UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

RECEIVED JUL 0 6 1987

CR 7/1/87

DATE: 2 JUL 1987

SUBJECT: Review of Region 5 data for Systech Liquid

FROM: Curtis Ross, Director
Region 5 Central Regional Laboratory
for

To: Data User: FIT

Attached are the results for:

CRL Data Set Numbers: SF-3960
Sample Numbers: 87F566R02; S12
Parameter(s): ABN
Laboratory: CRL

Results Status:

7/1/87
(✓) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
(✓) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

SAMPLES WERE LOST DURING EXTRACTION

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED JUL 08 1987 U.S. EPA CENTRAL REGIONAL LAB

RECEIVED BY/DATE: Brenda R. Jones 6 June 87
Comments:

cc: Contractor's Reprentative

Filed by/date: Allison Harvey 7-10-87

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

TRANSMITTED BY
JUN 17 1987
U.S. EPA CENTRAL REGIONAL LAB

RECEIVED JUN 18 1987

DATE: 6-17-87

SUBJECT: Review of Region 5 data for Systech Liquid

FROM: Curtis Ross, Director
Region 5 Central Regional Laboratory

To: Data User:

Attached are the results for:

CRL Data Set Numbers: SF-3960
Sample Numbers: 87FS06R02; S12
Parameter(s): VOA
Laboratory: CRL

Results Status:

(X) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
( ) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED
JUL 08 1987
U.S. EPA CENTRAL REGIONAL LAB

RECEIVED BY/DATE: Brenda G. Jones / 18 June 87
Comments:

cc: Contractor's Reprentative

Filed by/date: Allison Harvey 7-10-87

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

JUN 08 1987

RECEIVED JUN 8 1987

DATE: 6-5-87

SUBJECT: Review of Region 5 data for Systech Liquid

FROM: Curtis Ross, Director
Region 5 Central Regional Laboratory

TRANSMITTED BY

To: Data User:
FIT

JUN 5 1987

U.S. EPA CENTRAL
REGIONAL LAB

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06R02S12
Parameter(s): PCB' Test
Laboratory: CRL

Results Status:

(✓) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
( ) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED
JUL 08 1987
U.S. EPA CENTRAL
REGIONAL LAB

RECEIVED BY/DATE: Brenda Jones / 8 June 87
Comments:

Allison Harvey
7-10-87

cc: Contractor's Reprentative

Filed by/date:

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

RECEIVED MAY 2 6 1987

TRANSMITTED BY
MAY 2 2 1987
U.S. EPA CENTRAL REGIONAL LAB

DATE: 5/22/87

SUBJECT: **Review of Region 5 data for** SYSTECH LIQUID

FROM: **Curtis Ross, Director**
Region 5 Central Regional Laboratory

To: **Data User:** FIT

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06R02 - S12
Parameter(s): CN
Laboratory: CRL

Results Status:

(X) **DATA ACCEPTABLE FOR USE***
( ) **DATA QUALIFIED AS TO USE**
( ) **DATA UNACCEPTABLE FOR USE**

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE: Brenda R Jones 27 May 87
Comments:

cc: Contractor's Reprentative

Filed by/date:

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

RECEIVED MAY 29 1987

TRANSMITTED BY
MAY 29 1987
U.S. EPA CENTRAL REGIONAL LAB

DATE: 5-29-87

SUBJECT: **Review of Region 5 data for** SYSTECH LIQUID

FROM: **Curtis Ross, Director**
Region 5 Central Regional Laboratory

To: **Data User:** FIT

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06R02 - S12
Parameter(s): METALS by GFAA - As, Pb, Sb, Se, Cd
Laboratory: CRL

Results Status:

(✓) **DATA ACCEPTABLE FOR USE***
( ) **DATA QUALIFIED AS TO USE**
( ) **DATA UNACCEPTABLE FOR USE**

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE: Brenda R. Jones
Comments:

cc: **Contractor's Representative**

Filed by/date: Allison Harvey 6-23-87

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

RECEIVED MAY 29 1987

TRANSMITTED BY
MAY 29 1987
U.S. EPA CENTRAL REGIONAL LAB

DATE: 5-29-87

SUBJECT: **Review of Region 5 data for** SYSTECH LIQUID

FROM: **Curtis Ross, Director**
Region 5 Central Regional Laboratory

To: **Data User:**
FIT

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06R02 - S12
Parameter(s): METALS BY ICP
Laboratory: ORL

Results Status:

(✓) **DATA ACCEPTABLE FOR USE***
( ) **DATA QUALIFIED AS TO USE**
( ) **DATA UNACCEPTABLE FOR USE**

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE: Brenda R. Jones
Comments:

Allison Harvey 6-23-87

U.S. Environmental Protection Agency Region V

Superfund Document Management System (SDMS)

Lab Data Reference Sheet

Please contact the Superfund Records Manager for further information.

I. Unscannable item due to format

___ Graph

X Mail receipts

___ Sample tags

II. Image Quality (Pages follow / No. of pages ____)

___ Resolution / Contrast

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO. FOH0574SI 8704-033

PROJECT NAME: Case # 7265 Systech Liquid Treatment

SAMPLERS: (Signature) Craig A Almazan / Kristian Webb

Low Concentration waters
Metals Not Filtered
Superfund 3960

STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 Liter Organic	1 Liter Metals	1 Liter Cyanide	40 ml VOA			REMARKS: Preservatives used Metals HNO_3 Cyanide NaOH CRL #	Matrix
RW1	5-13-87	1330		X	Res well 1 - MSD	12	6	1	1	4			87FS06512	Water
BL	5-13-87	1200		X	Blank	7	3	1	1	2			87FS06R02	Water

Lot #
1 Liter Amber - H7070022
1 Liter Plastic - C7091062
40 ml - B7035491

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Craig Almazan / Kristian Webb	5-13-87 1730	William Sanger Jr			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) William Sanger Jr	Date / Time 5/14/87 10:15AM	Remarks Shipped Federal Express TO: CRL Airbill # 3381438 42 Custody Seal #s 11976, 11977	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 15182

entered

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: TOXIC SUBSTANCES

DIVISION/BRANCH SUPERFUND HIT SAMPLE DATE 5/13/87 LAB ARRIVAL DATE 5/14/87 DUE DATE 6/4/87

DU NUMBER ~~4905~~ C76100 DATA SET NUMBER 3960 STUDY Systech Liquid MY RS PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample # TAG #	WATER VOLATILE ORGANICS SCAN UG/L TOX 17564	WATER ABN ORGANICS SCAN UG/L TOX 17574	SEDIMENTS SOLIDS VOLATILE ORGANICS SCAN MG/KG (DRY) TOX 215622	SEDIMENTS SOLIDS ABN ORGANICS SCAN MG/KG (DRY) TOX 215722
87FS06R02	Blank 5-36612 5-36613	✓			
87FS06S12	RW1 5-36604 5-36648 ~~5-36649~~ 5-36602	✓			
87FS06R02	Blank 5-36611		✓		
87FS06S12	RW1 5-36650 5-36601		✓		

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS - NUTRIENTS

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 5/13/87 LAB ARRIVAL DATE 5/14/87 DUE DATE 6/4/87

DU NUMBER 4905 C76100 DATA SET NUMBER 3960 STUDY Systech Liquid PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample# TAG#	WATER PHENOLICS UG PHENOL/L MIN 74818	WATER CYANIDE UG CN/L MIN 74919	WATER GROSS ALPHA P CI/L MIN 75020	WATER CR^{+6} UG CR^{+6}/L MIN 74616	WATER MERCURY UG HG/L MIN 74717
87FS06B02	Blank 5-36608		✓			
87FS06S12	BW1 5-36647		✓			

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 5/13/87 LAB ARRIVAL DATE 5/14/87 DUE DATE 6/4/87

DU NUMBER 4905 C76100 DATA SET NUMBER 3960 STUDY Sytech Liquid PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample# TAG#	TOTAL METALS WATER TOTAL ICAP UG/L MET111	TOTAL METALS WATER AS UG/L MET161	TOTAL METALS WATER PB UG/L MET1191	TOTAL METALS WATER SB UG/L MET1201	TOTAL METALS WATER SE UG/L MET1211	TOTAL METALS WATER ~~TL~~ CD UG/L MET1221
87FS06B02	Blank 5-36607	✓	✓	✓	✓	✓	✓
87FS06S12	BW1 5-36646	✓	✓	✓	✓	✓	✓

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: PESTICIDES AND PCB'S

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 5/13/87 LAB ARRIVAL DATE 5/14/87 DUE DATE 6/4/87

DU NUMBER 8905 C76100 DATA SET NUMBER 3960 STUDY Systech Liquid PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION (Sample # / TAG #)	WATER TRIHALOMETHANES UG/L PES17414	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES 17134	WATER HERBICIDES UG/L PES 17424	WATER OIL AND GREASE MG/L PES 17439
87FS06R02	Blank 5-36610 5-36609		✓	✓		
87FS06S12	RW1 5-36606 5-36605		✓	✓		
	5-36603 5-36638					

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

COPY FOR YOUR INFORMATION

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJECT NAME: Case # 7265
PROJ. NO. FOH0574ST 8704-033
Systech Liquid Treatment

SAMPLERS: (Signature) Craig A Almazan / Kristian Webb

Low Concentration waters
Metals Not filtered
S.F. 3960

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1 Liter Organic	1 Liter Metals	1 Liter Cyanide	40 ml VOA			REMARKS: Preservatives used Metals HNO3 Cyanide NaOH CRL #	Matrix
RW1	5-13-87	1330		X	Res well 1 - MSD	12	3	1	1	4			87F506512	Water
BL	5-13-87	1200		X	Blank	7	3	1	1	2			87F506R02	Water

Lot #
1 Liter Amber - H7070022
1 Liter Plastic - C7091062
40 ml - B7035491

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Craig Almazan / Kristian Webb	5-13-87 1730				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Shipped Federal Express TO: CRL Airbill # 33814,3842 Custody Seal #'s 11976, 11977	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-15182

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

DATE: 5/22/87

SUBJECT: **Review of Region 5 data for** SYSTECH LIQUID

FROM: **Curtis Ross, Director**
Region 5 Central Regional Laboratory

To: **Data User:** FIT

TRANSMITTED BY
MAY 22 1987
U.S. EPA CENTRAL REGIONAL LAB

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06R02 - S12
Parameter(s): CN
Laboratory: CRL

Results Status:

(X) **DATA ACCEPTABLE FOR USE***
( ) **DATA QUALIFIED AS TO USE**
( ) **DATA UNACCEPTABLE FOR USE**

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE: .....
Comments:

cc: Contractor's Reprentative

Filed by/date:

DATA SET	SITE	DU/ACT.
SF3960	Systech liquid	4905/C761 22

SAMPLES	PARAMETER(S)
87F506 S12 - R02	CN

SAMPLED	RECEIVED	DUE	LAB
5/13/87	5/14/87	05/28/87	CRL

SHIPPED	DATA RECEIVED	CONTRACT
—	N/A	—

TEAM LEADER	SECTION CHIEF	QC COORD.	DATA COORD.
PP 5/19/87	5/20/87	5/22/87	5/22/87

Comments By Reviewer:

DATA MANAGEMENT COORDINATOR

RECEIVED **TRANSMITTED**

CLERICAL SUPPORT

RECEIVED **COMPLETED**

(X) REVIEWED ( ) UNREVIEWED — TEAM LEADER/DATE 5/19/87

(X) REVIEWED ( ) UNREVIEWED — SECTION CHIEF/DATE

(X) REVIEWED 5/22/87 ( ) UNREVIEWED — QC COORDINATOR/DATE

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED **TRANSMITTED** **DATA MANAGEMENT COORDINATOR**

CC: QUALITY CONTROL COORDINATOR

5/20/87

OK-PP 5/19/87 5/22/87

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: MINERALS - NUTRIENTS

DIVISION/BRANCH SUPERFUND FIT SAMPLE DATE 5/13/87 LAB ARRIVAL DATE 5/14/87 DUE DATE 6/4/87

DU NUMBER ~~U905~~ C76100 DATA SET NUMBER 3960 STUDY Systech Liquid PRIORITY ✓ CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample # TAG #	WATER PHENOLICS UG PHENOL/L MIN 74818	WATER CYANIDE UG CN/L MIN 74919	WATER GROSS ALPHA P CI/L MIN 75020	WATER CR^{+6} UG CR^{+6}/L MIN 74616	WATER MERCURY UG HG/L MIN 74717
87FS06B02	Blank 5-36608		✓ K5 *			
87FS06S12	BW1 5-36647		✓ K5 *			
			R.A. Baum			
			5-14-87			
			*SAMPLES	WERE RUN	USING AUTO-	UV
			METHOD	335.3		

* REGRESSION ANALYSIS * CSC VERSION 2.00 *

NAME OF ANALYST ---: RAP
PARAMETER NAME ----: CN
DATE OF ANALYSIS --: 05-18-1987

DATA SET NUMBER ---: 3940/3957/3958/
DU NUMBER ---------: B304/Y905

AUTO - UV

DEGREE OF FIT : 1

EQUATION : CONCENTRATION = -5.11925E-01
+6.08945E-01 * SIGNAL

COEFFICIENT OF DETERMINATION : .9989692

T-A-B-L-E O-F S-T-A-N-D-A-R-D-S

STANDARD	SIGNAL	CONCENTRATION	CALCULATED
1	+0.000	+0.000	-0.512
2	+9.000	+5.000	+4.968
3	+19.000	+10.000	+11.058
4	+41.000	+25.000	+24.454
5	+83.000	+50.000	+50.030

T-A-B-L-E O-F S-A-M-P-L-E-S

SAMPLE I.D.	SIGNAL	CONCENTRATION	
BL	+0.000	-0.512	LIMIT 0 ± 5 mg/L
CS [TV=20]	+36.000	+21.410	LIMIT 20 ± 5 mg/L
* 87CW11S01	+13.000	+7.404	
~~SPK 87CW11S01~~	~~+5.000~~	~~+2.532~~	
SPK 87CW11S01 +20	+54.000	+32.371	(32-7 = 25) LIMIT 20 ± 5 mg/L
CS	+36.000	+21.410	
CHECK 5 mg/L	+10.000	+5.577	
BL	+0.000	-0.512	
FS06S12] SF3960	+0.000	-0.512	
87FS06R02] SF3960	+0.000	-0.512	
87FH06S13	+0.000	-0.512	
87FH06S14	+0.000	-0.512	
87FH06D13	+0.000	-0.512	DUP OKS
87FH06R03	+0.000	-0.512	
BL	+0.000	-0.512	
CS	+33.000	+19.583	
* 87CW11S68	+30.000	+17.756	
* 87CW11S71	+6.000	+3.141	
87CW11S83	+3.500	+1.619	
* 87CW11S16	+10.000	+5.577	
* 87CW11D16	+9.000	+4.968	
* 87CW11S26	+16.000	+9.231	
87CW11S14	+5.500	+2.837	
* 87CW11S23	+8.000	+4.359	
* 87CW11S29	+1.000	+0.097	
87CW11R01	+0.000	-0.512	
87CW11R02	+0.000	-0.512	
CHECK 5	+9.000	+4.968	
CS	+36.000	+21.410	

* SAMPLES TO BE DISTILLED AND RUN MANUALLY

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

TRANSMITTED BY
MAY 29 1987
U.S. EPA CENTRAL REGIONAL LAB

DATE: 5-29-87

SUBJECT: **Review of Region 5 data for** SYSTECH LIQUID

FROM: **Curtis Ross, Director**
Region 5 Central Regional Laboratory

To: **Data User:**
FIT

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06R02 - S12
Parameter(s): METALS BY ICP
Laboratory: ORL

Results Status:

(✓) **DATA ACCEPTABLE FOR USE***
( ) **DATA QUALIFIED AS TO USE**
( ) **DATA UNACCEPTABLE FOR USE**

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE: .....
Comments:

DATA SET	SITE	DU/ACT.
SF3960	Systech Liquid	Y905/C76122

SAMPLES	PARAMETER(S)
87FS06R02 - 512	ICP

SAMPLED	RECEIVED	DUE	LAB
13 May 87	14 May 87	4 June 87	CRL

SHIPPED	DATA RECEIVED	CONTRACT
NA		

TEAM LEADER	SECTION CHIEF	QC COORD.	DATA COORD.
JVM 28 May 87	5/28/87 AH	5/29/87	5/29/87

Comments By Reviewer: Na in field blank confirmed 87FS06R02

JVM
28 May 87

DATA MANAGEMENT COORDINATOR

RECEIVED **TRANSMITTED**

CLERICAL SUPPORT

RECEIVED **COMPLETED**

(X) REVIEWED ( ) UNREVIEWED TEAM LEADER/DATE John V. Moore 28 May 87

(X) REVIEWED AH ( ) UNREVIEWED SECTION CHIEF/DATE

(X) REVIEWED 5/29/87 ( ) UNREVIEWED QC COORDINATOR/DATE

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED **TRANSMITTED** **DATA MANAGEMENT COORDINATOR**

CC: QUALITY CONTROL COORDINATOR

PM
5-27-87

C76/ZZ
7TFA05W4ZZ
Y905

DATA SET : SF3960 Systech Liquid

JVM
28 May 87
5/28/87
5/29/87

ELEMENT		FS06R02		FS06S12	
AG ug/l	<	6.	<	6.	
AL	<	80.	<	80.	
B	<	80.		342.	
BA	<	6.		97.6	
BE	<	1.	<	1.	
CD	<	10.	<	10.	
CO	<	6.	<	6.	
CR	<	8.	<	8.	
CU	<	6.		17.8	
FE	<	80.		132.	
LI	<	10.		26.9	
MN	<	5.	<	5.	
MO	<	15.	<	15.	
NI	<	15.	<	15.	
SN	<	40.	<	40.	
SR	<	10.		2600.	
TI	<	25.	<	25.	
V	<	5.	<	5.	
Y	<	5.	<	5.	
ZN	<	40.		1480.	
CA mg/l	<	0.5		88.	
K	<	2.		2.49	
MG	<	0.1		~~42.1~~ 40.	pm
NA		1.		21.6	

JVM 28 Aug 87

Run No. 577

Prep. by PM/RP Date 5-27-87 Anal. by PM Date 5/26/

Beaker No.	Data Set	Sample	Notes	Beaker No	Data Set	Sample	Notes
1	SF3958	FH06S13		26			
2	↓	FH06D13		27			
3		S14		28			
4		R03		29			
5		Blank		30			
6	SF3960	FS06R02		31			
7		FS06S12		32			
8	SF3962	FK06R01		33			
9		FK06S11		34			
10	SF3958	FH06S14	Dup	35			
11		S14	spike	36			
12	CD03940	CW11S13		37			
13		CW11S95	H_2O_2 used ultrasonic cleaner	38	to mix oil into sample overnight		
14		CW11S95	Dup H_2O_2	39			
15		3 ans	H_2O_2	40			
16				41			
17				42			
18				43			
19				44			
20				45			
21				46			
22				47			
23				48			
24				49			
25				50			

JVM
28 May 87

NPUT FILE NAME ? RUN577

TYPES OF VIEW

FULL VIEW -- [FU]
BRIEF VIEW -- [BR]
NONE -- [NO]

ENTER THE TYPE OF VIEW [FU|BR|NO] : FU

TEXT STRING	BLOCK NO.	ERROR
METALS1/BLANK00/B	2	
METALS1/AQC.086/C	4	
METALS2/BLANK00/B	6	
METALS2/AQC.086/C	8	
METALS2/AQC..AG/C	10	
CHECK/HIGHAQC/B	12	
SF3958/FH06S13/S	14	
SF3958/FH06D13/S	16	
SF3958/FH06S14/S	18	
SF3958/FH06R03/S	20	
METALS2/BLANK05/B	22	
SF3960/FS06R02/S	24	
SF3960/FS06S12/S	26	
SF3962/FK06R01/S	28	
SF3962/FK06R01/S	30	
SF3962/FK06R01/S	32	
SF3962/FK06S11/S	34	
S12 36	YES	
S12 38	YES	
S12 40	YES	
SF3960/FS06S12/S	42	
METALS2/AQC.086/C	44	
METALS2/AQC..AG/C	46	
CHECK/HIGHAQC/B	48	
SF3958/FH06S14/D	50	
SF3958/FH06S14/P	52	
CD03940/CW11S13/S	54	
CD03940/CW11S95/S	56	
CD03940/CW11S95/D	58	
METALS2/BLANK15/B	60	
METALS2/AQC.086/C	62	
METALS2/AQC..AG/C	64	
CHECK/HIGHAQC/B	66	

restandardized after these checks.

confirming Cu value

S12 diluted 1:3 for Mg

JM
28 May 87

PM 5-27-87

DATA SET : METALS1

ELEMENT	DET LIM	instrument B. BLANK00	Dig. B BLANK05	Dig B with H_2O_2 BLANK15
AG ug/l	6.00	-1.71	0.18	1.07
AL	80.0	2.3	27.6	51.7
B	80.0	1.0	14.6	68.9
BA	6.00	0.05	1.92	2.46
BE	1.000	0.197	0.045	-0.050
CD	10.000	-0.292	-0.026	0.542
CO	6.00	-6.37	-2.42	-1.70
CR	8.000	-2.080	-1.900	0.161
CU	6.00	0.12	5.57	4.23
FE	80.0	-5.2	14.1	41.3
LI	10.00	-2.93	-1.35	-5.94
MN	5.000	-0.768	-0.198	-0.337
MO	15.000	2.810	7.500	0.421
NI	15.00	3.72	7.10	5.24
PB	70.0	-31.4	10.2	23.1
SN	40.0	19.2	-12.8	82.2 *
SR	10.000	-0.424	0.001	-0.237
TI	25.000	-0.489	0.531	-0.451
V	5.000	-1.070	4.600	-0.790
Y	5.000	0.075	-0.075	0.641
ZN	40.0	-1.8	11.0	10.9
CA mg/l	0.500	-0.004	0.136	0.166
CA	0.500	-0.030	0.123	0.134
K	2.000	-0.093	0.123	-0.878
MG	0.100	-0.007	0.025	0.037
NA	1.000	-0.053	0.409	0.504
AL	20.000	-0.060	-0.038	-0.041
FE	20.000	-0.106	-0.057	-0.136
ZN	20.000	-0.406	-0.262	-0.580

* Sn is above detection limit due to Sn in the H_2O_2.

JM
28 May 87

PM
5-27-87

DATA SET : METALS2 SAMPLE ID : AQC.086

ELEMENT		TRUE	MEASURED	% DEV
AL	ug/l	4710.00	4920.00	4.59
B		1060.000	1070.000	0.291
BA		1510.00	1540.00	1.91
BE		728.00	747.00	2.57
CD		423.00	435.00	2.81
CO		972.00	1000.00	3.12
CR		1560.000	1570.000	0.891
CU		1160.00	1180.00	1.64
FE		3800.00	3930.00	3.50
LI		807.00	839.00	3.94
MN		1340.000	1350.000	0.923
MO		794.00	827.00	4.14
NI		1170.00	1200.00	2.25
PB		2970.00	3050.00	2.60
SN		2380.00	2460.00	3.56
SR		889.00	923.00	3.86
TI		1190.00	1230.00	3.13
V		734.000	741.000	0.954
Y		772.00	804.00	4.11
ZN		2820.00	2920.00	3.51
CA	mg/l	13.80	13.40	-2.96
CA		13.800	13.900	0.568
K		96.700	97.600	0.925
MG		5.17	5.33	3.24
NA		18.400	18.600	0.797

all values are ± 5%

JVM 28May87

PM 5-27-87

DATA SET : METALS2 SAMPLE ID : AQC.086

ELEMENT	TRUE	MEASURED	% DEV
AL ug/l	4710.00	4930.00	4.70
B	1060.000	1060.000	-0.135
BA	1510.00	1540.00	1.75
BE	728.00	747.00	2.64
CD	423.00	432.00	2.12
CO	972.00	998.00	2.70
CR	1560.000	1560.000	-0.091
CU	1160.00	1180.00	1.58
FE	3800.00	3920.00	3.13
LI	807.00	836.00	3.52
MN	1340.000	1340.000	0.615
MO	794.00	828.00	4.19
NI	1170.00	1190.00	1.52
PB	2970.00	3050.00	2.57
SN	2380.00	2430.00	2.08
SR	889.00	919.00	3.35
TI	1190.00	1230.00	2.76
V	734.000	740.000	0.813
Y	772.00	801.00	3.77
ZN	2820.00	2900.00	2.91
CA mg/l	13.80	13.30	-3.46
CA	13.800	13.900	0.242
K	96.70	98.90	2.27
MG	5.17	5.26	1.84
NA	18.400	18.600	0.937

all values are ±10%

PM
5-27-87

JVM
28 May 87

DATA SET : METALS2 SAMPLE ID : AQC.086

ELEMENT		TRUE	MEASURED	% DEV
AL	ug/l	4710.00	4950.00	5.14
B		1060.000	1070.000	0.875
BA		1510.00	1540.00	1.93
BE		728.00	752.00	3.25
CD		423.00	438.00	3.34
CO		972.00	1010.00	3.99
CR		1560.00	1590.00	2.09
CU		1160.00	1190.00	1.95
FE		3800.00	3950.00	4.05
LI		807.00	844.00	4.54
MN		1340.00	1350.00	1.43
MO		794.00	830.00	4.47
NI		1170.00	1200.00	2.09
PB		2970.00	3060.00	2.86
SN		2380.00	2420.00	2.03
SR		889.00	925.00	4.00
TI		1190.00	1230.00	3.33
V		734.00	743.00	1.32
Y		772.00	808.00	4.64
ZN		2820.00	2930.00	4.05
CA	mg/l	13.80	13.40	-2.90
CA		13.800	14.000	0.963
K		96.700	96.200	-0.518
MG		5.17	5.38	4.20
NA		18.40	18.60	1.14

all values are ±10%

jm 28May87

PM 5-27-87

DL1:[001,054]RUN577.BRN 27-MAY-87 13:21:24 PAGE 5

DATA SET : METALS2 SAMPLE ID : AQC..AG

ELEMENT		TRUE	MEASURED	% DEV
AG	ug/l	48.00	45.90	-4.42

Ag is ± 5%

PM
5-27-87

DATA SET : METALS2 SAMPLE ID : AQC..AG

ELEMENT	TRUE	MEASURED	% DEV
AG ug/l	48.00	49.40	2.94

Ags ± 10%

SVN
28May87

PM
5-27-87

DL1:[001,054]RUN577.BRN 27-MAY-87 13:21:39 PAGE 6

DATA SET : METALS2 SAMPLE ID : AQC..AG

ELEMENT	TRUE	MEASURED	% DEV
AG ug/l	48.00	46.90	-2.30

Ag is ±10%

5-27-87 PM

for Smayer

DATA SET : CHECK

ELEMENT	DET LIM	HIGHAQC (old AQ.C.)	HIGHAQC (new AQ.C.)	HIGHAQC
AG ug/l	6.00	-0.88	-1.94	-2.64
AL	80.	105000.	96000.	99100.
B	80.0	48.8	19.5	17.8
BA	6.00	3.64	2.66	4.97
BE	1.00	-5.28	-5.02	-4.84
CD	10.00	1.04	8.99	4.34
CO	6.00	-6.63	-2.83	-4.76
CR	8.00	5.30	6.16	7.64
CU	6.00	3.42	17.10	8.72
FE	80.	103000.	93400.	96100.
LI	10.0	13.6	19.4	18.2
MN	5.00	18.40	10.40	9.45
MO	15.0	22.8	4.4	15.2
NI	15.0	2.9	120.0	61.2
PB	70.0	-12.2	10.7	10.3
SN	40.00	-11.90	-9.77	3.83
SR	10.0	29.2	19.1	18.6
TI	25.00	2.38	6.68	4.09
V	5.00	2.62	2.16	1.06
Y	5.000	0.226	0.943	-0.038
ZN	40.	101000.	92600.	95100.
CA mg/l true value	0.	130.	130.	130.
CA 100	0.	104.	99.	101.
K	2.000	-0.396	0.633	-0.230
MG	0.1	11.1	74.2	75.3
NA	1.000	0.109	0.422	0.161
AL 100	20.0	104.0	95.0	98.0
FE 100	20.0	105.0	96.2	98.5
ZN 100	20.	108.	99.	101.

Values show IEC's in control.
old AQC had about 10mg/l in bottle.
value for Mg was 10mg/l New AQC value
for Mg is 100 mg/l
High channels are ± 5% for new AQC
all Mg values above 50 are diluted.

JM
28 May 87

5-27-87
PM

DL1:[001,054]RUN577.BRN 27-MAY-87 12:13:09 PAGE 1

DATA SET : CD03940 SAMPLE ID : CW11S95

ELEMENT	SAMPLE	DUPLICATE	AVERAGE	R P D
AG	-0.7	-0.5	-0.6	-21.7
AL	817.00	855.00	836.00	4.54
B	96.70	89.50	93.10	7.74
BA	45.90	47.10	46.50	2.54
BE	-2.65	-2.77	-2.71	-4.22
CD	2.	-0.	1.	263.
CO	-1.2	-0.8	-1.0	-37.7
CR	2260.00	2460.00	2360.00	8.39
CU	223.00	233.00	228.00	4.57
FE	50200.00	53700.00	52000.00	6.80
LI	10.70	9.77	10.20	8.76
MN	216.00	226.00	221.00	4.77
MO	85.0	100.0	92.6	16.3
NI	433.00	458.00	445.00	5.73
PB	76.3	59.8	68.1	24.2
SN	927.00	1020.00	974.00	9.63
SR	133.00	138.00	135.00	3.49
TI	21.600	21.500	21.500	0.679
V	4.3	5.2	4.7	19.6
Y	1.09	1.13	1.11	3.39
ZN	391.00	407.00	399.00	4.16
CA	44.60	46.80	45.70	4.70
CA	42.60	44.10	43.40	3.49
K	1.5	1.0	1.3	32.8
MG	11.90	12.40	12.10	3.47
NA	12.00	12.50	12.30	3.81
AL	0.78	0.81	0.80	3.19
FE	50.90	54.20	52.50	6.38
ZN	-0.1	-0.2	-0.1	-82.8

ug/l

mg/l

all values are ±10% RPD
or ± detection limit

5-27-87 PM

Jun 8 May 87

DATA SET : SF3958 SAMPLE ID : FH06S14

ELEMENT		SAMPLE	DUPLICATE	AVERAGE	R P D
AG	ug/l	-1.	3.	1.	318.
AL		14.5	27.0	20.7	60.5
B		109.0	58.9	83.9	59.7
BA		105.000	105.000	105.000	0.472
BE		-0.	0.	-0.	-486.
CD		1.	0.	0.	182.
CO		-5.	-0.	-2.	-163.
CR		2.8	3.6	3.2	24.7
CU		4.37	4.61	4.49	5.29
FE		224.00	245.00	234.00	8.93
LI		4.6	6.6	5.6	36.5
MN		272.000	271.000	272.000	0.461
MO		4.9	10.4	7.6	72.3
NI		6.4	10.3	8.4	46.5
PB		12.3	29.1	20.7	81.4
SN		-9.	5.	-2.	-782.
SR		163.00	162.00	162.00	1.07
TI		3.3	5.7	4.5	52.5
V		-0.	2.	1.	222.
Y		0.6	1.1	0.8	63.7
ZN		28.90	31.50	30.20	8.29
CA	mg/l	61.90	60.90	61.40	1.58
CA		55.800	55.400	55.600	0.739
K		-0.	1.	0.	288.
MG		17.800	17.800	17.800	0.126
NA		14.800	14.700	14.700	0.957
AL		-0.	0.	-0.	-1960.
FE		0.2	0.3	0.2	34.7
ZN		-0.6	-0.4	-0.5	-44.4

all values are ± 10% RPD
or ± detection limit

JVM 27 May 87

PM 5-27-87

DL1:[001,054]RUN577.BRN 27-MAY-87 12:35:10 PAGE 1

DATA SET : SF3958 SAMPLE ID : FH06S14

ELEMENT	SAMPLE	SPIKE	SPIKE ADDED	% RECOVERY
AG ug/l	-0.7	47.0	50.0	95.4
AL	14.5	753.0	800.0	92.3
B	109.0	856.0	800.0	93.4
BA	105.0	300.0	200.0	97.6
BE	-0.	10.	10.	100.
CD	0.9	23.7	25.0	91.1
CO	-4.5	93.7	100.0	98.3
CR	2.8	99.1	100.0	96.4
CU	4.4	50.7	50.0	92.7
FE	224.	1110.	800.	111.
LI	5.	63.	54.	109.
MN	272.	367.	~~50.~~ 100 JVM	~~189.4~~ 96.6 JVM
MO	4.9	105.0	100.0	99.6
NI	6.4	151.0	150.0	96.2
PB	12.	835.	800.	103.
SN	-8.6	387.0	400.0	99.0
SR	163.	1180.	1000.	101.
TI	3.3	100.0	100.0	96.6
V	-0.1	46.3	50.0	92.8
Y	0.6	50.5	50.0	99.9
ZN	28.9	408.0	400.0	94.8
CA mg/l	55.8	103.0	50.0	93.5
K	-0.2	19.6	20.0	98.9
MG	18.	44.	25.	103.
NA	14.8	64.2	50.0	98.8

all values are 85-115% Rec.

~~1 except Mn, sample is greater than 2X spike~~

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

TRANSMITTED BY
MAY 29 1987
U.S. EPA CENTRAL REGIONAL LAB

DATE: 5-29-87

SUBJECT: Review of Region 5 data for SYSTECH LIQUID

FROM: Curtis Rose, Director
Region 5 Central Regional Laboratory

To: Data User:
FIT

Attached are the results for:

CRL Data Set Numbers: SF 3960
Sample Numbers: 87FS06A02 - S12
Parameter(s): METALS by GFAA - As, Pb, Sb, Se, Cd
Laboratory: CRL

Results Status:

(✓) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
( ) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE:
Comments:

cc: Contractor's Representative

Filed by/date:

DATA SET	SITE	DU/ACT.
SF3960	Systech Liquid	Y905/C761ZZ

SAMPLES	PARAMETER(S)
87FS06R02-512	As, Cd, Pb, Sb, Se

SAMPLED	RECEIVED	DUE	LAB
13 May 87	14 May 87	4 June 87	CRL

SHIPPED	DATA RECEIVED	CONTRACT
NA		

TEAM LEADER	SECTION CHIEF	QC COORD.	DATA COORD.
JM 26 May 87	5/26/87	5/29/87	5/29/87

Comments By Reviewer: Sb values less than detection ok with bias ~ Ave because analyst adjusted EPL in mid run. Previous run, all < 2, but Ave was >10% high. Data is usable

DATA MANAGEMENT COORDINATOR

RECEIVED **TRANSMITTED**

CLERICAL SUPPORT

RECEIVED **COMPLETED**

(X) REVIEWED ( ) UNREVIEWED **TEAM LEADER/DATE** 26 May 87

(X) REVIEWED ( ) UNREVIEWED **SECTION CHIEF/DATE**

(X) REVIEWED 5/29/87 ( ) UNREVIEWED **QC COORDINATOR/DATE**

REVIEWED BY CONTRACT COORDINATOR/DATE

RECEIVED **TRANSMITTED** **DATA MANAGEMENT COORDINATOR**

CC: QUALITY CONTROL COORDINATOR

C76IZZ
7TFA05WUZZ
8/5/19/80

ENVIRONMENTAL PROTECTION AGENCY
FOR THE TEAM: METALS

DIVISION/BRANCH Superfund FIT SAMPLE DATE 5/13/87 LAB ARRIVAL DATE 5/14/87 DUE DATE 6/4/87

DU NUMBER 9905 ~~C76100~~ DATA SET NUMBER 3960 STUDY Sludge Liquid PRIORITY N CONTRACTOR CRL

CRL LOG NUMBER	SAMPLE DESCRIPTION Sample # TAG #	TOTAL METALS WATER TOTAL UG/L MET111 ICAP	TOTAL METALS WATER AS UG/L MET161	TOTAL METALS WATER PB UG/L MET1191	TOTAL METALS WATER SB UG/L MET1201	TOTAL METALS WATER SE UG/L MET1211	TOTAL METALS WATER ~~IV~~ CD UG/L MET1221
87FS06B02	Blank 5-36607	L ✓	L ✓ <2	L ✓ <2	L ✓ <2	L ✓ <2	L ✓ <0.2 RP
87FS06S12	BW1 5-36646	L ✓	L ✓ <2	L ✓ 6.1	L ✓ <2	L ✓ <2	L ✓ <0.2 RP
			JR 5/15	RNP ~~5/15/87~~ 5/19/87	DM 5/20/87	JR 5/15	RP 5/18/87

JVM 26 May 87

---

* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: PICCIONE
DATE OF ANALYSIS --: 05-18-1987
PARAMETER NAME ----: CADMIUM
DATA SET # --------: SF3958/3960/3962

SAMPLE NO.	CONC.	R VALUE	SLOPE	
CAL BLNK	.1825399	.9992034	.2771999	< .2
AQC 0.78	.7303685	.9992956	.2496	-6.4% diff.

CAL BLNK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.048	5.060005E-02	2.600052E-03	5.138437 %
.5	.188	.1892	1.20002E-03	.6342602 %
1	.338	.3278	-1.020002E-02	-3.111661 %
1.5	.46	.4664	6.39993E-03	1.372198 %

AQC 0.78

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.178	.1823	4.299999E-03	2.358749 %
.5	.31	.3071	-2.900005E-03	-.9443192 %
1	.439	.4319	-7.099986E-03	-1.643896 %
1.5	.551	.5567	5.699992E-03	1.023889 %

Sum
[illegible]

---

* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: R PICCIONE
DATE OF ANALYSIS --: 05-18-1987
PARAMETER NAME ----: CADMIUM
DATA SET # --------: SF3958 , 3960 , 3962

SAMPLE NO.	CONC.	R VALUE	SLOPE	
HACKNEY BLANK	.5386997	.9995044	.2584	
RW1 [illegible]	8.644274E-02	.9999814	.3216	
RW1 DUP	1.341227E-02	.9994466	.3206	
RW2	4.681878E-02	.99965	.3331999	
AQC 0.78	.7754762	.9995725	.2414001	0% diff.
SYSTECH BL R02	-4.010118E-02	.9998946	.2768	
RW1 FS06 S12	.11983	.9998182	.3287999	
CLARK-FLOYD DM	-3.468213E-02	.9995453	.2422	
RW1	1.791509E-02	.9988919	.3070001	
AQC 0.78	.8503868	.9953288	.2326	+9.0% diff
AQC 0.78	.7156543	.9964281	.2504001	-7.7% diff.
RECHECK HACK BLANK	-7.435094E-02	.9998964	.2542001	

SF3962

HACKNEY BLANK SF 3958

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.137	.1392	2.200022E-03	1.580476 %
.5	.268	.2684	4.000068E-04	.1490338 %
1	.405	.3976001	-7.399947E-03	-1.861153 %
1.5	.522	.5268001	4.800022E-03	.9111658 %

RW1 (3958)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.027	2.779999E-02	7.999875E-04	2.877654 %
.5	.189	.1886	-3.999919E-04	-.2120848 %
1	.351	.3494	-1.599997E-03	-.4579271 %
1.5	.509	.5102001	1.20002E-03	.2352059 %

RW1 DUP (3958)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	4.299975E-03	4.299975E-03	100 %
.5	.174	.1646	-9.40001E-03	-5.710821 %
1	.319	.3249	5.899996E-03	1.815942 %
1.5	.486	.4852	-7.999838E-04	-.1648771 %

RW2 (3958)

SPIKE	MEASURED	CALC.	ERROR	PER CENT

Hackney (SF 3958) RW2

0	.012	1.560001E-02	3.600014E-03	23.07699 %
.5	.19	.1822	-7.800028E-03	-4.281026 %
1	.344	.3488	4.799932E-03	1.376128 %
1.5	.516	.5153999	-6.000996E-04	-.1164338 %

JVA 26 May 87

QC 0.78

PIKE	MEASURED	CALC.	ERROR	PER CENT
0	.188	.1872	-8.000136E-04	-.4273577 %
.5	.31	.3079	-2.099991E-03	-.6820366 %
1	.422	.4286	6.600023E-03	1.539903 %
1.5	.553	.5493001	-3.699899E-03	-.6735661 %

YSTECH BL (SF 3960)

PIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.011	-1.110001E-02	-1.000064E-04	.9009576 %
.5	.129	.1273	-1.700014E-03	-1.335439 %
1	.262	.2657	3.699988E-03	1.392544 %
1.5	.406	.4041	-1.900047E-03	-.4701924 %

W1 (3960)

PIKE	MEASURED	CALC.	ERROR	PER CENT
0	.038	.0394001	1.400102E-03	3.553549 %
.5	.203	.2038001	8.000583E-04	.3925702 %
1	.374	.3682	-5.800009E-03	-1.575233 %
1.5	.529	.5326	3.599942E-03	.6759186 %

LARK-FLOYD DM (SF 3962)

PIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.005	-8.400011E-03	-3.400011E-03	40.47627 %
.5	.106	.1127	6.699987E-03	5.944976 %
1	.237	.2338	-3.200024E-03	-1.368702 %
1.5	.355	.3549	-1.000464E-04	-2.819003E-02 %

W1 (3962)

PIKE	MEASURED	CALC.	ERROR	PER CENT
0	8.000001E-03	5.499935E-03	-2.500065E-03	-45.45626 %
.5	.162	.159	-3.000036E-03	-1.886815 %
1	.299	.3125	1.350001E-02	4.320002 %
1.5	.474	.4660001	-7.999957E-03	-1.716729 %

QC 0.78

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.184	.1978	1.379997E-02	6.976728 %
.5	.333	.3141	-1.890004E-02	-6.017205 %
1	.434	.4304	-3.600001E-03	-.8364316 %
1.5	.538	.5467	8.700013E-03	1.591369 %

~~Same as~~ recopied

AQC 0.78

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.184	.1791999	-4.800111E-03	-2.678635 %
.5	.307	.3043999	-2.600104E-03	-.8541736 %
1	.41	.4296	1.959994E-02	4.562372 %
1.5	.567	.5548	-.0122	-2.19899 %

RECHECK HACK BL (3958)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.019	-1.890001E-02	9.998679E-05	-.5290303 %
.5	.11	.1082	-1.799993E-03	-1.66358 %
1	.232	.2353	3.300041E-03	1.402482 %
1.5	.364	.3624001	-1.599938E-03	-.4414839 %

JVM 26 May 87

0.118	0.210	0.294	0.393	0.078	0.171
0.113	0.202	0.293	0.388	0.066	0.008
0.006	0.002				

RP recopied

BEGIN DATA FILE: CD.DF

Begin Element - CD

	0.001	0.000 AZ	0.048	0.188	0.338	0.460 — CAL BLNK
AQC 0.78 —	0.178	0.310	0.439	0.551	0.137	0.268 Hackney Blank
	0.405	0.522	0.027	0.189	0.351	0.509 — RW1

Hackney RW1 —	-0.000	0.174	0.319	0.486	0.012	0.190	RW1 DUP
	0.344	0.516	0.188	0.310	0.422	0.553	— AQC 0.78
single blank —	0.014	-0.011	0.129	0.262	0.406 — Systech Blank	0.038	
Systech RW1	0.203	0.374	0.529	-0.005	0.106	0.237	Clark-Floyd DM
	0.355	0.008	0.162	0.299	0.474 — C-F RW1	0.184	
AQC 0.78	0.333	0.434	0.538	0.184	0.307	0.410	AQC 0.78
	0.567	-0.019	0.110 RP	0.232	0.364 Recheck Hac Blank	-0.005	— single blank
Hackney Blank	-0.014	0.118	0.293	0.358	0.177	0.325	
	0.397	0.470 — AQC 0.78					

Last two runs — Hackney Blank & AQC are out.

JVM
26 May 87

```
¿BEGIN DATA FILE:  CD.DF

Begin Element - CD
BEGIN DATA FILE:  CD1.DF

Begin Element - CD
   0.045
   0.156
   0.273
   0.400
   0.158
   0.274
   0.374
   0.474
   0.119
   0.233
   0.356
   0.444
   0.006
   0.120
   0.200
   0.299
  -0.024
   0.086
   0.195
   0.302
  -0.009
   0.092
   0.213
   0.277
   0.115
   0.196
   0.280
   0.374
BEGIN DATA FILE:  CD1.DF

Begin Element - CD
  -0.001      0.000 AZ   0.021      0.118      0.206      0.310
   0.118      0.205      0.294      0.391      0.080
BEGIN DATA FILE:  CD.DF

Begin Element - CD
  -0.002      0.000 AZ   0.018      0.117      0.208      0.299
   0.111      0.204      0.299      0.376      0.090
BEGIN DATA FILE:  CD.DF

Begin Element - CD
   0.006      0.000 AZ   0.016      0.113      0.196      0.303
   0.118      0.210      0.294      0.393      0.078      0.171
   0.113      0.202      0.293      0.388      0.066      0.008
   0.006      0.002
BEGIN DATA FILE:  CD.DF
```

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: PICCIONE R.T.R. inc

DATE OF ANALYSIS --: 05-19-1987

PARAMETER NAME ----: LEAD

DATA SET # ---------: SF3958/3960/3962

NM 20 May 87

SAMPLE NO.	CONC.	R VALUE	SLOPE	
CAL BLNK	.3013926	.9998253	2.467203E-02	< 2.0
ACC 22.4	21.30219	.9999709	2.455199E-02	-2.2%
SF3960 R03	.2755022	.9995894	2.521776E-02	
RW1 (S13)	.3572404	.9998258	1.904329E-02	
RW1 DUP (S13)	.3334541	.9999163	.0193527	
RW2 (S14)	.1603927	.9999992	1.794825E-02	
ACC 22.4	21.99633	.9998972	2.611594E-02	-1.8%
SF3960 R02	-4.828365E-02	.9997464	.0241139	
RW1 (S12)	6.123609	.9994944	1.795868E-02	
SF3962 R01 DM	BLANK			
	-2.474487E-02	.999857	2.575663E-02	
RW1 (S11)	-.763716	.9991324	6.842226E-03	
ACC 22.4	21.33271	.9999861	2.623499E-02	-4.9%
SYSTECH RW1	6.201465	.9984317	1.791641E-02	
ACC 22.4	22.38914	.9999709	.0267434	0%

CAL BLNK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.006	7.435969E-03	1.435969E-03	19.31112 %
10	.252	.2541563	2.156288E-03	.84841 %
20.1	.5120001	.5033438	-8.656204E-03	-1.71974 %
30.1	.745	.7500642	5.06419E-03	.6751675 %

ACC 22.4

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.54	.5377425	-2.257526E-03	-.4198154 %
10	.78	.7832625	3.26246E-03	.416322 %
20.1	1.031	1.031238	2.375841E-04	2.303874E-02 %
30.1	1.278	1.276758	-1.242518E-03	-9.731828E-02 %

Hackney

SF3958 R03

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	6.972765E-03	5.972765E-03	85.63849 %
10	.272	.2591504	-1.284966E-02	-4.95838 %
20.1	.506	.5138498	7.849753E-03	1.527636 %
30.1	.767	.7660273	-9.726882E-04	-.1269783 %

RW1 (S13) ⟶ next side

SPIKE	MEASURED	CALC.	ERROR	PER CENT

RW1 (S13)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	4.8587013E-03	.0038587	79.58642 %
10	.202	.1983313	-6.6685532E-03	-3.413963 %
20.1	.386	.3876686	1.668243E-03	.4304044 %
30.1	.577	.5781013	1.101315E-03	.1905055 %

RW1 DUP (D13)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.004	6.491941E-03	2.491941E-03	38.33514 %
10	.202	.2000189	-1.981109E-03	-.9904611 %
20.1	.399	.3954611	-3.51888E-03	-.8897718 %
30.1	.586	.5890061	3.006068E-03	.5107006 %

RW2 (S14)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.003	2.878768E-03	-1.212324E-04	-4.211259 %
10	.182	.1823613	3.612936E-04	.1981197 %
20.1	.364	.3636386	-3.61383E-04	-9.937971E-02 %
30.1	.543	.5431212	1.211762E-04	2.231109E-02 %

AQC 22.4

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.572	.5744549	2.454817E-03	.4273299 %
10	.836	.8356143	-3.857613E-04	-.046165 %
20.1	1.106	1.099385	-6.614685E-03	-.6016713 %
30.1	1.356	1.360545	4.544735E-03	.3340379 %

SYSTECH
SF3960 (R02)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.006	-1.164307E-03	4.835693E-03	-415.3279 %
10	.243	.2399747	-3.025293E-03	-1.260672 %
20.1	.492	.4835252	-8.474886E-03	-1.752729 %
30.1	.718	.7246641	6.664157E-03	.9196201 %

RW1 (S12)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.117	.1099719	-7.028096E-03	-6.39081 %
10	.28	.2895587	9.558648E-03	3.301109 %
20.1	.469	.4709413	1.941264E-03	.4122093 %
30.1	.655	.650528	-4.471958E-03	-.687435 %

Clark-Floyd
SF3962 R01 DM B

next sheet

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.006	-6.373446E-04	5.362656E-03	-841.406 %

Clark-Floyd

SF3962 ROL-DM-B

JVN 26 May 77

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.006	-6.373446E-04	5.362656E-03	-841.406 %
10	.264	.256929	-7.071048E-03	-2.752142 %
20.1	.519	.517071	-1.929045E-03	-.3730716 %
30.1	.771	.7746373	3.637195E-03	.4695353 %

RW1 (S11)

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.004	-5.225517E-03	-1.225517E-03	23.45254 %
10	.064	6.319675E-02	-8.03262E-04	-1.27105 %
20.1	.127	.1323032	5.303234E-03	4.008393 %
30.1	.204	.2007255	-.0032745	-1.631333 %

AQC 22.4

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.558	.5596634	1.663327E-03	.2972014 %
10	.824	.8220133	-1.986742E-03	-.2416922 %
20.1	1.088	1.086987	-1.013279E-03	-9.321907E-02 %
30.1	1.348	1.349337	1.336575E-03	9.905419E-02 %

SYSTECH RW1 Rechecked

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.103	.111108	8.107998E-03	7.297402 %
10	.308	.2902721	-1.772788E-02	-6.107332 %
20.1	.46	.4712279	1.122788E-02	2.382685 %
30.1	.652	.650392	-1.608014E-03	-.2472377 %

AQC 22.4

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.599	.5987619	-2.381206E-04	-3.976883E-02 %
10	.864	.8661959	2.195895E-03	.2535102 %
20.1	1.14	1.136304	-3.695727E-03	-.3252409 %
30.1	1.402	1.403738	1.73831E-03	.1238343 %

Begin Element - PB

JVM 28 May 87

	-0.002
	0.000 AZ
	0.006
cal blank	0.252
	0.512
	0.745
	0.540
	0.780
AQC 22.4	1.031
	1.278
	0.001
SF3958 HACKNEY BL	0.272
	0.506
R03	0.767
	0.001
	0.202
RW1 (S13)	0.386
	0.577
	0.004
RW1 DUP	0.202
(D13)	0.399
	0.586
	0.003
RW2	0.182
(S14)	0.364
	0.543
	0.572
AQC 22.4	0.836
	1.106
	1.356
single blank	-0.005
	-0.006
SF 3960 Systech	0.243
	0.492
R02	0.718
	0.117
RW1 (S12)	0.280
	0.469
	0.655
Clark-Floyd	-0.006
R01 DM BLANK ~~(S11)~~ RP	0.264
	0.519
	0.771
	-0.004
RW1	0.064
(S11)	0.127
	0.204
	0.558
AQC 22.4	0.824
	1.088
	1.348
single blank	-0.004
	0.103
Systech RW1	0.308 rechecked
	0.460
	0.652
	0.599
AQC 22.4	0.864
	1.140
	1.402 RP 5/19/89

JM 26 May 87

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: JRT JRT
DATE OF ANALYSIS --: 05-15-1987
PARAMETER NAME ----: AS
DATA SET # --------: SF3958&SF3960

SAMPLE NO.	CONC.	R VALUE	SLOPE
RBK	-.7798186	.9996215	.00218 <2
AQC 23.5	24.44869	.9985143	2.629999E-03 Δ 4.0%
RO3	-.3508772	.9995692	.00285 <2
S13	5.379361	.9518344	2.109102E-03
S13	-.3112852	.9996519	.00257
D13	-.7421881	.9999695	.00256
S14	4.489793	.9997502	.00245
RO2	-.6617658	.9996218	.00272
S12	-.5371912	.9996928	2.420001E-03
S12DUP	-.4602568	.9998773	.00239 <2
AQC 23.5	22.31885	.9998429	2.759999E-03 Δ 5.1%

RBK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-1.700005E-03	-7.000045E-04	41.17663 %
10	.019	.0201	1.099996E-03	5.47262 %
20	.042	.0419	-1.000054E-04	-.2386765 %
30	.064	.0637	-3.000051E-04	-.4709656 %

AQC 23.5

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.066	6.430001E-02	-1.699984E-03	-2.643832 %
10	.088	9.060001E-02	2.600007E-03	2.869764 %
20	.117	.1169	-1.000017E-04	-8.554464E-02 %
30	.144	.1432	-8.000136E-04	-.5586688 %

RO3

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-9.999999E-04	-9.999999E-04	100 %
10	.026	.0275	1.499998E-03	5.454537 %
20	.056	.056	-7.450581E-09	-1.330461E-05 %
30	.085	8.449999E-02	-5.000085E-04	-.5917261 %

S13

0	.024	1.134562E-02	-1.265438E-02	-111.5354 %
20	.05	5.352766E-02	3.52766E-03	6.590349 %
30	.077	7.461868E-02	-2.381317E-03	-3.191315 %
.077	0	1.150802E-02	1.150802E-02	100 %

JJP 26 May 87

S13

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-8.000031E-04	-8.000031E-04	100 %
10	.024	.0249	9.000003E-04	3.614459 %
20	.05	5.060001E-02	6.000027E-04	1.185776 %
30	.077	.0763	-6.99997E-04	-.9174272 %

D13

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-1.900002E-03	9.999855E-05	-5.263077 %
10	.024	.0237	-3.000032E-04	-1.265837 %
20	.049	.0493	2.999976E-04	.6085145 %
30	.075	.0749	-1.000091E-04	-.1335236 %

S14

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.011	1.099999E-02	-7.450581E-09	-6.77326E-05 %
10	.036	.0355	-5.00001E-04	-1.408454 %
20	.059	.06	9.999983E-04	1.666664 %
30	.085	.0845	-5.00001E-04	-.5917172 %

R02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-1.800003E-03	1.999971E-04	-11.11093 %
10	.025	.0254	3.999993E-04	1.574801 %
20	.054	.0526	-1.400001E-03	-2.6616 %
30	7.900001E-02	7.980001E-02	8.000061E-04	1.002514 %

S12

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-1.300003E-03	-3.00003E-04	23.0771 %
10	.022	.0229	9.000022E-04	3.93014 %
20	.048	4.710001E-02	-8.999929E-04	-1.910813 %
30	.071	7.130001E-02	3.000125E-04	.4207749 %

S12DUP

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-1.100014E-03	-1.000137E-04	9.09204 %
10	.023	2.279999E-02	-2.000108E-04	-.8772409 %
[illegible]	[illegible]	[illegible]	5.999995E-04	1.438907 %

AQC 23.5

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.061	6.160001E-02	6.000065E-04	.9740362 %
10	9.000001E-02	.0892	-8.000061E-04	-.8968678 %
20	.117	.1168	-2.000108E-04	-.1712422 %
30	.144	.1444	3.99977E-04	.2769924 %

JVM
26 May 87

5-13-87 JK

¿BEGIN DATA FILE: A515.DF

SF 3958 & 3960 HACKNEY & SYSTEM Liquid.

Begin Element - AS

-0.004
0.000 AZ
-0.001
0.019
0.042 RBK
0.064
0.066
0.088 ARC 23.5
0.117
0.144
0.000
0.026 RO3
0.056
0.085
0.000
0.024 S13
0.050
0.077
-0.002
0.024 D13
0.049
0.075
0.011
0.036 S14
0.059
0.085
-0.002
0.025 RO2
0.054
0.079
-0.001
0.022
0.048 S12
0.071
-0.001
0.023 S12DUP
0.046
0.071
0.061
0.090 ARC 23.5
0.117
0.144

JW 26 May 87

Jun 26 May 87

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: JRT JR
DATE OF ANALYSIS --: 05-15-1987
PARAMETER NAME ----: SE
DATA SET # --------: SF3958&SF3960

SAMPLE NO.	CONC.	R VALUE	SLOPE
RBK	.3703703	.998692	4.050001E-03 <2
AQC 9.8	9.550572	.9978104	4.449998E-03 Δ2.6%
R03	-.1382468	.9999365	4.339999E-03 <2
S13	.1315769	.9999423	4.560001E-03
D13	-2.155304E-02	.9999908	.00464
S14	-.2150538	.9998382	.00465
R02	.371224	.9999621	.00431 <2
S12	-.9014712	.9984084	4.770001E-03
~~S12DUP~~	~~.9803921~~	~~.9478638~~ VOID	~~.0051~~ TYPO
S12DUP	-2.178782E-02	.9987352	.00459
AQC 9.8	9.052642	.9986067	4.749998E-03 Δ7.6%

SF3960

RBK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.004	.0015	-.0025	-166.6667 %
10	.039	4.200001E-02	3.000006E-03	7.142871 %
20	.081	8.250002E-02	1.500018E-03	1.818203 %
30	.125	.123	-1.999982E-03	-1.626001 %

AQC 9.8

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.042	4.250003E-02	5.000308E-04	1.176542 %
10	.085	8.700001E-02	2.000012E-03	2.298864 %
20	.137	.1315	-5.500004E-03	-4.182513 %
30	.173	.176	2.999976E-03	1.704532 %

R03

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-5.999909E-04	4.000092E-04	-66.66922 %
10	.043	.0428	-2.000034E-04	-.4672977 %
20	.087	8.619998E-02	-8.000136E-04	-.9280901 %
30	.129	.1296	5.999804E-04	.4629479 %

S13

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	5.999909E-04	-4.000092E-04	-66.66922 %

30	.138	.1374	-5.999953E-04	-.4366778 %

JM 6 May 77

D13

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-1.000061E-04	-1.000061E-04	99.99999 %
10	.046	4.629999E-02	2.999902E-04	.6479271 %
20	.093	9.269998E-02	-3.0002E-04	-.3236462 %
30	.139	.1391	9.998679E-05	7.188124E-02 %

S14

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-9.999999E-04	-9.999999E-04	100 %
10	.044	.0455	1.499996E-03	3.296694 %
20	.092	9.199999E-02	-7.450581E-09	-8.098458E-06 %
30	.139	.1385	-5.000085E-04	-.361017 %

R02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	1.599976E-03	-4.000245E-04	-25.00191 %
10	.044	4.469998E-02	6.999783E-04	1.565948 %
20	.088	8.779998E-02	-2.000183E-04	-.2278113 %
30	.131	.1309	-1.000166E-04	-7.640688E-02 %

S12

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-4.300019E-03	-3.300018E-03	76.74428 %
10	.039	4.339999E-02	4.399985E-03	10.13822 %
20	9.000001E-02	9.109999E-02	1.099981E-03	1.207444 %
30	.141	.1388	-2.200008E-03	-1.58502 %

S12DUP

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	.005	.006	120 %
10	.049	.056	7.000003E-03	12.50001 %
20	.139	.107	-3.199999E-02	-29.90653 %
30	.139	.158	1.899999E-02	12.02531 %

S12DUP

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.001	-1.000061E-04	8.999939E-04	-899.939 %
10	.049	.0458	-3.200002E-03	-6.986905 %
20	.088	9.169999E-02	3.699996E-03	4.034892 %
30	.139	.1376	-1.399994E-03	-1.017437 %

0	.044	4.300003E-02	-9.999685E-04	-2.325507 %
10	.067	9.050001E-02	3.500015E-03	3.867419 %
20	.142	.138	-4.000008E-03	-2.898557 %
30	.184	.1855	1.499966E-03	.8086071 %

Jim
16 May 77

5-15-87 JN

BEGIN DATA FILE: B515.DF

SF 3958 & SF3960 HACKNEY & SYSTECH Liquid

Begin Element - SE

JVT 26 may 87

-0.004	
0.000	AZ
0.004	
0.039	
0.081	RBK
0.125	
0.042	
0.085	
0.137	ARL 98
0.173	
-0.001	
0.043	
0.087	R03
0.129	
0.001	
0.046	
0.091	S13
0.138	
-0.000	
0.046	D13
0.093	
0.139	
0.000	
0.044	S14
0.092	
0.139	
0.002	
0.044	
0.088	R02
0.131	
-0.001	
0.039	
0.090	S12
0.141	
-0.001	
0.049	SP2DVP
0.139	
0.088	
0.044	
0.087	ARL
0.142	
0.184	

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* FLAMELESS * CSC VERSION 1.00 *

NAME OF ANALYST ---: MAY R. May

DATE OF ANALYSIS --: 05-20-1987

PARAMETER NAME ----: SB

DATA SET # ---------: SF3958/3960/3962

Hackney/Syp. Liquid/Clark Floyd

SAMPLE NO.	CONC.	R VALUE	SLOPE	
RBLK	-.3896111	.9994943	.00231	
AQC 20.3	20.28228	.999708	2.479999E-03	-0.1 %
RO3	-.8606521	.9999665	.00244	
S13	-.795454	.9999712	.00264	
S14	.157487	.9982686	.00254	
D13	-.2941188	.9998918	.00272	
RO2	.4255353	.9986448	.00235	
~~12~~	~~-.2086140~~	~~.8441893~~	~~.02766~~	
S12	-.4693179	.9971063	.00277	
RBLK	8.264653E-02	.9995222	.00242	
AQC 20.3	24.38356	.9296459 VOID	2.190001E-03	high % R + low "r"
~~RO1~~	~~VOID~~	~~.8290177~~	~~5.910001E-03~~	
RO1	.3292194	.9989348	.00243	
S11	-.1562516	.9962774	.00192	
S12 (DUP)	.4761924	.9954956	.00252	
AQC 20.3	6.125463	.915337 VOID	5.420001E-03	low "r" ~~+ high %~~
AQC 20.3	24.48599 VOID	.9993022	2.139999E-03	20.1% high % R - Eff
AQC 20.3	21.35372	.9998674	.00229	5.2%
AQC 20.3	22.12767	.9997286	.00235	9.0%

S-2960

high bias would include ok since all samples less than detection

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RBLK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-9.000015E-04	-9.000015E-04	100 %
10	.021	.0222	1.199998E-03	5.405397 %
20	.045	.0453	2.999976E-04	.6622464 %
30	.069	.0684	-6.000027E-04	-.8771969 %

AQC 20.3

PIKE	MEASURED	CALC.	ERROR	PER CENT
0	.05	5.030002E-02	3.000163E-04	.5964536 %
10	.075	7.510001E-02	1.000017E-04	.133158 %
20	.101	9.989999E-02	-1.100011E-03	-1.101112 %
30	.124	.1247	6.999746E-04	.561327 %

Jun May 87

RO3

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-2.099991E-03	-9.999075E-05	4.761485 %
10	.022	2.230001E-02	3.000051E-04	1.345314 %
20	.047	.0467	-2.999976E-04	-.6423932 %
30	.071	.0711	9.999424E-05	.1406389 %

S13

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	-.002	-2.099999E-03	-9.999843E-05	4.761833 %
10	.024	.0243	2.999995E-04	1.234566 %
20	.051	.0507	-3.000014E-04	-.5917187 %
30	.077	.0771	9.999424E-05	.1296942 %

S14

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	4.000168E-04	4.000168E-04	100 %
10	.025	2.580001E-02	8.000117E-04	3.100819 %
20	.054	5.120001E-02	-2.799992E-03	-5.468732 %
30	.075	.0766	1.599997E-03	2.088769 %

D13

0	-.001	-8.000031E-04	1.99997E-04	-24.99953 %
10	.027	.0264	-6.000009E-04	-2.27273 %
20	.053	.0536	6.000027E-04	1.119408 %
30	.081	8.080001E-02	-1.999959E-04	-.2475197 %

R02

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	1.000008E-03	1.000008E-03	100 %
10	.025	.0245	-4.999973E-04	-2.040805 %
20	.05	.048	-.002	-4.166668 %
30	.07	.0715	1.499996E-03	2.097896 %

S12

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-.1449001	-.1449001	100 %
10	.057	.1317	7.469996E-02	56.71981 %
20	.123	.4083	.2853	69.8751 %
30	.9	.6849	-.2151	-31.40604 %

S12

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	-1.300011E-03	-1.300011E-03	100 %
10	.023	2.639999E-02	3.399992E-03	12.87876 %
20	.057	.0541	-2.900005E-03	-5.360452 %
30	.081	.0818	7.999987E-04	.9779935 %

*BLK

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	2.000046E-04	2.000046E-04	100 %
10	.024	.0244	4.000012E-04	1.639349 %
20	.05	.0486	-1.400005E-03	-2.880669 %

20	.05	.0486	-1.400005E-03	-2.880669 %
30	.072	7.279999E-02	7.999912E-04	1.098889 %

JM 26May87

3C 20.3

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.055	5.340001E-02	-1.59999E-03	-2.996235 %
10	.081	7.530001E-02	-5.699985E-03	-7.5697 %
20	.081	9.720002E-02	1.620002E-02	16.66668 %
30	.128	.1191	-8.899979E-03	-7.472693 %

RO1

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	-2.689999E-02	-2.889999E-02	107.435 %
10	.023	3.220001E-02	9.200009E-03	28.57145 %
20	.023	9.130001E-02	6.830001E-02	74.80833 %
30	.199	.1504	-4.859999E-02	-32.31382 %

RO1

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.002	8.000031E-04	-1.199997E-03	-149.9991 %
10	.023	.0251	.0021	8.366535 %
20	.05	.0494	-6.000027E-04	-1.21458 %
30	.074	7.370001E-02	-2.999976E-04	-.4070524 %

S11

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.001	-3.000031E-04	-1.300003E-03	433.33 %
10	.016	.0189	2.899997E-03	15.3439 %
20	.04	.0381	-1.900002E-03	-4.986883 %
30	.057	.0573	3.000014E-04	.5235626 %

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	0	1.200005E-03	1.200005E-03	100 %
10	.026	.0264	3.999993E-04	1.515149 %
20	.056	.0516	-4.400008E-03	-8.527148 %
30	.074	7.679999E-02	2.799988E-03	3.645818 %

JVM
26 May 87

AQC 20.3

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.053	3.320001E-02	-1.979999E-02	-59.6385 %
10	.077	8.740001E-02	1.040001E-02	11.89933 %
20	.103	.1416	3.860001E-02	27.25989 %
30	.225	.1958	-2.919997E-02	-14.91316 %

AQC 20.3

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.052	5.240001E-02	4.000068E-04	.7633716 %
10	.075	.0738	-1.200005E-03	-1.626024 %
20	9.399999E-02	9.519999E-02	1.199998E-03	1.260502 %
30	.117	.1166	-4.000142E-04	-.3430654 %

AQC 20.3

SPIKE	MEASURED	CALC.	ERROR	PER CENT
0	.049	4.890001E-02	-9.999052E-05	-.2044796 %
10	.072	7.180001E-02	-1.999885E-04	-.2785355 %
20	9.399999E-02	9.470001E-02	7.000119E-04	.7391888 %
30	.118	.1176	-3.999919E-04	-.3401291 %

AQC 20.3

SPIKE	MEASURED	CALC.	ERROR	PER CENT

0	.052	5.200002E-02	1.490116E-08	2.865607E-05 %
10	.075	7.550001E-02	5.000085E-04	.6622628 %
20	.1	9.900001E-02	-9.999946E-04	-1.010096 %
30	.122	.1225	5.00001E-04	.4081641 %

JVM
26 MAY 87

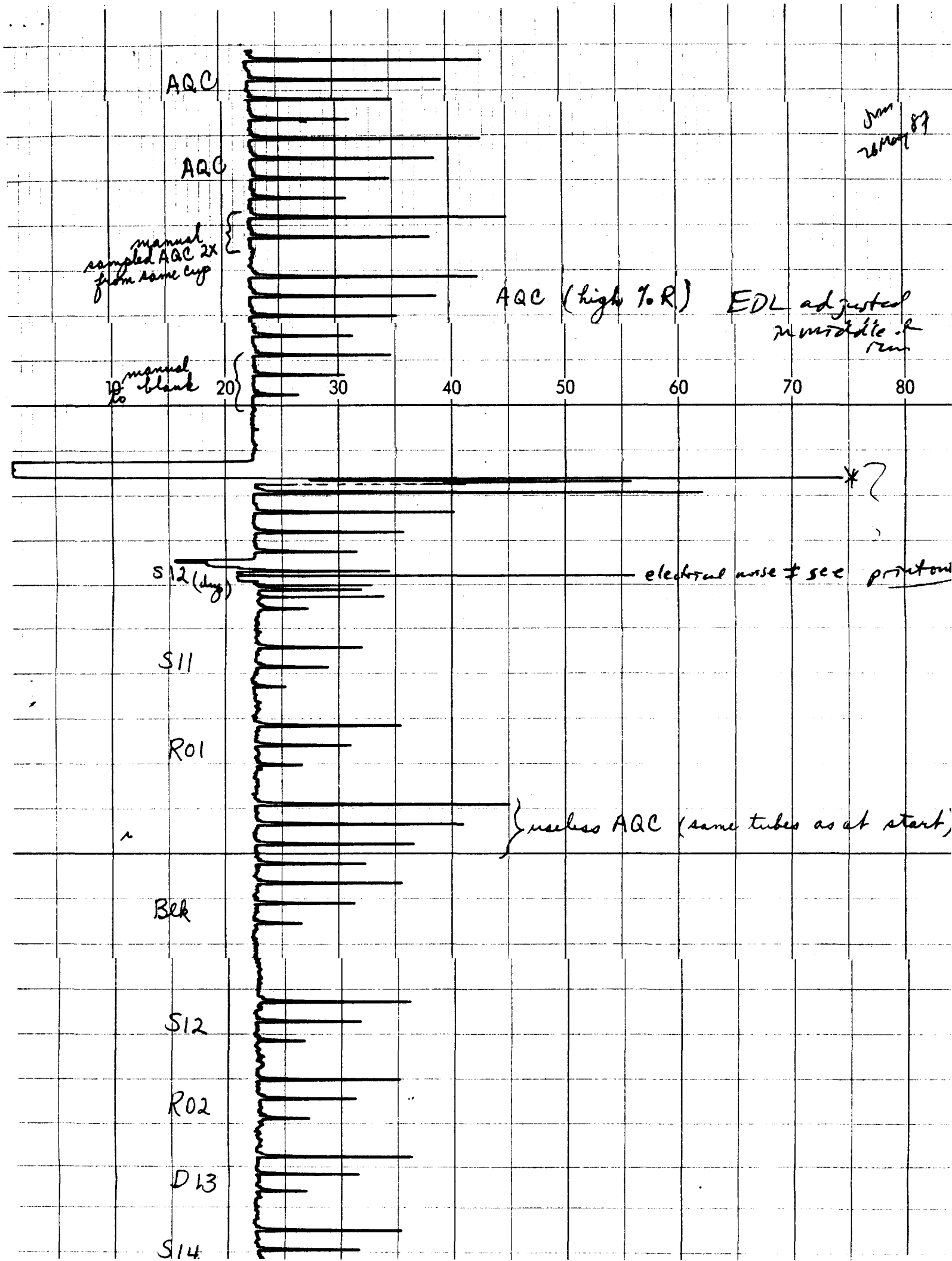
cont

5-19-87

-0.001
~~0.000~~ AZ
~~-0.000~~
0.024
0.050 Blk
0.072
0.056
0.081 AQ C
0.105
0.128
0.002 Case # 3962
0.023
0.050 R01
0.074
0.001
0.016
0.040 S11
0.057
-0.000
0.026
0.056 S12
0.074 (dup)
0.053
0.077
0.103 AQC
0.225
~~-0.208~~ ~~dup~~
EDL low electrical problem
~~0.001~~
~~0.001~~ manual to blk.
~~0.024~~ spike at begin
~~0.048~~
~~0.072~~ not AQC
0.052
0.075 AQC
0.094
0.117
0.001 manual
0.090 adjusted
0.131 EDL
0.049
0.072
0.094 AQC
0.118
0.052
0.075
0.100 AQC
0.122
-0.000

-0.000
0.000 AZ
0.000
0.021
0.045 Blk
0.069
0.050
0.075
0.101 AQC
0.124
~~0.002~~
~~0.003~~ Case
-0.002 #3958
0.022
0.047 R03
0.071
-0.002
0.024
0.051 S13
0.077
-0.000
0.025
0.054 S14
0.075
-0.001
0.027
0.053 D13
0.081
0.000 case # 3960
0.025
0.050 R02
0.070
0.000
0.023
0.057 S12
0.081
0.001

Jm
26 May 87


AQC
AQC
manual sampled AQC 2x from same cup
AQC (high % R) EDL adjusted in middle of run
10 to manual blank
20
30
40
50
60
70
80
*?
S12 (dup)
electrical noise ≠ see printout
S11
R01
useless AQC (same tubes as at start)
Blk
S12
R02
D13
S14