	S96T000604	0 A	ACIDIG01	SOLID	4.4660	5.0100	N/A	g/L
			.2505g → .050l								
95000180	BY104 ROTARY	6	DUP	S96T000604	0	DOSE-02	SOLID	5	7	N/A	mrad/hour
95000180	BY104 ROTARY	7	SPK	S96T000604	0 A	ACIDIG01	SOLID	20	20	N/A	D.F 2-26-96 SKM ~~g/L~~ 4.2140g/l
			.2107g → .050l								
95000180	BY104 ROTARY	8	SPK	S96T000604	0	DOSE-02	SOLID	NA	5	N/A	mrad/hour
95000180	BY104 ROTARY	9	SAMPLE	S96T000605	0 A	ACIDIG01	SOLID	N/A	4.2220		g/L
			.2111g → .050l								
95000180	BY104 ROTARY	10	SAMPLE	S96T000605	0	DOSE-02	SOLID	N/A	4		mrad/hour
95000180	BY104 ROTARY	11	DUP	S96T000605	0 A	ACIDIG01	SOLID	4.2220	4.0020	N/A	g/L
			.2001g → .050l								
95000180	BY104 ROTARY	12	DUP	S96T000605	0	DOSE-02	SOLID	4	4	N/A	mrad/hour
95000180	BY104 ROTARY	13	SAMPLE	S96T000606	0 A	ACIDIG01	SOLID	N/A	4.4660		g/L
			.2233g → .050l								
95000180	BY104 ROTARY	14	SAMPLE	S96T000606	0	DOSE-02	SOLID	N/A	4		mrad/hour
95000180	BY104 ROTARY	15	DUP	S96T000606	0 A	ACIDIG01	SOLID	4.4660	4.3820	N/A	g/L
			.2191g → .050l								
95000180	BY104 ROTARY	16	DUP	S96T000606	0	DOSE-02	SOLID	4	4	N/A	mrad/hour
95000180	BY104 ROTARY	17	SAMPLE	S96T000607	0 A	ACIDIG01	SOLID	N/A	4.6280		g/L
			.2314g → .050l								
95000180	BY104 ROTARY	18	SAMPLE	S96T000607	0	DOSE-02	SOLID	N/A	5		mrad/hour

Data Entry Comments: HPT Sam Shemal

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# 5647

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
95000180	BY104 ROTARY	19	DUP	S96T000607	0	A	ACIDIG01	SOLID	4.6280	5.3840	N/A	g/L
				.2692g → .050l								
95000180	BY104 ROTARY	20	DUP	S96T000607	0		DOSE-02	SOLID	5	5	N/A	mrad/hour
95000180	BY104 ROTARY	21	SAMPLE	S96T000608	0	A	ACIDIG01	SOLID	N/A	4.9260		g/L
				.2463g → .050l								
95000180	BY104 ROTARY	22	SAMPLE	S96T000608	0		DOSE-02	SOLID	N/A	5		mrad/hour
95000180	BY104 ROTARY	23	DUP	S96T000608	0	A	ACIDIG01	SOLID	4.9260	4.5420	N/A	g/L
				.2271g → .050l								
95000180	BY104 ROTARY	24	DUP	S96T000608	0		DOSE-02	SOLID	5	5	N/A	mrad/hour
95000180	BY104 ROTARY	25	SAMPLE	S96T000609	0	A	ACIDIG01	SOLID	N/A	3.9840		g/L
				.1992g → .050l								
95000180	BY104 ROTARY	26	SAMPLE	S96T000609	0		DOSE-02	SOLID	N/A	<1		mrad/hour
95000180	BY104 ROTARY	27	DUP	S96T000609	0	A	ACIDIG01	SOLID	3.9840	4.1380	N/A	g/L
				.2069g → .050l								
95000180	BY104 ROTARY	28	DUP	S96T000609	0		DOSE-02	SOLID	4	5	N/A	mrad/hour

Final page for worklist # 5647

[illegible] 2-26-96
Analyst Signature / **Date**

[illegible] 3/1/96
Analyst Signature **Date**

S95T00 3637 → S96T000604
S95T00 3641 → S96T000605
S95T00 3633 → S96T000606
S95T00 3638 → S96T000607
S95T00 3642 → S96T000608
S95T00 3645 → S96T000609

SKM

Reviewed by RK Fuller 3/5/96

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.

INORGANIC ANALYSES

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LABCORE Data Entry Template for Worklist# 5407

Analyst: JTK **Instrument:** CN01 **Book #** 71N86

Method: LA-695-102 Rev/Mod EO

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	LIQUID	1	<1.10 e-2	N/A	ug/mL
		2	STD				CN-01	LIQUID	915	894	N/A	ug/mL
95000200	BY104 ROTARY	3	SAMPLE	S95T003775	0		CN-01	LIQUID	N/A	6.94	2.20 e-1	ug/mL
95000200	BY104 ROTARY	4	DUP	S95T003775	0		CN-01	LIQUID	6.94	8.11	N/A	ug/mL
95000200	BY104 ROTARY	5	SPK	S95T003775	0		CN-01	LIQUID	100	97.6	N/A	ug/mL
		6	CCV				CN-01	LIQUID	915	924	N/A	ug/mL
		7	CCB				CN-01	LIQUID	1	<1.10 e-2	N/A	ug/mL

HLA 3-15-96
CN-03

Final page for worklist # 5407

Analyst Signature Date 3/13/96

Analyst Signature Date 3/14/96

Approved by H Anastas 3-15-96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5407	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-03	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
BLANK	µg of Cyanide	-0.036
Instrument Code	µg CN- /mL	-7.10E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/13/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	HLA	Date:	03/15/96
Approved by:	H Arnestro	Date:	3-15-96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5407	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.668
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G	µg of CN in Standard		4.469
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		894
03/13/96			
Time	Standard % Recovery		97.7%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H Amaston	Date:	3-15-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-OP-164 REV. 1

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
LIQUID	Sample Aliquot in mL	0.25000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	0.25000
5407	Sample Aliquot Taken from dilution in mL (SS)	0.25000
Test Code	Absorbance of Blank	0.002
CN-01	Absorbance of Sample	0.265
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
S95T003775	µg of Cyanide	1.735
Instrument Code	µg CN- /mL	6.94E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J.T.KNIGHT	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/13/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	
	Cyanide Concentration (µg/mL)	6.94E+00
Calibration Date		
02/25/96		

Detection Limit µg CN- / mL
2.20E-01

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H Anesth	Date:	3-15-96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
LIQUID	Sample Aliquot in mL	0.25000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	0.25000
5407	Sample Aliquot Taken from dilution in mL (SS)	0.25000
Test Code	Absorbance of Blank	0.002
CN-01	Absorbance of Sample	0.308
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
S95T003775/DUP	µg of Cyanide	2.027
Instrument Code	µg CN- /mL	8.11E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J.T.KNIGHT	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/13/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	
	Cyanide Concentration (µg/mL)	8.11E+00
Calibration Date		
02/25/96		

Detection Limit µg CN- / mL
2.20E-01

Data Entry by:	RTS	Date:	03/14/96
Approved by:	HAnasto	Date:	3-15-96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5407	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.002	
Matrix	Absorbance of Sample+Spike	0.594	
LIQUID	Y-Intercept Value	0.007237	
Sample #	Slope Value	0.147420	
S95T003775	µg of CN- in Sample+Spike	3.967	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	1.7350	
J. KNIGHT			
Date	µg of CN- in Spike	2.2875	
03/13/96			
Time	Spike % Recovery	97.6%	
Calibration Date:	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H Anastro	Date:	3-15-96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5407	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.001
Matrix	Absorbance of Standard		0.689
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G/CCV	µg of CN in Standard		4.618
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		924
03/13/96			
Time	Standard % Recovery		100.9%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H Ancotn	Date:	3-15-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5407	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.042
Instrument Code	µg CN- /mL	-8.46E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J.T.KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/13/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/14/96
Approved by:	H Anestin	Date:	3-15-96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5408

Analyst: KRM **Instrument:** CN01 **Book #** 71N8G

Method: LA-695-~~102~~ 103 Rev/Mod A.0

KRM 3-10-96

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	$<1.10^{e-2}$	N/A	ug/g
		2	STD				CN-01	SOLID	915	974	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003528	0		CN-01	SOLID	N/A	1.86^{e+1}	8.08	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003528	0		CN-01	SOLID	1.86^{e+1}	1.75^{e+1}	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003528	0		CN-01	SOLID	100	~~91.2~~ 97.5	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003529	0		CN-01	SOLID	N/A	<6.71	6.71	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003529	0		CN-01	SOLID	<6.71	<6.59	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003529	0		CN-01	SOLID	100	~~86.6~~ 89.6	N/A	ug/g
		9	CCV				CN-01	SOLID	915	918	N/A	ug/g
		10	CCB				CN-01	SOLID	1	$<1.10^{e-2}$	N/A	ug/g

RWS 3/12/96

Final page for worklist # 5408

3-10-96
Analyst Signature **Date**

3/12/96
Analyst Signature **Date**

Reviewed RW Schroeder 3/13/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

Type	Pws 5/8/96	SAMPLE
BLANK		
Work List		
5408	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.005
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.034
Instrument Code	µg CN- /mL	6.70E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-C) SPIKE, STANDARD

PWS 5/6/96

Type		NA	STANDARD
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5408	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.005
Matrix	Absorbance of Standard		0.704
Liquid	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
71N8G	µg of CN in Standard	ERR	4.872
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard	ERR	974
03/10/96			
Time	Standard % Recovery		106.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.47043
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5408	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.068
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003528	µg of Cyanide	0.438
Instrument Code	µg CN- /g	1.86E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.86E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
8.08E+00

Data Entry by:	RWS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.48384
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5408	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.066
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003528/DUP	µg of Cyanide	0.424
Instrument Code	µg CN- /g	1.75E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.75E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
7.85E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-0) SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5408	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.005	
Matrix	Absorbance of Sample+Spike	0.388	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003528	µg of CN- in Sample+Spike	2.669	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.4380	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	97.5%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.56600
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5408	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.021
SOLID	Y-Intercept Value	0.000194
Sample#	Slope Value	0.143424
S95T003529	µg of Cyanide	0.110
Instrument Code	µg CN- /g	3.89E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	< Detection Limit
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
6.71E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103.(A-C) BLANK, LIQUID, SOLID

RWS 5/2/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.57690
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5408	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.022
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003529/DUP	µg of Cyanide	0.117
Instrument Code	µg CN- /g	4.06E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.59E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-C) SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5408	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.005	
Matrix	Absorbance of Sample+Spike	0.315	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003529	µg of CN- in Sample+Spike	2.160	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1100	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	89.6%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (A-C) SPIKE, STANDARD

RWS 5/8/95

Type		NA	STANDARD
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5408	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.005
Matrix	Absorbance of Standard		0.689
Liquid	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G-CCV	µg of CN in Standard	ERR	4.591
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard	ERR	918
03/10/96			
Time	Standard % Recovery		100.3%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	Rw Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 102 (A-C) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5408	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.007
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.002
Instrument Code	µg CN- /mL	-3.22E-04
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RWS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

LABCORE Data Entry Template for Worklist# 5409

Analyst: jtk 103 RWS 3/11/96 **Instrument:** CN01 301 **Book #** 71N8F

Method: LA-695-~~102~~ Rev/Mod A-0

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10E-2	N/A	ug/g
		2	STD				CN-01	SOLID	947	970	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003632	0		CN-01	SOLID	N/A	<7.50	7.50	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003632	0		CN-01	SOLID	<7.50	<7.83	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003632	0		CN-01	SOLID	100	94	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003633	0		CN-01	SOLID	N/A	<7.39	7.39	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003633	0		CN-01	SOLID	<7.39	<6.97	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003633	0		CN-01	SOLID	100	95.1	N/A	ug/g
		9	CCV				CN-01	SOLID	947	880	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10E-2	N/A	ug/g

Final page for worklist # 5409

3-4-96
Analyst Signature **Date**

3/12/96
Analyst Signature **Date**

Reviewed RW Schroeder 3/12/96

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.

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-C) SPIKE, STANDARD

RWS 5/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5409	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.000
Matrix	Absorbance of Standard		0.696
LIQUID	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
STD/71N8F	µg of CN in Standard		4.851
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		970
03/04/96			
Time	Standard % Recovery		102.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by: RL Etak		Date:	03/08/96
Approved by:	Ruth Schneider	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-C) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5409	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.000
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	
Instrument Code	µg CN- /mL	0.00E+00
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by: [illegible] Date: 03/08/96

Approved by: Ru Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

(03:A-0)

CN- DETERMINATION : LA-695-~~102 (D-0)~~ BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.50693
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5409	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.02
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003632	µg of Cyanide	0.138
Instrument Code	µg CN- /g	5.45E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.50E+00

Data Entry by: [illegible] Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-C) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.48559
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5409	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.016
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003632/DUP	µg of Cyanide	0.110
Instrument Code	µg CN- /g	4.54E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.83E+00

Data Entry by: [signature] Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

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

WHC-SD-WM-DP-154, REV. 1

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-0) SPIKE, STANDARD

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5409	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.000	
Matrix	Absorbance of Sample+Spike	0.336	
SOLID	Y-Intercept Value	-0.009320	
Sample #	Slope Value	0.146120	
S95T003632	µg of CN- in Sample+Spike	2.363	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1380	
J. KNIGHT			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	94.0%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	[illegible]	Date:	03/08/96
Approved by:	R.W. Schrot [illegible]	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.51444
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5409	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.02
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003633	µg of Cyanide	0.138
Instrument Code	µg CN- /g	5.37E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.39E+00

Data Entry by: [illegible] Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 AU BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.54558
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5409	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.023
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003633/DUP	µg of Cyanide	0.159
Instrument Code	µg CN- /g	5.83E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.97E+00

Data Entry by: [illegible] Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

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

WHC-SD-WM-OP-164, REV 1

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5409	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.000	
Matrix	Absorbance of Sample+Spike	0.340	
SOLID	Y-Intercept Value	-0.009320	
Sample #	Slope Value	0.146120	
S95T003633	µg of CN- in Sample+Spike	2.391	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1380	
J. KNIGHT			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	95.1%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	[illegible]	Date:	03/08/96
Approved by:	RW Schneider	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
BLANK		
Work List		
5409	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.006
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.008
Instrument Code	µg CN- /mL	-1.68E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	[illegible]	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

Rev 5/10/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5409	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.006
Matrix	Absorbance of Standard		0.662
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
CCV	µg of CN in Standard		4.401
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		880
03/04/96			
Time	Standard % Recovery		92.9%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	[illegible]	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

LABCORE Data Entry Template for Worklist# 5411

Analyst: JTK **Instrument:** CN01 301 **Book #** 7NBF

Method: LA-695-103 Rev/Mod A-0

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10 E-2	N/A	CN-/mL ~~ug/g~~ RJS
		2	STD				CN-01	SOLID	947	953	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003634	0		CN-01	SOLID	N/A	<6.62	6.62	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003634	0		CN-01	SOLID	<6.62	~~<6.62~~ 5.27E1 RJS	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003634	0		CN-01	SOLID	100	81.0	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003635	0		CN-01	SOLID	N/A	<6.79	6.79	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003635	0		CN-01	SOLID	<6.79	<6.74	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003635	0		CN-01	SOLID	100	98.4	N/A	ug/g
		9	CCV				CN-01	SOLID	947	972	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10 E-2	N/A	CN-/mL ~~ug/g~~ RJS

Final page for worklist # 5411

See Attached sheet.
Analyst Signature **Date**

RJS 3-7-96
Analyst Signature **Date**

Reviewed RW Schroeder 3/12/96

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# 5411

Analyst: _____ **Instrument:** CN01 _____ **Book #** _____

Method: LA-695-102 Rev/Mod _____

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10 E2 ~~6.70 E-3~~	N/A	~~ug/g~~ CN-/ml
		2	STD				CN-01	SOLID		953	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003634	0		CN-01	SOLID	N/A	<6.62 ~~3.60~~	6.62	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003634	0		CN-01	SOLID	3.60	5.27 E1	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003634	0		CN-01	SOLID	100	81.0	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003635	0		CN-01	SOLID	N/A	26.79	6.79	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003635	0		CN-01	SOLID	<6.79	<6.74	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003635	0		CN-01	SOLID	100	98.4	N/A	ug/g
		9	CCV				CN-01	SOLID		972	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10 E2	N/A	~~ug/g~~ CN-/ml

Final page for worklist # 5411

3.4.96

Analyst Signature **Date**

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.

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (A-C) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5411	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.005
Matrix	Absorbance of Standard		0.692
LIQUID	Y-Intercept Value		-0.009320
Sample #	Slope Value		0.146120
71N8F/STD	µg of CN in Standard	ERR	4.765
Instrument Code			
WA93252			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard	ERR	953
03/04/96			
Time	Standard % Recovery		100.6%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/95	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	[illegible]	Date:	03/07/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5411	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.005
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.034
Instrument Code	µg CN- /mL	6.70E-03
WA93252		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by:	[signature]	Date:	03/07/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.57377
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5411	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.02
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003634	µg of Cyanide	0.103
Instrument Code	µg CN- /g	3.60E+00
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.62E+00

Data Entry by: [signature] Date: 03/07/96

Approved by: RW Schroeder Date: 3/12/96

Form 695102C1 Rev. 1.7

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 103 A-0 BLANK, LIQUID, SOLID

RW 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.56851
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5411	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.22
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003634/DUP	µg of Cyanide	1.498
Instrument Code	µg CN- /g	5.27E+01
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	5.27E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
6.68E+00

Data Entry by: [illegible] Date: 03/07/96

Approved by: RW Schroeder Date: 3/12/96

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5411	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.005	
Matrix	Absorbance of Sample+Spike	0.295	
SOLID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003634	µg of CN- in Sample+Spike	2.021	ERR
Instrument Code			
WA93252			
Analyst	Known µg of CN- in Original Sample	0.1030	
J. KNIGHT			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	81.0%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RT Stab	Date:	03/07/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-~~0) BLANK, LIQUID, SOLID

103 A-2

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.55965
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5411	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.016
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003635	µg of Cyanide	0.075
Instrument Code	µg CN- /g	2.69E+00
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.79E+00

Data Entry by:	RHBoth	Date:	03/07/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 M-C BLANK, LIQUID, SOLID

RW 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.56393
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5411	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.029
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003635/DUP	µg of Cyanide	0.166
Instrument Code	µg CN- /g	5.89E+00
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.74E+00

Data Entry by: RL Stub Date: 03/07/96

Approved by: RW Schroeder Date: 3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (D-0) SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5411	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.005	
Matrix	Absorbance of Sample+Spike	0.350	
SOLID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003635	µg of CN- in Sample+Spike	2.404	ERR
Instrument Code			
WA93252			
Analyst	Known µg of CN- in Original Sample	0.0750	
J. KNIGHT			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	98.4%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RHHolt	Date:	03/07/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

695102X2 - CN SPIKE

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (F-0) SPIKE, STANDARD

RWS 5/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5411	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.006
Matrix	Absorbance of Standard		0.730
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
CCV	µg of CN in Standard	ERR	4.862
Instrument Code			
WA93252			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard	ERR	972
03/04/96			
Time	Standard % Recovery		102.7%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	[illegible]	Date:	03/07/96
Approved by:	Ray Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 RC BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
LIQUID	Sample Aliquot in mL	5.00000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	5.00000
5411	Sample Aliquot Taken from dilution in mL (SS)	5.00000
Test Code	Absorbance of Blank	0.000
CN01	Absorbance of Sample	0.006
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
BLANK/CCB	µg of Cyanide	-0.008
Instrument Code	µg CN- /mL	-1.68E-03
WA93252		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RKlark	Date:	03/07/96
Approved by:	RW Schroeder	Date:	3/12/96

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LABCORE Data Entry Template for Worklist# 5412

Analyst: KRM **Instrument:** CN01 **Book #** 71N8F

Method: LA-695-~~102~~ 103 Rev/Mod A-0
KRM 3-4-96

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	2 DL	UNIT
		1	BLNK				CN-01	SOLID	1	<3.80 ~~<1.10 E-2~~	N/A 3.15.96	ug/g
		2	STD				CN-01	SOLID	947	972	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003636	0		CN-01	SOLID	N/A	6.77^{E+1}	6.81	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003636	0		CN-01	SOLID	6.77^{E1}	8.49^{E+1}	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003636	0		CN-01	SOLID	100	131.0	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003637	0		CN-01	3/11/96 RWS SOLID	N/A	<8.10 EO ~~3.82^{E+1}~~	8.10	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003637	0		CN-01	RWS 3/11/96 SOLID	~~3.82~~ <8.10 EO	~~3.35^{E1}~~ <8.10 EO	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003637	0		CN-01	SOLID	100	99.8 ~~61.6~~	RWS 3/11/96 N/A	ug/g
		9	CCV				CN-01	SOLID	947	873	N/A	ug/g
		10	CCB				CN-01	SOLID	1	$< 1.10^{E-2}$	N/A	ug/g

Final page for worklist # 5412

3-4-96
Analyst Signature **Date**

3-15-96
Analyst Signature **Date**

Approved by
D A Anastas 3-15-96

Data Entry Comments: Spike recovery is poor for S95T003636 due to sample NON homogeneity. RW Schroeder 3/11/96

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

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103(A-C) SPIKE, STANDARD

Rwb 5/2/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5412	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.004
Matrix	Absorbance of Standard		0.691
LIQUID	Y-Intercept Value		0.010219
Sample #	Slope Value		0.139252
STD/71N8F	µg of CN in Standard		4.860
Instrument Code			
601			
Analyst			
K. MONTEITH			
Date	µg of CN-/mL in Standard		972
03/04/96			
Time	Standard % Recovery		102.6%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RWSchroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A BLANK, LIQUID, SOLID

PWS 5/8/96

		SAMPLE
Type		
BLANK		
Work List		
5412	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.004
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
BLNK	µg of Cyanide	-0.045
Instrument Code	µg CN- /mL	-8.93E-03
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date	0.19 Hea 3.15.96	
03/04/96	Detection Limit = ~~0.055~~ µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/29/96			~~1.10E-02~~ 3.8e-2 Hea 3-15-96

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.55762
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5412	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.278
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003636	µg of Cyanide	1.887
Instrument Code	µg CN- /g	6.77E+01
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	6.77E+01
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
6.81E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.58645
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5412	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.362
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003636/DUP	µg of Cyanide	2.490
Instrument Code	µg CN- /g	8.49E+01
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	8.49E+01
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
6.48E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

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

WHC-SD-WM-OP-164, REV 1

103 A-0

CN- DETERMINATION : LA-695-~~102 (D-0)~~ SPIKE, STANDARD

RW's 5/2/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5412	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.004	
Matrix	Absorbance of Sample+Spike	0.709	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003636	µg of CN- in Sample+Spike	4.989	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	1.8870	
K. MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	131.0%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-154, REV. 1

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 PC BLANK, LIQUID, SOLID

RWS 3/11/96

		SAMPLE
Type		
Solid	Sample Weight in grams (SS)	0.46937
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5412	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.014
Liquid	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003637	µg of Cyanide	-0.009
Instrument Code		-3.73E-01
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JTK	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96		
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			8.10E+00

Data Entry by:	RWS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/11/96

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

DB A-D

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

PAGE 5/8 %

Type		SAMPLE
Solid	Sample Weight in grams (SS)	0.46905
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5412	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.005
Matrix	Absorbance of Sample	0.019
Liquid	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003637-DUP	µg of Cyanide	0.027
Instrument Code		1.16E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JTK	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96		
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	< Detection Limit
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
8.10E+00

Data Entry by:	RWS	Date:	03/11/96
Approved by:	Ron Schroeder	Date:	3/11/96

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

WHC-SD-WM-OP-164, REV 1

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A-C SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5412	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.004	
Matrix	Absorbance of Sample+Spike	0.342	
Solid	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003637	µg of CN- in Sample+Spike	2.354	
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	-0.0090	
K. Monteith			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	99.8%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/11/96
Approved by:	R W Schneider	Date:	3/11/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

Rwb 5/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5412	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.005
Matrix	Absorbance of Standard		0.697
LIQUID	Y-Intercept Value		0.012516
Sample #	Slope Value		0.155582
CCV	µg of CN in Standard		4.367
Instrument Code			
601			
Analyst			
K. MONTEITH			
Date	µg of CN-/mL in Standard		873
03/04/96			
Time	Standard % Recovery		92.2%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/28/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 AZ BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5412	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.005
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.012516
Sample #	Slope Value	0.155582
CCB	µg of Cyanide	-0.048
Instrument Code	µg CN- /mL	-9.66E-03
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date	~~0.19 Hea 3~~ Hea 3.15.96	
03/04/96	Detection Limit = 0.085 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/28/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5419

Analyst: KRM **Instrument:** CN01 601 **Book #** 7/N8F

Method: LA-695-~~102~~ 103 Rev/Mod A-0 KRM 3-4-96

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10 E-2	N/A	ug/g
		2	STD				CN-01	SOLID	947	975	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003638	0		CN-01	SOLID	N/A	<8.59	8.59	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003638	0		CN-01	SOLID	<8.59	<8.79	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003638	0		CN-01	SOLID	100	91.6	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003639	0		CN-01	SOLID	N/A	<6.79	6.79	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003639	0		CN-01	SOLID	<6.79	<6.22	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003639	0		CN-01	SOLID	100	~~63.7~~ 80.4 RWS 3/11/96	N/A	ug/g
		9	CCV				CN-01	SOLID	947 ~~100~~	~~975~~ 859 RWS 5/12/93 ~~90.7~~ RWS 3/12/96	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10 E-2	N/A	ug/g

Final page for worklist # 5419

Analyst Signature Date 3-4-96

Analyst Signature Date 3/12/96

Reviewed RW Schneider 3/12/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

RWS 5/8/96

CN- DETERMINATION : LA-695-~~102 (D-0)~~ R 103 AC BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5419	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003638	µg of Cyanide	-0.066
Instrument Code	µg CN- /mL	-1.32E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/29/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

RWS 5/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5419	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.001
Matrix	Absorbance of Standard		0.690
LIQUID	Y-Intercept Value		0.010219
Sample #	Slope Value		0.139252
STD/71N8F	µg of CN in Standard		4.874
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard		975
03/04/96			
Time	Standard % Recovery		102.9%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RT Stub	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.44262
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5419	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.026
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003638	µg of Cyanide	0.092
Instrument Code	µg CN- /g	4.15E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			8.59E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.43246
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5419	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.022
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003638/DUP	µg of Cyanide	0.063
Instrument Code	µg CN- /g	2.92E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	< Detection Limit
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
8.79E+00

Data Entry by:	RW Schroeder	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 123 A-D SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5419	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.001	
Matrix	Absorbance of Sample+Spike	0.326	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003638	µg of CN- in Sample+Spike	2.261	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.0920	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	91.6%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	Ru Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-~~695-102~~ 103 A-C (D-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.55960
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5419	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.023
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003639	µg of Cyanide	0.070
Instrument Code	µg CN- /g	2.51E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			6.79E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.61091
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5419	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.03
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003639/DUP	µg of Cyanide	0.121
Instrument Code	µg CN- /g	3.95E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			6.22E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

WHC-SD-WM-OP-164, REV 1

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 10317-0 SPIKE, STANDARD

RWS 5/2/96

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5419	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.001	
Matrix	Absorbance of Sample+Spike	0.286	
Solid	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003639	µg of CN- in Sample+Spike	1.973	
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.0700	
K. Monteith			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	80.4%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

PWS 5/8/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5419	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.003
Matrix	Absorbance of Standard		0.684
SOLID	Y-Intercept Value		0.012516
Sample #	Slope Value		0.155582
STD/CCV	µg of CN in Standard	ERR	4.297
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard	ERR	859
03/04/96			
Time	Standard % Recovery		90.7%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/28/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5419	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.003
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.012516
Sample #	Slope Value	0.155582
CCB	µg of Cyanide	-0.061
Instrument Code	µg CN- /mL	-1.22E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/28/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	Ru Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5420

Analyst: KRM **Instrument:** CN01 601 **Book #** 7108F

Method: LA-695-~~102~~ 103 Rev/Mod A-0 3-4-96

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10E-2	N/A	ug/g
		2	STD				CN-01	SOLID	947	1006	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003640	0		CN-01	SOLID	N/A	<5.45	5.45	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003640	0		CN-01	SOLID	<5.45	<5.38	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003640	0		CN-01	SOLID	100	93.1	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003641	0		CN-01	SOLID	N/A	<6.75	6.75	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003641	0		CN-01	SOLID	<6.75	<6.49	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003641	0		CN-01	SOLID	100	101.6	N/A	ug/g
		9	CCV				CN-01	SOLID	947	857	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10E-2	N/A	ug/g

Final page for worklist # 5420

3-4-96
Analyst Signature **Date**

3/12/96
Analyst Signature **Date**

Reviewed RW Schroeder 3/12/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (D-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5420	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.006
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
BLNK	µg of Cyanide	-0.030
Instrument Code	µg CN- /mL	-6.06E-03
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/29/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

RWS 5/8/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5420	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.006
Matrix	Absorbance of Standard		0.717
LIQUID	Y-Intercept Value		0.010219
Sample #	Slope Value		0.139252
STD/71N8F	µg of CN in Standard		5.032
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard		1006
03/04/96			
Time	Standard % Recovery		106.3%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	Rus Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 AC BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.69691
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5420	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.029
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003640	µg of Cyanide	0.106
Instrument Code	µg CN- /g	3.05E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			5.45E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.70595
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5420	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.032
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003640/DUP	µg of Cyanide	0.128
Instrument Code	µg CN- /g	3.62E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			5.38E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 ~~0~~ SPIKE, STANDARD

RWS 5/8/96

Type		**SPIKE**	**NA**
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5420	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.006	
Matrix	Absorbance of Sample+Spike	0.338	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003640	µg of CN- in Sample+Spike	2.311	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.1060	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	93.1%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schneider	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 BLANK, LIQUID, SOLID

CWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.56303
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5420	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.03
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003641	µg of Cyanide	0.113
Instrument Code	µg CN- /g	4.03E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	< Detection Limit
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
6.75E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.58509
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5420	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.035
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003641/DUP	µg of Cyanide	0.149
Instrument Code	µg CN- /g	5.10E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			6.49E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C SPIKE, STANDARD

RWS 5/8/96

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5420	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.006	
Matrix	Absorbance of Sample+Spike	0.367	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003641	µg of CN- in Sample+Spike	2.519	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.1130	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	101.6%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-~~102 (D-~~0) SPIKE, STANDARD

103 A-C

RWS 5/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5420	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.004
Matrix	Absorbance of Standard		0.683
SOLID	Y-Intercept Value		0.012516
Sample #	Slope Value		0.155582
STD/CCV	µg of CN in Standard	ERR	4.284
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard	ERR	857
03/04/96			
Time	Standard % Recovery		90.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/28/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 103 A-0 BLANK, LIQUID, SOLID

RWS 3/12/96

Type		**SAMPLE**
BLANK		
Work List		
5420	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.004
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.012516
Sample #	Slope Value	0.155582
CCB	µg of Cyanide	-0.055
Instrument Code	µg CN- /mL	-1.09E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Facto	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/28/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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LABCORE Data Entry Template for Worklist# 5421

Analyst: KRM **Instrument:** CN01 601 **Book #** 71N8F

Method: LA-695 ~~102~~ 103 Rev/Mod A-0 KRM 3-4-96

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	~~<3.80~~ E-2	<1.10 e-2	ug/g
		2	STD				CN-01	SOLID	947	955	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003642	0		CN-01	SOLID	N/A	<5.33	5.33	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003642	0		CN-01	SOLID	<5.33	<5.13	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003642	0		CN-01	SOLID	100	97.4	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003643	0		CN-01	SOLID	N/A	<7.43	7.43	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003643	0		CN-01	SOLID	<7.43	<7.18	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003643	0		CN-01	SOLID	100	95.3	N/A	ug/g
		9	CCV				CN-01	SOLID	947	881	N/A	ug/g
		10	CCB				CN-01	SOLID	1	~~<3.80~~ E-2	<1.10e-2	ug/g

RWS 3/12/96

RWS 3/12/96

Final page for worklist # 5421

Analyst Signature Date 3-4-96

Analyst Signature Date 3/12/96

Reviewed RW Schroeder 3/12/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-D BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5421	Blank Weight in ~~g~~ mL (SS) RWS 3/12/96	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.001
Matrix	Digest Dilution Factor	1
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
BLNK	µg of Cyanide	-0.066
Instrument Code	µg CN- /g	-1.32E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.19 µg Cyanide * Digest Dilution Factor / SS (mL)	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			~~3.80E-02~~ 1.10E-2 RWS 3/12/96

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 103 A-0 SPIKE, STANDARD

DWS 5/8/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5421	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.001
Matrix	Absorbance of Standard		0.676
LIQUID	Y-Intercept Value		0.010219
Sample #	Slope Value		0.139252
STD/71N8F	µg of CN in Standard		4.774
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard		955
03/04/96			
Time	Standard % Recovery		100.8%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-1~~02 (D-0)~~ 103 (A-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.71254
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5421	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.027
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003642	µg of Cyanide	0.099
Instrument Code	µg CN- /g	2.78E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			5.33E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-0 BLANK, LIQUID, SOLID

DWS 5/9/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.74050
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5421	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.027
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003642/DUP	µg of Cyanide	0.099
Instrument Code	µg CN- /g	2.67E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			5.13E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 105 rtc SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5421	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.001	
Matrix	Absorbance of Sample+Spike	0.346	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003642	µg of CN- in Sample+Spike	2.404	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.0990	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	97.4%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 MC BLANK, LIQUID, SOLID

RWS 5/8/96

Type:		SAMPLE
SOLID	Sample Weight in grams (SS)	0.51119
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5421	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.017
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003643	µg of Cyanide	0.027
Instrument Code	µg CN- /g	1.06E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			7.43E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-154, REV. 1

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 163 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.52943
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5421	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.003
Matrix	Absorbance of Sample	0.021
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003643/DUP	µg of Cyanide	0.056
Instrument Code	µg CN- /g	2.11E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			7.18E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5421	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.001	
Matrix	Absorbance of Sample+Spike	0.329	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003643	µg of CN- in Sample+Spike	2.282	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.0270	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	95.3%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-~~402 (D-0)~~ 103 A-0 SPIKE, STANDARD

RWS 5/8/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5421	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.003
Matrix	Absorbance of Standard		0.701
SOLID	Y-Intercept Value		0.012516
Sample #	Slope Value		0.155582
STD/CCV	µg of CN in Standard	ERR	4.406
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard	ERR	881
03/04/96			
Time	Standard % Recovery		93.1%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/28/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTW	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 A-C BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5421	Blank Weight in ~~g~~ mL (SS) RWS 3/12/96	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.003
Matrix	Digest Dilution Factor	1
SOLID	Y-Intercept Value	0.012516
Sample #	Slope Value	0.155582
CCB	µg of Cyanide	-0.061
Instrument Code	µg CN- /g	-1.22E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.19 µg Cyanide * Digest Dilution Factor / SS (mL)	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/28/96			~~3.80E-02~~ 1.10 e-2

3/12/96 RWS

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5422

Analyst: KRM **Instrument:** CN01 601 **Book #** 7/N8F

Method: LA-695-~~102~~ 103 Rev/Mod A-0 KRM 3-4-96

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10 E-2	N/A	ug/g
		2	STD				CN-01	SOLID	947	969	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003644	0		CN-01	SOLID	N/A	<5.30	5.30	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003644	0		CN-01	SOLID	<5.30	<5.04	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003644	0		CN-01	SOLID	100	96.2	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003645	0		CN-01	SOLID	N/A	<8.36	8.36	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003645	0		CN-01	SOLID	<8.36	<7.92	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003645	0		CN-01	SOLID	100	98.6	N/A	ug/g
		9	CCV				CN-01	SOLID	947	870	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10 E-2	N/A	ug/g

Final page for worklist # 5422

3-4-96
Analyst Signature **Date**

3/12/96
Analyst Signature **Date**

Reviewed RW Schroeder 3/12/96

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.

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

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

CN- DETERMINATION : LA-695-102 ~~(D-0)~~ E-0 SPIKE, STANDARD

PASS 5/8/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5422	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.687
LIQUID	Y-Intercept Value		0.010219
Sample #	Slope Value		0.139252
STD/71N8F	µg of CN in Standard		4.846
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard		969
03/04/96			
Time	Standard % Recovery		102.3%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	Ru Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (~~D-0~~ E-0) BLANK, LIQUID, SOLID

RW 5-8-96

Type		SAMPLE
BLANK		
Work List		
5422	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
BLNK	µg of Cyanide	-0.059
Instrument Code	µg CN- /mL	-1.18E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/29/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (~~D=0~~ EC) BLANK, LIQUID, SOLID

CWS 3/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.71719
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5422	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Sample	0.021
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003644	µg of Cyanide	0.063
Instrument Code	µg CN- /g	1.76E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	< Detection Limit
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
5.30E+00

Data Entry by:	RTW	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

SD-WM-DP-164, REV. 1

CN- DETERMINATION : LA-695-102 (~~D-0~~ E-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.75432
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5422	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Sample	0.025
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003644/DUP	µg of Cyanide	0.092
Instrument Code	µg CN- /g	2.43E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			5.04E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 ~~(D-0)~~ ED SPIKE, STANDARD

RWS 5/2/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5422	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.002	
Matrix	Absorbance of Sample+Spike	0.338	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003644	µg of CN- in Sample+Spike	2.340	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.0630	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	96.2%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (~~D-0~~ EO) BLANK, LIQUID, SOLID

RWS 5/5/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.45441
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5422	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Sample	0.032
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003645	µg of Cyanide	0.142
Instrument Code	µg CN- /g	6.25E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	< Detection Limit
Calibration Date		
02/29/96		

Detection Limit µg CN- / g
8.36E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	R W Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (~~D-0~~ E-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.47997
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5422	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Sample	0.036
SOLID	Y-Intercept Value	0.010219
Sample #	Slope Value	0.139252
S95T003645/DUP	µg of Cyanide	0.171
Instrument Code	µg CN- /g	7.12E+00
601		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/04/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/29/96			7.92E+00

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (~~D-0~~ E-0) SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5422	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.002	
Matrix	Absorbance of Sample+Spike	0.357	
SOLID	Y-Intercept Value	0.010219	
Sample #	Slope Value	0.139252	
S95T003645	µg of CN- in Sample+Spike	2.476	ERR
Instrument Code			
601			
Analyst	Known µg of CN- in Original Sample	0.1420	
K.MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/04/96			
Time	Spike % Recovery	98.6%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/29/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-102 (~~D-0~~ E-C) SPIKE, STANDARD

CWS 5/8/96

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5422	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.691
SOLID	Y-Intercept Value		0.012516
Sample #	Slope Value		0.155582
STD/CCV	µg of CN in Standard	ERR	4.348
Instrument Code			
601			
Analyst			
K.MONTEITH			
Date	µg of CN-/mL in Standard	ERR	870
03/04/96			
Time	Standard % Recovery		91.8%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/28/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (~~D-0~~ E-0) BLANK, LIQUID, SOLID

Rev's 5/8/96

Type		SAMPLE
BLANK		
Work List		
5422	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.012516
Sample #	Slope Value	0.155582
CCB	µg of Cyanide	-0.068
Instrument Code	µg CN- /mL	-1.35E-02
601		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/04/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/28/96			1.10E-02

Data Entry by:	RTS	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5459

Analyst: KRM **Instrument:** CN01 **Book #** 71N8F

Method: LA-695-102 Rev/Mod F-0 LAD 3/22/96

Worklist Comment: BY-104 CN RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10 E-2	N/A	ug/g
		2	STD				CN-01	SOLID	947	905	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003646	0		CN-01	SOLID	N/A	<8.36	8.36	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003646	0		CN-01	SOLID	<8.36	<8.22	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003646	0		CN-01	SOLID	100	91.0	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003647	0		CN-01	SOLID	N/A	6.86 E1	7.11	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003647	0		CN-01	SOLID	6.86 E1	5.79 E1	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003647	0		CN-01	SOLID	100	91.0	N/A	ug/g
		9	CCV				CN-01	SOLID	947	~~85.6~~ 811 RHEC	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10 E-2	N/A	ug/g

Final page for worklist # 5459

Analyst Signature 3-7-96 Date FOR KR MONTEITH

Analyst Signature 3/12/96 Date

Reviewed RW Schroeder 3/12/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5459	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.007
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.047
Instrument Code	µg CN- /mL	9.49E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K.MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/07/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by:	RTS	Date:	03/12/96
Approved by:	Ron Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5459	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.007
Matrix	Absorbance of Standard		0.656
LIQUID	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
STD/71N8F	µg of CN in Standard		4.524
Instrument Code			
301			
Analyst			
K. MONTEITH			
Date	µg of CN-/mL in Standard		905
03/05/96			
Time	Standard % Recovery		95.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/12/96
Approved by:	Ru Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.45480
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5459	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.007
Matrix	Absorbance of Sample	0.024
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003646	µg of Cyanide	0.117
Instrument Code	µg CN- /g	5.15E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			8.36E+00

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schnoeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.46221
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5459	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.007
Matrix	Absorbance of Sample	0.023
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003646/DUP	µg of Cyanide	0.110
Instrument Code	µg CN- /g	4.77E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			8.22E+00

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5459	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.007	
Matrix	Absorbance of Sample+Spike	0.333	
SOLID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003646	µg of CN- in Sample+Spike	2.272	
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1170	
K. MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/05/96			
Time	Spike % Recovery	91.0%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schwoeb	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.53416
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5459	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.007
Matrix	Absorbance of Sample	0.27
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003647	µg of Cyanide	1.832
Instrument Code	µg CN- /g	6.86E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	6.86E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
7.11E+00

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.50308
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5459	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.007
Matrix	Absorbance of Sample	0.216
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003647/DUP	µg of Cyanide	1.456
Instrument Code	µg CN- /g	5.79E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	5.79E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
7.55E+00

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5459	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.007	
Matrix	Absorbance of Sample+Spike	0.579	
SOLID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003647	µg of CN- in Sample+Spike	3.987	
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	1.8320	
K. MONTEITH			
Date	µg of CN- in Spike	2.3675	
03/05/96			
Time	Spike % Recovery	91.0%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schmeck	Date:	3/12/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5459	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.006
Matrix	Absorbance of Standard		0.611
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
CCV	µg of CN in Standard		4.055
Instrument Code			
301			
Analyst			
K. MONTEITH			
Date	µg of CN-/mL in Standard		811
03/05/96			
Time	Standard % Recovery		85.6%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
5459	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.006
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.008
Instrument Code	µg CN- /mL	-1.68E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K.MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/07/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5460

Analyst: JK 103 RWS 3/11/96 **Instrument:** CN01 301 **Book #** 71N8F

Method: LA-695-~~102~~ Rev/Mod A-0

Worklist Comment: BY-104 CN. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	~~807~~ <1.10E-2	N/A	ug/g
		2	STD				CN-01	SOLID	947	807	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003702	0		CN-01	SOLID	N/A	3.45	2.10	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003702	0		CN-01	SOLID	3.45	3.17	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003702	0		CN-01	SOLID	100	69.5	N/A	ug/g
95000180	BY104 ROTARY	6	SAMPLE	S95T003648	0		CN-01	SOLID	N/A	1.92^{E1}	2.13	ug/g
95000180	BY104 ROTARY	7	DUP	S95T003648	0		CN-01	SOLID	1.92^{E1}	1.88	N/A	ug/g
95000180	BY104 ROTARY	8	SPK	S95T003648	0		CN-01	SOLID	100	88	N/A	ug/g
		9	CCV				CN-01	SOLID	947	867	N/A	ug/g
		10	CCB				CN-01	SOLID	1	$<1.10^{E-2}$	N/A	ug/g

Final page for worklist # 5460

Analyst Signature / Date 3.5.96

Analyst Signature / Date 3/12/96

Reviewed 3/12/96

Rerun # 12242
12243

Data Entry Comments: Spike recovery for S95T003702 is Poor due to sample value being less than 5 times the detection limit. RW Schroeder 3/11/96

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

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 105 Amb SPIKE, STANDARD

DWS 5/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5460	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.001
Matrix	Absorbance of Standard		0.580
LIQUID	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
71N8F	µg of CN in Standard		4.036
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		807
02/05/96			
Time	Standard % Recovery		85.2%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:		Date:	03/08/96
Approved by:		Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 AC BLANK, LIQUID, SOLID

RUNS 5/8/91

		SAMPLE
Type		
BLANK		
Work List		
5460	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.006
Instrument Code	µg CN- /mL	1.12E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/05/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by: [illegible] Date: 03/08/96

Approved by: [illegible] Date: 3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 102 A-0 BLANK, LIQUID, SOLID

DWS 5/2/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.45249
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5460	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample	0.046
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003702	µg of Cyanide	0.312
Instrument Code	µg CN- /g	3.45E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	3.45E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
2.10E+00

Data Entry by: [illegible] Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 FO BLANK, LIQUID, SOLID

RW 3/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.49312
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5460	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample	0.046
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003702/DUP	µg of Cyanide	0.312
Instrument Code	µg CN- /g	3.17E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	3.17E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
1.93E+00

Data Entry by: [illegible] Date: 03/08/96

Approved by: RW Schmeder Date: 3/11/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 103 (D=0) SPIKE, STANDARD

RW 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5460	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.001	
Matrix	Absorbance of Sample+Spike	0.282	
LIQUID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003702	µg of CN- in Sample+Spike	1.958	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.3120	
J. KNIGHT			
Date	µg of CN- in Spike	2.3675	
02/05/96			
Time	Spike % Recovery	69.5%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:		Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (D=0)~~ 103 AA BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.44646
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5460	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample	0.247
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003648	µg of Cyanide	1.714
Instrument Code	µg CN- /g	1.92E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.92E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
2.13E+00

Data Entry by: K/ Black Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-DP-154 REV. 1

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 AC BLANK, LIQUID, SOLID

DWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.50518
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5460	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.001
Matrix	Absorbance of Sample	0.273
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003648/DUP	µg of Cyanide	1.895
Instrument Code	µg CN- /g	1.88E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/05/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.88E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
1.88E+00

Data Entry by: [signature] Date: 03/08/96

Approved by: RW Schroeder Date: 3/11/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 (D-0) SPIKE, STANDARD

RWS 5/8/96

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5460	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	947	
CN-01	Absorbance of Blank	0.001	
Matrix	Absorbance of Sample+Spike	0.548	
LIQUID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003648	µg of CN- in Sample+Spike	3.813	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	1.7140	
J. KNIGHT			
Date	µg of CN- in Spike	2.3675	
02/05/96			
Time	Spike % Recovery	88.6%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	[illegible]	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 103 AC SPIKE, STANDARD

RWS 3/8/96

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5460	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		947
CN-01	Absorbance of Blank		0.001
Matrix	Absorbance of Standard		0.647
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
CCV	µg of CN in Standard		4.333
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		867
02/05/96			
Time	Standard % Recovery		91.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	[illegible]	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-OP-164, REV 1

CN- DETERMINATION : LA-695-~~102 (D-0)~~ 102 (D) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5460	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.042
Instrument Code	µg CN- /mL	-8.46E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/05/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	N. Banks	Date:	03/08/96
Approved by:	RW Schroeder	Date:	3/11/96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 5463

Analyst: KRM **Instrument:** CN01 301 **Book #** 71N80

Method: LA-695 ~~102~~ 103 Rev/Mod A-0 3-10-96

Worklist Comment: BY-104 CN. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.0 e-2	N/A	ug/g
		2	STD				CN-01	SOLID	915	930	N/A	ug/g
95000200	BY104 ROTARY	3	SAMPLE	S95T003783	0		CN-01	SOLID	N/A	197 e+1	855	ug/g
95000200	BY104 ROTARY	4	DUP	S95T003783	0		CN-01	SOLID	197 e+1	234 E+1	N/A	ug/g
95000200	BY104 ROTARY	5	SPK	S95T003783	0		CN-01	SOLID	100	~~112.5~~ 116.7	N/A RWS 3/12/96	ug/g
95000200	BY104 ROTARY	6	SAMPLE	S95T003784	0		CN-01	SOLID	N/A	<8.39	8.39	ug/g
95000200	BY104 ROTARY	7	DUP	S95T003784	0		CN-01	SOLID	<8.39	7.93	N/A	ug/g
95000200	BY104 ROTARY	8	SPK	S95T003784	0		CN-01	SOLID	100	~~101.9~~ 105.5	N/A RWS 3/12/96	ug/g
		9	CCV				CN-01	SOLID	915	~~916~~ 913	N/A RWS 3/12/96	ug/g
		10	CCB				CN-01	SOLID	1	<1.0 e-2	N/A	ug/g

Final page for worklist # 5463

Analyst Signature 3-10-96 Date

Analyst Signature 3/12/96 Date

Reviewed RW Schroeder 3/13/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 HO Hua 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
5463	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.003
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.020
Instrument Code	µg CN- /mL	3.91E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by:	RTS	Date:	03/11/96
Approved by:	Ron Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

103 A-0 Nea 3.27.96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		NA	STANDARD
Type			
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5463	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.003
Matrix	Absorbance of Standard		0.670
Liquid	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
71N8G	µg of CN in Standard	ERR	4.649
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard	ERR	930
03/10/96			
Time	Standard % Recovery		101.6%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-D Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.44466
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5463	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.067
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003783	µg of Cyanide	0.438
Instrument Code	µg CN- /g	1.97E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	1.97E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
8.55E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	R W Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-0 Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.43919
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5463	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.078
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003783/DUP	µg of Cyanide	0.515
Instrument Code	µg CN- /g	2.34E+01
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	2.34E+01
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
8.65E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	Rw Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

103 A-D Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5463	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.003	
Matrix	Absorbance of Sample+Spike	0.449	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003783	µg of CN- in Sample+Spike	3.108	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.4380	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	116.7%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-OP-164, REV 1

103 A-0 Rea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.45277
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5463	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.012
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003784	µg of Cyanide	0.054
Instrument Code	µg CN- /g	2.40E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			8.39E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-O Rea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.47919
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5463	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.012
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003784/DUP	µg of Cyanide	0.054
Instrument Code	µg CN- /g	2.27E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.93E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

103 A.O RWS 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		SPIKE	NA
Type			
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5463	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.003	
Matrix	Absorbance of Sample+Spike	0.357	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003784	µg of CN- in Sample+Spike	2.467	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.0540	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	105.5%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-O Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
5463	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.004
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.022
Instrument Code	µg CN- /mL	-4.39E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/11/96
Approved by:	Rw Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

103 A·D Nea 3.27.96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		NA	STANDARD
Type			
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5463	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.004
Matrix	Absorbance of Standard		0.684
Liquid	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G-CCV	µg of CN in Standard	ERR	4.564
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard	ERR	913
03/10/96			
Time	Standard % Recovery		99.8%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	Rus Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

Instrpt Version 2.1 05/15/95
02/05/96 14:13

LABCORE Data Entry Template for Worklist# 5464

Analyst: KRM **Instrument:** CN01 301 **Book #** 7/N86

Method: LA-695-~~102~~ 103 Rev/Mod A-0 3-10-96

Worklist Comment: BY-104 CN. RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	< 1.10 e-2	N/A	ug/g
		2	STD				CN-01	SOLID	RWS 3/12/96 ~~915~~	938	N/A	ug/g
95000200	BY104 ROTARY	3	SAMPLE	S95T003809	0		CN-01	SOLID	N/A	<7.13 ~~<6.16~~	7.13 ~~6.16~~	~~ug/g~~ Hla 3.27.96
95000200	BY104 ROTARY	4	DUP	S95T003809	0		CN-01	SOLID	<7.13 ~~<6.16~~	<7.21 ~~<5.87~~	N/A	Hla 3.27.96 ug/g
95000200	BY104 ROTARY	5	SPK	S95T003809	0		CN-01	SOLID	~~100~~ Hla 3.27.96	~~107.9~~ Hla ~~104.3~~ 3.27.96	RWS 3/15/96 N/A	ug/g 105.5
95000200	BY104 ROTARY	6	SAMPLE	S95T003785	0		CN-01	SOLID	N/A	<6.16 ~~<7.3~~	6.16 ~~7.3~~	ug/g Hla 3.27.96
95000200	BY104 ROTARY	7	DUP	S95T003785	0		CN-01	SOLID	<6.16 ~~<7.13~~	<5.87 ~~<7.21~~	N/A	Hla 3.27.96 ug/g
95000200	BY104 ROTARY	8	SPK	S95T003785	0		CN-01	SOLID	100	~~105.5~~ ~~107.9~~	RWS 3/12/96 Hla 3.27.96 N/A	ug/g 107.9
		9	CCV				CN-01	SOLID	915	877	N/A	ug/g
		10	CCB				CN-01	SOLID	1	< 1.10 e-2	N/A	ug/g

Final page for worklist # 5464

Analyst Signature Date 3-10-96

Analyst Signature Date 3/12/96

Reviewed RW Schroeder 3/13/96

Data Entry Comments: Sample results reversed. Corrected via LabCore 3-27-96 Hla

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 Completed Worklist Report for Worklist# 5464

Analyst: krm **Instrument:** CN01 **Book#** _____

Method: _____Rev/Mod _____

Worklist Comment: BY-104 CN. RCJ

Seq	Type	Sample#	R	A	Test	Matrix	Actual	Found	DL or Yield	Unit
1	BLNK			0	CN-01	SOLID	1	<1.10e-2		ug/g
2	STD			0	CN-01	SOLID	915	938	102.510	% Recovery
3	SAMPLE	S95T003809		0	CN-01	SOLID	N/A <	7.13	7.130	ug/g
4	DUP	S95T003809		0	CN-01	SOLID	<7.13	<7.21		RPD
5	SPK	S95T003809		0	CN-01	SOLID	100	105.5	105.500	% Recovery
6	SAMPLE	S95T003785		0	CN-01	SOLID	N/A <	6.16	6.160	ug/g
7	DUP	S95T003785		0	CN-01	SOLID	<6.16	<5.87		RPD
8	SPK	S95T003785		0	CN-01	SOLID	100	107.9	107.900	% Recovery
9	CCV			0	CN-01	SOLID	915	877	95.850	% Recovery
10	CCB			0	CN-01	SOLID	1	<1.10e-2		ug/g

Final page for worklist# 5464

Analyst Signature **Date**

Analyst Signature **Date**

Reviewer Signature **Date**

for verification of changes.
Ida 3-27-96

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A-C BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5464	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.006
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.040
Instrument Code	µg CN- /mL	8.10E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

RWS 5/8/96

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schwedler	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A0 SPIKE, STANDARD

RWS 5/8/96

Type		NA	STANDARD
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5464	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.006
Matrix	Absorbance of Standard		0.679
Liquid	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
71N8G	µg of CN in Standard	ERR	4.691
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard	ERR	938
03/10/96			
Time	Standard % Recovery		102.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A-0 BLANK, LIQUID, SOLID

DWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.61722
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5464	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.006
Matrix	Absorbance of Sample	0.028
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003785	µg of Cyanide	0.152
Instrument Code	µg CN- /g	4.93E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.16E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 R-0 BLANK, LIQUID, SOLID

RW's 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.64719
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5464	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.006
Matrix	Absorbance of Sample	0.026
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003785/DUP	µg of Cyanide	0.138
Instrument Code	µg CN- /g	4.27E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			5.87E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A-C SPIKE, STANDARD

Type	RWS 5/8/96	SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5464	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.006	
Matrix	Absorbance of Sample+Spike	0.382	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003785	µg of CN- in Sample+Spike	2.620	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1520	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	107.9%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 AE BLANK, LIQUID, SOLID

GWS 5/8/96

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.53282
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5464	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.006
Matrix	Absorbance of Sample	0.017
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003809	µg of Cyanide	0.075
Instrument Code	µg CN- /g	2.83E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.13E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A-0 BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.52726
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
5464	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.006
Matrix	Absorbance of Sample	0.019
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003809/DUP	µg of Cyanide	0.089
Instrument Code	µg CN- /g	3.39E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.21E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 A-0 SPIKE, STANDARD

RWS 5/3/96

Type		SPIKE	NA
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
5464	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.006	
Matrix	Absorbance of Sample+Spike	0.363	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003809	µg of CN- in Sample+Spike	2.488	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.0750	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	105.5%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 (E-0) BLANK, LIQUID, SOLID

RWS 5/8/96

Type		SAMPLE
BLANK		
Work List		
5464	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.006
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.008
Instrument Code	µg CN- /mL	-1.68E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 AU SPIKE, STANDARD

RWS 5/8/96

Type		NA	STANDARD
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5464	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.006
Matrix	Absorbance of Standard		0.660
Liquid	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G-CCV	µg of CN in Standard	ERR	4.387
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard	ERR	877
03/10/96			
Time	Standard % Recovery		95.9%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

LABCORE Data Entry Template for Worklist# 6378

Analyst: KRM **Instrument:** CN01 301 **Book #** 7/N8G

Method: LA-695-103 Rev/Mod A-0

Worklist Comment: BY-1O4 CN

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<1.10E-2	N/A	ug/g
		2	STD				CN-01	SOLID	915	776	N/A	ug/g
95000200	BY104 ROTARY	3	SAMPLE	S95T003810	0		CN-01	SOLID	N/A	<782	782	ug/g
95000200	BY104 ROTARY	4	DUP	S95T003810	0		CN-01	SOLID	<782	839	N/A	ug/g
									103	~~97.9~~	RWS 3/12/96	
95000200	BY104 ROTARY	5	SPK	S95T003810	0		CN-01	SOLID	100	~~94.5~~	N/A	ug/g
		6	CCV				CN-01	SOLID	915	959	N/A	ug/g
		7	CCB				CN-01	SOLID	1	<1.10E-2	N/A	ug/g

Final page for worklist # 6378

3-10-96
Analyst Signature **Date**

3/12/96
Analyst Signature **Date**

Reviewed RW Schroeder 3/13/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

WHC-SD-WM-CP-164 REV 1

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
6378	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.013
Instrument Code	µg CN- /mL	2.52E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			1.10E-02

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6378	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.702
Liquid	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
71N8G	µg of CN in Standard		4.879
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard		976
03/10/96			
Time	Standard % Recovery		106.7%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.48606
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6378	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Sample	0.028
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003810	µg of Cyanide	0.180
Instrument Code	µg CN- /g	7.40E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			7.82E+00

Data Entry by:	RWS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.56161
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6378	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.002
Matrix	Absorbance of Sample	0.036
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003810/DUP	µg of Cyanide	0.236
Instrument Code	µg CN- /g	8.39E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/10/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	8.39E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
6.77E+00

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schneider	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
Spike	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6378	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.002	
Matrix	Absorbance of Sample+Spike	0.366	
Liquid	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003810	µg of CN- in Sample+Spike	2.537	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1800	
K. Monteith			
Date	µg of CN- in Spike	2.2875	
03/10/96			
Time	Spike % Recovery	103.0%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
6378	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.004
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.022
Instrument Code	µg CN- /mL	-4.39E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
K. MONTEITH	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/10/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/11/96
Approved by:	RW Schroeder	Date:	3/12/96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
Standard	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6378	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.718
Liquid	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G-CCV	µg of CN in Standard		4.808
Instrument Code			
301			
Analyst			
K. Monteith			
Date	µg of CN-/mL in Standard		962
03/10/96			
Time	Standard % Recovery		105.1%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RWS	Date:	03/12/96
Approved by:	RW Schroeder	Date:	3/12/96

Form X2 Rev. 1.0

LABCORE Data Entry Template for Worklist# 6430

Analyst: JTK **Instrument:** CN01 _____ **Book #** 71N8G

Method: LA-695-103 Rev/Mod A-0

Worklist Comment: BY-104 CN rerun#1 (WL 5421 prior)

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	<3.8e-2 ~~<1.10e-2~~ HLA 3-15-96	N/A	ug/g
		2	STD				CN-01	SOLID	915	979	N/A	ug/g
95000180	BY104 ROTARY	3	SAMPLE	S95T003703	0		CN-01	SOLID	N/A	3.24	1.64	ug/g
95000180	BY104 ROTARY	4	DUP	S95T003703	0		CN-01	SOLID	3.24	3.09 ~~1.66~~ RLS	N/A	ug/g
95000180	BY104 ROTARY	5	SPK	S95T003703	0		CN-01	SOLID	100	47.3	N/A	ug/g
95000200	BY104 ROTARY	6	SAMPLE	S95T003764	0		CN-01	SOLID	N/A	2.20	2.01	ug/g
95000200	BY104 ROTARY	7	DUP	S95T003764	0		CN-01	SOLID	2.20	2.35	N/A	ug/g
95000200	BY104 ROTARY	8	SPK	S95T003764	0		CN-01	SOLID	100 ~~48.0~~	98.1 RLS	N/A	ug/g
		9	CCV				CN-01	SOLID	915	1025	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10e-2	N/A	ug/g

Final page for worklist # 6430

J D Knight 3/14/96
Analyst Signature **Date**

R L Dick 3/15/96
Analyst Signature **Date**

Report # 12426 / Low Spike
Approved by
JL Anderson 3-15-96

Data Entry Comments: Low spk overriden - Sample result less than 5x MDL. HLA 3-15-96

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

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

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

103 A-D Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6430	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.004
Matrix	Absorbance of Standard		0.706
LIQUID	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
STD/71N8G	µg of CN in Standard		4.893
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		979
03/14/96			
Time	Standard % Recovery		107.0%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/15/96
Approved by:	HRnaston	Date:	3.15.96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-0 Hea 3.27.96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
6430	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.004
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	0.027
Instrument Code	µg CN- /mL	5.31E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date	0.19 Hea 3.15.96	
03/14/96	Detection Limit = ~~0.055~~ µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			~~1.10E-02~~ 3.8e-2 Hea 3.15.96

Data Entry by:	RTS	Date:	03/15/96
Approved by:	J Anastn	Date:	3.15.96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-0 Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.57898
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6430	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.058
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003703	µg of Cyanide	0.375
Instrument Code	µg CN- /g	3.24E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/14/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	3.24E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
1.64E+00

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastas	Date:	3-15-96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-C Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.57311
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6430	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.055
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003703/DUP	µg of Cyanide	0.354
Instrument Code	µg CN- /g	3.09E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/14/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	3.09E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
1.66E+00

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anestn	Date:	3-15-96

Form 695102C1 Rev. 1.7

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

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

695-103 A-D HEA 3-27-96

CN- DETERMINATION : LA-~~695-102~~ (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6430	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.004	
Matrix	Absorbance of Sample+Spike	0.213	
LIQUID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003703	µg of CN- in Sample+Spike	1.456	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.3750	
J.KNIGHT			
Date	µg of CN- in Spike	2.2875	
03/14/96			
Time	Spike % Recovery	47.3%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/15/96
Approved by:	HAnasto	Date:	3-15-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-0 HRA 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.47328
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6430	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.034
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003764	µg of Cyanide	0.208
Instrument Code	µg CN- /g	2.20E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/14/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	2.20E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
2.01E+00

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastn	Date:	3-15-96

Form 695102C1 Rev. 1.7

Page 1 of 1

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-0 Hea 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

Type		SAMPLE
SOLID	Sample Weight in grams (SS)	0.46539
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6430	Aliquot Analyzed from Dissolution (A)	1.00000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.004
Matrix	Absorbance of Sample	0.036
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003764/DUP	µg of Cyanide	0.222
Instrument Code	µg CN- /g	2.38E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/14/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	
	Cyanide Concentration (µg/g)	2.38E+00
Calibration Date		
02/23/96		

Detection Limit µg CN- / g
2.04E+00

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastro	Date:	3-15-96

Form 695102C1 Rev. 1.7

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

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

103 A-D HRA 3.27.96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6430	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.004	
Matrix	Absorbance of Sample+Spike	0.356	
LIQUID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003764	µg of CN- in Sample+Spike	2.453	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.2080	
J.KNIGHT			
Date	µg of CN- in Spike	2.2875	
03/14/96			
Time	Spike % Recovery	98.1%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RTS	Date:	03/15/96
Approved by:	HAnastn	Date:	3-15-96

Form X2 Rev. 1.0

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

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

103 A-0 HRA 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6430	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.765
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
CCV/71N8G	µg of CN in Standard		5.127
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		1025
03/14/96			
Time	Standard % Recovery		112.1%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/15/96
Approved by:	Hanaston	Date:	3-15-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A-C HLa 3-27-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
6430	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.036
Instrument Code	µg CN- /mL	-7.10E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/14/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastn	Date:	3-15-96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 6474

Analyst: STK **Instrument:** CN01 _____ **Book #** 71N8C

Method: ~~LA-695-103~~ LA-695-102 Rev/Mod E0

Worklist Comment: BY-104 CN

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	LIQUID	1	$<1.10^{e-2}$	N/A	ug/mL
		2	STD				CN-01	LIQUID	915	990	N/A	ug/mL
95000180	BY104 ROTARY	3	SAMPLE	S96T001352	0		CN-01	LIQUID	N/A	$<5.50^{e-2}$	3.50^{e-2}	ug/mL
95000180	BY104 ROTARY	4	DUP	S96T001352	0		CN-01 CN-03	LIQUID	$<5.50^{e-2}$	$<5.50^{e-2}$	N/A	ug/mL
95000180	BY104 ROTARY	5	SPK	S96T001352	0		CN-01	LIQUID	100	101.3	N/A	ug/mL
		6	CCV				CN-01	LIQUID	915	919	N/A	ug/mL
		7	CCB				CN-01	LIQUID	1	$<1.10^{e-2}$	N/A	ug/mL

Final page for worklist # 6474

Analyst Signature 3.14.96 Date

Analyst Signature 3/15/96 Date

Approved by H Anastos 3-15-96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5474	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
BLNK	µg of Cyanide	-0.036
Instrument Code	µg CN- /mL	-7.10E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/14/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastos	Date:	3-15-96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6474	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.739
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
STD/71N8G	µg of CN in Standard		4.950
Instrument Code			
301			
Analyst			
J.KNIGHT			
Date	µg of CN-/mL in Standard		990
03/14/96			
Time	Standard % Recovery		108.2%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastas	Date:	3-15-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
LIQUID	Sample Aliquot in mL	1.00000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	1.00000
6474	Sample Aliquot Taken from dilution in mL (SS)	1.00000
Test Code	Absorbance of Blank	0.002
CN-01	Absorbance of Sample	0.003
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
S96T001352	µg of Cyanide	-0.042
Instrument Code	µg CN- /mL	-4.23E-02
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/14/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			5.50E-02

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anderson	Date:	3-15-96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

		SAMPLE
Type		
LIQUID	Sample Aliquot in mL	1.00000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	1.00000
6474	Sample Aliquot Taken from dilution in mL (SS)	1.00000
Test Code	Absorbance of Blank	0.002
CN-01	Absorbance of Sample	0.005
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
S96T001352/DUP	µg of Cyanide	-0.029
Instrument Code	µg CN- /mL	-2.87E-02
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/14/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			5.50E-02

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastn	Date:	3-15-96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6474	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.002	
Matrix	Absorbance of Sample+Spike	0.351	
LIQUID	Y-Intercept Value	0.007237	
Sample #	Slope Value	0.147420	
S96T001352	µg of CN- in Sample+Spike	2.318	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.0000	
J.KNIGHT			
Date	µg of CN- in Spike	2.2875	
03/14/96			
Time	Spike % Recovery	101.3%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	RJS	Date:	03/15/96
Approved by:	H Anastro	Date:	3-15-96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6474	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.002
Matrix	Absorbance of Standard		0.687
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
CCV/71N8G	µg of CN in Standard		4.597
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		919
03/14/96			
Time	Standard % Recovery		100.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastn	Date:	3-15-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
5474	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.002
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.036
Instrument Code	µg CN- /mL	-7.10E-03
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/14/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	RTS	Date:	03/15/96
Approved by:	H Anastos	Date:	3-15-96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 6542

Analyst: ITR 3.15.96 **Instrument:** CN01 _____ **Book #** 7N8G

Method: LA-695-103 Rev/Mod A-0

Worklist Comment: BY-104 RERUNS

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	SOLID	1	~~<1.10~~ <3.8e-2 e-2 klea 7.19.96	N/A	ug/g
		2	STD				CN-01	SOLID		976	N/A	ug/g
95000200	BY104 ROTARY	3	SAMPLE	S95T003781	0		CN-01	SOLID	N/A	<6.62	6.62	ug/g
95000200	BY104 ROTARY	4	DUP	S95T003781	0		CN-01	SOLID	<6.62	<6.55	N/A	ug/g
95000200	BY104 ROTARY	5	SPK	S95T003781	0		CN-01	SOLID	100	102.1	N/A	ug/g
95000200	BY104 ROTARY	6	SAMPLE	S95T003782	0		CN-01	SOLID	N/A	<8.43	8.43	ug/g
95000200	BY104 ROTARY	7	DUP	S95T003782	0		CN-01	SOLID	<8.43	<8.51	N/A	ug/g
95000200	BY104 ROTARY	8	SPK	S95T003782	0		CN-01	SOLID	100	105.8	N/A	ug/g
		9	CCV				CN-01	SOLID		1021	N/A	ug/g
		10	CCB				CN-01	SOLID	1	<1.10 e-2	N/A	ug/g

Final page for worklist # 6542

[signature] 3.18.96
Analyst Signature Date

Gary Hammond 3-19-96
Analyst Signature Date

Approved by
H Anastor 3-19-96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 H-O 3-19-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
6542	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.000
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
BLNK	µg of Cyanide	
Instrument Code	µg CN- /mL	0.00E+00
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/18/96	Detection Limit = ~~0.055~~ 0.19 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/23/96			~~1.10E-02~~ 3.8E-2

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anastas	Date:	3-19-96

Form 695102C1 Rev. 1.7

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

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

103 A-D KLG 3-19-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6542	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.000
Matrix	Absorbance of Standard		0.700
LIQUID	Y-Intercept Value		0.000194
Sample #	Slope Value		0.143424
STD/71N8G	µg of CN in Standard		4.879
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		976
03/18/96			
Time	Standard % Recovery		106.7%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anaston	Date:	3-19-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 H-D 3-19-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type: SOLID	Sample Weight in grams (SS)	0.57430
Work List: 6542	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code: CN-01	Dilution Factor (DF)	1.000
	Absorbance of Blank	0.000
Matrix: SOLID	Absorbance of Sample	0.012
	Y-Intercept Value	0.000194
Sample #: S95T003781	Slope Value	0.143424
	µg of Cyanide	0.082
Instrument Code: 301	µg CN- /g	2.87E+00
Analyst: J. KNIGHT		
Date: 03/18/96		
Time:		
Calibration Date: 02/23/96		

µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value
µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF

Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF

v RESULTS v

Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
		6.62E+00

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anastas	Date:	3-19-96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A.D HEA 3-19-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
SOLID	Sample Weight in grams (SS)	0.57990
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6542	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.014
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003781/DUP	µg of Cyanide	0.096
Instrument Code	µg CN- /g	3.32E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/18/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			6.55E+00

Data Entry by:	GH	Date:	03/18/96
Approved by:	HAnastn	Date:	3-19-96

Form 695102C1 Rev. 1.7

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

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

103 A-D Hea 3-19-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6542	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.000	
Matrix	Absorbance of Sample+Spike	0.347	
SOLID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003781	µg of CN- in Sample+Spike	2.418	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.0820	
J. KNIGHT			
Date	µg of CN- in Spike	2.2875	
03/18/96			
Time	Spike % Recovery	102.1%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anastn	Date:	3-19-96

Form X2 Rev. 1 0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-~~102 (E-0)~~ 103 AO ~~HLG~~ 3-19-96 BLANK, LIQUID, SOLID

		SAMPLE
Type: SOLID	Sample Weight in grams (SS)	0.45101
Work List: 6542	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code: CN-01	Dilution Factor (DF)	1.000
	Absorbance of Blank	0.000
Matrix: SOLID	Absorbance of Sample	0.015
	Y-Intercept Value	0.000194
Sample #: S95T003782	Slope Value	0.143424
	µg of Cyanide	0.103
Instrument Code: 301	µg CN- /g	4.58E+00
Analyst: J. KNIGHT	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date: 03/18/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time:	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date: 02/23/96			8.43E+00

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anastas	Date:	3-19-96

Form 695102C1 Rev. 1.7

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A O Neu 3-19-96

CN- DETERMINATION : LA-695-~~102~~ (E-0) BLANK, LIQUID, SOLID

Type		**SAMPLE**
SOLID	Sample Weight in grams (SS)	0.44642
Work List	Dissolution Volume (EDTA/en + sample) in mL (DV)	5.00000
6542	Aliquot Analyzed from Dissolution (A)	0.25000
Test Code	Dilution Factor (DF)	1.000
CN-01	Absorbance of Blank	0.000
Matrix	Absorbance of Sample	0.015
SOLID	Y-Intercept Value	0.000194
Sample #	Slope Value	0.143424
S95T003782/DUP	µg of Cyanide	0.103
Instrument Code	µg CN- /g	4.62E+00
301		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/g of Cyanide = (µg Cyanide / A) * (DV / SS (g)) * DF	
Date		
03/18/96	Detection Limit = (0.19 µg Cyanide / A) * (DV / SS) * DF	
Time	v RESULTS v	

	Cyanide Concentration (µg/g)	< Detection Limit	Detection Limit µg CN- / g
Calibration Date			
02/23/96			8.51E+00

Data Entry by:	6H	Date:	03/18/96
Approved by:	H Anastin	Date:	3-19-96

Form 695102C1 Rev. 1.7

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

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

CN- DETERMINATION : LA-~~695-102 (E-0)~~ 105 A.D Hea 3-19-96 SPIKE, STANDARD

Type		SPIKE	NA
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6542	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-01	Absorbance of Blank	0.000	
Matrix	Absorbance of Sample+Spike	0.362	
SOLID	Y-Intercept Value	0.000194	
Sample #	Slope Value	0.143424	
S95T003782	µg of CN- in Sample+Spike	2.523	ERR
Instrument Code			
301			
Analyst	Known µg of CN- in Original Sample	0.1030	
J. KNIGHT			
Date	µg of CN- in Spike	2.2875	
03/18/96			
Time	Spike % Recovery	105.8%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/23/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anastas	Date:	3-19-96

Form X2 Rev. 1.0

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

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

103 A-0 Nea 3-19-96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6542	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-01	Absorbance of Blank		0.000
Matrix	Absorbance of Standard		0.760
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
STD/71N8G/CCV	µg of CN in Standard		5.106
Instrument Code			
301			
Analyst			
J. KNIGHT			
Date	µg of CN-/mL in Standard		1021
03/18/96			
Time	Standard % Recovery		111.6%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	GH	Date:	03/18/96
Approved by:	HMnastr	Date:	3-19-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

103 A.D HEA 3.19.96

CN- DETERMINATION : LA-695-~~102 (E-0)~~ BLANK, LIQUID, SOLID

		SAMPLE
Type		
BLANK		
Work List		
6542	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-01	Absorbance of Blank (Reagent, Prep)	0.000
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
BLNK/CCB	µg of Cyanide	
Instrument Code	µg CN- /mL	0.00E+00
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
J. KNIGHT	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/18/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	GH	Date:	03/18/96
Approved by:	H Anastas	Date:	3.19.96

Form 695102C1 Rev. 1.7

LABCORE Data Entry Template for Worklist# 6726

Analyst: JTK **Instrument:** CN01 **Book #** 71N8G

Method: LA-695-~~103~~ 102 Rev/Mod E-0

Worklist Comment: CN BY-104 Reruns

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	LIQUID	1	<1.10e-2	N/A	ug/mL
		2	STD				CN-01	LIQUID	915	966	N/A	ug/mL
95000200	BY104 ROTARY	3	SAMPLE	S95T003761	0		CN-01	LIQUID	N/A	8.40	2.20e-1	ug/mL
95000200	BY104 ROTARY	4	DUP	S95T003761	0		CN-01	LIQUID	8.40	8.08	N/A	ug/mL
95000200	BY104 ROTARY	5	SPK	S95T003761	0		CN-01	LIQUID	100	99.1	N/A	ug/mL
		6	CCV				CN-01	LIQUID	915	1010	N/A	ug/mL
		7	CCB				CN-01	LIQUID	1	<1.10e-2	N/A	ug/mL

CN-03

Final page for worklist # 6726

for JTKnight, Jr
Heather Anastor 3-20-96
Analyst Signature **Date**

RtStab 3/20/96
Analyst Signature **Date**

Approved by
H Anastor 3/21/96

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.

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
6726	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-03	Absorbance of Blank (Reagent, Prep)	-0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
BLANK	µg of Cyanide	-0.042
Instrument Code	µg CN- /mL	-8.46E-03
CN01		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/17/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	HLA	Date:	03/20/96
Approved by:	H Anastos	Date:	3-20-96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

Type		NA	STANDARD
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6726	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-03	Absorbance of Blank		-0.001
Matrix	Absorbance of Standard		0.718
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G	µg of CN in Standard		4.828
Instrument Code			
CN01			
Analyst			
JTK			
Date	µg of CN-/mL in Standard		966
03/17/96			
Time	Standard % Recovery		105.5%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	HLA	Date:	03/20/96
Approved by:	H Anastos	Date:	3-20-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
LIQUID	Sample Aliquot in mL	0.25000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	0.25000
6726	Sample Aliquot Taken from dilution in mL (SS)	0.25000
Test Code	Absorbance of Blank	-0.001
CN-03	Absorbance of Sample	0.316
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
S95T003761	µg of Cyanide	2.101
Instrument Code	µg CN- /mL	8.40E+00
CN01		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/17/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	
	Cyanide Concentration (µg/mL)	8.40E+00
Calibration Date		
02/25/96		

Detection Limit µg CN- / mL
2.20E-01

Data Entry by:	HLA	Date:	03/20/96
Approved by:	H Knaster	Date:	3-20-96

Form 695102C1 Rev. 1.7

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PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
LIQUID	Sample Aliquot in mL	0.25000
Work List	Sample Dilution Volume in mL (Sample+H2O Vol.)	0.25000
6726	Sample Aliquot Taken from dilution in mL (SS)	0.25000
Test Code	Absorbance of Blank	-0.001
CN-03	Absorbance of Sample	0.304
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
S95T003761 DUP	µg of Cyanide	2.020
Instrument Code	µg CN- /mL	8.08E+00
CN01		
Analyst	µg of Cyanide = [(Absorb. of Sample - Absorb. of Blank) - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Date	Dilution Factor = Flask Volume (mL) / Sample Aliquot (mL)	
03/17/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Dilution Factor * Digest Dilution Factor	
Time	v RESULTS v	
	Cyanide Concentration (µg/mL)	8.08E+00
Calibration Date		
02/25/96		

Detection Limit µg CN- / mL
2.20E-01

Data Entry by:	HLA	Date:	03/20/96
Approved by:	H Anastor	Date:	3-20-96

Form 695102C1 Rev. 1.7

Page 1 of 1

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		SPIKE	NA
Type			
SPIKE	Spike Aliquot in mL	0.250	
Work List	Diluent + Spike Standard Volume	25.00	
6726	Diluted Spike Standard in mL	0.250	
Test Code	True Value CN- Concentration (µg/mL)	915	
CN-03	Absorbance of Blank	-0.001	
Matrix	Absorbance of Sample+Spike	0.650	
LIQUID	Y-Intercept Value	0.007237	
Sample #	Slope Value	0.147420	
S95T003761	µg of CN- in Sample+Spike	4.367	
Instrument Code			
CN01			
Analyst	Known µg of CN- in Original Sample	2.1010	
JTK			
Date	µg of CN- in Spike	2.2875	
03/17/96			
Time	Spike % Recovery	99.1%	
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample (Correced) = Known µg of CN- in Original Sample * g of Sample in Spike / g Used in Original Sample
µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg of CN- in Spike = LMCS Value (ppm) / Dilution Factor * Diluted Spike Standard
Dilution Factor = Spike Dilution Volume / Spike Aliquot
Spike % Recovery = (µg of CN- in Sample+Spike) - (µg of CN- in Sample) / (µg of CN- in Spike) * 100%

Data Entry by:	HLA	Date:	03/20/96
Approved by:	H Anastor	Date:	3-20-96

Form X2 Rev. 1.0

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
6726	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-03	Absorbance of Blank		-0.001
Matrix	Absorbance of Standard		0.751
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G / CCV	µg of CN in Standard		5.052
Instrument Code			
CN01			
Analyst			
JTK			
Date	µg of CN-/mL in Standard		1010
03/17/96			
Time	Standard % Recovery		110.4%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	HLA	Date:	03/20/96
Approved by:	H Anastor	Date:	3-20-96

Form X2 Rev. 1.0

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
6726	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-03	Absorbance of Blank (Reagent, Prep)	-0.001
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
CCB	µg of Cyanide	-0.042
Instrument Code	µg CN- /mL	-8.46E-03
CN01		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/17/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

Data Entry by:	HLA	Date:	03/20/96
Approved by:	HAnastor	Date:	3-20-96

Form 695102C1 Rev. 1.7

THE FOLLOWING ANALYSES WERE RERUN AND INCLUDED IN THE DATA PACKAGE, BUT THE RESULTS HAVE NOT BEEN REPORTED IN THE FINAL SUMMARY REPORTS.

LABCORE Data Entry Template for Worklist# 5406

Analyst: JTK **Instrument:** CN01 _____ **Book #** 71N8G

Method: LA-695-~~102~~ 102 HLA 3-20-96 Rev/Mod E-0

Worklist Comment: BY-104 CYANIDE RCJ

GROUP	PROJECT	S	TYPE	SAMPLE#	R	A	TEST	MATRIX	ACTUAL	FOUND	DL	UNIT
		1	BLNK				CN-01	LIQUID	1	<1.10e-2	N/A	ug/mL
		2	STD				CN-01	LIQUID	915	1032	N/A	ug/mL
95000180	BY104 ROTARY	3	SAMPLE	S95T003713	0		CN-01	LIQUID	N/A	1.5.		ug/mL
95000180	BY104 ROTARY	4	DUP	S95T003713	0		CN-01	LIQUID	1.5.	1.5.	N/A	ug/mL
95000180	BY104 ROTARY	5	SPK	S95T003713	0		CN-01	LIQUID	1.5.	1.5.	N/A	ug/mL
95000200	BY104 ROTARY	6	SAMPLE	S95T003761	0		CN-01	LIQUID	N/A	9.62	1.10e-1	ug/mL
95000200	BY104 ROTARY-	7	DUP	S95T003761	0		CN-01	LIQUID	9.62	7.84	N/A	ug/mL
95000200	BY104 ROTARY	8	SPK	S95T003761	0		CN-01	LIQUID	100	82.4	N/A	ug/mL
		9	CCV				CN-01	LIQUID	915	986	N/A	ug/mL
		10	CCB				CN-01	LIQUID	1	<1.1e-2	N/A	ug/mL

HLA 3-15-96 CN-03

Final page for worklist # 5406

S Knight 3.12.96
Analyst Signature **Date**

3-15-96
Analyst Signature **Date**

Approved by H Anastos 3-19-96

DATA NOT USED IN PACKAGE

Data Entry Comments: S95T003713 INSUFFICIENT SAMPLE RCJ

LCS Failure. Batch will be rerun. HLA 3-15-96

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

PLACE ANALYTICAL CARD IN BOX BELOW OR ATTACH TRAVELER

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

CN- DETERMINATION : LA-695-102 (E-0) BLANK, LIQUID, SOLID

Type		SAMPLE
BLANK		
Work List		
5406	Blank Aliquot in mL (SS)	5.00000
Test Code	Absorbance of Instrument Blank	0.000
CN-03	Absorbance of Blank (Reagent, Prep)	0.007
Matrix	Digest Dilution Factor	1
LIQUID	Y-Intercept Value	0.007237
Sample #	Slope Value	0.147420
BLANK	µg of Cyanide	-0.002
Instrument Code	µg CN- /mL	-3.22E-04
301		
Analyst	µg of Cyanide = [|Absorb. of Blank - Absorb. of Inst. Blank| - (Y-Intercept)] / Slope Value	
JTK	µg/mL of Cyanide = µg Cyanide * Digest Dilution Factor / SS (mL)	
Date		
03/12/96	Detection Limit = 0.055 µg Cyanide / SS (mL) * Digest Dilution Factor	
Time	v RESULTS v	

	Cyanide Concentration (µg/mL)	< Detection Limit	Detection Limit µg CN- / mL
Calibration Date			
02/25/96			1.10E-02

DATA NOT USED IN PACKAGE

Data Entry by:	Hla	Date:	03/15/96
Approved by:	Alvarado	Date:	3-15-96

Form 695102C1 Rev. 1.7

Page 1 of 1

DATA NOT USED IN PACKAGE

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

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

CN- DETERMINATION : LA-695-102 (E-0) SPIKE, STANDARD

		NA	STANDARD
Type			
STANDARD	Standard Aliquot in mL		0.250
Work List	Diluent + Standard Volume		25.00
5406	Diluted Standard in mL to be Analyzed		0.500
Test Code	True Value CN- Concentration (µg/mL)		915
CN-03	Absorbance of Blank		0.007
Matrix	Absorbance of Standard		0.775
LIQUID	Y-Intercept Value		0.007237
Sample #	Slope Value		0.147420
71N8G	µg of CN in Standard		5.161
Instrument Code			
301			
Analyst			
JTK			
Date	µg of CN-/mL in Standard		1032
03/12/96			
Time	Standard % Recovery		112.8%
Calibration Date	Slope and Y-Intercept calculated from working curve calibration		
02/25/96	Original Sample Calculation from Form 695102C1		

DATA NOT USED IN PACKAGE

µg of CN- in Sample+Spike = [(Absorbance of Sample+Spike - Absorbance of Blank) - (Y-Intercept)] / Slope Value
µg/mL of CN- = µg of CN- in Standard / Diluted Standard * Dilution Factor
Dilution Factor = Flask Volume / Standard Aliquot
Standard % Recovery = (µg of CN-/mL in Standard / True Value CN- Concentration (µg/mL)) * 100

Data Entry by:	HLa	Date:	03/15/96
Approved by:	JL Anastos	Date:	3-15-96

Form X2 Rev. 1.0