SDMS US EPA REGION V -1

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158319

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COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1

Lab Code: ——— Case No.: ——— SAS No.: ——— SDG No.: —46—

SOW No.: 7/87 Rev. 12/87

EPA Sample No.	Lab Sample ID
G204	B104062
G204D	B104062D
G204S	B104062S
G203	B104063
G205	B104064
G201	B104065
G202	B104066
X101	B104067
X101D	B104067D
X101S	B104067S
X102	B104068
X103	B104069
X104	B104070
X106	B104071
X107	B104072
X108	B104073
X109	B104074
X110	B104075
X111	B104076
X112	B104077
X113	B104078
X114	B104079

Were ICP interelement corrections applied? Yes ——

Were ICP background corrections applied? Yes ——
If yes, were raw data generated before application of background corrections? No ——

Comments: —Digestion for ICP and furnace metals was done by microwave with 1.0ML of 1:1 HCL added. Second CCV failed on Aluminum and Iron. Did not catch until after the fact. (No corrective action taken, sample analysis not repeated.)

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Lab Manager: [signature]

Date: 5/30/91 10/18/91

B000001

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EPA SAMPLE NO.

G204

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Lab Sample ID: B104062
Level (Low/Med): Date Received: 3/28/91
% Solids:

Concentration Units (ug/L):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	62	U		P	
7440-36-0	Antimony	32	U		P	
7440-38-2	Arsenic	3.9	B		F	
7440-39-3	Barium	502			P	
7440-41-7	Beryllium	0.2	U		P	
7440-43-9	Cadmium	2.1	U		P	
7440-70-2	Calcium	145000			P	
7440-47-3	Chromium	3.1	U		P	
7440-48-4	Cobalt	4.3	B		P	
7440-50-8	Copper	14	U		P	
7439-89-6	Iron	166			P	J
7439-92-1	Lead	3.3			F	
7439-95-4	Magnesium	37600			P	
7439-96-5	Manganese	39			P	
7439-97-6	Mercury	0.11	U		AV	
7440-02-2	Nickel	11	U		P	
7440-09-7	Potassium	5420			P	
7782-49-2	Selenium	2.7	B	E,N	F	J
7440-22-4	Silver	3.3	U		P	
7440-23-5	Sodium	14600			P	
7440-28-0	Thallium	2.4	U		F	
7440-62-2	Vanadium	2.3	U		P	
7440-66-6	Zinc	38			P	
	Cyanide	10	U		AS	
	Sulfide	1000	U		T	
	Sulfate	48800			AS	

Color Before: Colorless Clarity Before: Clear Texture:
Color After: Colorless Clarity After: Clear Artifacts:
Comments: SULFIDE SW846 METHODOLOGY
SULFATE IEPA METHODOLOGY

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EPA SAMPLE NO.

G203

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Lab Sample ID: B104063
Level (Low/Med): Date Received: 3/28/91
% Solids:

Concentration Units (ug/L):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	62	U		P	
7440-36-0	Antimony	55	B		P	
7440-38-2	Arsenic	1.3	U		F	
7440-39-3	Barium	89	~~B~~ U		P	
7440-41-7	Beryllium	0.2	U		P	
7440-43-9	Cadmium	2.1	U		P	
7440-70-2	Calcium	164000			P	
7440-47-3	Chromium	4.9	~~B~~ U		P	
7440-48-4	Cobalt	8.5	~~B~~ U		P	
7440-50-8	Copper	14	U		P	
7439-89-6	Iron	400			P	J
7439-92-1	Lead	1.5	U		F	
7439-95-4	Magnesium	25800			P	
7439-96-5	Manganese	2750			P	
7439-97-6	Mercury	0.11	U		AV	
7440-02-2	Nickel	11	U		P	
7440-09-7	Potassium	6330			P	
7782-49-2	Selenium	1.3	B	E,N	F	J
7440-22-4	Silver	3.3	U		P	
7440-23-5	Sodium	6240			P	
7440-28-0	Thallium	3.1	B	W	F	
7440-62-2	Vanadium	2.3	U		P	
7440-66-6	Zinc	58			P	
	Cyanide	10	U		AS	
	Sulfide	1000	U		T	
	Sulfate	93000			AS	

Color Before: Colorless Clarity Before: Clear Texture:
Color After: Colorless Clarity After: Clear Artifacts:
Comments: SULFIDE SW846 METHODOLOGY
SULFATE IEPA METHODOLOGY

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EPA SAMPLE NO.

G205

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Lab Sample ID: B104064
Level (Low/Med): Date Received: 3/28/91
% Solids:

Concentration Units (ug/L):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	96	B		P	J
7440-36-0	Antimony	32	U		P	
7440-38-2	Arsenic	9.2	B		F	
7440-39-3	Barium	23	~~B~~ U		P	
7440-41-7	Beryllium	0.2	U		P	
7440-43-9	Cadmium	2.1	U		P	
7440-70-2	Calcium	11900			P	
7440-47-3	Chromium	4	~~B~~ U		P	
7440-48-4	Cobalt	2.7	U		P	
7440-50-8	Copper	75			P	
7439-89-6	Iron	724			P	J
7439-92-1	Lead	11		S	F	
7439-95-4	Magnesium	1710	~~B~~ U		P	
7439-96-5	Manganese	100			P	
7439-97-6	Mercury	0.11	U		AV	
7440-02-2	Nickel	11	U		P	
7440-09-7	Potassium	3150	~~B~~ U		P	
7782-49-2	Selenium	0.8	B	W,N	F	J
7440-22-4	Silver	3.3	U		P	
7440-23-5	Sodium	1070	~~B~~ U		P	
7440-28-0	Thallium	2.4	U		F	
7440-62-2	Vanadium	2.3	U		P	
7440-66-6	Zinc	658			P	
	Cyanide	10	U		AS	
	Sulfide	1000	U		T	
	Sulfate	13000			AS	

Color Before: Colorless Clarity Before: Clear Texture:
Color After: Colorless Clarity After: Clear Artifacts:
Comments: SULFIDE SW846 METHODOLOGY
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EPA SAMPLE NO.

G201

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Lab Sample ID: B104065
Level (Low/Med): Date Received: 3/28/91
% Solids:

Concentration Units (ug/L):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	62	U		P	
7440-36-0	Antimony	32	U		P	
7440-38-2	Arsenic	1.6	~~B~~ U		F	
7440-39-3	Barium	130	~~B~~ U		P	
7440-41-7	Beryllium	0.2	U		P	
7440-43-9	Cadmium	-2.1	U		P	
7440-70-2	Calcium	141000			P	
7440-47-3	Chromium	5.9	~~B~~ U		P	
7440-48-4	Cobalt	6.2			P	
7440-50-8	Copper	14	U		P	
7439-89-6	Iron	977			P	J
7439-92-1	Lead	6.7			F	
7439-95-4	Magnesium	32100			P	
7439-96-5	Manganese	712			P	
7439-97-6	Mercury	0.11	U		AV	
7440-02-2	Nickel	11	U		P	
7440-09-7	Potassium	4340	B		P	
7782-49-2	Selenium	1.3	B	E,N	F	J
7440-22-4	Silver	3.3	U		P	
7440-23-5	Sodium	20900			P	
7440-28-0	Thallium	2.4	B		F	
7440-62-2	Vanadium	2.3	U		P	
7440-66-6	Zinc	580			P	
	Cyanide	10	U		AS	
	Sulfide	1000	U		T	
	Sulfate	95000			AS	

Color Before: Colorless Clarity Before: Clear Texture:
Color After: Colorless Clarity After: Clear Artifacts:
Comments: SULFIDE SW846 METHODOLOGY
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EPA SAMPLE NO.

G202

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Lab Sample ID: B104066
Level (Low/Med): Date Received: 3/28/91
% Solids:

Concentration Units (ug/L):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	62	U		P	
7440-36-0	Antimony	54	B		P	
7440-38-2	Arsenic	10.9			F	
7440-39-3	Barium	273			P	
7440-41-7	Beryllium	0.2	U		P	
7440-43-9	Cadmium	2.1	U		P	
7440-70-2	Calcium	202000			P	
7440-47-3	Chromium	4	~~B~~ U		P	
7440-48-4	Cobalt	3.3	~~B~~ U		P	
7440-50-8	Copper	14	U		P	
7439-89-6	Iron	21700			P	J
7439-92-1	Lead	1.5	U		F	
7439-95-4	Magnesium	41600			P	
7439-96-5	Manganese	1590			P	
7439-97-6	Mercury	0.11	U		AV	
7440-02-2	Nickel	11	U		P	
7440-09-7	Potassium	7110			P	
7782-49-2	Selenium	0.8	U	E,N	F	R
7440-22-4	Silver	3.3	U		P	
7440-23-5	Sodium	24400			P	
7440-28-0	Thallium	4.7	B		F	
7440-62-2	Vanadium	2.3	U		P	
7440-66-6	Zinc	7.3	U		P	
	Cyanide	10	U		AS	
	Sulfide	1000	U		T	
	Sulfate	146000			AS	

Color Before: Colorless Clarity Before: Clear Texture:
Color After: Colorless Clarity After: Clear Artifacts:
Comments: SULFIDE SW846 METHODOLOGY
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EPA SAMPLE NO.

X101

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104067
Level (Low/Med): Date Received: 3/28/91
% Solids: 83.2

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	13300			P
7440-36-0	Antimony	7.8	U	N	P
7440-38-2	Arsenic	13.6		S	F
7440-39-3	Barium	226			P
7440-41-7	Beryllium	0.05	U		P
7440-43-9	Cadmium	4.9			P
7440-70-2	Calcium	8540			P
7440-47-3	Chromium	31.9			P
7440-48-4	Cobalt	6	B		P
7440-50-8	Copper	110			P
7439-89-6	Iron	19400			P
7439-92-1	Lead	80		*	F
7439-95-4	Magnesium	4550			P
7439-96-5	Manganese	419		N	P
7439-97-6	Mercury	0.07			AS
7440-02-2	Nickel	23			P
7440-09-7	Potassium	3320			P
7782-49-2	Selenium	0.2	U	W	F
7440-22-4	Silver	0.8	U		P
7440-23-5	Sodium	180	~~B~~ U		P
7440-28-0	Thallium	0.9	~~B~~ U		F
7440-62-2	Vanadium	35.1			P
7440-66-6	Zinc	575			P
	Cyanide	1.0	U		AS

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X102

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104068
Level (Low/Med): Date Received: 3/28/91
% Solids: 79.6

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	13300			P	
7440-36-0	Antimony	8.5	U	N	P	J
7440-38-2	Arsenic	10.3			F	J
7440-39-3	Barium	215			P	
7440-41-7	Beryllium	0.05	U		P	
7440-43-9	Cadmium	3.5			P	
7440-70-2	Calcium	5460			P	
7440-47-3	Chromium	26.6			P	
7440-48-4	Cobalt	7.2	B		P	
7440-50-8	Copper	125			P	
7439-89-6	Iron	18800			P	
7439-92-1	Lead	276		*	F	
7439-95-4	Magnesium	3650			P	
7439-96-5	Manganese	518		N	P	J
7439-97-6	Mercury	0.07			AS	
7440-02-2	Nickel	21.4			P	
7440-09-7	Potassium	3280			P	
7782-49-2	Selenium	0.9	B	S	F	
7440-22-4	Silver	0.9	U		P	
7440-23-5	Sodium	133	~~B~~ U		P	
7440-28-0	Thallium	1.5	~~B~~ U		F	
7440-62-2	Vanadium	36.5			P	
7440-66-6	Zinc	362			P	
	Cyanide	1.0	U		AS	

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X103

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104069
Level (Low/Med): Date Received: 3/28/91
% Solids: 70.8

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	10100			P	
7440-36-0	Antimony	13.8	B	N	P	J
7440-38-2	Arsenic	10.7		S	F	J
7440-39-3	Barium	191			P	
7440-41-7	Beryllium	0.06	U		P	
7440-43-9	Cadmium	8.5			P	
7440-70-2	Calcium	7210			P	
7440-47-3	Chromium	38.7			P	
7440-48-4	Cobalt	4.5	B		P	
7440-50-8	Copper	167			P	
7439-89-6	Iron	15500			P	
7439-92-1	Lead	202		*	F	
7439-95-4	Magnesium	3020			P	
7439-96-5	Manganese	402		N	P	J
7439-97-6	Mercury	0.2			AS	
7440-02-2	Nickel	19.9			P	
7440-09-7	Potassium	2390			P	
7782-49-2	Selenium	0.6	~~B~~ U	W	F	
7440-22-4	Silver	1.5	B		P	
7440-23-5	Sodium	221	~~B~~ U		P	
7440-28-0	Thallium	0.9	~~B~~ U		F	
7440-62-2	Vanadium	29.1			P	
7440-66-6	Zinc	738			P	
	Cyanide	1.2	U		AS	

Color Before: Black Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X104

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104070
Level (Low/Med): Date Received: 3/28/91
% Solids: 87.0

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7620			P	
7440-36-0	Antimony	15.5	B	N	P	
7440-38-2	Arsenic	7.5		S	F	
7440-39-3	Barium	185			P	
7440-41-7	Beryllium	0.05	U		P	
7440-43-9	Cadmium	0.8	B		P	
7440-70-2	Calcium	34200			P	
7440-47-3	Chromium	19.5			P	
7440-48-4	Cobalt	4.2	B		P	
7440-50-8	Copper	18.7			P	
7439-89-6	Iron	12400			P	
7439-92-1	Lead	51		*	F	
7439-95-4	Magnesium	8340			P	
7439-96-5	Manganese	277		N	P	
7439-97-6	Mercury				AS	
7440-02-2	Nickel	18.2			P	
7440-09-7	Potassium	1990			P	
7782-49-2	Selenium	0.2	U	W	F	
7440-22-4	Silver	0.8	U		P	
7440-23-5	Sodium	231	U		P	
7440-28-0	Thallium	0.6	U		F	
7440-62-2	Vanadium	22.4			P	
7440-66-6	Zinc	161			P	
	Cyanide	0.96	U		AS	

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X106

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104071
Level (Low/Med): Date Received: 3/28/91
% Solids: 66.6

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	14800			P	
7440-36-0	Antimony	16.7	B	N	P	J
7440-38-2	Arsenic	11.2		S	F	J
7440-39-3	Barium	337			P	
7440-41-7	Beryllium	0.06	U		P	
7440-43-9	Cadmium	3.9			P	
7440-70-2	Calcium	22200			P	
7440-47-3	Chromium	39.9			P	
7440-48-4	Cobalt	6.3	B		P	
7440-50-8	Copper	149			P	
7439-89-6	Iron	20100			P	
7439-92-1	Lead	209		*	F	
7439-95-4	Magnesium	6590			P	
7439-96-5	Manganese	258		N	P	J
7439-97-6	Mercury	0.2			AS	
7440-02-2	Nickel	78.5			P	
7440-09-7	Potassium	3220			P	
7782-49-2	Selenium	0.7	B	W	F	
7440-22-4	Silver	0.9	U		P	
7440-23-5	Sodium	556	B		P	
7440-28-0	Thallium	1.2	~~B~~ U		F	
7440-62-2	Vanadium	41.2			P	
7440-66-6	Zinc	704			P	
	Cyanide	1.2	U		AS	

Color Before: Black Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Cloudy Artifacts:
Comments:

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EPA SAMPLE NO.

X107

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104072
Level (Low/Med): Date Received: 3/28/91
% Solids: 52.7

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	15500			P	
7440-36-0	Antimony	32	B	N	P	J
7440-38-2	Arsenic	30.3		S	F	J
7440-39-3	Barium	3690			P	
7440-41-7	Beryllium	0.07	U		P	
7440-43-9	Cadmium	23.1			P	
7440-70-2	Calcium	83400			P	
7440-47-3	Chromium	105			P	
7440-48-4	Cobalt	12.7	B		P	
7440-50-8	Copper	8540			P	
7439-89-6	Iron	39900			P	
7439-92-1	Lead	1270		*	F	
7439-95-4	Magnesium	7890			P	
7439-96-5	Manganese	269		N	P	J
7439-97-6	Mercury	1.53			AS	
7440-02-2	Nickel	2130			P	
7440-09-7	Potassium	2960			P	
7782-49-2	Selenium	1.4	B	W	F	
7440-22-4	Silver	8.3			P	
7440-23-5	Sodium	227	~~B~~ U		P	
7440-28-0	Thallium	2.1	~~B~~ U	W	F	
7440-62-2	Vanadium	53.3			P	
7440-66-6	Zinc	9970			P	
	Cyanide	1.6	U		AS	

Color Before: Black Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Cloudy Artifacts:
Comments:

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INORGANIC ANALYSIS DATA SHEET

EPA SAMPLE NO.

X108

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104073
Level (Low/Med): Date Received: 3/28/91
% Solids: 70.9

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	15600			P	
7440-36-0	Antimony	14.5	B	N	P	J
7440-38-2	Arsenic	10.1		S	F	J
7440-39-3	Barium	365			P	
7440-41-7	Beryllium	0.3	B		P	
7440-43-9	Cadmium	21.9			P	
7440-70-2	Calcium	66200			P	
7440-47-3	Chromium	29.4			P	
7440-48-4	Cobalt	3.3	U ~~B~~		P	
7440-50-8	Copper	1160			P	
7439-89-6	Iron	14500			P	
7439-92-1	Lead	235		*	F	
7439-95-4	Magnesium	7750			P	
7439-96-5	Manganese	1360		N	P	J
7439-97-6	Mercury	1.27			AS	
7440-02-2	Nickel	134			P	
7440-09-7	Potassium	3320			P	
7782-49-2	Selenium	0.2	U	W	F	
7440-22-4	Silver	1.0	U		P	
7440-23-5	Sodium	461	B		P	
7440-28-0	Thallium	0.9	U ~~B~~	W	F	
7440-62-2	Vanadium	29.3			P	
7440-66-6	Zinc	1740			P	
	Cyanide	1.2	U		AS	

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X109

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104074
Level (Low/Med): Date Received: 3/28/91
% Solids: 68.9

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	14600			P	
7440-36-0	Antimony	9.3	U	N	P	J
7440-38-2	Arsenic	12.2		S	F	J
7440-39-3	Barium	285			P	
7440-41-7	Beryllium	0.06	U		P	
7440-43-9	Cadmium	11.8			P	
7440-70-2	Calcium	10500			P	
7440-47-3	Chromium	35.4			P	
7440-48-4	Cobalt	7.5	U ~~B~~		P	
7440-50-8	Copper	404			P	
7439-89-6	Iron	24100			P	
7439-92-1	Lead	140		S,*	F	
7439-95-4	Magnesium	4980			P	
7439-96-5	Manganese	386		N	P	J
7439-97-6	Mercury	0.62			AS	
7440-02-2	Nickel	391			P	
7440-09-7	Potassium	3250			P	
7782-49-2	Selenium	0.3	U ~~B~~	W	F	
7440-22-4	Silver	1.0	U		P	
7440-23-5	Sodium	312	B		P	
7440-28-0	Thallium	1.1	U ~~B~~		F	
7440-62-2	Vanadium	38.2			P	
7440-66-6	Zinc	3140			P	
	Cyanide	1.2	U		AS	

Color Before: Black Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X110

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104075
Level (Low/Med): Date Received: 3/28/91
% Solids: 72.0

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	12000			P	
7440-36-0	Antimony	9.0	U	N	P	J
7440-38-2	Arsenic	11.3		S	F	J
7440-39-3	Barium	174			P	
7440-41-7	Beryllium	0.06	U		P	
7440-43-9	Cadmium	1.9			P	
7440-70-2	Calcium	55300			P	
7440-47-3	Chromium	42.3			P	
7440-48-4	Cobalt	4.6	U B		P	
7440-50-8	Copper	108			P	
7439-89-6	Iron	15800			P	
7439-92-1	Lead	440		S,*	F	
7439-95-4	Magnesium	5390			P	
7439-96-5	Manganese	268		N	P	J
7439-97-6	Mercury	0.32			AS	
7440-02-2	Nickel	56			P	
7440-09-7	Potassium	2700			P	
7782-49-2	Selenium	0.2	U	E	F	
7440-22-4	Silver	0.9	U		P	
7440-23-5	Sodium	121	U B		P	
7440-28-0	Thallium	1.3	U B		F	
7440-62-2	Vanadium	31.9			P	
7440-66-6	Zinc	382			P	
	Cyanide	1.2	U		AS	

Color Before: Black Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X111

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104076
Level (Low/Med): Date Received: 3/28/91
% Solids: 65.0

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	21700			P	
7440-36-0	Antimony	10.8	B	N	P	J
7440-38-2	Arsenic	19.5			F	J
7440-39-3	Barium	313			P	
7440-41-7	Beryllium	0.06	U		P	
7440-43-9	Cadmium	23.5			P	
7440-70-2	Calcium	9140			P	
7440-47-3	Chromium	37.7			P	
7440-48-4	Cobalt	18.8			P	
7440-50-8	Copper	520			P	
7439-89-6	Iron	35300			P	
7439-92-1	Lead	83		*	F	
7439-95-4	Magnesium	5330			P	
7439-96-5	Manganese	635		N	P	J
7439-97-6	Mercury	0.34			AS	
7440-02-2	Nickel	772			P	
7440-09-7	Potassium	3670			P	
7782-49-2	Selenium	0.4	~~B~~ U	W	F	
7440-22-4	Silver	1.0	U		P	
7440-23-5	Sodium	190	~~B~~ U		P	
7440-28-0	Thallium	1.1	~~B~~ U		F	
7440-62-2	Vanadium	54.3			P	
7440-66-6	Zinc	4520			P	
	Cyanide	1.3	U		AS	

Color Before: Black Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X112

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104077
Level (Low/Med): Date Received: 3/28/91
% Solids: 76.4

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	9400			P	
7440-36-0	Antimony	8.2	U	N	P	J
7440-38-2	Arsenic	2.2	B		F	J
7440-39-3	Barium	135			P	
7440-41-7	Beryllium	0.05	U		P	
7440-43-9	Cadmium	0.5	U		P	
7440-70-2	Calcium	3650			P	
7440-47-3	Chromium	20.2			P	
7440-48-4	Cobalt	5.3	U ~~B~~		P	
7440-50-8	Copper	10.4			P	
7439-89-6	Iron	14500			P	
7439-92-1	Lead	7.7		*	F	
7439-95-4	Magnesium	2390			P	
7439-96-5	Manganese	429		N	P	J
7439-97-6	Mercury	0.03	U		AS	
7440-02-2	Nickel	14			P	
7440-09-7	Potassium	1260	B		P	
7782-49-2	Selenium	0.2	U	W	F	
7440-22-4	Silver	0.8	U		P	
7440-23-5	Sodium	75.2	U ~~B~~		P	
7440-28-0	Thallium	0.6	U ~~U~~		F	
7440-62-2	Vanadium	28.4			P	
7440-66-6	Zinc	44.7			P	
	Cyanide	1.1	U		AS	

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X113

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104078
Level (Low/Med): Date Received: 3/28/91
% Solids: 60.4

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	10100			P	
7440-36-0	Antimony	11	U	N	P	J
7440-38-2	Arsenic	2.6	B		F	J
7440-39-3	Barium	152			P	
7440-41-7	Beryllium	0.07	U		P	
7440-43-9	Cadmium	0.7	U		P	
7440-70-2	Calcium	5560			P	
7440-47-3	Chromium	22.3			P	
7440-48-4	Cobalt	6.2	~~B~~ U		P	
7440-50-8	Copper	13.2			P	
7439-89-6	Iron	15700			P	
7439-92-1	Lead	6.3		*	F	
7439-95-4	Magnesium	2270			P	
7439-96-5	Manganese	680		N	P	J
7439-97-6	Mercury	0.04	U		AS	
7440-02-2	Nickel	17.4			P	
7440-09-7	Potassium	1450	B		P	
7782-49-2	Selenium	0.3	U		F	
7440-22-4	Silver	1.1	U		P	
7440-23-5	Sodium	102	~~B~~ U		P	
7440-28-0	Thallium	0.8	U		F	
7440-62-2	Vanadium	30.9			P	
7440-66-6	Zinc	53.1			P	
	Cyanide	1.4	U		AS	

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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EPA SAMPLE NO.

X114

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Lab Sample ID: B104079
Level (Low/Med): Date Received: 3/28/91
% Solids: 69.1

Concentration Units (mg/kg dry weight):

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	20600			P	
7440-36-0	Antimony	9.0	U	N	P	J
7440-38-2	Arsenic	8.9			F	J
7440-39-3	Barium	227			P	
7440-41-7	Beryllium	0.06	U		P	
7440-43-9	Cadmium	0.6	U		P	
7440-70-2	Calcium	5940			P	
7440-47-3	Chromium	33.6			P	
7440-48-4	Cobalt	10.8	B		P	
7440-50-8	Copper	24.3			P	
7439-89-6	Iron	28400			P	
7439-92-1	Lead	25.2		*	F	
7439-95-4	Magnesium	4300			P	
7439-96-5	Manganese	896		N	P	J
7439-97-6	Mercury	0.03	U		AS	
7440-02-2	Nickel	29.3			P	
7440-09-7	Potassium	2730			P	
7782-49-2	Selenium	0.2	U	W	F	
7440-22-4	Silver	0.9	U		P	
7440-23-5	Sodium	73.8	~~B~~ U		P	
7440-28-0	Thallium	1.1	~~B~~ U		F	
7440-62-2	Vanadium	50.5			P	
7440-66-6	Zinc	120			P	
	Cyanide	1.2	U		AS	

Color Before: Brown Clarity Before: Opaque Texture: Fine
Color After: Colorless Clarity After: Clear Artifacts:
Comments:

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Initial Calibration Source: SPEX (ICV-1 LOT 1-171-AS))-for ICP
Continuing Calibration Source: SPEX (ICV-1 LOT 1-171-AS))-for ICP
USPEA (Ref sample 1172) for Hg SPEX (ICAL-4 LOT 2-59-VS) for As, Se, Tl, Pb
SPEX (ICAL-5 LOT 2-60-VS) for Sb
Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000	10000	100	10000	9830	98	11900	119	P
Antimony	3000	2980	99	3000	3050	102	3130	104	P
Arsenic	40	41.4	104	40	40.7	102	41.3	103	F
Barium	10000	10000	100	10000	9970	100	10100	101	P
Beryllium	250	251	100	250	249	100	257	103	P
Cadmium	250	250	100	250	244	98	255	102	P
Calcium	250000	251000	100	250000	245000	98	251000	100	P
Chromium	500	504	101	500	486	97	499	100	P
Cobalt	2500	2520	101	2500	2460	98	2510	100	P
Copper	1250	1250	100	1250	1230	98	1240	99	P
Iron	5000	5020	100	5000	4910	98	5830	119	P
Lead	20	21.3	106	20	20.8	104	21.8	109	F
Magnesium	250000	252000	101	250000	246000	98	256000	102	P
Manganese	750	753	100	750	738	98	756	101	P
Mercury	1.4	1.5	107	1.4	1.48	106	1.51	108	AV
Nickel	2000	2010	100	2000	2000	100	2050	102	P
Potassium	250000	251000	100	250000	248000	99	254000	102	P
Selenium	20	20.4	102	20	19.6	98	20.0	100	F
Silver	500	504	101	500	499	100	514	103	P
Sodium	250000	250000	100	250000	249000	100	255000	102	P
Thallium	40	40.1	100	40	39.7	99	41.6	104	F
Vanadium	2500	2510	100	2500	2470	99	2520	101	P
Zinc	1000	989	99	1000	967	97	978	98	P
Cyanide	100	94	94	100	94	94	94	95	AS
Sulfide	10000	10000	100	10000					T
Silfate	105000	103900	99	105000	103500	98	105200	100	AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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NOTE: SECOND CCV FAILED ON ALUMINUM AND IRON. DID NOT CATCH UNTIL AFTER THE FACT.

U.S EPA - CLP
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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITESAREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Initial Calibration Source: SPEX (ICV-1 LOT 1-171-AS))-for ICP
Continuing Calibration Source: SPEX (ICV-1 LOT 1-171-AS))-for ICP
USPEA (Ref sample 1172) for Hg SPEX (ICAL-4 LOT 2-59-VS) for As, Se, Tl, Pb
SPEX (ICAL-5 LOT 2-60-VS) for Sb
Concentration Units: ug/L

Analyte	Initial Calibration True	Found	%R(1)	Continuing Calibration True	Found	%R(1)	Found	%R(1)	M
Aluminum	10000			10000					P
Antimony	3000			3000					P
Arsenic	40			40					F
Barium	10000			10000					P
Beryllium	250			250					P
Cadmium	250			250					P
Calcium	250000			250000					P
Chromium	500			500					P
Cobalt	2500			2500					P
Copper	1250			1250					P
Iron	5000			5000					P
Lead	20			20					F
Magnesium	250000			250000					P
Manganese	750			750					P
Mercury	1.4			1.4	1.47	105			AV
Nickel	2000			2000					P
Potassium	250000			250000					P
Selenium	20			20	18.0	90			F
Silver	500			500					P
Sodium	250000			250000					P
Thallium	40			40					F
Vanadium	2500			2500					P
Zinc	1000			1000					P
Cyanide	100			100	93	93			AS
Sulfide	10000			10000					T
Silfate	105000			105000					AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN
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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Initial Calibration Source: SPEX (ICV-1 LOT 1-171-AS))-for ICP
Continuing Calibration Source: SPEX (ICV-1 LOT 1-171-AS))-for ICP
USPEA (Ref sample 1172) for Hg SPEX (ICAL-4 LOT 2-59-VS) for As, Se, Tl, Pb
SPEX (ICAL-5 LOT 2-60-VS) for Sb
Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000			10000					P
Antimony	3000			3000					P
Arsenic	40			40					F
Barium	10000			10000					P
Beryllium	250			250					P
Cadmium	250			250					P
Calcium	250000			250000					P
Chromium	500			500					P
Cobalt	2500			2500					P
Copper	1250			1250					P
Iron	5000			5000					P
Lead	20			20					F
Magnesium	250000			250000					P
Manganese	750			750					P
Mercury	1.4			1.4					AV
Nickel	2000			2000					P
Potassium	250000			250000					P
Selenium	20	20.6	103	20	20.1	100	19.3	96	F
Silver	500			500					P
Sodium	250000			250000					P
Thallium	40			40					F
Vanadium	2500			2500					P
Zinc	1000			1000					P
Cyanide	100			100					AS
Sulfide	10000			10000					T
Silfate	105000			105000					AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Initial Calibration Source: SPEX (ICV-1 LOT 1-171-AS) for ICP
Continuing Calibration Source: SPEX (ICV-1 LOT 1-171-AS) for ICP
SPEX (ICAL-4 LOT 2-59-VS) for As, Se, Tl, Pb
SPEX (ICAL-5 LOT 2-60-VS) for Sb
Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000	9900	99	10000	9840	98	9850	98	P
Antimony	3000	2980	99	3000	2980	99	3130	104	P
Arsenic	40	43.8	110	40	40.3	101	42.5	106	F
Barium	10000	9920	99	10000	10100	101	10300	103	P
Beryllium	250	242	97	250	242	97	251	100	P
Cadmium	250	250	100	250	248	99	261	104	P
Calcium	250000	258000	103	250000	252000	101	263000	105	P
Chromium	500	497	99	500	493	99	499	100	P
Cobalt	2500	2400	96	2500	2370	95	2420	97	P
Copper	1250	1250	100	1250	1300	104	1270	102	P
Iron	5000	4870	97	5000	4840	97	5020	100	P
Lead	20	20	100	20	21.2	106	20.1	100	F
Magnesium	250000	246000	98	250000	245000	98	252000	101	P
Manganese	750	754	100	750	713	95	739	98	P
Mercury									AV
Nickel	2000	1940	97	2000	1920	96	2030	102	P
Potassium	250000	252000	101	250000	255000	102	260000	104	P
Selenium	20	21.8	109	20	21.3	106	20.2	101	F
Silver	500	487	97	500	486	97	500	100	P
Sodium	250000	257000	103	250000	263000	105	269000	108	P
Thallium	40	41.0	102	40	43.8	110	41.7	104	F
Vanadium	2500	2460	98	2500	2450	98	2510	100	P
Zinc	1000	960	96	1000	935	94	964	96	P
Cyanide									AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Initial Calibration Source: SPEX (ICV-1 LOT 1-171-AS) for ICP
Continuing Calibration Source: SPEX (ICV-1 LOT 1-171-AS) for ICP
SPEX (ICAL-4 LOT 2-59-VS) for As, Se, Tl, Pb
SPEX (ICAL-5 LOT 2-60-VS) for Sb
Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000			10000	9790	98			P
Antimony	3000			3000	3090	103			P
Arsenic	40			40	41.6	104	40.9	102	F
Barium	10000			10000	9990	100			P
Beryllium	250			250	244	98			P
Cadmium	250			250	254	102			P
Calcium	250000			250000	254000	102			P
Chromium	500			500	484	97			P
Cobalt	2500			2500	2330	93			P
Copper	1250			1250	1230	98			P
Iron	5000			5000	4840	97			P
Lead	20			20	19.8	95	19.6	98	F
Magnesium	250000			250000	243000	97			P
Manganese	750			750	710	95			P
Mercury									AV
Nickel	2000			2000	1980	99			P
Potassium	250000			250000	252000	101			P
Selenium	20			20	18.7	94	19.7	98	F
Silver	500			500	478	96			P
Sodium	250000			250000	262000	105			P
Thallium	40			40	41.6	104	41.5	104	F
Vanadium	2500			2500	2430	97			P
Zinc	1000			1000	912	91			P
Cyanide									AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN SOIL 7/87

U.S EPA - CLP
2A

INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Initial Calibration Source: SPEX (ICV-1 LOT 1-171-AS) for ICP
Continuing Calibration Source: SPEX (ICV-1 LOT 1-171-AS) for ICP
SPEX (ICAL-4 LOT 2-59-VS) for As, Se, Tl, Pb
SPEX (ICAL-5 LOT 2-60-VS) for Sb
Concentration Units: ug/L

Analyte	Initial Calibration True	Initial Calibration Found	Initial Calibration %R(1)	Continuing Calibration True	Continuing Calibration Found	Continuing Calibration %R(1)	Continuing Calibration Found	Continuing Calibration %R(1)	M
Aluminum	10000			10000					P
Antimony	3000			3000					P
Arsenic	40			40	40.6	102	40.3	101	F
Barium	10000			10000					P
Beryllium	250			250					P
Cadmium	250			250					P
Calcium	250000			250000					P
Chromium	500			500					P
Cobalt	2500			2500					P
Copper	1250			1250					P
Iron	5000			5000					P
Lead	20			20					F
Magnesium	250000			250000					P
Manganese	750			750					P
Mercury									AV
Nickel	2000			2000					P
Potassium	250000			250000					P
Selenium	20	21.9	110	20	19.4	97	20.2	101	F
Silver	500			500					P
Sodium	250000			250000					P
Thallium	40			40					F
Vanadium	2500			2500					P
Zinc	1000			1000					P
Cyanide									AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

FORM II (PART 1) - IN SOIL 7/87

U.S EPA - CLP
2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
AA CRDL Standard Source: SPEX (ICAL-4 LOT 2-59-VS)
ICP CRDL Standard Source: SPEX (ICV-1 LOT 1-171-AS)
AACRDL for Sb SPEX (ICAL-5 LOT 2-60-VS)
AACRDL for Hg SPEX (PL Hg-4-2X LOT 1-97-Hg)
Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)
Aluminum				400	385	96	405	101
Antimony				120	67.6	56	136	113
Arsenic	20	22.7	114					
Barium				400	415	104	412	103
Beryllium				10	10.4	104	10.3	103
Cadmium				10	8.7	87	8.2	82
Calcium				10000	10700	107	10700	107
Chromium				20	29	145	23.1	116
Cobalt				100	117	117	106	106
Copper				50	55.9	112	50.4	101
Iron				200	214	107	214	107
Lead	10	9.9	99					
Magnesium				10000	9990	100	9990	100
Manganese				30	30.8	103	32.2	107
Mercury	0.40	0.42	105					
Nickel				80	81.7	102	82.5	103
Potassium				10000	9960	100	9620	96
Selenium	10	9.4	94					
Silver				20	18.5	92	21.3	106
Sodium				10000	10300	103	10300	103
Thallium	20	21.9	110					
Vanadium				100	103	103	103	103
Zinc				40	41.4	104	45.8	114

U.S EPA - CLP
2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
AA CRDL Standard Source: SPEX (ICAL 4 LOT 2-59-VS)
ICP CRDL Standard Source: SPEX (ICV 1 LOT 1-171-AS)
AACRDL for Sb SPEX (ICAL 5 LOT 2-60-VS)
Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
					Initial		Final	
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)
Aluminum				400	508	127	477	95
Antimony				120	121	101	125	104
Arsenic	20	23.2	116					
Barium				400	422	106	429	107
Beryllium				10	10.4	104	10.3	103
Cadmium				10	12	120	9.9	99
Calcium				10000	11200	112	11100	111
Chromium				20	39.7	198	38.9	194
Cobalt				100	96.4	96	97.7	98
Copper				50	60.1	120	52	104
Iron				200	190	95	199	100
Lead	10	10.8	108					
Magnesium				10000	9560	96	9480	95
Manganese				30	26.6	89	26.4	88
Mercury								
Nickel				80	96.9	121	86.6	108
Potassium				10000	10800	108	10400	104
Selenium	10	10.4	104					
Silver				20	16.6	83	16.8	84
Sodium				10000	11000	110	11100	111
Thallium	20	22.1	110					
Vanadium				100	105	105	105	105
Zinc				40	73.6	184	48.7	122

U.S. EPA - CLP
3
BLANKS

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Preparation Blank Matrix (Water):
Preparation Blank Concentration Units (ug/L):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	62	U	62	U	250				62	U	P
Antimony	32	U	32	U	32	U			32	U	P
Arsenic	1.3	U	1.4	B	1.3	U			1.3	U	F
Barium	43	B	34	B	33	B			0.4	U	P
Beryllium	0.9	B	0.8	B	0.7	B			0.2	U	P
Cadmium	2.1	U	2.1	U	2.1	U			2.1	U	P
Calcium	1120	B	940	B	1140	B			120	U	P
Chromium	11.6		4.8	B	3.1	U			4.2	B	P
Cobalt	22.9	B	9.6	B	7.2	B			4	B	P
Copper	14	U	14	U	14	U			14	U	P
Iron	33	U	33	U	109				33	U	P
Lead	1.5	U	1.5	U	1.5	U			1.5	U	F
Magnesium	1060	B	910	B	1130	B			105	B	P
Manganese	13	U	13	U	13	U			13	U	P
Mercury	0.11	U	0.11	U	0.11	U	0.11	U	0.11	U	AV
Nickel	11	U	11	U	11	U			11	U	P
Potassium	865	B	1160	B	579	B			531	B	P
Selenium	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	F
Silver	3.3	U	3.3	U	3.3	U			3.3	U	P
Sodium	996	B	885	B	749	B			73	U	P
Thallium	2.4	U	2.4	U	2.4	U			2.4	U	F
Vanadium	10.8	B	8.6	B	6.9	B			2.3	U	P
Zinc	4.1	U	7.3	B	6.3	B			6.5	B	P
Cyanide	10	U	10	U	10	U	10	U	10	U	AS
Sulfide	1000	U									
Sulfate	10000	U	10000	U	10000	U					

FORM III - IN
WATER

7/87

U.S. EPA - CLP
3
BLANKS

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: ——— Case No.: ——— SAS No.: ——— SDG No.: 46
Preparation Blank Matrix (Water): ———
Preparation Blank Concentration Units (ug/L): ———

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum											P
Antimony											P
Arsenic											F
Barium											P
Beryllium											P
Cadmium											P
Calcium											P
Chromium											P
Cobalt											P
Copper											P
Iron											P
Lead											F
Magnesium											P
Manganese											P
Mercury											AV
Nickel											P
Potassium											P
Selenium	0.8	U	0.8	U	0.8	U			0.8	U	F
Silver											P
Sodium											P
Thallium											F
Vanadium											P
Zinc											P
Cyanide											AS
Sulfide											
Sulfate											

FORM III - IN
WATER

7/87

B000029

U.S. EPA - CLP
3
BLANKS

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Preparation Blank Matrix (Soil):
Preparation Blank Concentration Units (mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum	70	B	62	U	62	U	62	U	12.4	U	P
Antimony	32	U	32	U	32	U	32	U	6.4	U	P
Arsenic	1.3	U	1.3	U	1.3	U	1.3	U	0.3	U	F
Barium	21	B	9.6	B	7.1	B	9.2	B	0.3	B	P
Beryllium	0.2	U	0.2	U	0.2	U	0.2	U	0.04	U	P
Cadmium	2.1	U	2.1	U	2.1	U	2.1	U	0.4	U	P
Calcium	281	B	293	B	188	B	242	B	24	U	P
Chromium	3.1	U	3.1	U	3.1	U	3.1	U	0.6	U	P
Cobalt	2.7	U	2.7	U	2.7	U	5.6	B	0.5	U	P
Copper	14	U	14	U	14	U	14	U	2.8	U	P
Iron	33	U	33	U	33	U	33	U	6.6	U	P
Lead	1.5	U	1.5	U	1.5	U	1.5	U	0.3	U	F
Magnesium	210	B	227	B	147	B	192	B	19	U	P
Manganese	13	U	13	U	13	U	13	U	2.6	U	P
Mercury											AV
Nickel	11	U	11	U	11	U	11	U	2.2	U	P
Potassium	544	B	591	B	480	U	480	U	96	U	P
Selenium	0.9	B	1.3	B	0.8	U	0.8	U	0.2	U	F
Silver	3.3	U	3.3	U	3.3	U	3.3	U	6.7	U	P
Sodium	202	B	215	B	121	B	142	B	15	U	P
Thallium	2.7	B	2.4	U	2.4	U	2.4	U	0.6	B	F
Vanadium	3.7	B	2.7	B	2.3	U	3.4	B	0.5	U	P
Zinc	4.1	U	5	B	4.1	U	6.1	B	0.8	U	P
Cyanide											AS

FORM III - IN
SOIL

7/87

U.S. EPA - CLP
3
BLANKS

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Preparation Blank Matrix (Soil):
Preparation Blank Concentration Units (mg/kg):

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Prepa-ration Blank	C	M
Aluminum			62	U							P
Antimony			32	U							P
Arsenic			1.3	U	1.3	U	1.3	U			F
Barium			8.3	B							P
Beryllium			0.2	U							P
Cadmium			2.1	U							P
Calcium			232	B							P
Chromium			3.1	U							P
Cobalt			2.7	U							P
Copper			14	U							P
Iron			33	U							P
Lead			1.5	U							F
Magnesium			203	B							P
Manganese			13	U							P
Mercury											AV
Nickel			11	U							P
Potassium			480	U							P
Selenium			0.4	U							F
Silver			3.3	U							P
Sodium			116	B							P
Thallium			2.4	U							F
Vanadium			2.3	U							P
Zinc			11.6	B							P
Cyanide											AS

FORM III - IN
SOIL

7/87

U.S. EPA - CLP
4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
ICP ID Number: 02 ICS Source:
ILSA SPEX INTA1 LOT 1-173-AS
ILSAB SPEX INTB1 LOT 2-63-VS

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	500000	500000	516000	503000	101	501000	497000	99
Antimony			0			0		
Arsenic								
Barium		500	0	496	99	0	497	99
Beryllium		500	0	505	101	0	510	102
Cadmium		1000	0	1000	100	0	1010	101
Calcium	500000	500000	499000	486000	97	489000	482000	96
Chromium		500	0	476	95	0	466	93
Cobalt		500	2.5	493	99	0	475	95
Copper		500	6.1	503	101	0	501	100
Iron	200000	200000	196000	191000	96	192000	190000	95
Lead								
Magnesium	500000	500000	527000	514000	103	520000	514000	103
Manganese		500	0	475	95	0	470	94
Mercury								
Nickel		1000	4.4	973	97	0	975	98
Potassium								
Selenium								
Silver		1000	0	1000	100	0	1010	101
Sodium								
Thallium								
Vanadium		500	3.8	489	98	1.6	491	98
Zinc		1000	11.9	950	95	0	932	93

U.S. EPA - CLP

4

ICP INTERFERENCE CHECK SAMPLE

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1

Lab Code: Case No.: SAS No.: SDG No.: 46

ICP ID Number: ICS Source:

ILSA SPEX INTA1 LOT 1-173-AS

ILSAB SPEX INTB1 LOT 2-63-VS

Concentration Units: ug/L

Analyte	True Sol. A	True Sol. AB	Initial Found Sol. A	Initial Found Sol. AB	%R	Final Found Sol. A	Final Found Sol. AB	%R
Aluminum	500000	500000	495000	493000	99	476000	474000	95
Antimony								
Arsenic								
Barium		500	0	496	99	0	510	102
Beryllium		500	0	490	98	0	499	100
Cadmium		1000	0	1000	100	0	1020	102
Calcium	500000	500000	503000	502000	100	502000	499000	99
Chromium		500	12.7	493	99	12.5	484	97
Cobalt		500	0	449	90	0	442	88
Copper		500	0	500	100	0	502	100
Iron	200000	200000	183000	183000	92	181000	180000	90
Lead								
Magnesium	500000	500000	507000	507000	101	507000	505000	101
Manganese		500	0	450	90	0	472	94
Mercury								
Nickel		1000	2.7	944	94	2.4	957	96
Potassium								
Selenium								
Silver		1000	0	978	98	0	989	99
Sodium								
Thallium								
Vanadium		500	0	476	93	3.7	483	97
Zinc		1000	0	906	91	0	868	87

LAB SAMPLE # —B104062—
EPA SAMPLE NO.

U.S. EPA - CLP
5A
SPIKE SAMPLE RECOVERY

G204

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: —SAUGET SITES AREA 1—
Lab Code: —— Case No.: —— SAS No.: —— SDG No.: —46—
Matrix (Water): —— Level (Low/Med): ——
Concentration Units (ug/L): ——

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2190		62	U	2000	110		P
Antimony	75-125	579		32	U	500	116		P
Arsenic	75-125	48.7		3.9	B	40	112		F
Barium	75-125	2770		502		2000	113		P
Beryllium	75-125	58.7		0.2	U	50	117		P
Cadmium	75-125	52.1		2.1	U	50	104		P
Calcium	-	-		-		-	-		
Chromium	75-125	225		3.1	U	200	112		P
Cobalt	75-125	578		4.3	B	500	115		P
Copper	75-125	281		14	U	250	112		P
Iron	75-125	1270		166		1000	110		P
Lead	75-125	22.2		3.3		20	94		F
Magnesium	-	-		-		-	-		
Manganese	75-125	604		39		500	113		P
Mercury	75-125	1.14		0.11	U	1.0	114		AV
Nickel	75-125	577		11	U	500	115		P
Potassium	-	-		-		-	-		
Selenium	75-125	7.1		2.7	B	20	22	N	F
Silver	75-125	49		3.3	U	50	98		P
Sodium	-	-		-		-	-		
Thallium	75-125	41.3		2.4	U	40	103		F
Vanadium	75-125	559		2.3	U	500	112		P
Zinc	75-125	590		38		500	110		P
Cyanide	75-125	85		10	U	100	85		AS
Sulfide	75-125	5000		1000	U	5000	100		T
Sulfate	75-125	96600		48800		50000	96		AS

Comments: ——

LAB SAMPLE # -B104067
EPA SAMPLE NO.

X101

U.S. EPA - CLP
5A
SPIKE SAMPLE RECOVERY

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Level (Low/Med):
Concentration Units (mg/kg dry weight):

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	12100		13300		488	-245		P
Antimony	75-125	50.9		7.8	U	122	42	N	P
Arsenic	75-125	20.7		13.6		9.48	75		F
Barium	75-125	726		226		488	102		P
Beryllium	75-125	13		0.05	U	12.2	106		P
Cadmium	75-125	14.4		4.9		12.2	78		P
Calcium	-	-		-		-			
Chromium	75-125	76.7		31.9		48.8	92		P
Cobalt	75-125	136		6	B	122	106		P
Copper	75-125	160		110		61	82		P
Iron	75-125	19000		19400		244	-164		P
Lead	75-125	105		80		4.74	527		F
Magnesium	-	-		-		-			
Manganese	75-125	504		419		122	70	N	P
Mercury	75-125	0.52		0.07		0.60	75		AV
Nickel	75-125	149		23		122	103		P
Potassium	-	-		-		-			
Selenium	75-125	5.3		0.2	U	4.74	112		F
Silver	75-125	12.7		0.8	U	12.2	104		P
Sodium	-	-		-		-			
Thallium	75-125	10.5		0.9	B	9.48	101		F
Vanadium	75-125	157		35.1		122	100		P
Zinc	75-125	641		575		122	54		P
Cyanide	75-125	12		1.0	U	1.0	120		AS

Comments:

FORM V (PART 1) - IN
SOIL

7/87

LAB SAMPLE # -B104062-
EPA SAMPLE NO.

U.S. EPA - CLP
6
DUPLICATES

G204

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Level (Low/Med):
% Solids for Sample: % Solids for Duplicate:
Concentration Units (ug/L):

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		62	U	62	U			P
Antimony		32	U	32	U			P
Arsenic		3.9	B	3.8	B	2.6		F
Barium	200	502		501				P
Beryllium		0.2	U	0.2	U			P
Cadmium		2.1	U	2.1	U			P
Calcium		145000		145000				P
Chromium		3.1	U	3.1	U			P
Cobalt		4.3	B	3.1	B			P
Copper		14	U	14	U			P
Iron	100	166		172				P
Lead		3.3		1.7	B	64		F
Magnesium		36700		36500				P
Manganese	15	39		38.4				P
Mercury		0.11	U	0.11	U			AV
Nickel		11	U	11	U			P
Potassium	5000	5420		5600				P
Selenium		2.7	B	1.6	B	51		F
Silver		3.3	U	3.3	U			P
Sodium	5000	14600		14600				P
Thallium		2.4	U	2.4	U			F
Vanadium		2.3	U	2.3	U			P
Zinc	20	38		34.5				P
Cyanide		10	U	10	U			AS
Sulfide		1000	U	1000	U			T
Sulfate		48800		48800		0.0		AS

FORM VI - IN
WATER

10/18/91

7/87

B000036

LAB SAMPLE # -B104067-
EPA SAMPLE NO.

U.S. EPA - CLP
6
DUPLICATES

X101

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: -SAUGET SITES AREA 1-
Lab Code: - Case No.: - SAS No.: - SDG No.: -46-
Matrix (Soil): - Level (Low/Med): -
% Solids for Sample: -83.2- % Solids for Duplicate: -83.3-
Concentration Units (mg/kg dry weight):-

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		13300		12700		4.6		P
Antimony		7.8	U	7.8	U			P
Arsenic	2.5	13.6		6.7		68		F
Barium	51	226		229		1.3		P
Beryllium		0.05	U	0.05	U			P
Cadmium	1.2	4.9		4.2		15		P
Calcium		8540		8410		1.5		P
Chromium		31.9		30.4		4.8		P
Cobalt		6	B	6.6	B	9.5		P
Copper		110		105		4.6		P
Iron		19400		19400		0.0		P
Lead		80		106		27		F
Magnesium		4550		4620		1.5		P
Manganese		419		423		1.0		P
Mercury	0.03	0.07		0.11		44		AV
Nickel	10	23		21.9		4.9		P
Potassium	1260	3320		3330		0.3		P
Selenium		0.2	U	0.4	B		*	F
Silver		0.8	U	0.8	U			P
Sodium		180	B	161	B	11		P
Thallium		0.9	B	1.0	B	10		F
Vanadium	13	35.1		33.8		3.8		P
Zinc		575		532		7.8		P
Cyanide		1.0	U	1.0	U			AS

FORM VI - IN
SOIL

10/18/91

7/87

B000037

U.S. EPA - CLP

7

LABORATORY CONTROL SAMPLE

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1

Lab Code: ——— Case No.: ——— SAS No.: ——— SDG No.: 46

Solid LCS Source: USEPA (ICF TECHNOLOGY LCS 0287)

Aqueous LCS Source: SPEX (SPKE1 LOT 2-65-VS) for ICP
SPEX (ICAL 4 LOT 2-59-VS) for AA
SPEX (ICAL 5 LOT 2-60-VS) for AA Sb
USEPA (Fed ref 1172) for Hg

Analyte	Aqueous (ug/L) True	Found	%R	Solid (mg/kg) True	Found	C	Limits		%R
Aluminum	2000	2110	106	325	333		225	424	103
Antimony	500	521	104	211	171		127	294	81
Arsenic	40	42.5	106	917	1055		635	1199	115
Barium	2000	2150	108	[4.8]	6		0	40	125
Beryllium	50	55.9	112	19.4	20.1		16.5	22.3	104
Cadmium	50	53.5	107	45.4	42.7		35.7	55.1	94
Calcium				196200	185000		166800	225600	94
Chromium	200	222	111	99.6	107		79.2	120	107
Cobalt	500	570	114	144	143		125	162	99
Copper	250	275	110	6910	7400		6006	7820	107
Iron	1000	1080	108	22430	22400		17770	27080	100
Lead	20	22	110	236	265		188	285	112
Magnesium				118100	119000		100400	129000	101
Manganese	500	554	111	208	204		177	239	98
Mercury	1.4	1.52	108	12.7	12.7		8.5	17.0	100
Nickel	500	561	112	60.9	66.5		49.2	72.6	109
Potassium				[50]	480	U	0	1000	
Selenium	20	22.1	110	39.2	23.3		19.1	59.4	59
Silver	50	51.4	103	22.2	16.6		15.5	29.0	75
Sodium				[50]	73	U	0	1000	
Thallium	40	40.3	101	39.0	40.4		24.6	53.5	104
Vanadium	500	540	108	65.8	68.1		51.7	79.9	103
Zinc	500	545	109	187	170		138	239	91
Cyanide	100	99	99	5.62	5.15		4.3	6.9	92
Sulfate	100000	100000	100						

FORM VII - IN 7/87

U.S. EPA - CLP

8

STANDARD ADDITION RESULTS

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1

Lab Code: ——— Case No.: ——— SAS No.: ——— SDG No.: 46

Concentration Units: ug/L

	EPA Sample No.	An	Dil	O ADD ABS	1 ADD CON	1 ADD ABS	2 ADD CON	2 ADD ABS	3 ADD CON	3 ADD ABS	Final Conc.	r	Q
B104064	G205	Pb	1	0.023	20	0.066	30	0.088	40	0.112	11	1.000	
B104067	X101	As	1	0.075	20	0.094	30	0.110	40	0.121	56	0.999	
B104069	X103	As	1	0.102	20	0.154	30	0.178	40	0.208	39	0.999	
B104070	X104	As	1	0.081	20	0.132	30	0.157	40	0.181	33	1.000	
B104071	X106	As	1	0.098	20	0.142	30	0.172	40	0.195	40	0.998	
B104073	X107	As	1	0.086	20	0.133	30	0.153	40	0.185	35	0.997	
B104074	X108	As	1	0.106	20	0.159	30	0.186	40	0.206	42	0.999	
B104075	X109	As	1	0.102	20	0.150	30	0.175	40	0.203	40	0.999	
B104074	X108	Pb	1:10	0.116	20	0.165	30	0.188	40	0.212	483	1.000	
B104075	X109	Pb	1:100	0.035	20	0.081	30	0.103	40	0.123	1570	1.000	
B104068	X102	Se	1	0.005	20	0.037	30	0.053	40	0.067	3.5	1.000	

FORM VIII - IN 7/87

LAB SAMPLE # -B104062
EPA SAMPLE NO.

U.S. EPA - CLP
9
ICP SERIAL DILUTIONS

G204

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Water): Level (Low/Med):
Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	62	U					NR
Antimony	32	U					NR
Arsenic							NR
Barium	502		521		3.8		
Beryllium	0.2	U					NR
Cadmium	2.1	U					NR
Calcium	145000		156000		7.6		
Chromium	3.1	U					NR
Cobalt	4.3	B					NR
Copper	14	U					NR
Iron	166						NR
Lead							NR
Magnesium	36700		38400		4.6		
Manganese	39						NR
Mercury							NR
Nickel	11	U					NR
Potassium	5420		8430		55		
Selenium							NR
Silver	3.3	U					NR
Sodium	14600		16100		10		
Thallium							NR
Vanadium	2.3	U					NR
Zinc	38						NR

FORM IX - IN
WATER

7/87

LAB SAMPLE # -B104067-
EPA SAMPLE NO.

U.S. EPA - CLP
9
ICP SERIAL DILUTIONS

X101

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
Matrix (Soil): Level (Low/Med):
Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Difference	Q	M
Aluminum	54500		56200		3.1		
Antimony	32	U					
Arsenic							NR
Barium	927		963		3.9		
Beryllium	0.2	U					NR
Cadmium	20						NR
Calcium	35000		36300		3.7		
Chromium	131		138		5.3		
Cobalt	24.6						NR
Copper	451		456		1.1		
Iron	79500		83200		4.6		
Lead							NR
Magnesium	18700		19100		2.1		
Manganese	1718		1754		2.1		
Mercury							NR
Nickel	94						NR
Potassium	13600		13800		1.5		
Selenium							NR
Silver	3.3	U					NR
Sodium	738		590		20		
Thallium							NR
Vanadium	144		153		6.2		
Zinc	2358		2400		1.8		

FORM IX - IN
SOIL

7/87

U.S. EPA - CLP
10
HOLDING TIMES

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46

	Sample No.	Matrix	Date Received	Mercury Prep Date	Mercury Holding Time	Cyanide Prep Date	Cyanide Holding Time
B104062	G204	WATER	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104063	G203	WATER	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104064	G205	WATER	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104065	G201	WATER	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104066	G202	WATER	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104067	X101	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104068	X102	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104069	X103	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104070	X104	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104071	X106	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104072	X107	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104073	X108	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104074	X109	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104075	X110	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104076	X111	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104077	X112	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104078	X113	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS
B104079	X114	SOIL	3/28/91	4/2/91	5 DAYS	4/2/91	5 DAYS

FORM X - IN 7/87

U.S. EPA - CLP

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INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1

Lab Code: Case No.: SAS No.: SDG No.: 46

ICP ID Number: 02 Date: 4/1/91

Flame AA ID Number:

Furnace AA ID Number: 02

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum	308.21		200	62	P
Antimony	217.6		60	32	P
Arsenic	193.7	BZ	10	1.3	F
Barium	493.41		200	0.4	P
Beryllium	313.107		5	0.2	P
Cadmium	228.80		5	2.1	P
Calcium	317.93		5000	120	P
Chromium	267.71		10	3.1	P
Cobalt	228.61		50	2.7	P
Copper	324.75		25	14	P
Iron	259.94		100	33	P
Lead	283.3	BZ	3	1.5	F
Magnesium	279.55		5000	94	P
Manganese	257.61		15	13	P
Mercury	253.7		0.2	0.2	AV
Nickel	231.60		40	11	P
Potassium	766.49		5000	480	P
Selenium	190.6	BZ	5	0.8	F
Silver	328.06		10	3.3	P
Sodium	588.99		5000	73	P
Thallium	276.8	BZ	10	2.4	F
Vanadium	292.40		50	2.3	P
Zinc	213.86		20	4.1	P

Comments:

FORM XI - IN

U.S. EPA - CLP
12A
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
ICP ID Number: 02 Date: 4/1/91

Analyte	Wave-length (nm)	Interelement Correction Factors for: Al	Ca	Fe	Mg	---
Aluminum	308.21	-	-0.000067	0.00004	-0.00004	
Antimony	217.58	-	0	0	0.00817	
Arsenic		-	-	-	-	
Barium	493.41	0.000007	0.000001	0.0001	0	
Beryllium	313.107	0.000001	0.0000004	0.0000004	0.0000002	
Cadmium	228.80	0.000002	0	0	0	
Calcium	317.93	0.00007	-	-0.0004	0.00009	
Chromium	267.71	0.0000158	0.000022	0	0	
Cobalt	228.61	0.0000093	0.0000007	0.000078	0.0000101	
Copper	324.75	0.0000148	0.0000046	0.000052	0.0000672	
Iron	259.94	0.00008	0.00014	-	0.00009	
Lead	220.353	0.0008	0.0000159	0.000269	0.0000845	
Magnesium	279.55	0.000084	0.0001077	-0.00119	-	
Manganese	257.61	0	0.000003	-0.00004	0.000051	
Mercury						
Nickel	231.60	0.0000055	0.0000051	-0.000006	0	
Potassium	766.49	0.0004	0.000294	0.001	0.00017	
Selenium		-	-	-	-	
Silver	328.06	0	-0.000003	-0.00021	0.0000004	
Sodium	588.99	0.000212	0.000228	-0.000019	-0.0003	
Thallium		-	-	-	-	
Vanadium	292.40	0	0	0.0000116	0.0000085	
Zinc	213.86	0.000035	0.000036	0.000116	0.0000687	

Comments:

FORM XII (PART 1) - IN

U.S. EPA - CLP
12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1
Lab Code: Case No.: SAS No.: SDG No.: 46
ICP ID Number: 02 Date: 4/1/91

Analyte	Wave-length (nm)	Interelement Correction Factors for: CO	Ni	V	---	--
Aluminum		0	0	0.0225		
Antimony		-	-	-		
Arsenic		-	-	-		
Barium		0.000824	0	0		
Beryllium		0	0	0		
Cadmium		0	0	0.00058		
Calcium		0	0	0		
Chromium		0	0	0		
Cobalt		-	0	0		
Copper		0.000004	0	0		
Iron		0.00397	0.0003	0		
Lead		0	0	0		
Magnesium		0	0	0		
Manganese		0	0	0.00026		
Mercury		-	-	-		
Nickel		0.00335	-	0.0014		
Potassium		0	0	0		
Selenium		-	-	-		
Silver		0	0	0		
Sodium		0	0	0		
Thallium		-	-	-		
Vanadium		0	0	-		
Zinc		0.00628	0.00486	0.0017		

Comments:

FORM XII (PART 2) - IN

U.S. EPA - CLP

13

ICP LINEAR RANGES (QUARTERLY)

Lab Name: ILLINOIS EPA CHAMPAIGN LAB Contract: SAUGET SITES AREA 1

Lab Code: Case No.: SAS No.: SDG No.: 46

ICP ID Number: 02 Date: 5/1/91

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	3 X 5	500000	P
Antimony	3 x 20	5000	P
Arsenic			
Barium	3 X 5	10000	P
Beryllium	3 X 5	5000	P
Cadmium	3 X 5	5000	P
Calcium	3 X 5	1000000	P
Chromium	3 X 5	5000	P
Cobalt	3 X 5	5000	P
Copper	3 X 5	30000	P
Iron	3 X 5	200000	P
Lead			
Magnesium	3 X 5	600000	P
Manganese	3 X 5	50000	P
Mercury			
Nickel	3 X 5	5000	P
Potassium	3 X 5	500000	P
Selenium			
Silver	3 X 5	1000	P
Sodium	3 X 5	500000	P
Thallium			
Vanadium	3 X 5	5000	P
Zinc	3 X 5	5000	P

Comments:

FORM XIII - IN

SAUGET SITES AREA 1

LAB NAME: ILLINOIS EPA CHAMPAIGN LAB CONRTACT:

LAB CODE: CASE NO: SAS NO.: SDG NO.: 46

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - SOIL MATRIX

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
STD1	SPEX	PLCA2-3X	C-2CA	Ca	10000	10/100	1000000	21 MAY 91
	SPEX	PLMG2-3X	D223MG2	Mg	10000	6/100	600000	
	SPEX	PLAL2-3X	C-06AL	AL	10000	5/100	500000	
	SPEX	PLNA2-3X	B-2-MD	Na	10000	5/100	500000	
	SPEX	PLCU2-3X	1-72-MD	Cu	1000	3/100	30000	
STD2	SPEX	XEPA-6	1-226VY	Ba	200	10/100	20000	21 MAY 91
				Be	100		10000	
				Cd	100		10000	
				Co	100		10000	
				Cr	100		10000	
				Cu	100		10000	
				Ni	100		10000	
				Pb	100		10000	
				V	100		10000	
				Zn	100		10000	
STD3	SPEX	PLCA2-3X	A-2-MD	Ca	10000	10/100	1000000	21 MAY 91
STD4	SPEX	PLFE2-3X	B-2-FE	Fe	10000	2/100	200000	21 MAY 91
	SPEX	PLMN2-2X	1-90-MN	Mn	1000	5/100	50000	
	SPEX	PLSB2-2X	1-76-MD	Sb	1000	1/100	10000	
	SPEX	XEPA-7	1-225VY	Ag	10	10/100	1000	
				K	5000		500000	
LRS_MAC	SPEX	XLCA2-3X	A-2-MD	Ca	10000	5/100	500000	21 MAY 91
	SPEX	XEPA4	1-223VY	Ca	5000	10/100	500000	
				Al	5000		500000	
				Na	5000		500000	
				Mg	5000		500000	
	SPEX	PLMG2-3X	A-2-MD	Mg	10000	1/100	100000	
	SPEX	PLCU2-3X	1-72-MD	Cu	1000	3/100	30000	
						NOTE:Ca=	1000000	
						MG=	600000	
LRS_TR_K	SPEX	XEPA-6	1-223VY	Ba	200	10/200	10000	21 MAY 91
				Be	100		5000	
				Cd	100		5000	
				Co	100		5000	
				Cr	100		5000	
				Cu	100		5000	
				Ni	100		5000	
				Pb	100		5000	
				V	100		5000	
				Zn	100		5000	
	SPEX	XEPA-7	1-225VY	Ag	10	10/100	1000	
				K	5000		500000	
	SPEX	PLSB2-2X	1-76-MD	Sb	1000	1/100	5000	
LRS_FEMN	SPEX	PLFE2-3X	B-2-FE	Fe	10000	2/100	200000	21 MAY 91
	SPEX	PLMN2-2X	1-90-MN	Mn	1000	5/100	50000	

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - SOIL MATRIX

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
ICV1	SPEX	ICV1	3-34AS	Ca	5000	10/200	250000	21 MAY 91
				Mg	5000		250000	
				Na	5000		250000	
				K	5000		250000	
				Al	200		10000	
				Ba	200		10000	
				Fe	100		5000	
				Sb	60		3000	
				Co	50		2500	
				V	50		2500	
				NI	40		2000	
				Cu	25		1250	
				Zn	20		1000	
				Mn	15		750	
				Cr	10		500	
				Ag	10		500	
				Be	5		250	
				Cd	5		250	
				Pb	5		250	
CRI	SPEX	ICV1	3-34AS	Ca	5000	1/500	10000	21 MAY 91
				Mg	5000		10000	
				Na	5000		10000	
				K	5000		10000	
				Al	200		400	
				Ba	200		400	
				Fe	100		200	
				Sb	60		120	
				Co	50		100	
				V	50		100	
				NI	40		80	
				Cu	25		50	
				Zn	20		40	
				Mn	15		30	
				Cr	10		20	
				Ag	10		20	
				Be	5		10	
				Cd	5		10	
				Pb	5		10	

R000015

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - SOIL MATRIX

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
ICSA	SPEX	INT-A1	3-10AS	Al	5000	10/100	500000	21 MAY 91
				Ca	5000		500000	
				Mg	5000		500000	
				Fe	2000		200000	
ICSAB	SPEX	INT-A1	3-10AS	Al	5000	10/100	500000	21 MAY 91
				Ca	5000		500000	
				Mg	5000		500000	
				Fe	2000		200000	
	SPEX	INT-B1	3-19AS	Ag	100	1/100	1000	
				Cd	100		1000	
				Ni	100		1000	
				Pb	100		1000	
				Zn	100		1000	
				Ba	50		500	
				Be	50		500	
				Co	50		500	
				Cr	50		500	
				Cu	50		500	
				Mn	50		500	
				V	50		500	
SPIKE	SPEX	SPIKE1	1-207VY	Al	200	1/100	2000	03 MAY 91
				Ba	200		2000	
				Fe	100		1000	
				Sb	50		500	
				Co	50		500	
				Pb	50		500	
				Mn	50		500	
				Ni	50		500	
				V	50		500	
				Zn	50		500	
				Cu	25		250	
				Cr	20		200	
				Be	5		50	
				Cd	5		50	
				Ag	5		50	
CA500000	SPEX	PLCA2-3X	A-2-MD	Ca	10000	5/100	500000	21 MAY 91
MG500000	SPEX	PLMG2-3X	A-2-MD	Mg	10000	5/100	500000	21 MAY 91
AL500000	SPEX	PLAL2-3X	B-2-MD	Al	10000	5/100	500000	21 MAY 91
FE200000	SPEX	PLFE2-3X	B-2-MD	Fe	10000	2/100	200000	21 MAY 91

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - SOIL MATRIX

STD#	SOIL REFERENCE SAMPLE Source	Cat #	Lot	Ele.	STOCK Level mg/kg	Prep. g/ml	ANAL. Level ug/l	Prep. Date
LCSS	ICF	LCSS	0287	Al	325	0.25/50	1625	12 APR 91
				Sb	211		1055	
				Ba	4.8		24	
				Be	19.4		97	
				Cd	45.4		227	
				Ca	196200		981000	
				Cr	99.6		498	
				Co	144		720	
				Cu	6910		34550	
				Fe	22430		112150	
				Pb	236		1180	
				Mg	118100		590500	
				Mn	208		1040	
				Ni	60.9		304.5	
				K	50		250	
				Ag	22.2		111	
				Na	50		250	
				V	65.8		329	
				Zn	187		935	

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - WATER MATRIX

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
STD1	SPEX	XEPA-4	1-223VY	Ca	5000	10/100	500000	12 APR 91
				Mg	5000		500000	
				AL	5000		500000	
				Na	5000		500000	
				Fe	2000		200000	
				K	2000		200000	
				Mn	500		50000	
STD2	SPEX	XEPA-6	1-226VY	Ba	200	10/100	20000	12 APR 91
				Be	100		10000	
				Cd	100		10000	
				Co	100		10000	
				Cr	100		10000	
				Cu	100		10000	
				Ni	100		10000	
				Pb	100		10000	
				V	100		10000	
				Zn	100		10000	
STD3	SPEX	XEPA-7	1-225VY	Ag	1000	10/100	1000	12 APR 91
				K	5000		500000	
STD4	SPEX	PLSB2-2X	1-76-MD	SB	1000	10/100	10000	12 APR 91
LRS_MAC	SPEX	XLCA2-3X	A-2-MD	Ca	10000	5/100	500000	12 APR 91
	SPEX	XEPA4	1-223VY	Ca	5000	10/100	500000	
				Al	5000		500000	
				Na	5000		500000	
				Mg	5000		500000	
	SPEX	FLMG2-3X	A-2-MD	Mg	10000	1/100	100000	
	SPEX	PLCU2-3X	1-72-MD	Cu	1000	3/100	30000	
						NOTE:Ca=	1000000	
						MG=	600000	
LRS_TR_K	SPEX	XEPA-6	1-223VY	Ba	200	10/200	10000	12 APR 91
				Be	100		5000	
				Cd	100		5000	
				Co	100		5000	
				Cr	100		5000	
				Cu	100		5000	
				Ni	100		5000	
				Pb	100		5000	
				V	100		5000	
				Zn	100		5000	
	SPEX	XEPA-7	1-225VY	Ag	10	10/100	1000	
				K	5000		500000	
	SPEX	PLSB2-2X	1-76-MD	Sb	1000	1/100	5000	
LRS_FEMN	SPEX	PLFE2-3X	B-2-FE	Fe	10000	2/100	200000	12 APR 91
	SPEX	PLMN2-2X	1-90-MN	Mn	1000	5/100	50000	

R000051

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - WATER MATRIX

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
ICV1	SPEX	ICV1	3-34AS	Ca	5000	10/200	250000	12 APR 91
				Mg	5000		250000	
				Na	5000		250000	
				K	5000		250000	
				Al	200		10000	
				Ba	200		10000	
				Fe	100		5000	
				Sb	60		3000	
				Co	50		2500	
				V	50		2500	
				NI	40		2000	
				Cu	25		1250	
				Zn	20		1000	
				Mn	15		750	
				Cr	10		500	
				Ag	10		500	
				Be	5		250	
				Cd	5		250	
				Pb	5		250	
CRI	SPEX	ICV1	3-34AS	Ca	5000	1/500	10000	12 APR 91
				Mg	5000		10000	
				Na	5000		10000	
				K	5000		10000	
				Al	200		400	
				Ba	200		400	
				Fe	100		200	
				Sb	60		120	
				Co	50		100	
				V	50		100	
				NI	40		80	
				Cu	25		50	
				Zn	20		40	
				Mn	15		30	
				Cr	10		20	
				Ag	10		20	
				Be	5		10	
				Cd	5		10	
				Pb	5		10	
					STOCK		ANAL.	

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - WATER MATRIX

STD#	Source	Cat #	Lot	Ele.	Level ug/ml	Prep. ml/ml	Level ug/l	Prep. Date
ICSA	SPEX	INT-A1	3-10AS	Al	5000	10/100	500000	12 APR 91
				Ca	5000		500000	
				Mg	5000		500000	
				Fe	2000		200000	
ICSAB	SPEX	INT-A1	3-10AS	Al	5000	10/100	500000	12 APR 91
				Ca	5000		500000	
				Mg	5000		500000	
				Fe	2000		200000	
	SPEX	INT-B1	3-19AS	Ag	100	1/100	1000	
				Cd	100		1000	
				Ni	100		1000	
				Pb	100		1000	
				Zn	100		1000	
				Ba	50		500	
				Be	50		500	
				Co	50		500	
				Cr	50		500	
				Cu	50		500	
				Mn	50		500	
				V	50		500	
SPIKE	SPEX	SPIKE1	1-207VY	Al	200	1/100	2000	01 APR 91
				Ba	200		2000	
				Fe	100		1000	
				Sb	50		500	
				Co	50		500	
				Pb	50		500	
				Mn	50		500	
				Ni	50		500	
				V	50		500	
				Zn	50		500	
				Cu	25		250	
				Cr	20		200	
				Be	5		50	
				Cd	5		50	
				Ag	5		50	
CA500000	SPEX	PLCA2-3X	A-2-MD	Ca	10000	5/100	500000	12 APR 91
MG500000	SPEX	PLMG2-3X	A-2-MD	Mg	10000	5/100	500000	12 APR 91
AL500000	SPEX	PLAL2-3X	B-2-MD	Al	10000	5/100	500000	12 APR 91
FE200000	SPEX	PLFE2-3X	B-2-MD	Fe	10000	2/100	200000	12 APR 91

P000053

ICP CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS - WATER MATRIX

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
LCSW	SPEX	SPIKE-1	1-207VY	Al	200	1/100	2000	01 APR 91
				Ba	200		2000	
				Fe	100		1000	
				Sb	50		500	
				Co	50		500	
				Pb	50		500	
				Mn	50		500	
				Ni	50		500	
				V	50		500	
				Zn	50		500	
				Cu	25		250	
				Cr	20		200	
				Be	5		50	
				Cd	5		50	
				Ag	5		50	

MOST ICP ANALYTICAL RUNS CONTAIN EXTRA DATA FOR QUALITY ASSURANCE WHICH IS NOT REQUIRED BY THE CLP SOW. DATA THAT IS LABELED "RINSE" IS A ZERO STANDARD. THE "RINSE" IS USED TO ALLOW ADDITIONAL TIME BETWEEN STANDARDS OR SAMPLES WHICH ARE KNOWN TO BE HIGH, AND SAMPLES OR STANDARDS WHICH MAY BE LOW.

A QUALITY CONTROL STANDARD WHICH IS LABELED "NORM" IS USED AS A RESTANDARDIZATION STANDARD. THE "NORM" STANDARD RESLOPES THE CURVE WHEN THE "Q" FLAG INDICATES THAT THE DATA OBTAINED HAS EXCEED A PRESET LIMIT. TO RESLOPE ALL ELEMENTS THE QC LIMITS MUST BE SET LOW ENOUGH TO FAIL ON EACH OCCURRENCE.

QUALITY CONTROL STANDARDS LABELED "FE200000", "CA500000", "MG500000" AND "AL500000" ARE USED FOR INTERELEMENTAL CORRECTION FACTORS VERIFICATION. I.E. "FE200000" CONTAINS FE AT 200000ug/l AND ALL OTHER ELEMENTS AT 0mg/l. THE QC STANDARD LABELED "LRS MACRO" CONTAINS AL, CA, CU, MG, AND NA AT THE HIGHEST CALIBRATED VALUE. THE QC STANDARD LABELED "LRS TRACE + K" CONTAINS BA, BE, CD, CR, CO, NI, V, ZN, PB, AND SB AT HALF OF THE HIGHEST CALIBRATED VALUE. IT ALSO CONTAINS AG AND K AT THE HIGHEST CALIBRATED VALUE. THE QC STANDARD LABELED "LRS FE MN" CONTAINS FE AND MN AT THE HIGHEST CALIBRATED VALUE.

ON ANY ANALYTICAL RUN VARIOUS INSTRUMENT GENERATED FLAGS MAY APPEAR, THEIR MEANING ARE AS FOLLOW:

"Q" QC FAILURE - HIGH OR LOW
"D" SLIM OR ANALYTE PEAK NOT FOUND, OR ON EDGE IN ANALYSIS PEAK SEARCH (SEQUENTIAL INSTRUMENT ONLY)
"d" ANALYTE PEAK NOT FOUND IN ANALYSIS SEARCH (SEQUENTIAL INSTRUMENT ONLY)
"S" SATURATION - PEAK INTENSITY OVERFLOW
"s" BACKGROUND POINT SATURATION - INTENSITY OVERFLOW
"I" INTERFERING ELEMENT CORRECTION CALCULATION FAILURE - CHECK FOR ERRORS ON INTERFERING ELEMENTS. CAN ALSO OCCUR IF AUTOMATIC CALIBRATION IS PERFORMED BEFORE DOING A MANUAL CALIBRATION.
"C" ANALYSIS RESULT ABOVE CALIBRATION CURVE RANGE
"c" ANALYSIS RESULT BELOW CALIBRATION CURVE RANGE
">" ANALYSIS RESULT OVER PRINT LIMITS
"<" ANALYSIS RESULT BELOW PRINT LIMIT
"H" ANALYSIS RESULT FAILED HIGH LIMIT CHECK
"L" ANALYSIS RESULT FAILED LOW LIMIT CHECK

LAB NAME: ILLINOIS EPA CHAMPAIGN LAB CONRTACT: _____

LAB CODE: _____ CASE NO: _____ SAS NO.: _____ SDG NO.: _____

COMMENTS FOR ICP DATA

COMMENTS: _____

COMMENTS: _____

COMMENTS: _____

COMMENTS: _____

COMMENTS: _____

COMMENTS: _____

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B000056

Sauget Sites - Water 4/1/91 - AMC Soil 4/3/91 - RLG

ICP AA LOG

SAMPLE NUMBER / DATE REC'D / Sample #	Beakerwt	Watwt	Drywt		Weigh 0.5 grams	Sample 10.0 25 grams	Add HCl/HNO3 cons	Weigh vessel/contents	Samples hand to background	Digestion/distillation	Analysis	Analysis	Analysis	Analysis	Analysis	Analysis	Analysis
WATER-AMC-4/1/91																	
B104062 #1																	
B104062 #2																	
B104062 + ICP spike																	
B104062 + Furnace spike																	
B104063																	
B104064																	
B104065																	
B104066																	
Digested RG LCSW Water - ICP																	
Undigested RG Water - ICP																	
Digested RG LCSW Water - Furnace																	
Undigested RG LCSW Water - Furnace																	
Reagant Blank - Digested - Water																	
Reagant Blank Undigested - Water																	
SOIL - 4/3/91 - RLG - HNO_3 ONLY																	
B104067 #1	66.08	90.59	86.48	83.2%	✓		✓	✓			✓	✓	✓	✓	✓		
B104067 #2	63.99	85.82	82.17	83.3%	✓		✓	✓			✓	✓	✓	✓	✓		
B104067 + ICP spike					✓		✓	✓			✓	✓	✓	✓	✓		

B000057

45ml sample and seal out water / Flush pressure / Finish pressure / Deepen pressure / Open controller / Close mixer / 70% power / 40% power	SAMPLE #	Initial wt. microwavable vessels sample + acid	Final wt. microwavable vessels sample + acid	Diff. Initial wt. - Final wt.	Hg	ICP-7	~~ICP-2~~	Wet wt. sample
✓✓✓ ✓ ✓✓✓	B104062 #1	285.565	285.313	0.252				OK
✓✓✓ ✓ ✓✓✓	B104062 #2	271.441	271.385	0.056				OK
✓✓✓ ✓ ✓✓✓	B104062 ICP spike	284.635	284.510	0.125				OK
✓✓✓ ✓ ✓✓✓	B104062 Furnace spk.	285.272	284.703	0.569				
	2nd time	283.853	283.725	0.128				OK
✓✓✓ ✓ ✓✓✓	B104063	283.456	282.855	0.601				
	2nd time	283.932	283.794	0.138				OK
✓✓✓ ✓ ✓✓✓	B104064	281.965	281.659	0.306				OK
✓✓✓ ✓ ✓✓✓	B104065	285.202	284.798	0.404				OK
✓✓✓ ✓ ✓✓✓	B104066	284.873	284.213	0.660				
	2nd time 270.900	~~270.824~~	270.792	0.108				OK
✓✓✓ ✓ ✓✓✓	DK ICAP #1	285.759	285.585	0.174				OK
✓✓✓ ✓ ✓✓✓	DK ICAP #2	285.492	285.275	0.217				OK
✓✓✓ ✓ ✓✓✓	DK Furnace #1	285.519	285.266	0.253				OK
✓✓✓ ✓ ✓✓✓	DK Furnace #2	271.872	270.623	1.249				
	2nd time 280.935	~~281.500~~	280.865	0.070				OK
✓✓✓ ✓ ✓✓✓	RB Digested	274.487	275.741	-1.254				
	B104067 #1	248.238	247.919	0.319 2.2%	0.601	0.253	0.237	OK
	B104067 #2	234.674	234.522	0.152 1.1%	0.600	0.251	0.234	OK
	B104067 spike	248.124	249.910	0.114 0.85%			0.225	OK

SPECIAL

P4

Swagat Sites: Soils-4/3/91-RLG

Soil digestion

SAMPLE NUMBER Sample # SOIL-4/3/91-RLG		Beaker wt	Wet wt	Dry wt.		Weigh 0.25 grams	Sample to 0.25 grams	Add 10 ml conc. HNO3	Weigh vessel after cooling	Sample boiled to dryness and cooled	Add 5 ml conc. HCl	Add 5 ml conc. HNO3	Add 2 ml 30% H2O2	Add 10 ml 1:1 HCl	Add 10 ml DI
B104067+Fur spike		6				✓	✓	✓		✓	✓	✓	✓	✓	
B104068		66.75	96.69	90.59	79.6%	✓	✓	✓		✓	✓	✓	✓	✓	
B104069		71.83	105.78	95.85	70.8%	✓	✓	✓		✓	✓	✓	✓	✓	
B104070		67.23	88.17	85.44	87.0%	✓	✓	✓		✓	✓	✓	✓	✓	
B104071		69.87	98.10	88.67	66.6%	✓	✓	✓		✓	✓	✓	✓	✓	
B104072		63.75	87.44	76.24	52.7%	✓	✓	✓		✓	✓	✓	✓	✓	
B104073	~~volume loss, redigested~~ ~~Volume loss, redigested~~	63.14	85.50	79.00	70.9%	✓	✓	✓		✓	✓	✓	✓	✓ RG	
B104074		63.77	100.58	89.13	68.9%	✓	✓	✓		✓	✓	✓	✓		
B104075	redigested	64.16	79.33	75.08	72.0%	✓	✓	✓		✓	✓	✓	✓		
B104076	redigested	63.52	90.54	81.09	65.0%	✓	✓	✓		✓	✓	✓	✓		
B104077	redigested	64.70	110.28	99.51	76.4%	✓	✓	✓		✓	✓	✓	✓		
B104078	redigested	64.59	103.02	87.81	60.4%	✓	✓	✓		✓	✓	✓	✓		
B104079	redigested	70.17	92.46	85.57	69.1%	✓	✓	✓		✓	✓	✓	✓		
Digested ~~K~~ RG-ICP-Soil-LCS0287 N/LCSS						✓	✓	✓		✓	✓	✓	✓	✓	
~~Undigested K-ICP-Soil~~ RG															
~~Digested K-Furnace-Soil~~ RG															
Digested ~~K~~ RG-#2-Soil-LCS0287-LCSS						✓	✓	✓		✓	✓	✓	✓	✓	
B104073	~~redigested volumetrics~~					✓	✓	✓		✓	✓	✓	✓		

P5

B000059

Sample #	Initial wt-microwaveable vessel & sample + acid	Final wt-microwaveable vessel & sample + acid after digestion	Diff = Initial wt − Final wt (volume loss recorded)	Hg-factor	Hgt (wet) kg/Fur-factor	Wet wt sample	
B104067 + Fur sp.	248.390	248.182	0.209 1.6%		0.052	0.238	OK
B104068	247.999	247.586	0.413 3.1%	0.628	0.241	0.247	OK
B104069	233.860	233.586	0.274 2.0%	0.709	0.294	0.240	OK
B104070	245.957	245.716	0.241 1.8%	0.585	0.234	0.246	OK
B104071	247.926	247.599	0.327 2.4%	0.751	0.315	0.238	OK
B104072	248.827	248.371	0.456 3.4%	0.948	0.392	0.242	OK
B104073 × volume loss	248.416	247.382	1.034 7.7%	0.705	~~0.341~~	0.250	redo
B104074 × volume loss	246.480	245.145	1.335 *10%	0.726	~~0.491~~	0.248	redo
B104075 redigested	246.833	246.588	0.245 1.8%	0.695	~~0.063~~	0.265	redo
B104076 redigested	246.863	246.763	0.100 0.75%	0.769	~~0.130~~	0.232	redo
B104077 redigested	247.605	247.237	0.368 2.7%	0.655	~~0.041~~	0.272	redo
B104078 redigested	247.703	247.499	0.204 1.5%	0.828	~~0.220~~	0.250	redo
B104079 redigested	230.768 ~~233.098~~	230.717	0.051 0.38%	0.724	~~0.149~~	0.250	redo
LCS028241-Dig	244.382	244.210	0.172 1.3%		0.213	0.235	RG ~~redo~~ OK
~~LK~~ RG							
LCS028742-Dig	234.382	234.312	0.070 0.52%		0.202	0.248	OK
~~248.~~ B104073 × volume loss	248.282	246.148	2.134 15.4%			0.245	redo

P6

Sangat Sites-Soils-4/3/91-RLG

Soil Digestion

Sample #		Beakerwt	Wet wt	Dry wt		Weigh 0.25 grams		Sample to 100 ml grad		Add 10 ml conc HNO3		Heat until clear/containing		Cool & transfer to 100 ml grad		Dilute to mark with distilled H2O		Mix & transfer to 125 ml Nalgene		Add 10 ml conc HCl		
SOIL-4/3/91-RLG																						
Reagent Blank	Digested-Soil					RG ✓		✓		✓		✓		✓	✓	✓	✓	✓				
B104073						✓		✓		✓		✓		✓	✓	✓	✓	✓				
B104074	~~volume lost, redigested~~					✓		✓		✓		✓		✓	✓	✓	✓	✓				
B104075						✓		✓		✓		✓		✓	✓	✓	✓	+	RG			
B104076						✓		✓		✓		✓		✓	✓	✓	✓	✓				
B104077						✓		✓		✓		✓		✓	✓	✓	✓	✓				
B104078	~~volume lost, redigested~~					✓		✓		✓		✓		✓	+	+	RG					
B104079						✓		✓		✓		✓		✓	✓	✓	✓					
B104075						✓		✓		✓		✓		✓	✓	✓	✓	✓				
B104079						✓		✓		✓		✓		✓	✓	✓	✓	✓				
Sangat redigestion - p10, 11, 24																						

B009061

Sample #	Initial wt	Final wt	Diff	Hg f	ICP f	
	Initial wt-micro-waveable vessel + sample + acid	Final wt-micro-waveable vessel + sample + acid after digestion	Diff = Initial wt - Final wt volume loss < 10% or redo	Hg-factor	ICP-factor	Wet wt sample
RB-dig-Soil	247.450	247.305	0.145 1.1%			OK
B104073	248.006	247.027	0.979 7.3%		.274	0.257 OK
B104074	248.665	248.299	0.366 2.7%		.271	0.268 OK
B104075 x	248.847	247.585	1.262 9.4%			0.244 redo
B104076	247.908	247.728	0.180 1.3%		.331	0.232 OK
B104077	244.470	244.459	0.011 0.08%		.261	0.251 OK
B104078	234.814	234.762	0.052 0.38%		.331	0.250 OK
B104079 x	248.281	241.254	7.027 52.4%			0.256 redo
B104075	246.510	246.175	0.335 2.5%		.256	0.271 ~~0.240~~ OK
B104079	235.580	235.465	0.115 0.86%		.279	0.242 OK

Sauget Sites - Soils - 4/3/91 - RLG - digestion procedure modification

Microwave Soil - Modified

Sample #		Beaker wt	Wet wt	Dry wt		Balance Check	Weigh 0.25 grams	to 0.25 grams	Add 5 - 1 conc HNO3	2 - 1 DT/3 - 1 30% H2O2	5 - 1 1:1 HCl	Weigh vessel containing sample to 0.1 grams	Add record	Flag pressure tubing	Flag pressure controller
SOIL - 4/3/91 - RLG															
LCS0287 - microwave - modified						✓	✓		✓	✓	✓	✓		✓	✓
LCS0287 - hotplate.															
~~LCS0287~~															

B000063

Program micro	75% power [illegible]	Add 40ml DI	Balance check	0.1-1.5g solid	10ml 1:1 HNO3	10min reflux	5ml conc HNO3	reflux 30min	2ml DI	Add 3ml 30% H2O2	30% H2O2	5ml 1:1 HCl	10ml DI	dilute to 100ml	w/DI	Add 100ml acid	H2O	Sample #	Initial wt - micro - waveable vessel + sample + acid	Final wt - micro - waveable vessel + sample + acid after digestion	Diff - Initial wt - Final wt	volume loss >10%	Hg-factor	Hg-t	ICP-factor	wet wt	sample	SPECIAL
✓	✓	✓																LCS0287-micro	248.315	247.758	0.557 4.2%				0.186	0.269	OK
			✓	✓	✓	✓	✓	✓	✓	0		✓	✓	✓		✓		LCS0287-hotpl.							0.200	100	OK
																										~~0.352~~	

P10

Sauget Sites - Soil - 4/4/91 - RLG - digestion procedure modification

Soils

Sample #		Beaker wt	Wet wt	Dry wt		Balance Check	Weigh 0.25 grams	10.025 grams sample	Add 5 - leave HNO3	All 5 mil LHCl	Weigh vessel & contains	Spot copper & 40 ml	BOP read &	Flash pressure	Flash pressure	Overhead pressure	Controller
SOIL-4/4/91-RLG																	
LCS0287 - modified						✓	✓		✓	✓	✓		✓		✓		
LCS0287 - modified																	

P11

B000065

Sample # ..... Initial wt. Final wt. [illegible]

Program micro 75% power 10 min	Add 40 ml DI	Balance check	Weigh 0.25 gram [illegible]	Add 1.25 ml conc HNO3	Add 1.25 ml HCl	Add 1.25 ml DI	Weigh vessel containing sample + acid to .01 gram and record	Flush pressure tubing	Program pressure contr.	Program micro 75% power 10 min	Add 40 ml DI		Initial wt. micro-waveable vessel + sample + acid	Final wt. micro-waveable vessel + sample + acid after digestion	Diff. Initial wt. - Final wt. volume loss >10% then redo	Hg-factor	ICP-factor	Wet wt. sample	SPECIAL
✓	✓	✓										LCS0287	233.026	232.840	0.186 1.4%			0.250	OK
			✓	✓	✓	✓	✓	✓	✓	✓	✓	LCS0287	244.690	242.796	0.895 6.7%			0.270	OK

P12

LCS0287-digestion procedure-modification-soil 4/5/91-RLG

Soils

Sample #		Beaker wt	Wet wt	Dry wt		Balance check		Weigh 0.25 grams		0.025 gram 1 ml		Add 5 ml of HNO3		Weigh vessel containing digestate to 0.00 grams		Rinse		Rinse		Rinse		Add 0.1 ml DI	
SOIL-4/5/91-RLG																							
LCS0287#1						✓		✓				✓		✓				✓	✓	✓	✓	✓	
~~LCS0287#2~~	RLG																						
LCS0287#2						✓		✓				✓		✓				✓	✓	✓	✓	✓	

P13

B000067

Sample #	Initial wt. microwaveable vessel + sample + acid	Final wt. microwaveable vessel + sample + acid after digestion	Diff = Initial wt. - Final wt.	Hg-factor	ICP-factor	wet wt / sample	SPECIAL
LCS0287#1	246.775	246.551	0.224 1.6%			0.245 ~~0.240~~ ~~0.256~~	OK RG RG
LCS0287#2	234.269	233.969	0.300 2.1%			0.243	OK

P14

R00055

Sauget Sites - redigestion LNB + 4/12/91 - Soils

Microwave Soils

Sample #		Beaker wt	Wet wt	Dry wt		Balance Check	Weigh 0.25 grams ± 10%	Add 10 mL conc. HNO_3	Add 1 mL 1:1 HCl	Wash vessel contents into digestion tube	Place in digestion block	Place in pressure cooker	Boil for 30 min.	Add 10 mL conc. HCl	
HNO_3 + 1:1 HCl soils (these samples run - LNB)															
B104067#1	4/12/91 LNB (76% power = 574w)					✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104067#2						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104067 + Fur spike						✓	✓	✓	✓	✓	✓	✓	✓	✓	
ICP SPIKES NOT PERFORMED UNTIL 5/8/91 LNB															
~~B104067 + Fur spike~~															
B104068	4/11/91					✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104069						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104070						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104071						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104072						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104073						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104074	4/12/91 LNB (76% power = 574w)					✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104075						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104076						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104077						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104078						✓	✓	✓	✓	✓	✓	✓	✓	✓	
B104079						✓	✓	✓	✓	✓	✓	✓	✓	✓	
LCSS LCS0287						✓	✓	✓	✓	✓	✓	✓	✓	✓	
Reagent Blank						✓		✓	✓	✓	✓	✓	✓	✓	

B000069

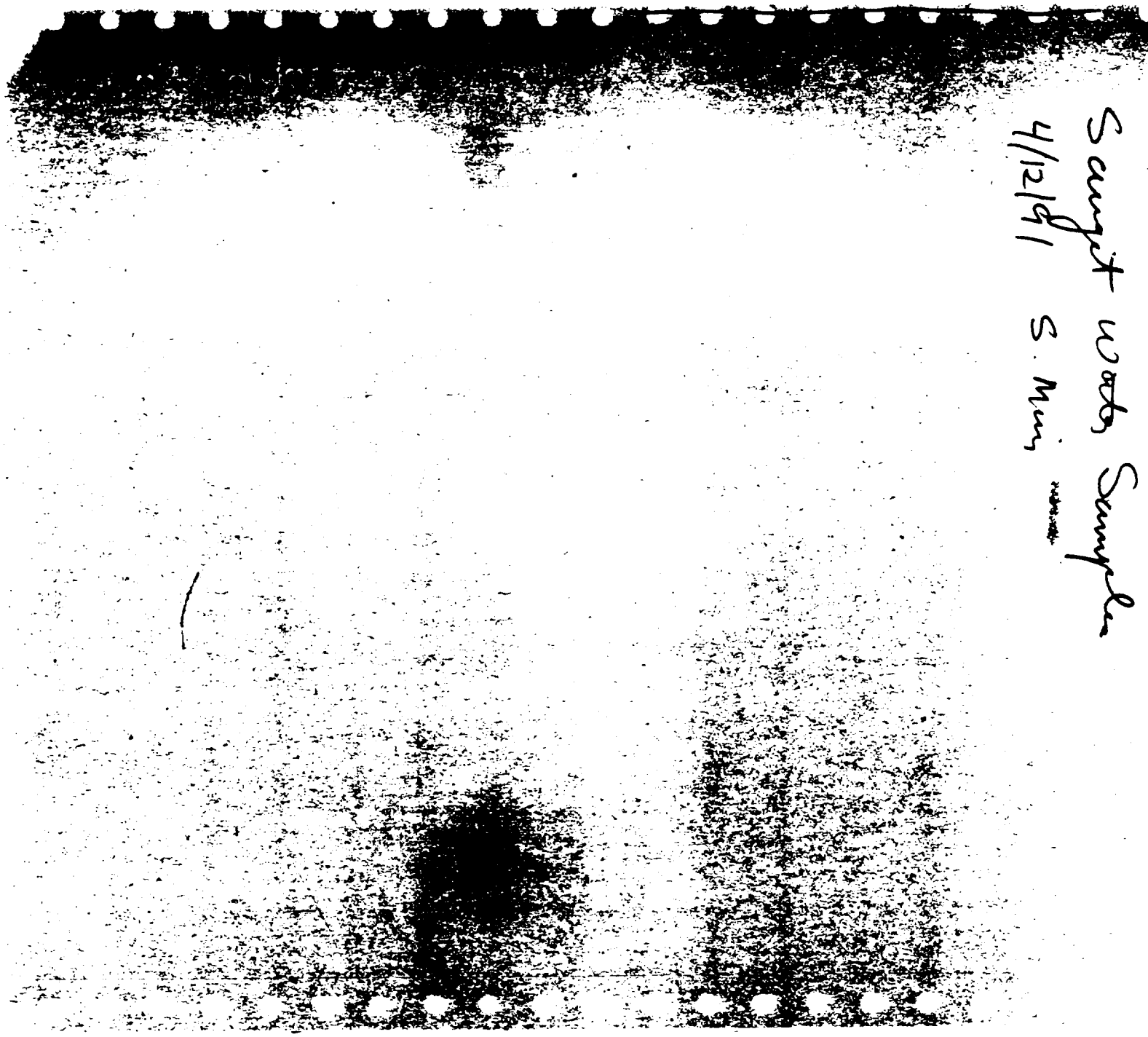
District Sample #	Initial wt. Final wt. Diff.			Mg-factor	ICP-factor	Dried weight of sample 180°	SPECIAL
	Initial wt. micro-wavable vessel + sample + acid	Final wt. micro-wavable vessel + sample + acid after digestion	Diff. Initial wt. Final wt.				
~~B104067 #1~~							
B104067 #1	249.972	249.465	0.507		0.244	0.246	OK
B			3.5%				
B104067 #2	236.457	236.348	0.109		0.237	0.253	OK
			0.76%				
B104067 Fur ~~1~~ SPK	249.407	249.045	0.362		0.237	0.253	OK
			2.5%				
B104068	248.836	248.773	0.063		0.265	0.237	OK
			0.44%				
B104069	249.510	249.109	0.401		0.277	0.255	OK
			2.8%				
B104070	244.718	244.629	0.089		0.230	0.250	OK
	249.653		0.62%				
B104071	~~236.014~~	249.251	0.402		0.283	0.265	OK
			2.8%				
B104072	245.454	245.393	0.061		0.361	0.263	OK
	236.014		0.43%				
B104073	~~236.014~~	235.702	0.312		0.290	0.243	OK
			2.2%				
B104074 valloy-redigest	249.205	235.028	14.177		—	0.250	red.
			99.1%				
B104075	236.558	236.407	0.151		0.280	0.246	OK
			1.1%				
B104076	246.973	246.937	0.036		0.299	0.257	OK
			0.25%				
B104077	248.965	248.952	0.013		0.256	0.256	OK
			0.09%				
B104078	248.134	248.108	0.026		0.335	0.247	OK
			0.18%				
B104079	247.526	247.500	0.026		0.283	0.256	OK
			0.18%				
LCS0287	249.650	249.142	0.508		0.199	~~0.253~~ 0.251	OK
			3.6%				
Reagent Blank	248.894	248.860	0.034				OK
			0.24%				

Sauget Sites - redigestion. WB - 4/12/91 - Soils

Sample #		Beaker wt	Wet wt.	Dry wt		Balance check	Weigh 0.25g ± 10%	Add 10 ml core HNO_3	Add 1 ml 1:1 HCl	Weigh vessel containing sample + add to dig	Add record	Flush pressure tubing	Program pressure controller	Program microwave	Flush power 10 mins	Add 40 ml DI	
B104074	redigest					✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	

B000071

Sample #	Initial wt	Final wt	Diff	Hg	FWN/ICP	Wet Weight
	Initial wt = micro-waveable vessel sample + acid	Final wt = micro-waveable vessel sample + acid after digestion	Diff = Initial wt - Final wt	Hg - factor	ICP - factor	SPECIAL
B104074	249.213	249.175	0.038 0.27%		0.290	0.250 ~~0.247~~ OK



Sanget Wood Sample
4/12/91 S. Mini

B000073

AutoSampler Report Table AUTO 1 0 Fri 04 12 91 07:47:17 AM page 3

Rack #5

Pos	Row	Col	Sample Name	Set #	#Used	Type
40	10	4	CCB END	NA	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard
40	10	4	CCB END	-NA-	1	QC Standard

Editing Samples Autosampler | Tables | Methods | Main Menu

Sample Name: SAUGET W Set #1: Sauget Water Samples

Auto Rinse? Yes

Sample Positions: 11/20 STD Positions (approx.): 20/60

Page 1 of 4

Rack/Pos	SampleName	Factor	CheckTable	Failure Action
5/1	Profile			
5/2	BLANK			
5/3	S15			
5/4	S6X			
5/3	AGK6			
5/2	SB10000			
5/7	Profile			
5/8	Profile			
5/9	Blank	1		
5/10	FE200000	1	FE200000	Alarm/Continue
5/11	CA500000	1	CA500000	Alarm/Continue
5/12	MG500000	1	MG500000	Alarm/Continue
5/13	AL500000	1	AL500000	Alarm/Continue
5/14	LRA MACRO	1	LRAMAC	Alarm/Halt

F1= InsSample F2= Delete
F3= InsQC F4= -
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Sample Name
(20 characters)
keys active (Page) keys active

Editing Samples Autosampler | Tables | Methods | Main Menu

Sample Name: SAUGET_W Set #1: Sauget Water Samples

Auto Rinse? Yes

Sample Positions: 11/20 STD Positions (approx.): 20/60

Page 2 of 4

Rack/Pos	SampleName	Factor	CheckTable	Failure Action
5/15	LRA TRACE + K	1	LRA_TR_K	Alarm/Halt
5/16	Profile			

ICP LOG
Sauget Water

P00007

[illegible]	[illegible]	1	[illegible]	[illegible]
5/20	ICV	1	ICV	Alarm/Halt
5/22	Profile			
5/23	ICB	1	NOCK	Alarm/Continue
5/24	CRI	1	CRI	Alarm/Continue
5/25	ICSA	1	ICSA	Alarm/Halt
5/26	ICSAB	1	ICSAB	Alarm/Halt
5/27	Profile			
5/28	Profile			
5/29	Blank	1		

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

[illegible]ter Sample Name
(up to 20 characters)
(Arrow) keys active (Page) keys active

[illegible]iting Samples Autosampler | Tables | Methods | Main Menu
[illegible]ple Name: SAUGET_W Set #1: Sauget Water Samples
[illegible] Rinse? Yes
[illegible]ple Positions: 11/20 STD Positions (approx.): 20/60

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	R/Pos	SampleName	Factor	CheckTable	Failure Action
	5/30	LCS	1.11	LCS	Alarm/Halt
	5/31	CCV	1	CCV	Alarm/Halt
	5/32	Profile			
	5/33	CCB	1	NOCK	Alarm/Continue
	1/1	PREP BLK SAUGET W	1.11		
	1/2	B104062	1.11		
	1/3	B104062 1:5	5.55		
	1/4	B104062 DUP	1.11		
	1/5	B104062 SPIKE	1.11		
	1/6	B104063	1.11		
	1/7	B104064	1.11		
	1/8	B104065	1.11		
	1/9	B104066	1.11		
	[illegible]	Profile			

F1= InsSample F2[illegible]
F3= InsQC F4[illegible]
F5= InsStds F6[illegible]
F7= InsBlank F8[illegible]
F9= Done/Keep F10=HELP

[illegible] Sample Name
[illegible] 20 characters)
[illegible]) keys active (Page) Keys active

[illegible]ting Samples Autosampler | Tables | Methods | Main Menu
[illegible]le Name: SAUGET_W Set #1: Sauget Water Samples
[illegible] Rinse? Yes
[illegible]le Positions: 11/20 STD Positions (approx.): 20/60

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	R/Pos	SampleName	Factor	CheckTable	Failure Action
	5/35	CRI END	1	CRI	Alarm/Continue
	5/36	ICSA END	1	ICSA	Alarm/Continue
	5/37	ICSAB END	1	ICSAB	Alarm/Continue
	5/38	CCV END	1	CCV	Alarm/Continue
	5/39	Profile			
	5/40	CCB END	1	NOCK	Alarm/Continue

B000075

Standardization Rpt. Fri 04-12-91 09:10:47 AM page 1

Method: CLPWATER Standard: BLANK

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.079	-.003	-.061	.086	-.004	.227	-.427
SDev	.003	.005	.006	.005	.000	.063	.080
%RSD	4.17	-182.	-10.1	6.12	-7.90	27.7	18.7
[illegible]	.083	-.009	-.068	.088	-.004	.158	.536
[illegible]	.076	-.002	-.061	.080	-.004	.253	.459
[illegible]	.079	.002	-.055	.090	-.004	.272	.485

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K 7664	Ag3280
Avge	.014	.001	-.024	.004	-.042	.016	-.051
SDev	.018	.001	.005	.000	.010	.000	.005
%RSD	130.	125.	-20.4	5.56	-24.0	38.3	-10.3
[illegible]	-.006	.000	-.020	.004	-.038	.016	-.047
[illegible]	.020	.002	-.029	.004	-.034	.017	-.057
[illegible]	.029	.001	-.022	.003	-.056	.022	-.049

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Avge	-.089	.002	-.156	.472	D-.051
SDev	.004	.013	.026	.016	.019
%RSD	-4.61	687.	-16.9	3.46	-37.0
[illegible]	-.094	-.013	-.139	.454	D-.047
[illegible]	-.087	.009	-.142	.486	D-.072
[illegible]	-.086	.010	-.186	.475	D-.035

B000076

Method: CLPWATER Standard: ~~[illegible]~~ STD1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	42.5	.010	-.047	.070	42.9	.459	.578
SDev	.2	.002	.002	.004	.2	.008	.020
%RSD	.541	15.0	-5.06	5.52	.488/	1.76	3.37
#1	42.3	.012	-.044	.071	42.7	.465	.576
#2	42.4	.009	-.048	.066	42.9	.462	.599
#3	42.7	.010	-.049	.073	43.1	.450	.560

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.036	90.4	77.7	18.8	-.035	1.32	-.130
SDev	.002	.5	.5	.1	.005	.01	.003
%RSD	4.51	.522	.662	.511	-14.3	.5	-2.27
#1	.038	89.9	77.2	18.7	-.034	1.32	-.129
#2	.036	90.4	77.6	18.8	-.040	1.31	-.127
#3	.034	90.9	78.2	18.9	-.030	1.32	-.133

Elem	Na5889	V_2924	Zn2138	Pb2203
Avge	22.3	-.002	.245	.970
SDev	.1	.004	.026	.011
%RSD	.655	-246.	10.5	1.12
#1	22.1	-.002	.256	.958
#2	22.2	.003	.262	.977
#3	22.4	-.005	.215	.975

Al, Ca, Mg, Na } 500 000 ug/l

Fe, K } 200 000 ug/l

Mn, P } 50 000 ug/l

B000027

Standardization Rpt. Fri 04 12-91 09:17:20 AM page 1

Method: CLPWATER Standard: ~~[illegible]~~ STD2

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.275	84.0	392.	30.5	.208	79.3	86.2
SDev	.070	.7	3.	.2	.078	.5	.5
%RSD	25.5	.810	.767	.552	37.5	.597	.568
#1	.350	84.5	395.	30.6	.291	79.6	86.6
#2	.265	83.2	389.	30.3	.195	78.8	85.7
#3	.210	84.3	394.	30.6	.137	79.6	86.4

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	16.2	.377	.176	.078	13.7	.029	-.044
SDev	.1	.165	.127	.034	.0	.002	.005
%RSD	.741	43.6	72.1	43.2	.335	7.09	-11.2
#1	16.3	.553	.312	.113	13.7	.031	-.047
#2	16.1	.352	.157	.072	13.6	.028	-.046
#3	16.2	.227	.060	.047	13.7	.027	-.038

Elem	Na5889	V_2924	Zn2138	Pb2203
Avge	-.005	53.3	77.5	10.5
SDev	.038	.4	.5	.0
%RSD	-809.	.685	.625	.256
#1	.037	53.6	77.7	10.5
#2	-.014	52.9	76.9	10.4
#3	-.037	53.5	77.8	10.5

Ba 20 000 ug/l

Be
Cd
Cr
Co
Cu
Ni
Pb
U
Zn

10000 ug/l

9 2 2 2 6 0 0 0 2 5 9

B000078

Standardization Fr... Fri 04-12-91 09:20:36 AM page 1

Method: CLPWATER Standard: STD 3

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.097	.301	1.28	.200	.013	.575	.802
SDev	.008	.140	.63	.052	.006	.147	.159
%RSD	7.72	46.6	49.2	26.2	44.3	25.5	19.9
#1	.105	.452	1.96	.25	.019	.733	.973
#2	.098	.278	1.19	.203	.013	.550	.776
#3	.090	.174	.704	.146	.007	.443	.657

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.083	.040	.004	.011	.012	3.29	1.65
SDev	.032	.013	.009	.003	.021	.02	.01
%RSD	38.0	33.0	259.	23.9	178.	.558	.492
#1	.117	.053	.013	.013	.035	3.28	1.64
#2	.078	.040	.002	.011	.009	3.28	1.64
#3	.055	.027	-.005	.008	-.008	3.32	1.66

Elem	Na5889	V_2924	Zn2138	Pb2203
Avge	-.084	.202	.216	.505
SDev	.003	.092	.126	.016
%RSD	-3.69	45.8	58.2	3.06
#1	-.081	.299	.343	.494
#2	-.085	.191	.215	.523
#3	-.087	.115	.091	.5

Ag 1000 ug/l
K 500000 ug/l

B000079

Standardization Rp... Fri 04-12-91 09:23:53 AM page 1

Method: CLPWATER Standard: SB10000

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.083	.032	.093	.096	.002	.288	.503
SDev	.001	.013	.053	.005	.001	.034	.041
%RSD	1.00	40.0	56.3	5.52	72.1	11.7	8.20
#1	.084	.043	.148	.101	.003	.323	.548
#2	.082	.034	.089	.096	.002	.284	.468
#3	.083	.018	.043	.091	.000	.256	.492

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.025	.012	-.021	.005	-.048	.032	-.044
SDev	.008	.003	.002	.001	.003	.009	.006
%RSD	33.3	25.7	-8.14	10.3	-6.56	27.8	-13.4
#1	.034	.016	-.019	.005	-.047	.041	-.038
#2	.024	.013	-.021	.005	-.051	.032	-.047
#3	.018	.009	-.023	.004	-.045	.023	-.049

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Avge	-.088	.035	-.047	.494	11.5
SDev	.002	.005	.041	.009	.1
%RSD	-1.85	15.5	-87.6	1.72	.582
#1	-.087	.040	-.075	.485	11.6
#2	-.087	.029	-.068	.496	11.5
#3	-.090	.035	.000	.502	11.5

Sb 10 000 mg/l

B000080

Analysis Report Blank Sample Fri 04-12-91 09:33:14 AM page 1

Method: CLPWATER Sample Name: Blank Operator: SMM
Run Time: 04/12/91 09:30:00
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	.297	.143	<.000	<.000	5.89	6.37
SDev	19.6	.275	.036	1.78	2.69	3.63	2.71
%RSD	-108.	92.8	25.0	-92.2	-86.7	61.6	42.5
#1	<.000	<.000	.178	<.000	<.000	7.97	6.74
#2	<.000	.453	.143	.021	<.000	8.00	8.88
#3	<.000	.458	.107	<.000	<.000	1.70	3.50

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5.40	4.26	<.000	<.000	<.000	580.	1.26
SDev	2.39	2.33	2.97	.614	3.27	519.	2.38
%RSD	44.3	54.8	-13.9	-86.7	-70.1	89.5	189.
#1	3.96	6.03	<.000	<.000	<.000	61.0	.865
#2	8.16	5.13	<.000	<.000	<.000	1100.	3.81
#3	4.08	1.62	<.000	.001	<.000	580.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	1.81	<.000	23.5	D.000
SDev	24.9	.38	3.87	41.7	34.1
%RSD	-20.1	21.0	-87.9	177.	-52.4
#1	<.000	2.15	<.000	4.48	D.000
#2	<.000	1.89	<.000	71.4	D.000
#3	<.000	1.40	<.000	<.000	D.000

B00004

Analysis Report QC Standard Fri 04 12:91 09:36:33 AM page 1

Method: CLPWATER Sample Name: IF200000 Operator: SMM
Run Time: 04/12/91 09:33:25
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	<.000	<.000	<.000	22.9	1.12	<.000
SDev	34.6	.491	.037	1.72	3.7	1.72	1.73
%RSD	-35.3	-23.1	-21.0	--671.	16.1	154.	-38.3
#1	<.000	<.000	<.000	<.000	23.6	.526	<.000
#2	<.000	<.000	<.000	<.000	26.2	<.000	<.000
#3	<.000	<.000	<.000	1.72	18.9	3.05	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.330	213000.	67.6	<.000	<.000	<.000	<.000
SDev	2.11	418.	18.6	.552	5.24	63.8	3.75
%RSD	640.	.196	27.6	-14.1	-2840.	-11.7	-18.3
#1	.416	213000.	48.9	<.000	.547	<.000	<.000
#2	<.000	213000.	67.7	<.000	<.000	<.000	<.000
#3	2.40	212000.	86.1	<.000	4.65	<.000	<.000
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		200000.					
Range		10.0					

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	60.0	<.000	5.70	<.000	D.000
SDev	38.1	.241	.87	19.2	32.1
%RSD	63.4	-22.4	15.3	-28.8	-41.0
#1	98.8	<.000	5.68	<.000	D.000
#2	58.5	<.000	4.84	<.000	D.000
#3	22.7	<.000	6.58	<.000	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000082

Analysis Report QC Standard Fri 04-12-91 09:39:53 AM page 1

Method: CLPWATER Sample Name: CA500000 Operator: SMM
Run Time: 04/12/91 09:36:44
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	.353	<.000	.041	505000.	<.000	<.000
SDev	41.1	.028	.033	.688	1827.	1.76	1.83
%RSD	-2970.	7.97	-43.4	1700.	.362	-85.6	-208.
#1	17.4	.331	<.000	.364	504000.	<.000	.870
#2	27.0	.345	<.000	.507	503000.	<.000	<.000
#3	<.000	.385	<.000	<.000	507000.	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value					500000.		
Range					10.0		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	13.9	763.	15.2	<.000	15.1	<.000	<.000
SDev	2.8	367.	13.5	.872	4.7	529.	3.80
%RSD	20.4	48.1	88.7	-71.3	30.9	-241.	-367.
#1	17.0	1150.	24.7	<.000	11.8	<.000	<.000
#2	13.3	716.	<.000	<.000	20.4	238.	2.56
#3	11.4	421.	21.1	<.000	13.1	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	136.	.880	20.6	<.000	D1.78
SDev	27.	2.15	3.3	34.6	31.5
%RSD	20.0	244.	16.2	-124.	1780.
#1	162.	2.04	23.1	<.000	D.000
#2	139.	<.000	16.8	<.000	D9.11
#3	107.	2.19	22.0	10.8	D29.0
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

R000083

Analysis Report QC Standard Fri 04 12-91 09:43:12 AM page 1

Method: CLPWATER Sample Name: MG500000 Operator: SMM
Run Time: 04/12/91 09:40:04
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	<.000	<.000	<.000	1820.	<.000	<.000
SDev	22.3	.643	.046	.928	850.	1.20	1.45
%RSD	-63700.	-25.5	-55.2	-12.1	46.8	-42.0	-81.2
#1	<.000	<.000	<.000	<.000	2710.	<.000	<.000
#2	25.2	<.000	<.000	<.000	1720.	<.000	<.000
#3	<.000	<.000	<.000	<.000	1020.	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	71.9	523000.	<.000	4.55	<.000	<.000
SDev	3.10	29.6	3020.	.404	4.08	229.	1.97
%RSD	-212.	41.1	.577	-22.1	89.5	-248.	-66.2
#1	<.000	102.	520000.	<.000	3.13	<.000	<.000
#2	<.000	70.5	525000.	<.000	9.15	<.000	<.000
#3	1.79	43.1	525000.	<.000	1.38	131.	<.000
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value			500000.				
Range			10.0				

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	72.7	.228	<.000	<.000	<.000
SDev	24.6	1.57	3.65	9.67	18.8
%RSD	33.9	691.	-87.1	-53.8	-5.49
#1	89.1	<.000	<.000	<.000	<.000
#2	84.6	<.000	<.000	<.000	<.000
#3	44.4	2.04	<.000	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000084

Analysis Report QC Standard Fri 04-12-91 09:46:32 AM page 1

Method: CLPWATER Sample Name: AL500000 Operator: SMM
Run Time: 04/12/91 09:43:24
Comment: Sauget Water Samples - mg/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	505000.	<.000	<.000	<.000	196.	<.000	<.000
SDev	4908.	.429	.048	1.51	86.	.682	1.58
%RSD	.972	-12.2	-40.1	-191.	43.5	-6.85	-51.6
#1	499000.	<.000	<.000	.243	281.	<.000	<.000
#2	507000.	<.000	<.000	<.000	199.	<.000	<.000
#3	509000.	<.000	<.000	<.000	110.	<.000	<.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500000.						
Range	10.0						

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.171	9.90	1790.	<.000	<.000	<.000	<.000
SDev	1.34	6.87	877.	.576	3.18	414.	4.90
%RSD	782.	69.4	48.9	-6.70	-136.	-97.0	-2530.
#1	1.72	16.8	2680.	<.000	1.08	<.000	4.91
#2	<.000	9.79	1770.	<.000	<.000	<.000	<.000
#3	<.000	3.09	924.	<.000	<.000	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	88.2	<.000	<.000	112.	D.000
SDev	68.2	.648	1.71	3.	27.1
%RSD	77.2	-67.5	-77.2	2.27	-54.1
#1	167.	<.000	<.000	114.	D.000
#2	49.0	<.000	<.000	113.	D.000
#3	48.7	<.000	<.000	109.	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000085

Analysis Report QC Standard SM Fri 04 12-91 09:49:51 AM page 1

Method: CLPWATER Sample Name: ~~LRA~~ LRS MACRO Operator: SMM
Run Time: 04/12/91 09:46:43
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	500000.	<.000	<.000	<.000	501000.	<.000	<.000
Sdev	2208.	.245	.088	1.92	1735.	.983	3.24
%RSD	.441	-2.61	-27.1	-18.6	.346	-16.5	-32.5
#1	502000.	<.000	<.000	<.000	501000.	<.000	<.000
#2	498000.	<.000	<.000	<.000	500000.	<.000	<.000
#3	501000.	<.000	<.000	<.000	503000.	<.000	<.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value	500000.				500000.		
Range	5.00				5.00		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1.14	201000.	508000.	50100.	7.34	200000.	<.000
Sdev	1.34	762.	2543.	189.	5.13	1119.	2.39
%RSD	117.	.378	.501	.377	69.9	.559	-23.8
#1	<.000	202000.	508000.	50200.	12.4	200000.	<.000
#2	1.55	201000.	506000.	49900.	7.53	199000.	<.000
#3	2.23	202000.	511000.	50300.	2.11	201000.	<.000
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value		200000.	500000.	50000.			
Range		5.00	5.00	5.00			

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2178
Units	ppb	ppb	ppb	ppb	ppb
Avge	510000.	<.000	<.000	<.000	<.000
Sdev	2352.	1.82	2.14	10.2	76.9
%RSD	.461	-39.2	-14.8	-31.7	-27.6
#1	510000.	<.000	<.000	<.000	<.000
#2	507000.	<.000	<.000	<.000	<.000
#3	512000.	<.000	<.000	<.000	<.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500000.				
Range	5.00				

B000086

Analysis Report Blank Sample Fri 04-12-91 10:08:01 AM page 1

Method: CLPWATER Sample Name: Blank Operator: SMM
Run Time: 04/12/91 10:04:41
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	4.66	2.66	<.000	<.000	7.86	6.14
SDev	27.1	2.12	1.20	2.80	1.34	3.10	1.48
%RSD	-71.8	45.4	45.2	-748.	-28.9	39.5	24.2
#1	<.000	6.93	3.97	2.85	<.000	11.1	7.48
#2	<.000	4.31	2.41	<.000	<.000	7.47	6.39
#3	<.000	2.74	1.60	<.000	<.000	4.97	4.55

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	6.35	1.01	<.000	<.000	2.71	844.	<.000
SDev	4.58	2.22	6.43	.307	5.11	620.	2.07
%RSD	72.1	220.	-31.2	-34.7	188.	73.4	-165.
#1	10.9	.710	<.000	<.000	<.000	1560.	1.10
#2	6.43	3.37	<.000	<.000	8.43	549.	<.000
#3	1.73	<.000	<.000	<.000	1.11	427.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	2.51	<.000	1.43	D.000
SDev	57.0	4.69	1.31	4.24	8.67
%RSD	-116.	187.	-31.3	297.	-21.3
#1	<.000	5.94	<.000	<.000	D.000
#2	<.000	4.44	<.000	5.91	D.000
#3	<.000	<.000	<.000	.912	D.000

B000087

Analysis Report QC Standard SM QK Fri 04-12-91 10:12:12 AM page 1

Method: CLPWATER Sample Name: LRS TRACE + K Operator: SMM
Run Time: 04/12/91 10:08:43
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	98.6	9800.	5010.	4920.	230.	4890.	4870.
Sdev	53.6	129.	60.	59.	4.	51.	46.
%RSD	54.4	1.31	1.21	1.20	1.55	1.04	.944
1	160.	9650.	4950.	4860.	234.	4830.	4810.
2	68.7	9900.	5060.	4970.	227.	4920.	4900.
3	66.7	9850.	5040.	4940.	229.	4910.	4880.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value		10000.	5000.	5000.		5000.	5000.
Sample		5.00	5.00	5.00		5.00	5.00

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	4900.	<.000	<.000	<.000	4880.	502000.	1010.
Sdev	61.	2.03	28.6	.544	47.	4935.	6.
%RSD	1.25	-16.3	-10.7	-27.6	.954	.984	.585
1	4840.	<.000	<.000	<.000	4830.	496000.	1010.
2	4950.	<.000	<.000	<.000	4910.	505000.	1020.
3	4930.	<.000	<.000	<.000	4900.	504000.	1020.
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5000.				5000.	500000.	1000.
Sample	5.00				5.00	5.00	5.00

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	4880.	4880.	4900.	5070.
Sdev	20.7	52.	50.	26.	42.
%RSD	-38.4	1.06	1.03	.523	.825
1	<.000	4820.	4820.	4880.	5020.
2	<.000	4920.	4920.	4930.	5080.
3	<.000	4900.	4900.	4890.	5100.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value		5000.	5000.	5000.	5000.
Sample		5.00	5.00	5.00	5.00

B000085

Analysis Report Blank Sample Fri 04-12-91 10:15:51 AM page 1

Method: CLPWATER Sample Name: Blank STD Operator: SMM
Run Time: 04/12/91 10:12:23
Comment: Sauget Water Samples - ug/l
Mode: CONC Conc. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	32.3	16.5	15.6	.002	23.6	22.0
Sdev	41.2	14.8	7.3	6.3	4.85	13.0	13.5
%RSD	-338.	45.7	44.5	40.2	201000.	55.0	61.5
#1	30.1	47.5	24.0	22.0	5.44	38.2	37.5
#2	<.000	31.3	16.1	15.5	<.000	19.2	16.0
#3	<.000	18.1	9.34	9.43	<.000	13.4	12.5

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	23.1	2.86	<.000	<.000	18.1	1940.	4.87
Sdev	15.2	.84	24.0	.530	5.8	377.	7.13
%RSD	65.9	29.4	-1870.	-98.9	32.0	19.4	146.
#1	39.9	3.68	24.4	<.000	23.4	2260.	11.1
#2	19.2	2.00	<.000	<.000	19.1	2040.	6.40
#3	10.3	2.90	<.000	<.000	11.9	1530.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	16.6	16.3	37.9	D.000
Sdev	11.3	8.4	8.3	38.0	21.2
%RSD	-10.3	50.8	50.8	100.	-149.
#1	<.000	25.7	25.5	81.6	D2.80
#2	<.000	15.2	14.2	12.3	D.000
#3	<.000	8.98	9.31	19.7	D.000

B000089

Analysis Report QC Standard SM Fri 04-12-91 10:26:08 AM page 1

Method: CLPWATER Sample Name: NORM STD Operator: SMM
Run Time: 04/12/91 10:22:40
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9930.	Q9770.	Q227.	Q236.	Q254000.	Q481.	Q2320.
SDev	55.	58.	1.	2.	1341.	1.	13.
%RSD	.555	.596	.521	.804	.527	.259	.549
#1	Q9890.	Q9710.	Q225.	Q237.	Q253000.	Q481.	Q2310.
#2	9990.	Q9830.	Q228.	Q234.	Q255000.	Q482.	Q2330.
#3	9910.	Q9780.	Q227.	Q236.	Q255000.	Q480.	Q2320.
Errors	QC Pass	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	Q1220.	Q5290.	249000.	Q778.	Q1840.	250000.	Q494.
SDev	6.	25.	1390.	5.	.	1356.	2.
%RSD	.493	.470	.558	.643	.021	.543	.414
#1	Q1210.	Q5260.	248000.	Q772.	Q1840.	249000.	Q491.
#2	Q1220.	Q5310.	250000.	Q781.	Q1840.	251000.	495.
#3	Q1220.	Q5300.	250000.	Q781.	Q1840.	250000.	Q494.
Errors	QC Fail	QC Fail	QC Pass	QC Fail	QC Fail	QC Pass	QC Fail
Value	1250.	5000.	250000.	750.	2000.	250000.	[illegible]
Range	1.00	1.00	1.00	1.00	1.00	1.00	[illegible]

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	Q255000.	Q2390.	Q962.	Q226.	Q2800.
SDev	1251.	12.	10.	22.	25.
%RSD	.491	.504	1.04	9.77	.909
#1	Q254000.	Q2380.	Q953.	Q240.	Q2810.
#2	Q256000.	Q2400.	Q973.	Q201.	Q2770.
#3	Q255000.	Q2390.	Q959.	Q237.	Q2820.
Errors	QC Fail	QC Fail	QC Fail	QC Fail	QC Fail
Value	250000.	2500.	1000.	250.	3000.
Range	1.00	1.00	1.00	1.00	1.00

B000090

Analysis Report QC Standard Fri 04-12-91 10:29:53 AM page 1

Method: CLPWATER Sample Name: ICV Operator: SMM
Run Time: 04/12/91 10:26:25
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10000.	10000.	251.	250.	251000.	504.	2520.
Sdev	37.	19.2	.	2.	101.	1.	3.
%RSD	.367	.192	.051	.886	.040	.199	.128
1	10000.	10000.	252.	252.	251000.	505.	2500.
2	9990.	9990.	251.	250.	251000.	503.	2520.
3	10100.	9990.	251.	247.	251000.	503.	2520.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1250.	5020.	252000.	753.	2010.	251000.	504.
Sdev	2.	5.	52.	1.	1.	362.	2.
%RSD	.194	.094	.021	.118	.074	.144	.418
1	1250.	5030.	252000.	755.	2010.	251000.	504.
2	1240.	5020.	252000.	753.	2010.	252000.	501.
3	1250.	5020.	252000.	753.	2020.	251000.	506.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	[illegible]
Range	10.0	10.0	10.0	10.0	10.0	10.0	[illegible]

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2172
Units	ppb	ppb	ppb	ppb	ppb
Avge	250000.	2510.	989.	216.	2980.
Sdev	472.	3.	1.	6.	29.
%RSD	.188	.139	.141	2.56	.972
1	251000.	2520.	990.	210.	2970.
2	250000.	2510.	987.	221.	3020.
3	250000.	2510.	989.	217.	2960.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

E000091

Analysis Report QC Standard Fri 04-12-91 10:33:34 AM page 1

Method: CLPWATER Sample Name: ICB Operator: SMM
Run Time: 04/12/91 10:30:05
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	43.3	.860	.705	1120.	11.6	22.9
SDev	6.31	18.7	.410	1.66	492.	3.2	7.5
%RSD	-177.	43.2	47.7	236.	44.0	27.9	32.9
#1	<.000	61.8	1.24	.352	1610.	15.2	30.8
#2	3.57	43.7	.918	<.000	1130.	9.19	22.1
#3	<.000	24.4	.423	2.51	623.	10.3	15.8
Errors Value Range	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10.0	25.8	1060.	2.52	<.000	865.	<.000
SDev	4.1	8.7	477.	1.63	12.5	475.	3.61
%RSD	41.1	33.9	45.0	64.6	-1080.	54.9	-231.
#1	14.5	34.3	1520.	3.69	8.64	367.	<.000
#2	9.26	26.4	1090.	3.20	3.10	1310.	1.31
#3	6.34	16.8	570.	.662	<.000	916.	<.000
Errors Value Range	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	996.	10.8	2.39	37.8	D.000
SDev	489.	2.9	1.96	29.2	10.8
%RSD	49.1	27.0	81.8	77.1	-27.2
#1	1480.	13.9	4.15	70.8	D.000
#2	1000.	10.4	2.74	27.4	D.000
#3	504.	8.14	.286	15.3	D.000
Errors Value Range	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK

B000092

Analysis Report QC Standard Fri 04-12-91 10:37:14 AM page 1

Method: CLPWATER Sample Name: CRI Operator: SMM
Run Time: 04/12/91 10:33:45
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	385.	415.	10.4	8.71	10700.	29.2	117.
SDev	56.	2.	.2	1.47	57.	6.3	5.
%RSD	14.6	.570	1.73	16.8	.531	21.7	4.56
#1	448.	412.	10.4	9.65	10600.	36.2	122.
#2	370.	417.	10.6	7.02	10700.	27.4	117.
#3	339.	417.	10.2	9.45	10700.	23.9	111.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	400.	400.	10.0	10.0	10000.	20.0	100.
Range	100.	100.	100.	100.	100.	100.	100.

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	55.9	214.	9990.	30.8	81.7	9960.	18.5
SDev	6.1	1.	30.	.3	5.3	957.	2.5
%RSD	11.0	.399	.300	.960	6.50	9.61	13.4
#1	62.4	214.	9970.	31.0	76.8	11000.	21.3
#2	55.2	214.	10000.	31.0	87.4	9700.	16.9
#3	50.2	213.	9980.	30.5	80.9	9150.	17.2
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	50.0	200.	10000.	30.0	80.0	10000.	20.0
Range	100.	100.	100.	100.	100.	100.	100.

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	10300.	103.	41.4	44.0	D67.6
SDev	5.	2.	2.2	20.0	5.9
%RSD	.049	2.26	5.24	45.4	8.69
#1	10300.	105.	38.9	47.6	D60.8
#2	10300.	105.	42.0	61.9	D71.0
#3	10300.	101.	43.1	22.5	D71.0
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	10000.	100.	40.0		120
Range	100.	100.	100.		

B000093

Analysis Report QC Standard Fri 04-12-91 10:40:54 AM page 1

Method: CLPWATER Sample Name: ICSAI Operator: SMM
Run Time: 04/12/91 10:37:25
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	516000.	<.000	<.000	<.000	499000.	<.000	2.48
SDev	2658.	.636	.070	3.09	1679.	1.31	1.52
%RSD	.515	-9.08	-22.4	-24.8	.337	-12.3	61.6
#1	516000.	<.000	<.000	<.000	498000.	<.000	4.10
#2	518000.	<.000	<.000	<.000	501000.	<.000	1.07
#3	513000.	<.000	<.000	<.000	497000.	<.000	2.26
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value	500000.				500000.		
Range	20.0				20.0		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	6.14	196000.	527000.	<.000	4.39	<.000	<.000
SDev	1.93	749.	2062.	.790	6.20	337.	2.42
%RSD	31.3	.383	.391	-4.07	141.	-94.2	-13.3
#1	8.05	195000.	527000.	<.000	<.000	<.000	<.000
#2	4.20	196000.	529000.	<.000	6.62	<.000	<.000
#3	6.17	195000.	525000.	<.000	9.17	<.000	<.000
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		200000.	500000.				
Range		20.0	20.0				

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	115.	3.80	11.9	45.0	<.000
SDev	10.	.54	3.0	33.4	58.9
%RSD	8.69	14.3	25.0	74.2	-29.5
#1	118.	3.47	10.3	8.82	<.000
#2	104.	4.43	10.0	74.6	<.000
#3	123.	3.51	15.3	51.6	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000094

Analysis Report QC Standard Fri 04-12-91 10:44:34 AM page 1

Method: CLPWATER Sample Name: ICSAB Operator: SMM
Run Time: 04/12/91 10:41:05
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	503000.	496.	505.	1000.	486000.	476.	493.
SDev	1633.	3.	2.	5.	1339.	3.	2.
%RSD	.324	.528	.321	.473	.276	.700	.473
#1	503000.	494.	504.	996.	486000.	472.	490.
#2	505000.	499.	507.	1000.	487000.	479.	495.
#3	502000.	496.	505.	1000.	485000.	477.	492.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500000.	500.	500.	1000.	500000.	500.	500.
Range	20.0	20.0	20.0	20.0	20.0	20.0	20.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	503.	191000.	514000.	475.	973.	<.000	1000.
SDev	3.	563.	960.	2.	8.	296.	2.
%RSD	.646	.294	.187	.478	.854	-109.	.231
#1	499.	191000.	514000.	473.	980.	<.000	999.
#2	503.	192000.	515000.	478.	974.	<.000	1000.
#3	506.	191000.	513000.	474.	964.	66.2	1000.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	500.	200000.	500000.	500.	1000.		1000.
Range	20.0	20.0	20.0	20.0	20.0		[illegible]

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	32.7	489.	950.	964.	<.000
SDev	26.4	2.	8.	31.	82.1
%RSD	80.6	.384	.819	3.20	-62.1
#1	9.40	491.	948.	967.	<.000
#2	61.3	487.	958.	994.	<.000
#3	27.4	490.	943.	932.	<.000
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value		500.	1000.	1000.	
Range		20.0	20.0	20.0	

B000095

Analysis Report Blank Sample Fri 04-12-91 10:48:13 AM page 1

Method: CLPWATER Sample Name: Blank Operator: SMM
Run Time: 04/12/91 10:44:45
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2230.	2.44	1.92	3.76	2360.	9.19	11.0
SDev	1013.	.99	.93	2.31	1044.	3.23	2.9
%RSD	45.4	40.6	48.6	61.4	44.3	35.2	26.5
01	3270.	3.58	2.89	6.35	3410.	12.8	12.5
02	2180.	1.86	1.83	1.93	2330.	6.70	7.66
03	1250.	1.88	1.04	2.99	1330.	8.03	12.9

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	6.52	948.	2260.	.711	<.000	568.	.960
SDev	2.92	413.	996.	1.03	12.4	584.	6.28
%RSD	44.7	43.6	44.0	146.	-535.	88.9	641.
01	9.72	1360.	3280.	1.75	<.000	576.	6.11
02	4.02	941.	2220.	.713	<.000	58.9	<.000
03	5.82	538.	1290.	<.000	11.9	1070.	2.72

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	2.26	.445	32.1	D.000
SDev	16.2	1.28	2.93	25.4	17.3
%RSD	-17.4	56.5	659.	79.2	-726.
01	<.000	3.70	<.000	3.56	D.000
02	<.000	1.23	2.76	40.4	D.000
03	<.000	1.86	1.42	52.3	D17.5

Analysis Report QC Standard Fri 04-12-91 10:51:52 AM page 1

Method: CLPWATER Sample Name: LCS Operator: SMM
Run Time: 04/12/91 10:48:24
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

BLANK WAS SM CONTAMINATED

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	Q.000	2150.	54.0	51.7	<.000	218.	568.
Sdev	135.	3.	.3	2.5	127.	2.	3.
%RSD	-359.	.148	.486	4.84	-5.57	.928	.514
	Q113.	2150.	54.2	54.5	<.000	220.	565.
	Q.000	2150.	54.0	50.6	<.000	216.	568.
	Q.000	2150.	53.7	49.8	<.000	217.	570.
Errors	QC Fail	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	2000.	2000.	50.0	50.0		200.	500.
Range	20.0	20.0	20.0	20.0		20.0	20.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K 7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	271.	Q169.	<.000	555.	575.	<.000	52.7
Sdev	.	58.	115.	1.	14.	607.	3.6
%RSD	.183	34.1	-5.12	.206	2.37	-901.	6.81
	271.	Q224.	<.000	555.	574.	316.	54.3
	272.	Q175.	<.000	556.	561.	249.	48.6
	272.	Q109.	<.000	554.	588.	<.000	55.2
Errors	QC Pass	QC Fail	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250.	1000.		500.	500.		50[illegible]
Range	20.0	20.0		20.0	20.0		

Elem	Na6889	V_2924	Zn2138	Pb2203	Sb2176
Units	ppb	ppb	ppb	ppb	ppb
Avge	32.9	541.	546.	548.	D411.
Sdev	20.2	1.	2.	12.	24.
%RSD	61.5	.106	.309	2.19	5.92
	49.1	540.	546.	561.	D383.
	39.4	541.	548.	545.	D425.
	10.2	541.	545.	538.	D425.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value		500.	500.	500.	500.
Range		20.0	20.0	20.0	20.0

B00097

Analysis Report Blank Sample Fri 04-12-91 10:56:43 AM page 1

Method: CLPWATER Sample Name: Blank Operator: SMM
Run Time: 04/12/91 10:53:23
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	4.18	<.000	.743	15.3	6.33	10.6
SDev	54.3	2.02	.203	3.06	12.1	2.27	2.6
%RSD	-3040.	48.2	-995.	412.	79.2	35.9	24.6
#1	60.7	6.49	.171	3.91	29.0	8.89	13.1
#2	<.000	3.32	<.000	.514	10.7	4.54	10.7
#3	<.000	2.74	.002	<.000	6.14	5.56	7.93

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5.71	10.4	<.000	<.000	2.67	530.	<.000
SDev	6.42	5.2	27.6	.513	3.12	868.	4.00
%RSD	112.	50.0	-915.	-154.	117.	164.	-577.
#1	13.1	16.4	28.0	.179	<.000	1530.	3.21
#2	1.39	6.81	<.000	<.000	2.83	123.	<.000
#3	2.66	8.07	<.000	<.000	5.70	<.000	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	2.41	<.000	35.2	D.000
SDev	44.5	2.70	2.64	8.1	22.5
%RSD	-125.	112.	-34.1	23.1	-62.2
#1	12.7	3.99	<.000	28.4	D.000
#2	<.000	<.000	<.000	33.0	D.000
#3	<.000	3.95	<.000	44.1	D.000

Analysis Report QC Standard 5^ Fri 04-12-91 11:00:57 AM page 1

Method: CLPWATER Sample Name: LCSW Operator: SMM
Run Time: 04/12/91 10:57:29
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2110.	2150.	55.9	53.5	23.1	222.	570.
SDev	17.	18.	.3	1.5	5.1	4.	3.
%RSD	.807	.844	.494	2.76	22.0	1.69	.551
#1	2130.	2140.	55.8	55.2	18.0	227.	572.
#2	2100.	2130.	55.7	52.5	28.2	219.	566.
#3	2100.	2160.	56.2	52.8	23.1	221.	571.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value	2000.	2000.	50.0	50.0		200.	500.
Range	20.0	20.0	20.0	20.0		20.0	20.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	275.	1080.	12.1	554.	561.	<.000	51.4
SDev	3.	8.	5.8	3.	3.	339.	.9
%RSD	.975	.767	47.9	.627	.541	-71.2	1.81
#1	278.	1080.	15.4	552.	559.	<.000	50.4
#2	275.	1080.	15.4	551.	560.	<.000	51.4
#3	272.	1090.	5.39	558.	565.	<.000	52.2
Errors	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250.	1000.		500.	500.		50.0
Range	20.0	20.0		20.0	20.0		20.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	2.78	540.	545.	543.	D521.
SDev	28.5	4.	6.	26.	16.
%RSD	1030.	.648	1.18	4.82	3.08
#1	23.9	538.	539.	563.	D526.
#2	14.1	538.	546.	513.	D503.
#3	<.000	544.	552.	552.	D534.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value		500.	500.	500.	500.
Range		20.0	20.0	20.0	20.0

B000099

Analysis Report QC Standard Fri 04-12-91 11:10:52 AM page 1

Method: CLPWATER Sample Name: CCV1 Operator: SMM
Run Time: 04/12/91 11:07:23
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9830.	9970.	249.	244.	245000.	486.	2460.
Stdev	42.	30.	1.	3.	1116.	3.	9.
RSD	.432	.299	.280	1.14	.457	.686	.364
	9800.	9940.	248.	241.	243000.	483.	2450.
	9880.	10000.	249.	244.	245000.	486.	2460.
	9800.	9960.	249.	246.	245000.	489.	2470.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1230.	4910.	246000.	738.	2000.	248000.	499.
Stdev	5.	24.	1429.	3.	15.	242.	1.
RSD	.392	.497	.581	.373	.754	.098	.249
	1230.	4880.	244000.	735.	1980.	248000.	499.
	1230.	4930.	247000.	739.	2000.	248000.	499.
	1220.	4920.	247000.	740.	2010.	248000.	497.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	[illegible]
Range	10.0	10.0	10.0	10.0	10.0	10.0	[illegible]

Elem	Na6589	V_2924	Zn2138	Pb2203	Sb2171
Units	ppb	ppb	ppb	ppb	ppb
Avge	249000.	2470.	967.	190.	3050.
Stdev	475.	6.	5.	8.	96.
RSD	.191	.244	.489	4.07	3.16
	249000.	2470.	962.	198.	2980.
	250000.	2480.	967.	183.	3160.
	249000.	2480.	972.	187.	3020.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

Analysis Report QC Standard Fri 04-12-91 11:14:31 AM page 1

Method: CLPWATER Sample Name: CCB1 Operator: SMM
Run Time: 04/12/91 11:11:03
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	48.9	34.0	.751	<.000	940.	4.77	9.64
SDev	21.3	18.4	.531	2.68	455.	3.83	7.58
%RSD	43.6	54.3	70.7	-592.	48.4	80.2	78.7
#1	69.4	52.5	1.21	<.000	1400.	8.22	17.0
#2	50.5	33.8	.876	1.49	940.	5.43	10.1
#3	26.8	15.6	.168	.663	486.	.654	1.86
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5.50	11.2	910.	1.49	<.000	1160.	2.71
SDev	3.77	10.2	425.	1.83	8.94	458.	3.65
%RSD	68.5	91.1	46.7	123.	-277.	39.5	134.
#1	9.02	21.8	1330.	3.01	7.09	1610.	2.84
#2	5.97	10.5	929.	2.00	<.000	1180.	6.30
#3	1.52	1.36	476.	<.000	<.000	692.	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	885.	8.64	7.25	1.48	D31.4
SDev	463.	3.68	2.78	30.9	22.8
%RSD	52.3	42.6	38.3	2090.	72.6
#1	1340.	12.4	10.4	26.3	D32.6
#2	895.	8.51	5.10	11.3	D8.01
#3	417.	5.03	6.26	<.000	D53.6
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000101

SM

Analysis Report Fri 04-12-91 11:18:06 AM page 1

PB

Method: CLPWATER Sample Name: PREP BLK SAUGET W1 Operator: SMM
Run Time: 04/12/91 11:14:41
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	.393	<.000	<.000	100.	4.16	3.99
SDev	32.2	1.76	.098	2.51	47.	1.73	8.19
%RSD	-166.	448.	-102.	-407.	47.0	41.6	150.
	8.77	2.23	<.000	<.000	148.	6.06	9.69
	<.000	.234	<.000	<.000	99.2	3.71	<.000
	<.000	<.000	<.000	2.28	53.4	0.70	0.76

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K 7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2.45	<.000	105.	<.000	<.000	531.	<.000
SDev	2.19	.779	76.	.329	5.93	435.	5.16
%RSD	89.4	-98.1	72.3	-168.	-238.	81.8	-900.
	4.94	.105	180.	<.000	2.09	903.	2.67
	1.55	<.000	106.	<.000	<.000	56.4	2.34
	.847	<.000	28.6	<.000	<.000	632.	<.000

Elem	Na5889	V 2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	140.	1.09	6.46	15.1	D20.8
SDev	22.	.40	6.38	2.3	40.3
%RSD	15.7	36.3	98.7	15.2	194.
	117.	.927	.594	12.4	D.000
	161.	.797	5.54	16.6	D58.2
	141.	1.54	13.3	16.2	D26.0

B0005102

Analysis Report Fri 04-12-91 11:21:41 AM page 1

Method: CLPWATER Sample Name: B104062 Operator: SMM
Run Time: 04/12/91 11:18:15
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	502.	<.000	<.000	145000.	2.25	4.28
SDev	9.12	3.	.087	2.48	856.	1.16	1.78
%RSD	-57.8	.625	-26.8	-144.	.590	51.4	41.5
[illegible]	<.000	499.	<.000	<.000	144000.	1.90	2.53
[illegible]	<.000	503.	<.000	1.10	145000.	3.53	5.01
[illegible]	<.000	505.	<.000	<.000	146000.	1.30	4.70

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2.88	166.	36700.	38.6	3.52	5420.	<.000
SDev	3.47	3.	116.	.9	1.79	718.	8.40
%RSD	121.	1.82	.315	2.25	50.9	13.2	-134.
[illegible]	5.09	166.	36500.	38.8	3.88	4770.	<.000
[illegible]	4.67	163.	36700.	37.6	5.11	6190.	<.000
[illegible]	<.000	169.	36800.	39.3	1.57	5310.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	14600.	<.000	38.4	<.000	D31.9
SDev	52.	1.19	3.0	33.3	17.6
%RSD	.359	-228.	7.89	-251.	55.1
[illegible]	14500.	<.000	38.8	<.000	D52.2
[illegible]	14600.	.143	35.1	<.000	D22.5
[illegible]	14600.	.186	41.1	16.9	D21.0

B000103

Analysis Report Fri 04 12 91 11:25:15 AM page 1

Method: CLPWATER Sample Name: B104062L 5X Operator: SMM
Run Time: 04/12/91 11:21:50
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 5.55

Elem	A13082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1790.	521.	<.000	<.000	156000.	10.9	2.88
SDev	93.	5.	.376	6.11	1215.	3.5	19.3
%RSD	5.19	.917	-41.7	-72.5	.779	32.2	670.
#1	1880.	523.	<.000	<.000	157000.	13.2	<.000
#2	1800.	524.	<.000	<.000	156000.	6.83	19.2
#3	1690.	516.	<.000	<.000	155000.	12.5	7.80

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5.73	198.	38400.	39.4	<.000	8430.	9.51
SDev	18.0	4.	314.	4.4	53.2	2604.	32.4
%RSD	314.	2.02	.817	11.1	-98.2	30.9	341.
#1	26.0	193.	38700.	34.6	<.000	7190.	46.6
#2	<.000	200.	38300.	40.4	<.000	11400.	<.000
#3	<.000	200.	38100.	43.2	<.000	6680.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	16100.	<.000	70.5	<.000	D.000
SDev	184.	7.29	31.5	119.	164.
%RSD	1.15	-232.	44.7	-76.6	-137.
#1	16200.	<.000	36.3	<.000	D.000
#2	16200.	1.29	76.6	<.000	D.000
#3	15900.	.853	98.5	<.000	D61.0

000104

Analysis Report Fri 04-12-91 11:28:50 AM page 1

Method: CLPWATER Sample Name: B104062D DUP1 Operator: SMM
Run Time: 04/12/91 11:25:24
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	501.	<.000	<.000	145000.	1.79	3.07
Sdev	43.5	3.	.050	3.07	565.	3.06	2.18
%RSD	-99.1	.684	-20.3	-63.3	.390	171.	71.0
#1	<.000	499.	<.000	<.000	144000.	<.000	2.69
#2	<.000	505.	<.000	<.000	145000.	5.28	1.11
#3	.040	498.	<.000	<.000	144000.	.476	5.42

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1.66	172.	36500.	38.4	<.000	5600.	<.000
Sdev	1.30	1.	190.	.3	4.18	817.	4.08
%RSD	78.7	.314	.519	.829	-124.	14.6	-175.
#1	2.41	172.	36500.	38.2	.523	4700.	<.000
#2	2.41	171.	36800.	38.8	<.000	5820.	<.000
#3	.152	172.	36400.	38.2	<.000	6290.	2.31

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	14600.	<.000	34.5	<.000	D.000
Sdev	129.	1.46	2.4	19.5	18.9
%RSD	.879	-129.	6.94	-101.	-141.
#1	14600.	<.000	35.0	<.000	D.000
#2	14800.	<.000	32.0	<.000	D.646
#3	14500.	.535	36.7	<.000	D.000

B000105

Analysis Report Fri 04-12-91 11:32:25 AM page 1

Method: CLPWATER Sample Name: B1040625SPIKE1 Operator: SMM
Run Time: 04/12/91 11:28:59
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	2190.	2770.	58.7	52.1	144000.	225.	578.
Sdev	48.	18.	.3	2.5	434.	6.	4.
%RSD	2.17	.647	.504	4.72	.301	2.46	.660
	2240.	2750.	58.5	49.3	143000.	231.	581.
	2140.	2780.	58.6	53.8	144000.	220.	579.
	2190.	2780.	59.0	53.2	144000.	225.	576.

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	281.	1270.	36400.	604.	577.	5140.	49.8
Sdev	2.	7.	141.	3.	11.	529.	4.4
%RSD	.780	.545	.388	.543	1.95	10.3	9.00
	281.	1270.	36200.	600.	573.	5750.	54.1
	279.	1280.	36400.	606.	568.	4870.	46.8
	284.	1280.	36500.	606.	589.	4800.	46.1

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	14700.	559.	590.	536.	579.
Sdev	18.	5.	3.	34.	25.
%RSD	.126	.950	.457	6.27	4.37
	14700.	555.	587.	575.	608.
	14600.	558.	591.	511.	561.
	14700.	565.	592.	524.	568.

B000506

Analysis Report Fri 04-12 91 11:36:00 AM page 1

Method: CLPWATER Sample Name: B104063 Operator: SMM
Run Time: 04/12/91 11:32:33
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	89.2	.037	<.000	164000.	4.85	8.51
SDev	36.7	6.0	.213	2.05	596.	3.81	1.68
%RSD	-455.	6.77	574.	-131.	.363	78.6	19.7
1	15.7	95.2	.173	.361	164000.	8.73	9.68
2	<.000	89.2	.147	<.000	164000.	4.71	9.26
3	10.5	83.1	<.000	<.000	165000.	1.11	6.59

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9.97	400.	25800.	2750.	1.91	6330.	1.66
SDev	3.95	2.	49.	21.	4.71	1067.	3.48
%RSD	39.6	.469	.191	.767	246.	16.8	281.
1	14.4	398.	25800.	2730.	<.000	7000.	3.68
2	8.51	402.	25800.	2750.	6.32	6900.	<.000
3	6.96	401.	25900.	2770.	2.45	5100.	3.16

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	6240.	1.54	57.6	<.000	D55.3
SDev	69.	3.08	4.3	27.0	6.8
%RSD	1.10	201.	7.40	-839.	12.4
1	6300.	1.14	57.2	<.000	D51.5
2	6250.	4.80	62.1	24.3	D63.2
3	6170.	<.000	53.6	<.000	D51.1

B000107

Analysis Report Fri 04-12-91 11:39:34 AM page 1

Method: CLPWATER Sample Name: B104064 Operator: SMM
Run Time: 04/12/91 11:36:08
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	96.4	23.3	<.000	.130	11900.	3.99	1.67
SDev	29.1	.3	.176	1.29	319.	4.96	5.44
%RSD	30.2	1.41	-85.7	990.	2.69	124.	325.
[illegible]	98.1	23.2	<.000	1.54	12200.	9.47	6.92
[illegible]	66.4	23.7	<.000	<.000	11800.	<.000	1.05
[illegible]	125.	23.1	<.000	<.000	11600.	2.62	<.000

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	74.7	724.	1710.	100.	<.000	3150.	1.63
SDev	4.6	1.	53.	6.	9.80	484.	1.53
%RSD	6.20	.192	3.10	5.76	-119.	15.4	93.6
[illegible]	80.0	725.	1770.	107.	2.27	2730.	.043
[illegible]	72.5	724.	1700.	99.2	<.000	3680.	1.76
[illegible]	71.5	723.	1670.	95.2	<.000	3030.	3.09

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	1070.	2.07	658.	4.50	D.000
SDev	10.	3.47	4.	32.9	26.3
%RSD	.947	167.	.586	732.	-116.
[illegible]	1080.	3.58	662.	42.2	D.000
[illegible]	1070.	4.54	654.	<.000	D.000
[illegible]	1060.	<.000	657.	<.000	D7.61

B000105

Analysis Report Fri 04-12-91 11:43:09 AM page 1

Method: CLPWATER Sample Name: B104065 Operator: SMM
Run Time: 04/12/91 11:39:43
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	130.	<.000	<.000	141000.	5.85	6.22
Dev	18.0	.	.088	4.91	479.	1.46	2.62
RSD	-107.	.313	-52.1	-384.	.340	24.9	42.1
1	<.000	130.	<.000	<.000	141000.	7.52	9.12
2	<.000	129.	<.000	1.67	140000.	5.20	5.52
3	<.000	130.	<.000	1.44	141000.	4.83	4.02

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	As3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	13.2	977.	32100.	712.	<.000	4340.	<.000
Dev	1.1	1.	175.	1.	5.64	307.	3.12
RSD	8.04	.054	.545	.159	-156.	7.09	-114.
1	14.3	978.	32000.	712.	<.000	3990.	.448
2	13.1	977.	32100.	711.	2.45	4560.	<.000
3	12.1	978.	32300.	713.	<.000	4460.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	20900.	<.000	580.	4.94	D.000
Dev	66.	2.00	2.	39.9	7.18
RSD	.315	-217.	.297	808.	-1030.
1	20800.	<.000	581.	<.000	D7.48
2	20900.	<.000	578.	8.56	D.000
3	20900.	.906	581.	42.9	D.000

B000109

Analysis Report Fri 04-12-91 11:46:44 AM page 1

Method: CLPWATER Sample Name: B104066 Operator: SMM
Run Time: 04/12/91 11:43:18
Comment: Sauget Water Samples - ug/l
Mode: CONC Corr. Factor: 1.11

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	273.	<.000	<.000	202000.	3.96	3.29
SDev	33.0	.	.098	1.66	166.	3.36	4.00
%RSD	-113.	.172	-30.2	-59.6	.082	84.9	122.
	4.31	273.	<.000	<.000	203000.	7.24	8.58
	<.000	273.	<.000	<.000	202000.	.524	<.000
	<.000	272.	<.000	<.000	202000.	4.11	3.61

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.485	21700.	41600.	1590.	<.000	7110.	.542
SDev	2.40	5.	93.	3.	3.54	372.	4.23
%RSD	495.	.021	.224	.179	-31.9	5.23	780.
	2.27	21700.	41700.	1590.	<.000	6990.	1.69
	<.000	21800.	41600.	1590.	<.000	6820.	<.000
	1.43	21700.	41500.	1590.	<.000	7530.	4.07

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	24400.	<.000	7.30	<.000	D54.2
SDev	69.	2.30	5.24	16.2	23.6
%RSD	.283	-423.	71.7	-142.	43.5
	24400.	<.000	4.04	<.000	D41.7
	24400.	<.000	13.3	6.98	DB1.4
	24800.	1.60	4.52	<.000	D39.5

B00070

ICP RUN - SOIL
SAUGET

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 1 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-P	5/1	Profile			
-S	5/5	BLANK			
-S	5/4	S16			
-S	5/3	S6X			
-S	5/2	S17			
-P	5/6	Profile			
-P	5/7	Profile			
-B	5/8	Blank	1		
-Q	5/9	FE200000	1	FE200000	Alarm/Halt
-Q	5/10	CA500000	1	CA500000	Alarm/Halt
-Q	5/11	MG500000	1	MG500000	Alarm/Halt
-Q	5/12	AL500000	1	AL500000	Alarm/Halt
-Q	5/13	LRA TRACE + K	1	LRA_TR_K	Alarm/Halt
-Q	5/14	LRA MACRO	1	LRAMAC_H	Alarm/Halt

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
<Arrow> keys active <Page> keys active

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 2 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-P	5/15	Profile			
-Q	5/16	RINSE	1	NOCK	Alarm/Continue
-B	5/17	Blank	1		
-Q	5/18	ICV	1	ICV	Alarm/Halt
-Q	5/19	RINSE	1	NOCK	Alarm/Continue
-Q	5/20	ICB	1	NOCK	Alarm/Continue
-Q	5/22	CRI	1	CRI	Alarm/Continue
-Q	5/23	ICSA	1	ICSA	Alarm/Halt
-Q	5/24	ICSAB	1	ICSAB	Alarm/Halt
-Q	5/25	RINSE	1	NOCK	Alarm/Continue
-Q	5/26	LCS	.199	LCSMGKG	Alarm/Halt
-Q	5/27	LCS 1:4	.995	LCSMGKG	Alarm/Continue
-Q	5/28	CCV	1	CCV	Alarm/Halt
-Q	5/29	RINSE	1	NOCK	Alarm/Continue

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
<Arrow> keys active <Page> keys active

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 3 of 5

B000116

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action

2	1/2	B104067 ORIG	.244		
3	1/3	B104067 1:4	1.22		
4	1/4	B104067 DUP	.237		
5	1/5	B104067 SPIKE	.244		
6	1/6	B104068	.265		
7	1/7	B104069	.277		
8	1/8	B104070	.23		
9	1/9	B104071	283		
-Q	5/31	CCV	1	CCV	Alarm/Halt
-Q	5/32	RINSE	1	NOCK	Alarm/Continue
-Q	5/33	CCB	1	NOCK	Alarm/Continue
10	1/10	B104072	.361		

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
<Arrow> keys active <Page> keys active

Editing Samples Autosampler | Tables | Methods | Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 4 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
11	1/11	B104072 1:4	1.805		
12	1/12	B104072 1:49	18.05		
13	1/13	B104073	.29		
14	1/14	B104074	.29		
15	1/15	B104074 1:4	1.45		
16	1/16	B104075	.28		
17	1/17	B104076	.299		
18	1/18	B104076 1:4	1.495		
-Q	5/34	CCV	1	CCV	Alarm/Halt
-Q	5/35	RINSE	1	NOCK	Alarm/Continue
-Q	5/36	CCB	1	NOCK	Alarm/Continue
19	1/19	B104077	.256		
20	1/20	B104078	.335		
21	1/21	B104079	.283		

F1= InsSample ~~F2=~~ Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
<Arrow> keys active <Page> keys active

Editing Samples Autosampler | Tables | Methods | Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 5 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-Q	5/37	RINSE	1	NOCK	Alarm/Continue
-Q	5/38	CRI	1	CRI	Alarm/Continue
-Q	5/39	ICSA	1	ICSA	Alarm/Halt
-Q	5/40	ICSAB	1	ICSAB	Alarm/Halt
-Q	5/41	CCV	1	CCV	Alarm/Halt
-Q	5/42	RINSE	1	NOCK	Alarm/Continue
-Q	5/43	CCB	1	NOCK	Alarm/Continue

Sauget - Soil Samples
ReRun 21May91
S. Mins

Good Run

B000118

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 1 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-P	5/1	Profile			
-S	5/5	BLANK			
-S	5/4	S16			
-S	5/3	S6X			
-S	5/2	S17			
-P	5/6	Profile			
-P	5/7	Profile			
-B	5/8	Blank	1		
-Q	5/9	FE200000	1	FE200000	Alarm/Halt
-Q	5/10	CA500000	1	CA500000	Alarm/Halt
-Q	5/11	MG500000	1	MG500000	Alarm/Halt
-Q	5/12	AL500000	1	AL500000	Alarm/Halt
-Q	5/13	LRA TRACE + K	1	LRA_TR_K	Alarm/Halt
-Q	5/14	LRA MACRO	1	LRAMAC_H	Alarm/Halt

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
(Arrow) keys active (Page) keys active

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 2 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-P	5/15	Profile			
-Q	5/16	RINSE	1	NOCK	Alarm/Continue
-B	5/17	Blank	1		
-Q	5/18	ICV	1	ICV	Alarm/Halt
-Q	5/19	RINSE	1	NOCK	Alarm/Continue
-Q	5/20	ICB	1	NOCK	Alarm/Continue
-Q	5/22	CRI	1	CRI	Alarm/Continue
-Q	5/23	ICSA	1	ICSA	Alarm/Halt
-Q	5/24	ICSAB	1	ICSAB	Alarm/Halt
-Q	5/25	RINSE	1	NOCK	Alarm/Continue
-Q	5/26	LCS	.199	LCSMGKG	Alarm/Halt
-Q	5/27	LCS 1:4	.995	LCSMGKG	Alarm/Continue
-Q	5/28	CCV	1	CCV	Alarm/Halt
-Q	5/29	RINSE	1	NOCK	Alarm/Continue

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
(Arrow) keys active (Page) keys active

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60

B000119

Page 3 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-Q	5/30	CCB	1	NOCK	Alarm/Continue

1	1/1	[illegible]				
2	1/2	B104067	ORIG	.244		
3	1/3	B104067	1:4	1.22		
4	1/4	B104067	DUP	.237		
5	1/5	B104067	SPIKE	.244		
6	1/6	B104068		.265		
7	1/7	B104069		.277		
8	1/8	B104070		.23		
9	1/9	B104071		.283		
-Q	5/31	CCV		1	CCV	Alarm/Halt
-Q	5/32	RINSE		1	NOCK	Alarm/Continue
-Q	5/33	CCB		1	NOCK	Alarm/Continue
10	1/10	B104072		.361		

F1= InsSample F2= Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
(Arrow) keys active (Page) keys active

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 4 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
11	1/11	B104072 1:4	1.805		
12	1/12	B104072 1:49	18.05		
13	1/13	B104073	.29		
14	1/14	B104074	.29		
15	1/15	B104074 1:4	1.45		
16	1/16	B104075	.28		
17	1/17	B104076	.299		
18	1/18	B104076 1:4	1.495		
-Q	5/34	CCV	1	CCV	Alarm/Halt
-Q	5/35	RINSE	1	NOCK	Alarm/Continue
-Q	5/36	CCB	1	NOCK	Alarm/Continue
19	1/19	B104077	.256		
20	1/20	B104078	.335		
21	1/21	B104079	.283		

F1= InsSample ~~F2=~~ Delete
F3= InsQC F4=
F5= InsStds F6= InsProfile
F7= InsBlank F8= InsRinse
F9= Done/Keep F10=HELP

Enter Sample Name
(up to 20 characters)
(Arrow) keys active (Page) keys active

Editing Samples Autosampler ¦ Tables ¦ Methods ¦ Main Menu
Table Name: SAUGET_S Set #1: SAUGET SOIL
Auto Rinse? Yes
Sample Positions: 9/30 STD Positions (approx.): 17/60
Page 5 of 5

Samp	R/Pos	SampleName	Factor	CheckTable	Failure Action
-Q	5/37	RINSE	1	NOCK	Alarm/Continue
-Q	5/38	CRI	1	CRI	Alarm/Continue
-Q	5/39	ICSA	1	ICSA	Alarm/Halt
-Q	5/40	ICSAB	1	ICSAB	Alarm/Halt
-Q	5/41	CCV	1	CCV	Alarm/Halt
-Q	5/42	RINSE	1	NOCK	Alarm/Continue
-Q	5/43	CCB	1	NOCK	Alarm/Continue

Standardization Prt. Tue 05-21-91 08:50:36 AM page 1

Method: CLPSOIL Standard: BLANK

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.039	.000	-.021	.006	-.002	.051	.067
SDev	.001	.003	.005	.002	.000	.028	.024
%RSD	2.07	4100.	-26.1	37.8	-9.36	55.1	35.6
#1	.040	.003	-.014	.004	-.003	.083	.095
#2	.040	.001	.027	.009	-.003	.043	.053
#3	.038	-.002	-.024	.007	-.002	.022	.054

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.019	.001	-.006	.001	.008	.027	-.005
SDev	.006	.001	.001	.000	.003	.007	.003
%RSD	33.7	95.2	-18.5	15.7	38.2	24.6	-73.5
#1	.026	.002	-.004	.001	.005	.034	-.007
#2	.016	.000	-.006	.001	.008	.022	-.006
#3	.015	.001	-.006	.001	.011	.025	-.001

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Avge	-.096	.006	-.019	.056	D-.015
SDev	.004	.008	.003	.007	.010
%RSD	-4.07	130.	-15.7	12.4	-70.4
#1	-.092	.015	-.022	.060	D-.022
#2	-.096	.001	-.018	.048	D-.003
#3	-.100	.002	-.016	.061	D-.019

B000121

Standardization Rpt. Tue 05-21-91 08:53:52 AM Page 1

Method: CLPSOIL Standard: S16 STD1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	42.2	.104	-.026	-.005	54.6	.146	.055
SDev	.2	.001	.003	.002	.1	.013	.008
%RSD	.365	1.02	-10.1	-35.9	.146	8.56	14.0
#1	42.2	.103	-.026	-.007	54.5	.156	.058
#2	42.3	.103	-.028	-.004	54.6	.132	.046
#3	42.0	.105	-.023	-.004	54.7	.149	.060

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	47.2	.018	62.2	-.004	-.005	.018	-.010
SDev	.2	.000	.1	.000	.009	.001	.006
%RSD	.439	1.29	.149	-3.27	-171.	7.28	-55.5
#1	47.2	.018	62.1	-.003	.004	.016	-.004
#2	47.4	.018	62.2	[illegible]	-.014	.018	-.015
#3	47.0	.018	62.2	-.004	-.006	.019	-.011

Elem	Na5889	V_2924	Zn2138	Pb2203
Avge	27.2	.004	.519	.219
SDev	.1	.007	.004	.006
%RSD	.408	193.	.813	2.69
#1	27.2	.011	.523	.222
#2	27.3	.000	.518	.223
#3	27.1	.000	.515	.213

Prep date 5/21/91 SM
Ca @ 1000000 ug/l
Mg @ 600000
Al } @ 500000
Na }
Cu @ 30000

B000122

Method: CLPSOIL Standard: S6X STD2

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.498	97.3	267.	20.0	.634	51.3	46.8
SDev	.144	.1	1.	.1	.207	.2	.3
%RSD	29.0	.077	.375	.566	32.7	.473	.547
#1	.626	97.4	266.	19.9	.820	51.1	46.6
#2	.525	97.3	267.	20.1	.670	51.2	46.8
#3	.342	97.4	268.	20.2	.411	51.5	47.1

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	16.5	.008	.533	.000	7.35	.022	.018
SDev	.2	.000	.195	.000	.04	.002	.004
%RSD	.961	3.95	36.6	34.6	.495	7.99	21.4
#1	16.6	.008	.700	.000	7.31	.021	.014
#2	16.5	.008	.581	.000	7.35	.020	.020
#3	16.3	.007	.318	.000	7.39	.024	.021

Elem	Na5889	V_2924	Zn2138	Pb2203
Avge	.243	40.0	43.5	4.71
SDev	.100	.1	.2	.04
%RSD	41.3	.356	.477	.952
#1	.335	39.9	43.3	4.67
#2	.256	39.9	43.5	4.72
#3	.136	40.2	43.8	4.76

Ba @ 20000 ug/l

Be
Cd
Cr
Co
Cu
Ni
V
Zn
Pb
} @ 10000 ug/l

B00123

Method: CLPSOIL Standard: CA1MEG STD3

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.086	.812	2.03	.164	56.7	.522	.452
SDev	.019	.319	.83	.062	.4	.173	.147
%RSD	21.7	39.3	41.0	37.7	.651	33.2	32.7
#1	.105	1.13	2.86	.227	56.3	.695	.598
#2	.087	.813	2.04	.163	56.8	.522	.454
#3	.067	.493	1.19	.103	57.0	.349	.303

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.195	.002	.056	.000	.069	.019	-.011
SDev	.075	.000	.024	.000	.021	.001	.001
%RSD	38.5	13.1	42.6	43.3	29.9	2.66	-9.43
#1	.270	.003	.080	.000	.091	.019	-.010
#2	.194	.002	.056	.000	.065	.019	-.011
#3	.120	.002	.032	.000	.050	.018	-.012

Elem	Na5889	V_2924	Zn2138	Pb2203
Avge	.002	.316	.368	.073
SDev	.011	.131	.147	.023
%RSD	560.	41.4	40.1	31.9
#1	.013	.447	.515	.093
#2	.002	.314	.367	.079
#3	-.009	.186	.221	.048

Ca @ 1000000 ug/l

Prep date 5/21/91 SMM

B000124

Method: CLPSOIL Standard: S17 STD 4

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.056	.076	.135	.021	.458	.033	.185
SDev	.002	.023	.064	.006	.161	.019	.020
%RSD	4.24	29.7	47.4	30.0	35.1	57.2	10.7
#1	.059	.100	.206	.029	.635	.055	.208
#2	.055	.072	.116	.018	.417	.023	.176
#3	.055	.056	.082	.018	.321	.021	.171

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.066	67.8	-.026	14.2	.002	3.53	1.65
SDev	.006	.6	.002	.1	.002	.04	.01
%RSD	8.42	.949	-7.02	.989	73.5	1.02	.695
#1	.071	67.0	-.024	14.0	.003	3.49	1.63
#2	.066	68.0	-.027	14.2	.004	3.55	1.65
#3	.060	68.2	-.028	14.3	.000	3.55	1.65

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Avge	-.025	-.003	.181	.037	4.03
SDev	.001	.016	.004	.002	.02
%RSD	-5.77	-522.	2.31	5.10	.412
#1	-.024	.015	.184	.039	4.03
#2	-.025	-.012	.182	.036	4.01
#3	-.027	-.012	.176	.037	4.04

Fe @ 200 000 ug/l
Mn @ 50000
K @ 500 000
Ag @ 1000

Prep date 5/21/91 SMM

B000125

Analysis Report QC Standard Tue 05-21-91 09:14:27 AM page 1

Method: CLPSOIL Sample Name: FE200000 Operator: SMM
Run Time: 05/21/91 09:11:11
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	123.	I.000	<.000	<.000	<.000	I.000	I3.00
SDev	4.	.624	.150	.671	7.00	1.86	2.39
%RSD	3.33	-124.	-25.7	-26.7	-48.7	-54.5	79.8
#1	128.	I.000	<.000	<.000	<.000	I.000	I2.35
#2	121.	I.002	<.000	<.000	<.000	I.000	I.993
#3	121.	I.000	<.000	<.000	<.000	I.000	I5.64
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I1.69	202000.	32.7	<.000	I.000	<.000	4.70
SDev	2.51	1036.	18.1	1.47	5.47	606.	1.63
%RSD	149.	.512	55.4	-5.73	-58.9	-60.4	34.7
#1	I.000	202000.	52.9	<.000	I.000	<.000	5.91
#2	I4.57	201000.	27.2	<.000	I.000	<.000	5.34
#3	I.535	203000.	17.9	<.000	I.000	<.000	2.84
Errors	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		200000.					
Range		10.0					

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	1110.	<.000	I4.12	<.000	D.000
SDev	14.	.900	1.39	23.1	15.7
%RSD	1.24	-30.1	33.7	-84.1	-73.7
#1	1110.	<.000	I2.52	<.000	D.000
#2	1120.	<.000	I4.90	<.000	D.000
#3	1090.	<.000	I4.93	<.000	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B00036

Analysis Report QC Standard Tue 05-21-91 09:17:46 AM page 1

Method: CLPSOIL Sample Name: CA500000 Operator: SMM
Run Time: 05/21/91 09:14:38
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	117.	I.000	<.000	8.28	527000.	I.533	I3.41
SDev	24.	.335	.091	1.76	3909.	1.82	2.20
%RSD	20.3	-141.	-16.2	21.3	.741	341.	64.6
#1	140.	I.000	<.000	6.64	524000.	I1.14	I5.56
#2	117.	I.116	<.000	8.04	527000.	I.000	I3.51
#3	92.8	I.000	<.000	10.1	531000.	I1.97	I1.16
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value					500000.		
Range					10.0		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I3.92	I1740.	I51.4	I.481	I31.1	I.000	I1.20
SDev	2.21	516.	12.0	.409	5.6	44.3	1.06
%RSD	56.4	29.7	23.3	85.1	18.0	-4.58	87.8
#1	I6.03	I2230.	I65.2	I.954	I25.6	I.000	I1.41
#2	I4.09	I1790.	I45.1	I.246	I30.8	I.000	I2.14
#3	I1.63	I1200.	I43.9	I.244	I36.8	I.000	I.059
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1190.	I.000	I19.7	I.000	D21.0
SDev	30.	.624	.7	19.6	8.5
%RSD	2.51	-41.7	3.45	-44.9	40.5
#1	I1160.	I.000	I19.4	I.000	D13.3
#2	I1220.	I.000	I19.2	I.000	D19.7
#3	I1200.	I.000	I20.5	I.000	D30.2
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000127

Analysis Report QC Standard Tue 05-21-91 09:21:06 AM page 1

Method: CLPSOIL Sample Name: MG500000 Operator: SMM
Run Time: 05/21/91 09:17:57
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	99.6	<.000	<.000	<.000	4820.	<.000	<.000
SDev	22.0	.565	.052	2.09	1428.	1.52	4.10
%RSD	22.1	-76.7	-8.59	-13300.	29.6	-261.	-1080.
#1	75.1	<.000	<.000	1.13	6120.	<.000	<.000
#2	106.	<.000	<.000	1.25	5040.	1.17	4.11
#3	118.	<.000	<.000	<.000	3290.	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	.144	151.	531000.	7.20	<.000	<.000	1.98
SDev	.510	53.	1947.	.06	10.3	353.	3.31
%RSD	354.	35.4	.367	.800	-501.	-27.5	167.
#1	<.000	200.	529000.	7.26	<.000	<.000	<.000
#2	.726	158.	531000.	7.18	<.000	<.000	4.08
#3	<.000	94.2	532000.	7.15	9.80	<.000	3.71
Errors	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value			500000.				
Range			10.0				

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	875.	<.000	2.81	<.000	<.000
SDev	10.	.752	.71	6.41	18.4
%RSD	1.12	-34.9	25.4	-11.3	-60.3
#1	885.	<.000	2.02	<.000	<.000
#2	865.	<.000	3.00	<.000	<.000
#3	876.	<.000	3.40	<.000	<.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000125

Analysis Report QC Standard Tue 05-21-91 09:24:26 AM page 1

Method: CLPSOIL Sample Name: AL500000 Operator: SMM
Run Time: 05/21/91 09:21:18
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	496000.	I.000	<.000	<.000	522.	I3.59	I.000
SDev	1494.	.500	.037	1.32	159.	.95	1.18
%RSD	.301	-12.1	-7.32	-57.8	30.5	26.6	-11.2
#1	495000.	I.000	<.000	<.000	663.	I3.55	I.000
#2	496000.	I.000	<.000	<.000	554.	I4.57	I.000
#3	498000.	I.000	<.000	<.000	349.	I2.66	I.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500000.						
Range	10.0						

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.230	I10.9	I4420.	I3.83	I.000	I.000	I2.33
SDev	1.97	6.0	1244.	.68	4.13	162.	1.74
%RSD	856.	55.4	28.2	17.7	-44.5	-19.3	74.8
#1	I1.24	I15.9	I5550.	I4.59	I.000	I.000	I.896
#2	I1.49	I12.4	I4610.	I3.33	I.000	I.000	I4.26
#3	I.000	I4.22	I3090.	I3.55	I.000	I.000	I1.82
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb2175
Units	ppb	ppb	ppb	ppb	ppb
Avge	I997.	I.730	I1.33	I.000	D.000
SDev	19.	.539	.86	30.2	23.5
%RSD	1.89	73.9	64.3	-67.5	-60.4
#1	I1000.	I1.34	I.345	I.000	D.000
#2	I1010.	I.545	I1.87	I.000	D.000
#3	I977.	I.307	I1.78	I.000	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000129

Analysis Report Blank Sample Tue 05-21-91 09:36:03 AM page 1

Method: CLPSOIL Sample Name: blank Operator:
Run Time: 05/21/91 09:33:04
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	467.	13.0	5.22	4.85	50.5	4.80	I10.1
SDev	92.	3.3	1.78	.17	25.4	2.32	2.4
%RSD	19 6	25.4	34.0	3.59	50.4	48.3	23.9
#1	530.	15.7	6.68	4.75	22.3	7.47	I12.9
#2	508.	13.9	5.74	4.75	57.6	3.29	I8.85
#3	361.	9.31	3.24	5.06	71.7	3.64	I8.59

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I16.2	I8.18	I74.0	I.277	I2.42	I.000	I3.64
SDev	3.5	.91	11.6	.008	3.62	181.	2.64
%RSD	21.3	11.2	15.7	2.93	150.	-135.	72.6
#1	I13.9	I7.38	I72.7	I.283	I.000	I.000	I1.47
#2	I14.6	I7.98	I86.2	I.281	I5.62	I.000	I6.59
#3	I20.2	I9.17	I63.0	I.268	I3.16	I.000	I2.87

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1200.	I6.90	I22.8	I.000	D38.6
SDev	13.	2.67	7.8	9.06	9.8
%RSD	1.08	38.7	34.2	-23.6	25.5
#1	I1180.	9.23	I13.8	I.000	D27.2
#2	I1200.	I7.48	I26.4	I.000	D44.8
#3	I1210.	I3.98	I28.1	I.000	D43.6

B000130

Analysis Report Blank Sample Tue 05-21-91 09:43:21 AM page 1

Method: CLPSOIL Sample Name: blank Operator:
Run Time: 05/21/91 09:40:21
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	130.	1.86	<.000	.133	30.6	I.000	I4.25
SDev	14.	.34	.092	1.44	14.7	.576	2.55
%RSD	10.7	18.4	-17.4	1080.	48.0	-35.1	60.1
#1	124.	2.08	<.000	1.07	18.8	I.000	I5.35
#2	119.	1.46	<.000	.865	25.9	<.000	I1.33
#3	146.	2.04	<.000	<.000	47.0	<.000	I6.07

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I14.2	I5.87	I34.7	I.000	I.000	I.000	I2.64
SDev	11.0	.67	30.9	.408	4.36	222.	1.51
%RSD	77.5	11.4	89.0	-58.8	-72.2	-28.4	57.3
#1	I6.59	I6.26	I36.0	I.000	I.000	I.000	I3.45
#2	I9.20	I5.10	I3.21	I.000	I.000	I.000	I.892
#3	I26.8	I6.25	I65.0	I.000	I.000	I.000	I3.56

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1130.	I.000	I7.80	I.000	D10.5
SDev	37.	1.05	4.73	10.8	8.4
%RSD	3.23	-192.	60.6	-20.8	80.3
#1	1170.	I.083	I4.63	I.000	D15.2
#2	1100.	I.033	I5.55	I.000	D.763
#3	I1130.	I.000	I13.2	I.000	D15.5

B000131

O.K

Analysis Report QC Standard Tue 05-21-91 09:55:44 AM page 1

Method: CLPSOIL Sample Name: ~~LRA~~ LRS TRACE + K Operator: SMM
Run Time: 05/21/91 09:52:36
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	185.	9920.	4860.	5000.	317.	4970.	4920.
SDev	6.	47.	48.	61.	5.	48.	55.
%RSD	3.27	.479	.987	1.23	1.70	.957	1.12
#1	190.	9870.	4810.	4930.	312.	4910.	4860.
#2	178.	9970.	4880.	5020.	322.	4990.	4950.
#3	188.	9920.	4890.	5040.	319.	5000.	4960.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass	QC Pass
Value		10000.	5000.	5000.		5000.	5000.
Range		5.00	5.00	5.00		5.00	5.00

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	5060.	<.000	<.000	<.000	4980.	498000.	992.
SDev	26.	1.14	4.86	.716	69.	3231.	8.
%RSD	.518	-16.5	-2.35	-29.4	1.40	.649	.767
#1	5030.	<.000	<.000	<.000	4900.	495000.	983.
#2	5090.	<.000	<.000	<.000	5020.	501000.	997.
#3	5070.	<.000	<.000	<.000	5020.	498000.	996.
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	QC Pass	QC Pass
Value	5000.				5000.	500000.	1000.
Range	5.00				5.00	5.00	5.00

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	1290.	4950.	4940.	4940.	5050.
SDev	29.	41.	54.	45.	34.
%RSD	2.28	.827	1.10	.916	.667
#1	1320.	4900.	4880.	4890.	5020.
#2	1290.	4970.	4970.	4950.	5040.
#3	1260.	4970.	4980.	4980.	5090.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	QC Pass
Value		5000.	5000.	5000.	5000.
Range		5.00	5.00	5.00	5.00

B000132

Analysis Report QC Standard Tue 05-21-91 10:04:19 AM page 1

Method: CLPSOIL Sample Name: ~~LRA~~ LRS MACRO Operator: SMM
Run Time: 05/21/91 10:01:10
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	491000.	16.9	.043	.215	959000.	4.96	<.000
SDev	2536.	.5	.204	.257	3327.	1.92	2.24
%RSD	.517	2.80	474.	119.	.347	38.7	-9.15
#1	492000.	16.4	<.000	.302	956000.	4.67	<.000
#2	492000.	17.3	.156	<.000	962000.	3.21	<.000
#3	488000.	17.0	.165	.417	961000.	7.01	<.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value	500000.				1000000.		
Range	5.00				5.00		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	29700.	506.	603000.	187.	<.000	<.000	<.000
SDev	200.	66.	1496.	17.	3.87	414.	3.68
%RSD	.673	13.1	.248	9.18	-92.2	-36.5	-3150.
#1	29900.	429.	601000.	167.	<.000	<.000	<.000
#2	29800.	546.	604000.	198.	<.000	<.000	<.000
#3	29500.	543.	602000.	197.	<.000	<.000	3.77
Errors	QC Pass	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	30000.		600000.				
Range	5.00		5.00				

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	500000.	<.000	<.000	<.000	65.5
SDev	3592.	1.60	.275	21.2	20.5
%RSD	.718	-76.1	-.280	-115.	31.2
#1	503000.	<.000	<.000	<.000	67.5
#2	502000.	<.000	<.000	<.000	84.9
#3	496000.	<.000	<.000	<.000	44.1
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value	500000.				
Range	5.00				

B000133

Analysis Report Blank Sample Tue 05-21-91 10:14:31 AM page 1

Method: CLPSOIL Sample Name: blank Operator:
Run Time: 05/21/91 10:11:32
Comment:
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	135.	1.89	<.000	.034	146.	I.000	I3.50
SDev	46.	.46	.128	2.42	56.	.392	3.56
%RSD	33.7	24.2	-22.7	7130.	38.7	-10.1	102.
#1	176.	2.41	<.000	1.77	202.	I.000	I3.81
#2	143.	1.55	<.000	<.000	146.	I.000	I.000
#3	86.2	1.71	<.000	1.07	89.4	I.000	I6.89

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I13.7	I10.4	I90.1	I.481	I.000	I.000	I.041
SDev	3.8	2.1	18.4	.408	4.51	231.	1.81
%RSD	28.2	20.4	20.4	84.7	-159.	-23.5	4380.
#1	I17.5	I12.7	I107.	I.25	I.172	I.000	I.000
#2	I13.7	I8.62	I92.0	I.952	<.000	I.000	I1.94
#3	I9.80	I9.79	70.8	I.242	I.000	I.000	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1160.	I.000	I15.1	I.000	D29.2
SDev	39.	1.43	3.0	11.4	7.4
%RSD	3.32	-450.	19.7	-18.4	25.3
#1	I1200.	I.000	I18.5	I.000	D23.9
#2	I1170.	I1.33	I14.0	I.000	D26.0
#3	I1120.	I.000	I12.9	<.000	D37.6

B000134

Method: CLPSOIL Standard: BLANK

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.047	.003	-.033	.003	-.001	.050	.087
SDev	.000	.001	.003	.003	.000	.020	.006
%RSD	.646	41.0	-7.85	91.5	-20.8	39.1	6.56
#1	.047	.003	-.036	.006	-.002	.048	.085
#2	.048	.005	-.031	.001	-.001	.071	.094
#3	.047	.002	-.033	.002	-.001	.032	.083

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.031	.096	-.001	.020	.004	.019	.000
SDev	.003	.016	.003	.003	.003	.001	.00
%RSD	9.03	16.6	-179.	16.4	76.2	7.48	-4500.
#1	.029	.109	-.004	.022	.007	.019	-.003
#2	.034	.102	.001	.021	.001	.021	.003
#3	.030	.078	-.002	.016	.006	.018	.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Avge	-.032	.006	.020	.032	D.000
SDev	.001	.006	.005	.002	.01
%RSD	-1.64	96.1	27.4	6.16	-1900.
#1	-.032	.001	.014	.030	D.002
#2	-.032	.013	.024	.033	D-.010
#3	-.033	.005	.021	.033	D.007

B000135

Analysis Report QC Standard Tue 05-21-91 10:21:50 AM page 1

Method: CLPSOIL Sample Name: ~~LRA~~ LRS FE MN Operator: SMM
Run Time: 05/21/91 10:18:42
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	157.	I.000	.305	.067	<.000	I29.0	I.000
SDev	9.	.146	.079	3.33	3.47	1.1	2.68
%RSD	5.74	-665.	25.9	4950.	-2.25	3.92	-37.5
#1	161.	I.000	.307	<.000	<.000	I30.3	I.000
#2	164.	I.117	.382	3.90	<.000	I28.2	I.000
#3	147.	I.000	.225	<.000	<.000	I28.5	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

OUT

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.000	206000.	<.000	Q53400.	I.000	<.000	13.4
SDev	2.52	536.	15.9	255.	4.35	243.	1.5
%RSD	-26.2	.261	-15.5	.477	-32.4	-89.3	11.5
#1	I.000	205000.	<.000	Q53300.	I.000	4.02	14.4
#2	I.000	205000.	<.000	Q53200.	I.000	<.000	14.2
#3	I.000	206000.	<.000	Q53700.	I.000	<.000	11.6
Errors	NOCHECK	QC Pass	NOCHECK	QC Fail	NOCHECK	NOCHECK	NOCHECK
Value		200000.		50000.			
Range		5.00		5.00			

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	193.	<.000	I.000	28.5	D.000
SDev	12.	1.45	1.94	9.0	15.0
%RSD	6.02	-24.1	-18.8	31.4	-20.5
#1	202.	<.000	I.000	30.7	D.000
#2	180.	<.000	I.000	18.7	D.000
#3	198.	<.000	I.000	36.2	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000136

Method: CLPSOIL Standard: BLANK

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.047	.002	-.033	.006	-.002	.038	.084
SDev	.002	.001	.002	.007	.000	.018	.004
%RSD	3.81	30.7	-7.26	116.	-12.4	46.4	4.15
#1	.046	.002	-.036	-.002	-.002	.026	.081
#2	.049	.003	-.031	.012	-.002	.058	.088
#3	.045	.003	-.034	.007	-.002	.030	.082

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.020	.010	-.001	.002	.003	.019	.003
SDev	.003	.004	.001	.001	.004	.002	.003
%RSD	13.1	34.4	-154.	36.1	159.	8.30	106.
#1	.022	.014	.000	.003	-.001	.019	.002
#2	.022	.011	.000	.002	.001	.021	.007
#3	.017	.007	-.002	.001	.007	.018	.001

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Avge	-.035	.005	-.007	.027	D-.007
SDev	.001	.003	.005	.006	.009
%RSD	-2.99	64.6	-68.4	20.4	-125.
#1	-.036	.004	-.006	.030	D-.013
#2	-.036	.009	-.003	.030	D-.012
#3	-.034	.003	-.012	.021	D.003

B0001377

Method: CLPSOIL Standard: S17

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Avge	.053	.012	-.036	.004	-.008	.006	.146
SDev	.002	.001	.002	.002	.000	.015	.009
%RSD	3.35	8.82	-6.55	51.8	.000	248.	5.89
#1	.054	.011	-.037	.002	-.008	-.006	.138
#2	.051	.013	-.038	.003	-.008	.001	.144
#3	.054	.012	-.033	.006	-.008	.022	.155

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Avge	.030	68.0	-.032	14.5	-.002	3.51	1.66
SDev	.004	.3	.001	.1	.005	.02	.01
%RSD	13.3	.435	-3.85	.410	-247.	.527	.624
#1	.025	68.1	-.033	14.5	-.001	3.51	1.67
#2	.032	68.3	-.031	14.6	-.008	3.53	1.67
#3	.032	67.7	-.031	14.4	.003	3.50	1.65

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Avge	-.034	-.025	.059	.040	4.15
SDev	.001	.010	.000	.017	.03
%RSD	-2.79	-41.4	.515	42.2	.803
#1	-.035	-.036	.059	.026	4.11
#2	-.033	-.020	.059	.058	4.14
#3	-.034	-.017	.060	.035	4.18

B0001 28

Analysis Report QC Standard ok Tue 05-21-91 10:41:43 AM page 1

Method: CLPSOIL Sample Name: ~~LRA~~ LRS FE MN Operator: SMM
Run Time: 05/21/91 10:38:35
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	165.	I1.94	.376	<.000	<.000	I27.4	I.000
SDev	18.	.10	.091	1.26	3.82	.8	3.61
%RSD	11.0	5.33	24.2	-888.	-21.1	2.96	-32.9
#1	161.	I2.04	.473	.090	<.000	I26.8	I.000
#2	149.	I1.95	.293	.987	<.000	I27.0	I.000
#3	185.	I1.83	.361	<.000	<.000	I28.3	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.000	202000.	<.000	51300.	I.000	2890.	13.9
SDev	.661	729.	6.73	172.	6.97	145.	2.3
%RSD	-1640.	.361	-9.66	.335	-90.2	5.00	16.8
#1	I.000	202000.	<.000	51400.	I.000	2760.	11.8
#2	I.000	202000.	<.000	51500.	I.000	2870.	13.4
#3	I.686	201000.	<.000	51100.	I.000	3040.	16.4
Errors	NOCHECK	QC Pass	NOCHECK	QC Pass	NOCHECK	NOCHECK	NOCHECK
Value		200000.		50000.			
Range		5.00		5.00			

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	261.	<.000	I17.5	43.6	D9.05
SDev	5.	2.15	1.5	28.2	18.9
%RSD	1.75	-30.1	8.66	64.7	209.
#1	263.	<.000	I18.5	76.0	D.000
#2	255.	<.000	I15.8	25.1	D17.1
#3	263.	<.000	I18.3	29.5	D22.6
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000139

Method: CLPSOIL Sample Name: ICV Operator: SMM
Run Time: 05/21/91 10:45:58
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9900.	9920.	242.	250.	258000.	497.	2400.
SDev	27.	38.	1.	1.	1871.	4.	24.
%RSD	.273	.384	.558	.574	.726	.709	.981
#1	9870.	9890.	240.	252.	256000.	493.	2370.
#2	9900.	9910.	242.	249.	258000.	500.	2400.
#3	9920.	9960.	243.	249.	260000.	497.	2420.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1250.	4870.	246000.	754.	1940.	252000.	487.
SDev	1.	54.	1824.	12.	16.	815.	2.
%RSD	.098	1.11	.740	1.56	.822	.323	.466
#1	1250.	4810.	245000.	742.	1920.	251000.	484.
#2	1250.	4880.	247000.	755.	1950.	252000.	489.
#3	1250.	4920.	248000.	765.	1950.	253000.	486.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	257000.	2460.	960.	268.	2980.
SDev	1000.	14.	6.	21.	9.
%RSD	.389	.558	.588	7.75	.304
#1	257000.	2440.	954.	292.	2980.
#2	257000.	2460.	962.	260.	2980.
#3	258000.	2470.	965.	252.	2970.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

B000140

Analysis Report QC Standard Tue 05-21-91 10:52:26 AM page 1

Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 10:49:18
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	85.0	78.7	1.72	2.77	1990.	I2.60	I17.6
SDev	24.9	13.1	.33	1.01	335.	1.56	.8
%RSD	29.3	16.7	19.3	36.5	16.9	60.1	4.50
#1	82.5	86.5	1.88	3.40	2180.	I3.79	I18.4
#2	111.	85.9	1.95	1.60	2180.	I3.17	I17.7
#3	61.3	63.5	1.34	3.30	1600.	I.832	I16.8
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I8.05	I28.7	I1700.	I4.55	I10.8	I2050.	I2.09
SDev	1.49	9.4	282.	1.58	6.1	135.	1.59
%RSD	18.6	32.7	16.6	34.8	56.5	6.58	76.0
#1	I7.09	I31.6	I1820.	I5.46	I7.67	I2100.	I.706
#2	I9.77	I36.3	I1910.	I5.46	I17.8	I2150.	I3.83
#3	I7.28	I18.2	I1380.	I2.72	I6.86	I1900.	I1.74
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1830.	I18.3	I8.82	I5.61	D26.4
SDev	370.	4.1	2.87	25.8	10.2
%RSD	20.2	22.3	32.5	460.	38.8
#1	I2070.	I19.8	I10.1	I1.93	D21.2
#2	I2020.	I21.5	I10.8	I33.0	D19.8
#3	I1410.	I13.7	I5.53	I.000	D38.2
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000141

Analysis Report QC Standard Tue 05-21-91 10:55:46 AM page 1

Method: CLPSOIL Sample Name: ICB Operator: SMM
Run Time: 05/21/91 10:52:38
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	70.3	20.6	.220	<.000	281.	I1.76	I1.97
SDev	8.9	2.1	.146	1.29	51.	1.00	2.29
%RSD	12.7	10.2	66.7	-552.	18.3	56.5	117.
#1	80.6	22.3	.359	<.000	322.	I2.88	I4.53
#2	66.4	21.2	.232	1.20	297.	I1.44	I1.24
#3	64.0	18.2	.067	<.000	223.	I.971	I.128
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I2.45	I.000	I210.	I.000	I.000	I544.	I.000
SDev	1.99	2.67	45.	.397	4.24	414.	1.33
%RSD	81.1	-17.2	21.4	-10.8	-911.	76.2	-132.
#1	I2.76	I.000	I242.	I.000	I.000	I753.	I.000
#2	I4.27	I.000	I230.	I.000	I3.91	I811.	I.344
#3	I.328	I.000	I159.	I.000	I.000	I66.6	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I202.	I3.73	I3.88	I19.5	D10.4
SDev	76.	1.84	.69	22.9	14.6
%RSD	37.6	49.3	17.7	118.	141.
#1	I264.	I5.42	I4.52	I45.8	D27.2
#2	I224.	I4.02	I3.96	I3.97	D1.82
#3	I117.	I1.77	I3.15	I8.62	D2.07
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000142

Analysis Report QC Standard Tue 05-21-91 10:59:06 AM page 1

Method: CLPSOIL Sample Name: CRI| Operator: SMM
Run Time: 05/21/91 10:55:57
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	508.	422.	10.4	12.0	11200.	I39.7	I96.4
SDev	12.	2.	.1	.5	55.	2.0	4.0
%RSD	2.35	.553	1.10	4.18	.495	5.07	4.10
#1	496.	424.	10.5	11.5	11200.	I41.6	I97.1
#2	510.	420.	10.3	12.5	11200.	I37.6	I92.2
#3	519.	424.	10.5	12.1	11300.	I39.8	I100.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	400.	400.	10.0	10.0	10000.	20.0	100.
Range	100.	100.	100.	100.	100.	100.	100.

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I60.1	I190.	I9560.	I26.6	I96.9	I10800.	I16.6
SDev	2.6	1.	46.	.7	2.0	278.	2.2
%RSD	4.37	.632	.482	2.59	2.11	2.57	13.4
#1	I61.2	I189.	I9520.	I25.9	I99.0	I10600.	I14.0
#2	I57.1	I190.	I9540.	I26.6	I94.9	I10700.	I18.0
#3	I62.0	I192.	I9610.	I27.3	I96.8	I11100.	I17.9
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	50.0	200.	10000.	30.0	80.0	10000.	20.0
Range	100.	100.	100.	100.	100.	100.	100.

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I11000.	I105.	I73.6	I28.4	D121.
SDev	61.	1.	1.1	2.6	14.
%RSD	.557	1.36	1.45	9.09	11.4
#1	I11000.	I105.	I73.0	I30.8	D108.
#2	I10900.	I103.	I72.9	I25.6	D136.
#3	I11100.	I106.	I74.8	I28.7	D118.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	10000.	100.	40.0		
Range	100.	100.	100.		

B000113

Analysis Report QC Standard Tue 05-21-91 11:02:41 AM page 1

Method: CLPSOIL Sample Name: ICSAI Operator: SMM
Run Time: 05/21/91 10:59:32
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	495000.	<.000	<.000	<.000	503000.	12.7	<.000
SDev	2441.	.781	.110	1.95	3647.	3.6	1.32
%RSD	.493	-1330.	-81.4	-67.5	.725	28.2	-9.00
#1	493000.	.578	<.000	<.000	499000.	15.2	<.000
#2	495000.	.177	<.000	<.000	503000.	14.2	<.000
#3	498000.	<.000	<.000	<.000	506000.	8.59	<.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value	500000.				500000.		
Range	20.0				20.0		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	183000.	507000.	<.000	2.73	<.000	<.000
SDev	1.61	1102.	3563.	.778	8.21	194.	1.27
%RSD	-19.0	.602	.703	-2.93	300.	-124.	-72.1
#1	<.000	182000.	503000.	<.000	.341	<.000	<.000
#2	<.000	183000.	506000.	<.000	<.000	<.000	<.000
#3	<.000	184000.	511000.	<.000	11.9	<.000	<.000
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		200000.	500000.				
Range		20.0	20.0				

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	<.000	<.000	11.3	24.7
SDev	34.6	.831	2.45	33.1	29.5
%RSD	-7.88	-282.	-3.31	293.	120.
#1	<.000	.226	<.000	<.000	<.000
#2	<.000	.143	<.000	31.7	48.7
#3	<.000	<.000	<.000	29.2	33.7
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

Analysis Report QC Standard Tue 05-21-91 11:06:01 AM page 1

Method: CLPSOIL Sample Name: ICSAB/ Operator: SMM
Run Time: 05/21/91 11:02:52
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	493000.	496.	490.	1000.	502000.	493.	449.
SDev	1046.	2.	1.	8.8	981.	1.	1.
%RSD	.212	.348	.236	.878	.195	.154	.252
#1	494000.	498.	489.	990.	502000.	493.	450.
#2	493000.	495.	489.	1000.	502000.	494.	448.
#3	492000.	495.	491.	1010.	504000.	492.	448.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500000.	500.	500.	1000.	500000.	500.	500.
Range	20.0	20.0	20.0	20.0	20.0	20.0	20.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	500.	183000.	507000.	450.	944.	<.000	978.
SDev	2.	35.	224.	2.	11.	231.	7.
%RSD	.312	.019	.044	.436	1.13	-35.5	.708
#1	502.	183000.	506000.	448.	944.	<.000	973.
#2	498.	183000.	507000.	450.	933.	<.000	975.
#3	500.	183000.	507000.	452.	954.	<.000	986.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	500.	200000.	500000.	500.	1000.		1000.
Range	20.0	20.0	20.0	20.0	20.0		20.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	476.	906.	947.	24.9
SDev	20.7	1.	1.	9.	37.5
%RSD	-5.32	.185	.101	.947	151.
#1	<.000	476.	905.	945.	53.0
#2	<.000	476.	906.	957.	<.000
#3	<.000	477.	907.	940.	39.4
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value		500.	1000.	1000.	
Range		20.0	20.0	20.0	

B000145

Analysis Report QC Standard Tue 05-21-91 11:09:20 AM page 1

Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 11:06:12
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	3130.	2.83	2.98	5.40	3490.	I3.71	I4.84
SDev	1033.	1.26	1.17	2.97	1111.	2.68	4.18
%RSD	33.0	44.4	39.3	55.0	31.8	72.2	86.3
#1	4260.	4.28	4.21	7.50	4710.	I5.53	I9.11
#2	2900.	2.21	2.83	6.70	3230.	I4.97	I4.66
#3	2240.	2.01	1.89	2.00	2540.	I.635	I.761
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I2.87	I1270.	I3090.	I.000	I8.11	I168.	I4.24
SDev	2.65	418.	1059.	1.12	5.84	190.	3.80
%RSD	92.4	32.8	34.2	-69.1	72.0	113.	89.8
#1	I5.63	I1730.	I4250.	I.000	I14.8	I376.	I6.61
#2	I2.63	I1170.	I2850.	I.000	I4.46	I5.82	I6.26
#3	I.345	I917.	I2180.	I.000	I5.02	I121.	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I2.93	I7.30	I27.1	D16.3
SDev	12.0	1.37	2.99	27.7	16.1
%RSD	-19.1	46.9	41.0	102.	98.9
#1	I.000	I4.52	I10.2	I53.2	D34.7
#2	I.000	I2.13	I7.50	I30.2	D5.22
#3	I.000	I2.14	I4.20	I.000	D8.87
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000116

Analysis Report QC Standard Tue 05-21-91 11:12:39 AM page 1

Method: CLPSOIL Sample Name: LCS HOT PLATE DIG Operator: SMM
Run Time: 05/21/91 11:09:31
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .199

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
			OUT				OUT
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	399.	5.51	Q22.7	49.8	215000.	118.	Q163.
SDev	18.	.06	.1	2.1	1029.	1.	1.
%RSD	4.40	1.14	.405	4.28	.479	.822	.358
#1	419.	5.58	Q22.8	50.0	216000.	119.	Q163.
#2	389.	5.50	Q22.6	47.6	215000.	118.	Q162.
#3	389.	5.46	Q22.6	51.8	214000.	118.	Q163.
Errors	QC Pass	QC Pass	QC Fail	QC Pass	QC Pass	QC Pass	QC Fail
Value	325.	4.80	19.4	45.4	196000.	99.6	144.
Range	30.5	733.	14.9	21.4	15.0	20.5	12.5

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
	OUT				OUT		
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	Q7890.	24000.	Q137000.	234.	Q73.5	<.000	24.9
SDev	15.	87.	564.	1.	.7	87.8	.1
%RSD	.194	.361	.413	.370	1.01	-563.	.394
#1	Q7910.	24100.	Q137000.	235.	Q74.1	73.1	25.0
#2	Q7880.	24000.	Q136000.	234.	Q72.7	<.000	24.8
#3	Q7880.	24000.	Q136000.	234.	Q73.6	<.000	24.9
Errors	QC Fail	QC Pass	QC Fail	QC Pass	QC Fail	QC Pass	QC Pass
Value	6910.	22400.	118000.	208.	60.9	50.0	22.2
Range	13.1	20.7	9.99	14.9	19.2	1900.	30.6

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	75.2	189.	264.	186.
SDev	1.31	.4	1.	2.	5.
%RSD	-1.46	.555	.757	.720	2.76
#1	<.000	75.5	190.	265.	192.
#2	<.000	74.7	189.	262.	182.
#3	<.000	75.2	187.	265.	184.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	50.0	65.8	187.		211.
Range	1900.	21.4	26.2		39.8

B000472

Analysis Report QC Standard Tue 05-21-91 11:17:49 AM page 1

Method: CLPSOIL Sample Name: LCS NOT FILTERED Operator: SMM
Run Time: 05/21/91 11:14:41
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .199

OUT

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	Q464.	5.65	21.0	44.6	195000.	113.	149.
SDev	27.	.04	.1	1.5	2219.	2.	2.
%RSD	5.74	.783	.703	3.31	1.14	1.48	1.30
#1	Q480.	5.65	20.8	44.8	193000.	111.	147.
#2	Q479.	5.69	21.0	43.0	196000.	114.	150.
#3	Q434.	5.60	21.1	45.9	197000.	113.	151.
Errors	QC Fail	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	325.	4.80	19.4	45.4	196000.	99.6	144.
Range	30.5	733.	14.9	21.4	15.0	20.5	12.5

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	7660.	23400.	126000.	216.	66.2	<.000	17.3
SDev	37.	199.	1237.	2.	1.6	43.0	.2
%RSD	.482	.851	.985	.896	2.47	-255.	1.34
#1	7630.	23100.	124000.	214.	64.6	31.7	17.5
#2	7670.	23400.	126000.	217.	67.9	<.000	17.3
#3	7700.	23500.	127000.	218.	66.2	<.000	17.0
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	6910.	22400.	118000.	208.	60.9	50.0	22.2
Range	13.1	20.7	9.99	14.9	19.2	1900.	30.6

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	71.2	173.	248.	169.
SDev	6.47	.6	1.	2.	8.
%RSD	-18.4	.789	.715	.698	4.81
#1	<.000	70.6	172.	249.	175.
#2	<.000	71.3	174.	248.	160.
#3	<.000	71.7	174.	246.	172.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	50.0	65.8	187.		211.
Range	1900.	21.4	26.2		39.8

B00038

Analysis Report QC Standard Tue 05-21-91 11:24:14 AM page 1

Method: CLPSOIL Sample Name: LCSS FILTERED Operator: SMM
Run Time: 05/21/91 11:21:06
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .199

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	333.	5.96	20.1	42.7	185000.	107.	143.
SDev	4.	.05	.2	1.0	2047.	1.	2.
%RSD	1.19	.768	.816	2.29	1.10	.808	1.07
#1	329.	5.91	19.9	43.0	184000.	107.	142.
#2	333.	5.97	20.0	41.6	185000.	107.	142.
#3	337.	6.00	20.2	43.5	188000.	108.	144.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	325.	4.80	19.4	45.4	196000.	99.6	144.
Range	30.5	733.	14.9	21.4	15.0	20.5	12.5

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	7400.	22400.	119000.	204.	66.5	12.7	16.6
SDev	17.	172.	1089.	2.	1.8	30.2	.5
%RSD	.225	.770	.912	.807	2.67	237.	3.14
#1	7390.	22200.	119000.	202.	67.3	36.4	16.1
#2	7390.	22300.	119000.	203.	64.5	<.000	16.5
#3	7420.	22500.	121000.	206.	67.8	23.1	17.1
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	6910.	22400.	118000.	208.	60.9	50.0	22.2
Range	13.1	20.7	9.99	14.9	19.2	1900.	30.6

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	54.6	68.1	170.	231.	171.
SDev	10.3	.8	2.	6.	11.
%RSD	18.8	1.17	.884	2.52	6.25
#1	65.8	67.5	169.	224.	181.
#2	52.5	67.8	170.	232.	160.
#3	45.6	69.0	172.	236.	173.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	50.0	65.8	187.		211.
Range	1900.	21.4	26.2		39.8

B000149

Analysis Report QC Standard Tue 05-21-91 11:32:41 AM page 1

Method: CLPSOIL Sample Name: CCV
Run Time: 05/21/91 11:29:32 Operator: SMM
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9840.	10100.	242.	248.	252000.	493.	2370.
SDev	21.	50.	1.	3.	1626.	3.	13.
%RSD	.216	.494	.240	1.34	.646	.648	.543
#1	9820.	10200.	242.	250.	250000.	490.	2350.
#2	9840.	10100.	242.	251.	252000.	495.	2360.
#3	9860.	10100.	243.	244.	253000.	495.	2380.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1300.	4840.	245000.	713.	1920.	255000.	486.
SDev	7.	6.	976.	2.	20.	1268.	4.
%RSD	.539	.130	.399	.345	1.06	.497	.760
#1	1310.	4840.	244000.	711.	1890.	255000.	482.
#2	1310.	4850.	245000.	713.	1920.	253000.	490.
#3	1300.	4850.	246000.	716.	1930.	256000.	487.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	263000.	2450.	935.	272.	2980.
SDev	1169.	5.	4.	11.	30.
%RSD	.444	.212	.468	3.99	1.02
#1	264000.	2450.	930.	284.	2960.
#2	262000.	2450.	938.	266.	2970.
#3	263000.	2460.	937.	265.	3010.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

200150

Analysis Report QC Standard Tue 05-21-91 11:36:01 AM page 1

Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 11:32:52
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	55.7	73.4	1.63	2.47	2090.	I2.49	I19.0
SDev	7.6	6.8	.06	2.41	170.	1.01	1.8
%RSD	13.7	9.25	3.90	97.5	8.13	40.7	9.53
#1	47.0	77.7	1.65	5.00	2170.	I2.54	I18.6
#2	61.2	76.9	1.68	.206	2200.	I3.48	I21.0
#3	58.9	65.6	1.56	2.20	1890.	I1.45	I17.5
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I16.1	I35.7	I1760.	I.177	I15.2	I2150.	I.591
SDev	1.0	3.8	103.	.793	4.1	282.	1.33
%RSD	6.04	10.7	5.84	449.	26.9	13.1	225.
#1	I15.6	I35.1	I1770.	I.635	I15.1	I2240.	I.000
#2	I17.2	I39.8	I1850.	I.634	I19.4	I2380.	I1.86
#3	I15.5	I32.2	I1650.	I.000	I11.2	I1840.	I.705
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1860.	I17.3	I10.6	I11.7	D16.7
SDev	217.	.6	.6	12.9	27.5
%RSD	11.7	3.64	5.71	109.	164.
#1	I2030.	I18.0	I11.3	I10.1	D34.1
#2	I1940.	I16.7	I10.2	I.000	D31.0
#3	I1620.	I17.2	I10.3	I25.4	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000151

Analysis Report QC Standard Tue 05-21-91 11:39:20 AM page 1

Method: CLPSOIL Sample Name: CCB Operator: SMM
Run Time: 05/21/91 11:36:12
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12.6	9.64	.035	<.000	293.	I.684	I2.44
SDev	9.0	1.43	.065	1.04	41.	5.68	4.15
%RSD	71.2	14.8	186.	-116.	14.0	830.	170.
#1	16.5	9.44	.105	<.000	266.	I3.66	I4.02
#2	18.9	11.2	.022	.300	340.	I4.25	I5.56
#3	2.32	8.33	<.000	<.000	273.	I.000	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I1.26	I.000	I227.	I.000	I3.54	I591.	I.000
SDev	3.43	1.54	22.	.399	15.3	644.	.982
%RSD	272.	-11.1	9.55	-9.13	433.	109.	-34.9
#1	I4.44	I.000	I203.	I.000	I.000	I1100.	I.000
#2	I1.73	I.000	I232.	I.000	I20.6	I811.	I.000
#3	I.000	I.000	I246.	I.000	I.000	I.000	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I215.	I2.68	I4.96	I10.1	D.000
SDev	41.	.89	.77	16.0	10.9
%RSD	19.2	33.2	15.6	158.	-132.
#1	I206.	I3.47	I5.46	I.000	D.000
#2	I261.	I2.87	I5.35	I25.8	D2.27
#3	I180.	I1.72	I4.07	I10.8	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B0004-52

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PB SOIL

Method: CLPSOIL Sample Name: PREP BLK SAUGET SOI1 Operator: SMM
Run Time: 05/21/91 11:39:29
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .2

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	.292	<.000	<.000	11.1	3.96	I.000
SDev	1.09	.005	.020	.266	1.1	.28	.414
%RSD	-706.	1.74	-57.5	-67.8	9.75	7.02	-30.5
#1	.476	.295	<.000	<.000	10.8	4.08	<.000
#2	<.000	.295	<.000	<.000	12.2	3.64	I.000
#3	.477	.286	<.000	<.000	10.1	4.15	I.000

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I.000	I7.08	I.000	I1.23	40.1	I.000
SDev	.149	.246	1.02	.080	.82	23.8	.266
%RSD	-69.8	-23.3	14.4	-7.52	66.6	59.5	-157.
#1	I.000	<.000	7.46	<.000	2.16	13.4	<.000
#2	I.000	I.000	I7.85	I.000	I.626	47.7	I.000
#3	I.000	I.000	I5.92	<.000	I.896	59.2	I.092

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I3.18	I.000	I.703	I3.07	D.000
SDev	2.58	.144	.175	3.20	2.89
%RSD	81.2	-87.9	24.9	104.	-80.5
#1	5.87	<.000	I.808	1.14	D.000
#2	I.728	I.000	I.501	I1.31	D.000
#3	I2.93	I.000	I.801	I6.77	D.000

B00153

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Method: CLPSOIL Sample Name: B104067 ORIG1 Operator: SMM
Run Time: 05/21/91 11:42:43
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .244

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	13300.	226.	<.000	4.89	8540.	I31.9	I5.95
SDev	27.	1.	.012	.52	9.	.4	.88
%RSD	.203	.316	-2.45	10.5	.101	1.23	14.7
#1	13300.	227.	<.000	4.70	8530.	I32.4	I6.96
#2	13300.	226.	<.000	5.48	8550.	I31.6	I5.42
#3	13200.	226.	<.000	4.50	8540.	I31.8	I5.47

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I110.	I19400.	I4550.	I419.	I23.0	I3320.	I.058
SDev	1.	27.	13.	.	.9	46.	.136
%RSD	.599	.140	.290	.062	4.06	1.40	235.
#1	I111.	I19400.	I4550.	I419.	I23.0	I3370.	I.000
#2	I110.	I19400.	I4560.	I418.	I22.1	I3310.	I.060
#3	I110.	I19400.	I4540.	I418.	I23.9	I3280.	I.192

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I180.	I35.1	I575.	I135.	D.000
SDev	8.	.4	1.	7.	3.23
%RSD	4.56	1.28	.216	4.98	-26.7
#1	I189.	I35.6	I574.	I130.	D.000
#2	I178.	I34.8	I576.	I143.	D.000
#3	I173.	I34.8	I574.	I133.	D.000

mg/kg x 4.1 = mg/l

AL x 4.1 = mg/l	51530		K x 4.1 = mg/l		13600.
Ba	927		Ag		0.2
Be	0		Na		738.
Cd	20.		V		144.
Ca	35014.		Zn		2358.
Cr	131		Pb		554
Co	24.6		Sb		0.
Cu	457.				
Fe	79500				
Mg	18700.				
Mn	1718				
Ni	94.3				

B00054

Analysis Report Tue 05-21-91 11:49:04 AM page 1

Method: CLPSOIL Sample Name: B104067L 1:4 Operator: SMM
Run Time: 05/21/91 11:45:58
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1.22

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	13700.	235.	<.000	5.76	8860.	I33.7	I5.86
SDev	136.	2.	.110	2.33	70.	3.2	2.78
%RSD	.993	.754	-15.3	40.4	.791	9.55	47.4
#1	13700.	235.	<.000	8.40	8880.	I35.9	I8.39
#2	13800.	236.	<.000	4.86	8910.	I35.2	I6.30
#3	13600.	233.	<.000	4.01	8780.	I30.0	I2.89

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I112.	I20300.	I4660.	I428.	I19.5	I3360.	I.000
SDev	3.	171.	30.	3.	3.5	213.	1.69
%RSD	2.77	.841	.654	.790	17.9	6.35	-60.1
#1	I116.	I20400.	I4680.	I428.	I22.9	I3400.	I.000
#2	I113.	I20400.	I4670.	I431.	I19.6	I3540.	I.000
#3	I109.	I20100.	I4620.	I424.	I15.9	I3130.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I144.	I37.4	I589.	I162.	D12.1
SDev	18.	1.3	4.	17.	28.6
%RSD	12.7	3.38	.684	10.4	236.
#1	I160.	I36.4	I592.	I174.	D.000
#2	I124.	I37.0	I592.	I143.	D44.9
#3	I147.	I38.8	I585.	I170.	D.000

) mg/kg × 4.1 = mg/l

Al	56147.
Ba	963
Be	0
Cd	23.8
Ca	36300.
Cr	138.
Co	24.
Cu	456
Fe	83200.
Mg	19100.
Mn	1754.
Ni	80.

K	13800.
Ag	0.
Na	590
V	153
Zn	2400.
Pb	664
Sb	49.6

B000455

Method: CLPSOIL Sample Name: B104067DDUP1 Operator: SMM
Run Time: 05/21/91 11:49:13
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .237

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12700.	229.	<.000	4.17	8410.	I30.4	I6.61
SDev	54.	1.	.016	.25	19.	.1	.30
%RSD	.426	.591	-3.41	6.06	.221	.169	4.48
#1	12700.	231.	<.000	4.30	8410.	I30.5	I6.31
#2	12600.	228.	<.000	3.88	8390.	I30.4	I6.90
#3	12700.	228.	<.000	4.33	8420.	I30.5	I6.63

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I105.	I19400.	I4620.	I423.	I21.9	I3330.	I.083
SDev	.1.	68.	20.	.	2.7	20.	.408
%RSD	.552	.352	.430	.112	12.4	.611	491.
#1	I106.	I19500.	I4630.	I423.	I23.9	I3350.	I.000
#2	I105.	I19300.	I4600.	I422.	I18.8	I3330.	I.296
#3	I105.	I19400.	I4620.	I423.	I23.0	I3310.	I.341

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I161.	I33.8	I532.	I123.	D7.55
SDev	3.	.1	2.	2.	4.67
%RSD	1.88	.292	.288	1.97	61.9
#1	I160.	I33.8	I533.	I120.	D6.09
#2	I158.	I33.8	I530.	I122.	D3.78
#3	I164.	I33.6	I532.	I125.	D12.8

B000456

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Method: CLPSOIL Sample Name: B104067S SPIKE1 Operator: SMM
Run Time: 05/21/91 11:52:28
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .244

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12100.	726.	13.0	14.4	12500.	I76.7	I136.
SDev	34.	2.	.0	.2	43.	.2	.
%RSD	.279	.278	.345	1.42	.339	.291	.255
#1	12100.	725.	12.9	14.5	12500.	I76.8	I136.
#2	12200.	728.	13.0	14.2	12600.	I76.4	I136.
#3	12100.	725.	13.0	14.5	12600.	I76.8	I136.

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I160.	I19000.	I4580.	I504.	I149.	I3080.	I12.7
SDev	.	59.	24.	2.	4.	70.	.3
%RSD	.219	.310	.530	.307	2.50	2.27	2.34
#1	I160.	I18900.	I4550.	I502.	I152.	I3150.	I12.9
#2	I160.	I19100.	I4600.	I505.	I150.	I3010.	I12.4
#3	I159.	I19000.	I4580.	I503.	I145.	I3080.	I12.9

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I124.	I157.	I641.	I239.	D50.9
SDev	3.	1.	1.	3.	2.4
%RSD	2.24	.353	.187	1.09	4.69
#1	I127.	I156.	I639.	I237.	D48.5
#2	I124.	I157.	I642.	I238.	D50.7
#3	I122.	I157.	I641.	I242.	D53.3

	mg/l	X 0.244 =	mg/kg
Al	2000.	=	488.
Ba	2000.		488
Be	50		12.2
Cd	50		12.2
Cr	200		48.8
Co	500		122.
Cu	250		61.
Fe	1000		244.
Mn	500		122.
Ni	500		122.
Ag	50		12.2
V	500		122.
Zn	500		122.
Pb	500		122.
Sb	500		122

B000157

Method: CLPSOIL Sample Name: B104068 Operator: SMM
Run Time: 05/21/91 11:55:43
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .265

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	13300.	215.	<.000	I3.49	5460.	I26.6	I7.23
SDev	38.	1.	.009	.44	9.	.7	.40
%RSD	.285	.567	-2.16	12.5	.163	2.55	5.48
#1	13400.	216.	<.000	3.94	5470.	I27.1	I7.11
#2	13300.	215.	<.000	3.47	5460.	I25.8	I6.92
#3	13300.	214.	<.000	I3.07	5450.	I26.8	I7.68

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I125.	I18800.	I3650.	I518.	I21.4	I3280.	I.000
SDev	1.	27.	6.	1.	1.5	91.	.406
%RSD	.462	.143	.159	.134	7.12	2.76	-103.
#1	I126.	I18900.	I3650.	I519.	I22.9	I3250.	I.000
#2	I125.	I18800.	I3640.	I518.	I19.8	I3210.	I.000
#3	I125.	I18800.	I3660.	I518.	I21.6	I3380.	I.049

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I133.	I36.5	I362.	I107.	D.000
SDev	3.	.6	.	7.	5.22
%RSD	2.62	1.77	.114	6.41	-61.1
#1	I136.	I37.2	I363.	I115.	D.000
#2	I130.	I36.0	I362.	I105.	D.000
#3	I132.	I36.3	I363.	I102.	D.000

B000158

Method: CLPSOIL Sample Name: B104069 Operator: SMM
Run Time: 05/21/91 11:58:57
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .277

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10100.	191.	<.000	8.51	7210.	I38.7	I4.52
SDev	88.	2.	.013	.28	38.	1.4	.63
%RSD	.869	1.13	-2.41	3.34	.530	3.57	14.0
#1	10200.	192.	<.000	8.58	7220.	I39.7	I5.02
#2	10000.	188.	<.000	8.75	7170.	I39.1	I4.73
#3	10200.	192.	<.000	8.19	7250.	I37.1	I3.81

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I167.	I15500.	I3020.	I402.	I19.9	I2390.	I1.50
SDev	1.	116.	25.	3.	.7	87.	.93
%RSD	.780	.743	.841	.707	3.33	3.65	61.8
#1	I168.	I15600.	I3030.	I401.	I20.2	I2320.	I.431
#2	I166.	I15400.	I2990.	I399.	I19.1	I2490.	I2.09
#3	I168.	I15600.	I3040.	I405.	I20.3	I2360.	I1.98

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I221.	I29.1	I738.	I198.	D13.8
SDev	5.	.1	5.	5.	3.4
%RSD	2.32	.383	.654	2.61	25.0
#1	I226.	I29.2	I738.	I202.	D11.9
#2	I222.	I29.1	I732.	I199.	D11.7
#3	I216.	I29.0	I742.	I192.	D17.8

B000159

Method: CLPSOIL Sample Name: B104070 Operator: SMM
Run Time: 05/21/91 12:02:12
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .23

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	7620.	185.	<.000	I.836	34200.	I19.5	I4.16
SDev	15.	1.	.022	.106	57.	.2	.24
%RSD	.191	.379	-4.46	12.7	.166	.885	5.84
#1	7630.	186.	<.000	I.959	34200.	I19.3	I4.43
#2	7620.	185.	<.000	I.774	34200.	I19.6	I4.09
#3	7600.	185.	<.000	I.775	34300.	I19.6	I3.96

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I18.7	I12400.	I8340.	I277.	I18.2	I1990.	I.000
SDev	.3	13.	18.	.	.5	117.	.294
%RSD	1.71	.106	.218	.088	2.70	5.88	-78.2
#1	I19.0	I12400.	I8360.	I276.	I18.5	I2100.	I.000
#2	I18.8	I12400.	I8320.	I277.	I17.6	I1860.	I.000
#3	I18.4	I12400.	I8350.	I277.	I18.5	I2020.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I231.	I22.4	I161.	I94.4	D15.5
SDev	3.	.2	1.	1.2	9.0
%RSD	1.17	.964	.370	1.31	58.5
#1	I234.	I22.2	I161.	I93.0	D5.16
#2	I229.	I22.5	I162.	I94.8	D22.1
#3	I230.	I22.5	I161.	I95.4	D19.1

B00450

Method: CLPSOIL Sample Name: B104071 Operator: SMM
Run Time: 05/21/91 12:05:27
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .283

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	14800.	337.	<.000	I3.87	22200.	I39.9	I6.28
SDev	127.	4.	.034	.58	130.	.2	.80
%RSD	.856	1.07	-4.19	15.1	.585	.617	12.7
#1	14800.	335.	<.000	4.35	22100.	I39.8	I7.04
#2	14800.	335.	<.000	4.04	22100.	I40.2	I6.36
#3	15000.	341.	<.000	I3.22	22300.	I39.7	I5.45

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I149.	I20100.	I6590.	I258.	I78.5	I3220.	I.000
SDev	1.	153.	58.	2.	3.0	83.	.716
%RSD	.395	.765	.883	.762	3.78	2.58	-420.
#1	I149.	I19900.	I6540.	I257.	I80.2	I3130.	I.364
#2	I149.	I20000.	I6580.	I257.	I80.3	I3290.	I.109
#3	I150.	I20200.	I6650.	I260.	I75.1	I3240.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I556.	I41.2	I704.	I148.	D16.7
SDev	8.	.3	6.	1.	11.2
%RSD	1.37	.671	.840	.853	67.2
#1	I549.	I40.9	I700.	I148.	D4.39
#2	I556.	I41.1	I702.	I149.	D19.4
#3	I564.	I41.5	I711.	I146.	D26.4

B000

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Method: CLPSOIL Sample Name: CCV2 Operator: SMM
Run Time: 05/21/91 12:08:44
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10100.	10200.	249.	258.	262000.	503.	2420.
SDev	41.	25.	1.	3.	817.	2.	8.
%RSD	.402	.249	.292	1.17	.312	.367	.334
#1	10100.	10200.	249.	261.	261000.	502.	2420.
#2	10100.	10200.	248.	255.	261000.	503.	2420.
#3	10100.	10200.	250.	258.	263000.	505.	2430.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1280.	5180.	252000.	741.	2010.	258000.	498.
SDev	2.	71.	637.	1.	28.	601.	1.
%RSD	.124	1.36	.253	.104	1.39	.233	.160
#1	1280.	5250.	252000.	741.	2000.	259000.	497.
#2	1280.	5200.	251000.	741.	1980.	258000.	498.
#3	1280.	5110.	252000.	742.	2040.	258000.	499.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	267000.	2510.	962.	272.	3100.
SDev	772.	8.	3.	14.	76.
%RSD	.290	.324	.320	5.20	2.44
#1	267000.	2500.	965.	282.	3040.
#2	266000.	2500.	961.	279.	3190.
#3	267000.	2520.	959.	256.	3070.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

B000

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Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 12:12:04
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	55.0	55.9	1.15	<.000	1500.	I3.76	I14.1
SDev	19.3	9.3	.09	1.94	256.	2.13	1.9
%RSD	35.1	16.6	7.60	-188.	17.1	56.7	13.4
#1	32.9	48.6	1.17	<.000	1280.	I5.95	I13.6
#2	68.4	66.3	1.23	<.000	1780.	I1.69	I16.2
#3	63.8	52.6	1.06	1.20	1430.	I3.65	I12.5
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I5.62	I55.7	1260.	I.000	I13.2	I1490.	I.000
SDev	.42	15.8	203.	.792	3.6	266.	1.97
%RSD	7.46	28.4	16.1	-297.	27.2	17.9	-262.
#1	I6.10	I40.0	1050.	I.000	I9.06	I1780.	I.000
#2	I5.35	I71.7	1460.	I.648	I15.6	I1410.	I.000
#3	I5.41	I55.3	1270.	I.000	I14.8	I1270.	I1.52
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1340.	I13.4	I10.3	I25.8	D19.6
SDev	215.	1.4	2.4	13.8	9.1
%RSD	16.0	10.1	22.8	53.4	46.4
#1	I1220.	I13.4	I7.64	I40.3	D16.5
#2	I1590.	I14.7	I12.1	I13.0	D12.4
#3	I1220.	I12.0	I11.2	I24.0	D29.8
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000 3

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Method: CLPSOIL Sample Name: CCB2 Operator: SMM
Run Time: 05/21/91 12:15:24
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	7.11	<.000	.833	188.	I.000	I.586
SDev	13.1	1.07	.037	2.85	25.	2.39	2.94
%RSD	-74.9	15.1	-27.8	342.	13.5	-697.	501.
#1	<.000	5.98	<.000	<.000	167.	I.387	I3.85
#2	<.000	8.13	<.000	3.00	216.	I1.60	I.000
#3	<.000	7.22	<.000	1.90	181.	I.000	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I.000	I147.	I.000	I2.91	I429.	I.000
SDev	.459	1.49	30.	.400	7.60	287.	1.48
%RSD	-453.	-11.1	20.4	-8.70	261.	66.8	-41.9
#1	I.070	I.000	I113.	I.000	I5.55	I725.	I.000
#2	I.000	I.000	I159.	I.000	I.000	I410.	I.000
#3	I.247	I.000	I169.	I.000	I8.85	I153.	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I121.	I1.48	I2.96	I1.03	D13.1
SDev	26.	1.20	.67	17.1	9.1
%RSD	21.2	81.0	22.6	1660.	69.5
#1	I95.5	I1.52	I2.35	I20.7	D3.02
#2	I147.	I2.67	I3.68	I.000	D15.5
#3	I121.	I.266	I2.87	I.000	D20.7
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B00[illegible]

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Method: CLPSOIL Sample Name: B104072 Operator: SMM
Run Time: 05/21/91 12:18:42
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .361

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15500.	3690.	<.000	23.1	83400.	I105.	I12.7
SDev	67.	23.	.026	.4	305.	.	.4
%RSD	.435	.612	-5.19	1.89	.365	.093	2.99
#1	15500.	3690.	<.000	22.7	83200.	I105.	I12.3
#2	15600.	3720.	<.000	23.6	83700.	I105.	I12.8
#3	15500.	3670.	<.000	23.0	83300.	I105.	I13.1

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I8540.	I39900.	I7890.	I269.	I2130.	I2960.	I8.27
SDev	45.	170.	56.	1.	2.	145.	.34
%RSD	.532	.426	.713	.468	.095	4.89	4.11
#1	I8530.	I39800.	I7870.	I269.	I2130.	I2850.	I7.99
#2	I8590.	I40000.	I7950.	I270.	I2130.	I2920.	I8.17
#3	I8500.	I39700.	I7840.	I267.	I2140.	I3120.	I8.65

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I227.	I53.3	I9660.	I1470.	D32.1
SDev	6.	.7	33.	7.	4.1
%RSD	2.55	1.36	.345	.462	12.7
#1	I221.	I53.4	I9630.	I1470.	D36.5
#2	I233.	I54.0	I9690.	I1460.	D28.5
#3	I226.	I52.5	I9640.	I1470.	D31.3

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Method: CLPSOIL Sample Name: B104072L 1:4 Operator: SMM
Run Time: 05/21/91 12:21:57
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1.805

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15700.	3740.	<.000	25.2	85600.	I109.	I14.4
SDev	24.	14.	.056	5.1	208.	3.	2.6
%RSD	.150	.364	-6.16	20.2	.243	2.84	18.0
#1	15700.	3750.	<.000	26.6	85800.	I109.	I17.3
#2	15700.	3720.	<.000	29.5	85500.	I113.	I13.8
#3	15700.	3740.	<.000	19.6	85500.	I106.	I12.2

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I8570.	I41400.	I7970.	I268.	I2200.	I2970.	I4.65
SDev	32.	111.	52.	1.	17.	666.	3.05
%RSD	.375	.268	.657	.268	.778	22.4	65.5
#1	I8610.	I41600.	I8030.	I269.	I2200.	I3710.	I4.19
#2	I8540.	I41400.	I7970.	I268.	I2190.	I2780.	I7.90
#3	I8560.	I41400.	I7920.	I268.	I2220.	I2420.	I1.86

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I147.	I55.5	I9970.	I1530.	D50.5
SDev	61.	.3	24.	37.	12.9
%RSD	41.5	.490	.239	2.40	25.5
#1	I218.	I55.3	I10000.	I1540.	D35.6
#2	I112.	I55.8	I9960.	I1490.	D57.6
#3	I112.	I55.5	I9950.	I1560.	D58.2

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Method: CLPSOIL Sample Name: B104072L1:49 Operator: SMM
Run Time: 05/21/91 12:25:12
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 18.05

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	16700.	4000.	<.000	I14.2	91900.	I145.	I29.3
SDev	285.	39.	.511	14.3	833.	44.	35.7
%RSD	1.71	.976	-9.52	101.	.907	30.5	122.
#1	17000.	4040.	<.000	8.75	92200.	I156.	I62.5
#2	16800.	3990.	<.000	30.4	92400.	I183.	I33.9
#3	16400.	3960.	<.000	I3.34	90900.	I96.5	I.000

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I9140.	I44400.	I8230.	I213.	I2290.	I1300.	I.000
SDev	133.	429.	172.	12.	100.	5526.	7.43
%RSD	1.46	.967	2.09	5.85	4.37	425.	-15.2
#1	I9230.	I44700.	I8030.	I213.	I2210.	I93.2	I.000
#2	I9200.	I44600.	I8310.	I225.	I2400.	I.000	I.000
#3	I8990.	I43900.	I8350.	I201.	I2260.	I7330.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I62.1	I10700.	I1680.	D18.7
SDev	345.	7.2	105.	189.	447.
%RSD	-26.0	11.6	.975	11.2	2400.
#1	I.000	I54.9	I10800.	I1720.	D.000
#2	I.000	I62.1	I10800.	I1840.	D359.
#3	I.000	I69.3	I10600.	I1470.	D185.

Method: CLPSOIL Sample Name: B104073 Operator: SMM
Run Time: 05/21/91 12:28:27
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .29

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15600.	365.	.342	21.9	66200.	I29.4	I3.32
SDev	24.	1.	.012	.2	113.	.3	.37
%RSD	.153	.282	3.49	.798	.171	.913	11.3
#1	15600.	366.	.336	21.7	66100.	I29.6	I3.00
#2	15500.	365.	.355	22.1	66300.	I29.1	I3.73
#3	15500.	364.	.334	21.9	66300.	I29.5	I3.23

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I1160.	I14500.	I7750.	I1360.	I134.	I3320.	I.000
SDev	2.	14.	13.	3.	2.	36.	.310
%RSD	.191	.094	.170	.241	1.28	1.09	-31.3
#1	I1170.	I14500.	I7740.	I1360.	I134.	I3360.	I.000
#2	I1160.	I14500.	I7760.	I1360.	I136.	I3300.	I.000
#3	I1160.	I14500.	I7750.	I1360.	I133.	I3310.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I461.	I29.3	I1740.	I143.	D14.5
SDev	3.	.1	3.	4.	8.2
%RSD	.584	.460	.198	2.87	56.9
#1	I461.	I29.5	I1740.	I148.	D16.3
#2	I459.	I29.2	I1750.	I141.	D5.46
#3	I464.	I29.2	I1750.	I140.	D21.6

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Method: CLPSOIL Sample Name: B104074 Operator: SMM
Run Time: 05/21/91 12:31:42
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .29

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	14600.	285.	<.000	11.8	10500.	I35.4	I7.46
SDev	80.	2.	.013	.8	60.	.2	.61
%RSD	.546	.755	-2.78	6.38	.573	.515	8.22
#1	14600.	287.	<.000	12.4	10600.	I35.5	I7.39
#2	14500.	283.	<.000	12.0	10500.	I35.2	I8.11
#3	14600.	285.	<.000	11.0	10500.	I35.4	I6.88

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I404.	I24100.	I4980.	I386.	I391.	I3250.	I.000
SDev	2.	98.	20.	2.	2.	115.	.288
%RSD	.604	.407	.398	.505	.494	3.55	-107.
#1	I407.	I24100.	I5000.	I388.	I391.	I3310.	I.000
#2	I402.	I24000.	I4960.	I384.	I389.	I3320.	I.000
#3	I402.	I24100.	I4970.	I385.	I393.	I3120.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I312.	I38.2	I3050.	I165.	D4.90
SDev	9.	.4	9.	9.	4.95
%RSD	2.84	1.06	.288	5.35	101.
#1	I323.	I38.5	I3050.	I159.	D.000
#2	I308.	I38.3	I3040.	I175.	D6.25
#3	I307.	I37.7	I3050.	I161.	D9.03

B0001

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Method: CLPSOIL Sample Name: B104074L1:4 Operator: SMM
Run Time: 05/21/91 12:34:57
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1.45

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	15100.	293.	<.000	8.81	10900.	I38.5	I8.59
SDev	98.	2.	.105	1.63	115.	1.7	2.21
%RSD	.648	.820	-12.0	18.5	1.05	4.45	25.7
#1	15100.	293.	<.000	10.7	11000.	I37.3	I6.04
#2	15200.	296.	<.000	7.80	11100.	I37.6	I9.74
#3	15000.	291.	<.000	7.95	10800.	I40.4	I9.97

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I412.	I25100.	I5080.	I391.	I404.	I4160.	I.000
SDev	3.	197.	30.	4.	6.	372.	1.54
%RSD	.829	.783	.600	.901	1.47	8.95	-42.4
#1	I412.	I25100.	I5070.	I390.	I411.	I4590.	I.000
#2	I415.	I25300.	I5110.	I394.	I402.	I3960.	I.000
#3	I409.	I24900.	I5060.	I387.	I400.	I3920.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I267.	I40.7	I3140.	I179.	D20.3
SDev	65.	2.7	18.	18.	30.6
%RSD	24.2	6.69	.570	10.1	151.
#1	I340.	I43.6	I3140.	I172.	D55.7
#2	I217.	I38.1	I3160.	I166.	D1.74
#3	I244.	I40.5	I3120.	I200.	D3.49

B0003

Method: CLPSOIL Sample Name: B104075 Operator: SMM
Run Time: 05/21/91 12:38:13
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .28

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12000.	174.	<.000	I1.87	55300.	I42.3	I4.56
SDev	65.	1.	.011	.11	452.	1.0	.40
%RSD	.544	.516	-2.24	5.64	.817	2.46	8.79
#1	12000.	174.	<.000	I1.92	55000.	I41.3	I4.86
#2	12000.	174.	<.000	I1.75	55100.	I42.1	I4.10
#3	12100.	175.	<.000	I1.95	55800.	I43.4	I4.72

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I108.	I15800.	I5390.	I268.	I56.0	I2700.	I.000
SDev	.	106.	55.	2.	2.5	116.	.502
%RSD	.387	.667	1.01	.792	4.40	4.30	-60.7
#1	I108.	I15800.	I5370.	I267.	I54.8	I2830.	I.000
#2	I107.	I15800.	I5340.	I266.	I58.8	I2640.	I.000
#3	I108.	I15900.	I5450.	I270.	I54.4	I2630.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I121.	I31.9	I382.	I292.	D.000
SDev	4.	.1	1.	4.	6.48
%RSD	3.26	.440	.333	1.47	-56.8
#1	I123.	I31.8	I381.	I292.	D.000
#2	I125.	I32.0	I382.	I288.	D.000
#3	I117.	I31.9	I383.	I297.	D.000

B0005

Method: CLPSOIL Sample Name: B104076 Operator: SMM
Run Time: 05/21/91 12:41:28
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .299

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	21700.	313.	I.000	23.5	9140.	I37.7	I18.8
SDev	76.	2.	.034	.2	59.	.3	1.3
%RSD	.349	.479	-33.9	.826	.647	.883	6.86
#1	21600.	313.	<.000	23.5	9150.	I37.8	I19.3
#2	21800.	315.	<.000	23.7	9190.	I37.3	I17.3
#3	21600.	312.	I.000	23.3	9070.	I37.9	I19.8

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I520.	I35300.	I5330.	I635.	I772.	I3670.	I.000
SDev	2.	119.	35.	1.	2.	100.	.468
%RSD	.322	.337	.648	.235	.285	2.74	-162.
#1	I520.	I35200.	I5290.	I634.	I774.	I3780.	I.022
#2	I522.	I35400.	I5360.	I636.	I770.	I3590.	I.000
#3	I519.	I35300.	I5340.	I636.	I772.	I3630.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I190.	I54.3	I4380.	I90.2	D10.8
SDev	7.	.4	13.	7.9	8.3
%RSD	3.82	.674	.300	8.80	77.0
#1	I198.	I54.4	I4360.	I81.9	D17.0
#2	I189.	I53.8	I4390.	I91.2	D1.35
#3	I183.	I54.5	I4380.	I97.7	D14.0

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Method: CLPSOIL Sample Name: B104076L 1:4 Operator: SMM
Run Time: 05/21/91 12:44:44
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: 1.495

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	22300.	320.	<.000	22.1	9630.	I41.4	I21.4
SDev	107.	2.	.157	1.1	74.	.5	.3
%RSD	.479	.732	-28.4	5.09	.767	1.19	1.37
#1	22300.	321.	<.000	23.3	9630.	I40.9	I21.5
#2	22400.	322.	<.000	22.0	9710.	I41.5	I21.0
#3	22200.	318.	<.000	21.1	9560.	I41.9	I21.6

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I530.	I36800.	I5450.	I649.	I788.	I3800.	I.000
SDev	2.	159.	42.	3.	10.	411.	3.21
%RSD	.460	.431	.763	.512	1.26	10.8	-67.7
#1	I533.	I36900.	I5410.	I652.	I783.	I4240.	I.000
#2	I529.	I37000.	I5480.	I651.	I782.	I3430.	I.000
#3	I529.	I36600.	I5480.	I645.	I799.	I3730.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I93.9	I56.6	I4520.	I102.	D19.0
SDev	25.1	.6	19.	5.	7.9
%RSD	26.7	.994	.415	4.95	41.4
#1	I121.	I56.7	I4530.	I104.	D10.9
#2	I88.3	I57.1	I4540.	I96.6	D19.6
#3	I72.1	I56.0	I4500.	I106.	D26.6

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Method: CLPSOIL Sample Name: CCV3 Operator: SMM
Run Time: 05/21/91 12:48:01
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9850.	10300.	251.	261.	263000.	499.	2420.
SDev	47.	42.	1.	4.	1238.	3.	10.
%RSD	.477	.413	.400	1.49	.471	.680	.425
#1	9880.	10300.	251.	257.	262000.	497.	2420.
#2	9790.	10200.	249.	262.	262000.	496.	2410.
#3	9860.	10300.	252.	264.	264000.	502.	2430.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1270.	5020.	252000.	739.	2030.	260000.	500.
SDev	4.	52.	1309.	2.	4.	1182.	3.
%RSD	.289	1.04	.520	.296	.215	.456	.632
#1	1270.	5070.	251000.	740.	2030.	259000.	497.
#2	1270.	5010.	251000.	737.	2020.	258000.	502.
#3	1280.	4970.	253000.	741.	2030.	261000.	502.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	269000.	2510.	964.	259.	3130.
SDev	1301.	12.	7.	46.	37.
%RSD	.484	.497	.763	17.8	1.19
#1	269000.	2500.	973.	313.	3170.
#2	267000.	2500.	961.	231.	3130.
#3	270000.	2520.	959.	235.	3090.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 12:51:21
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	39.2	47.2	.845	<.000	1250.	I3.83	I13.8
SDev	15.0	11.8	.191	1.63	314.	1.94	2.5
%RSD	38.3	25.1	22.6	-828.	25.2	50.7	18.0
#1	30.5	59.1	1.03	<.000	1560.	I2.86	I15.7
#2	56.6	47.2	.853	<.000	1250.	I6.07	I14.6
#3	30.6	35.4	.651	1.60	932.	I2.56	I11.0
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I5.56	I27.5	I1080.	I.000	I16.7	I1380.	I.000
SDev	.78	12.6	248.	1.43	3.6	178.	2.21
%RSD	14.0	45.7	22.9	-121.	21.7	12.9	-252.
#1	I6.42	I40.0	1330.	I.000	I19.4	I1520.	I.000
#2	I4.90	I27.7	1100.	I.000	I12.6	I1440.	I1.16
#3	I5.37	I14.8	I831.	I.000	I18.1	I1180.	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1150.	I12.3	I9.78	I37.5	D23.9
SDev	331.	2.2	2.51	22.5	19.3
%RSD	28.7	18.1	25.7	60.1	80.7
#1	I1480.	I13.1	I12.5	I39.9	D2.17
#2	I1160.	I14.0	I9.25	I13.8	D30.5
#3	I815.	I9.76	I7.58	I58.6	D39.0
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

Method: CLPSOIL Sample Name: CCB3 Operator: SMM
Run Time: 05/21/91 12:54:41
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	9.20	<.000	1.13	242.	I2.12	I5.56
SDev	18.1	2.27	.034	1.55	56.	2.54	1.93
%RSD	-1090.	24.7	-25.4	137.	23.1	120.	34.6
#1	<.000	10.2	<.000	<.000	273.	I1.60	I4.41
#2	2.30	10.8	<.000	2.40	276.	I4.87	7.79
#3	14.2	6.60	<.000	1.60	178.	I.000	I4.49
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I1.18	I.000	I192.	I.000	I2.17	I353.	I.000
SDev	.99	2.21	37.	.690	8.40	447.	1.01
%RSD	83.7	-18.7	19.0	-16.7	388.	127.	-53.4
#1	I1.01	I.000	I176.	I.000	I3.35	I.000	I.000
#2	I2.25	<.000	234.	<.000	9.91	582.	<.000
#3	I.288	I.000	I167.	I.000	I.000	I639.	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I142.	I3.40	I6.07	I22.6	D.000
SDev	73.	.73	.40	9.9	8.79
%RSD	51.1	21.3	6.60	43.6	-97.6
#1	I191.	I4.12	I6.20	I21.5	D.000
#2	176.	2.67	I5.62	33.0	D.000
#3	I58.7	I3.42	I6.39	I13.4	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

Method: CLPSOIL Sample Name: B104077 Operator: SMM
Run Time: 05/21/91 12:57:59
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .256

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9400.	135.	<.000	<.000	3650.	I20.2	I5.25
SDev	61.	1.	.024	.324	20.	.6	.85
%RSD	.651	.674	-2.51	-165.	.559	2.82	16.1
#1	9340.	134.	<.000	.051	3620.	I20.8	I5.49
#2	9460.	136.	<.000	<.000	3670.	I19.9	I4.31
#3	9390.	134.	<.000	<.000	3650.	I19.8	I5.95

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I10.4	14500.	2390.	429.	I14.0	1260.	<.000
SDev	.5	85.	26.	3.	1.3	141.	.290
%RSD	4.87	.585	1.08	.640	9.29	11.2	-33.8
#1	I11.0	14400.	2360.	426.	I15.1	1350.	<.000
#2	I9.97	14600.	2410.	431.	I12.5	1100.	<.000
#3	I10.2	14500.	2390.	429.	I14.4	1320.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	75.2	28.4	I44.7	19.8	D1.16
SDev	4.9	.2	.4	5.6	8.02
%RSD	6.55	.795	1.000	28.4	694.
#1	80.6	28.7	I44.4	23.2	D10.1
#2	71.0	28.3	I45.2	13.3	D.000
#3	74.0	28.3	I44.4	22.8	D.000

B00

Method: CLPSOIL Sample Name: B104078 Operator: SMM
Run Time: 05/21/91 13:01:14
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .335

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	10100.	152.	<.000	I.000	5560.	I22.3	I6.19
SDev	71.	1.	.010	.241	15.	.5	.87
%RSD	.709	.832	-1.06	-36.8	.269	2.33	14.1
#1	10100.	153.	<.000	I.000	5570.	I22.9	I6.11
#2	10100.	152.	<.000	I.000	5580.	I22.1	I5.36
#3	9990.	150.	<.000	I.000	5550.	I21.9	I7.09

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I13.2	I15700.	I2770.	I680.	I17.4	I1450.	I.000
SDev	.5	92.	14.	3.	1.6	34.	.583
%RSD	3.81	.584	.506	.375	9.23	2.34	-37.2
#1	I13.1	I15800.	I2780.	I682.	I19.3	I1450.	I.000
#2	I12.8	I15800.	I2770.	I681.	I16.8	I1410.	I.000
#3	I13.8	I15600.	I2750.	I677.	I16.3	I1480.	I.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I102.	I30.9	I53.1	I13.6	D.000
SDev	9.	.5	.7	3.6	2.36
%RSD	9.16	1.50	1.38	26.5	-91.0
#1	I112.	I31.2	I53.9	I16.1	D.000
#2	I99.7	I31.2	I53.0	I15.4	D.000
#3	I93.7	I30.4	I52.5	I9.49	D.000

B000

Method: CLPSOIL Sample Name: B104079 Operator: SMM
Run Time: 05/21/91 13:04:29
Comment: Sauget Soil Samples - mg/kg
Mode: CONC Corr. Factor: .283

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	20600.	227.	<.000	.199	5940.	I33.6	I10.8
SDev	54.	1.	.017	.071	10.	.6	.6
%RSD	.264	.260	-2.79	35.7	.168	1.67	5.30
#1	20600.	227.	<.000	.133	5930.	I33.7	I10.2
#2	20600.	228.	<.000	.274	5950.	I33.0	I11.0
#3	20500.	226.	<.000	.189	5940.	I34.1	I11.2

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I24.3	28400.	4300.	896.	I29.3	2730.	<.000
SDev	.3	44.	9.	2.	2.9	129.	.210
%RSD	1.27	.153	.208	.246	9.79	4.72	-31.2
#1	I24.7	28400.	4310.	895.	I32.5	2800.	<.000
#2	I24.1	28500.	4300.	899.	I27.0	2580.	<.000
#3	I24.2	28400.	4290.	895.	I28.4	2810.	<.000

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	73.8	50.5	I120.	38.5	D.000
SDev	3.6	.3	1.	1.5	3.03
%RSD	4.93	.505	.603	3.97	-142.
#1	77.3	50.5	I120.	37.5	D.000
#2	74.1	50.3	I119.	40.3	D.089
#3	70.0	50.8	I121.	37.9	D.000

B0001

Analysis Report QC Standard Tue 05-21-91 01:13:52 PM page 1

Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 13:10:44
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	62.5	I.572	<.000	<.000	17.7	I1.66	I2.87
SDev	25.0	.576	.043	.814	10.8	1.12	.92
%RSD	39.9	101.	-10.4	-59.6	61.1	67.8	31.9
#1	87.9	1.17	<.000	<.000	29.4	I2.90	I3.88
#2	61.7	.518	<.000	<.000	15.3	I1.37	I2.64
#3	38.0	I.025	<.000	<.000	8.24	I.705	I2.09
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I81.9	I3.31	I.000	I.000	I153.	I.000
SDev	1.07	43.3	14.0	1.06	1.82	254.	1.63
%RSD	-66.7	52.8	422.	-92.4	-27.3	167.	-49.4
#1	I.000	I126.	I10.4	I.009	I.000	I353.	I.000
#2	I.000	I79.8	I.000	I.000	I.000	239.	I.000
#3	I.000	I39.8	I12.3	I.000	I.000	I.000	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I.000	I3.16	I10.9	D8.69
SDev	24.4	1.73	.22	22.9	22.1
%RSD	-22.6	-211.	6.88	210.	254.
#1	I.000	I.000	I3.40	I.000	D.000
#2	I.000	I.000	I2.99	I.000	D34.2
#3	I.000	I.966	I3.08	I37.2	D.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000_2C

Analysis Report QC Standard Tue 05-21-91 01:17:11 PM page 1

Method: CLPSOIL Sample Name: CRI2 Operator: SMM
Run Time: 05/21/91 13:14:03
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	477.	429.	10.3	9.94	11100.	I38.9	I97.7
SDev	9.	1.	.0	1.98	34.	2.5	1.3
%RSD	1.79	.253	.414	19.9	.301	6.39	1.36
#1	484.	428.	10.3	11.5	11100.	I40.8	I96.5
#2	479.	429.	10.3	10.6	11100.	I36.1	I97.4
#3	467.	430.	10.2	7.71	11200.	I39.9	I99.1
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	400.	400.	10.0	10.0	10000.	20.0	100.
Range	100.	100.	100.	100.	100.	100.	100.

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I52.0	I199.	I9480.	I26.4	I86.6	I10400.	I16.8
SDev	.9	4.	43.	.4	3.6	227.	1.4
%RSD	1.76	1.91	.450	1.51	4.13	2.18	8.16
#1	I53.0	I202.	I9440.	I26.6	I89.9	I10500.	I17.5
#2	I51.9	I200.	I9480.	I25.9	I86.9	I10200.	I17.6
#3	I51.1	I194.	I9530.	I26.6	I82.8	I10600.	I15.2
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	50.0	200.	10000.	30.0	80.0	10000.	20.0
Range	100.	100.	100.	100.	100.	100.	100.

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I11100.	I105.	I48.7	I28.2	D125.
SDev	18.	1.	.5	12.6	29.
%RSD	.165	.481	1.07	44.5	23.2
#1	I11100.	I105.	I49.3	I27.8	D159.
#2	I11200.	I105.	I48.4	I41.0	D106.
#3	I11100.	I104.	I48.4	I15.9	D111.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	NOCHECK
Value	10000.	100.	40.0		
Range	100.	100.	100.		

B005_8

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Method: CLPSOIL Sample Name: ICSA2 Operator: SMM
Run Time: 05/21/91 13:17:40
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	476000.	<.000	<.000	<.000	502000.	12.5	<.000
SDev	3928.	.672	.033	1.71	4218.	.7	1.52
%RSD	.825	-30.3	-5.91	-271.	.840	5.39	-9.73
#1	474000.	<.000	<.000	<.000	498000.	12.7	<.000
#2	474000.	<.000	<.000	<.000	501000.	11.7	<.000
#3	481000.	<.000	<.000	1.26	507000.	13.0	<.000
Errors	QC Pass	NOCHECK	NOCHECK	NOCHECK	QC Pass	NOCHECK	NOCHECK
Value	500000.				500000.		
Range	20.0				20.0		

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	<.000	181000.	507000.	<.000	2.39	<.000	<.000
SDev	1.60	1425.	4536.	.527	4.54	311.	.704
%RSD	-13.9	.788	.895	-1.46	190.	-41.1	-9.92
#1	<.000	180000.	503000.	<.000	7.47	<.000	<.000
#2	<.000	180000.	506000.	<.000	<.000	<.000	<.000
#3	<.000	182000.	512000.	<.000	.967	<.000	<.000
Errors	NOCHECK	QC Pass	QC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value		200000.	500000.				
Range		20.0	20.0				

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	3.65	<.000	70.3	89.9
SDev	43.4	1.81	1.14	12.5	24.6
%RSD	-7.37	49.7	-1.42	17.7	27.3
#1	<.000	2.75	<.000	56.6	112.
#2	<.000	5.73	<.000	80.9	94.0
#3	<.000	2.46	<.000	73.5	63.6
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

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Method: CLPSOIL Sample Name: ICSAB2 Operator: SMM
Run Time: 05/21/91 13:21:00
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	474000.	510.	499.	1020.	499000.	484.	442.
SDev	1920.	2.	.	5.	610.	3.	4.
%RSD	.405	.322	.035	.501	.122	.534	.979
#1	476000.	511.	499.	1010.	498000.	481.	438.
#2	475000.	511.	499.	1010.	499000.	486.	447.
#3	472000.	508.	499.	1020.	499000.	483.	442.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	500000.	500.	500.	1000.	500000.	500.	500.
Range	20.0	20.0	20.0	20.0	20.0	20.0	20.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	502.	180000.	505000.	432.	957.	<.000	989.
SDev	.	169.	440.	1.	12.	415.	1.
%RSD	.085	.094	.087	.227	1.26	-72.3	.065
#1	502.	180000.	505000.	432.	948.	<.000	989.
#2	502.	180000.	505000.	431.	971.	<.000	990.
#3	502.	180000.	505000.	432.	953.	<.000	989.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	500.	200000.	500000.	500.	1000.		1000.
Range	20.0	20.0	20.0	20.0	20.0		20.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	<.000	483.	868.	954.	107.
SDev	21.0	2.	3.	40.	25.
%RSD	-5.10	.342	.349	4.18	23.8
#1	<.000	481.	865.	946.	84.2
#2	<.000	484.	871.	918.	134.
#3	<.000	483.	867.	997.	101.
Errors	NOCHECK	QC Pass	QC Pass	QC Pass	NOCHECK
Value	.	500.	1000.	1000.	
Range		20.0	20.0	20.0	

B0004

Method: CLPSOIL Sample Name: CCV 4 Operator: SMM
Run Time: 05/21/91 13:28:20
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	9790.	9990.	244.	254.	254000.	484.	2330.
SDev	21.	62.	2.	4.	2027.	4.	15.
%RSD	.216	.616	.794	1.71	.798	.853	.641
#1	9770.	9940.	242.	250.	252000.	481.	2320.
#2	9810.	9990.	244.	255.	254000.	482.	2330.
#3	9780.	10100.	246.	259.	256000.	489.	2350.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	10000.	10000.	250.	250.	250000.	500.	2500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	1230.	4840.	243000.	710.	1980.	252000.	487.
SDev	6.	23.	2097.	7.	23.	1502.	3.
%RSD	.513	.468	.862	.917	1.15	.596	.692
#1	1230.	4810.	242000.	703.	1950.	251000.	483.
#2	1230.	4840.	243000.	711.	1990.	252000.	487.
#3	1240.	4860.	246000.	716.	1990.	254000.	490.
Errors	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass	QC Pass
Value	1250.	5000.	250000.	750.	2000.	250000.	500.
Range	10.0	10.0	10.0	10.0	10.0	10.0	10.0

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	262000.	2430.	912.	254.	3090.
SDev	1653.	15.	8.	12.	36.
%RSD	.631	.614	.845	4.81	1.16
#1	261000.	2420.	904.	242.	3070.
#2	262000.	2420.	913.	254.	3070.
#3	264000.	2440.	919.	266.	3130.
Errors	QC Pass	QC Pass	QC Pass	NOCHECK	QC Pass
Value	250000.	2500.	1000.		3000.
Range	10.0	10.0	10.0		10.0

B0005

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Method: CLPSOIL Sample Name: RINSE Operator: SMM
Run Time: 05/21/91 13:31:40
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	129.	55.5	1.01	I.537	1540.	I3.67	I12.8
SDev	60.	20.1	.51	1.59	560.	3.62	6.4
%RSD	46.7	36.2	50.2	297.	36.4	98.6	50.1
#1	197.	76.7	1.55	I.106	2130.	I7.81	I19.9
#2	106.	53.1	.928	<.000	1470.	I1.11	I10.9
#3	82.8	36.7	.546	2.30	1020.	I2.09	I7.52
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I4.67	I44.9	I1380.	I.000	I14.7	I1450.	I.000
SDev	4.00	24.6	494.	1.43	11.8	330.	1.64
%RSD	85.7	54.7	35.9	-150.	80.0	22.8	-148.
#1	I9.28	I69.2	1900.	I.646	I21.1	I1640.	I.000
#2	I2.58	I45.3	1310.	I.000	I1.14	I1640.	I.000
#3	I2.15	I20.1	I918.	I.000	I21.9	I1070.	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I1350.	I13.1	I8.53	I.000	D43.0
SDev	521.	4.1	1.16	20.8	6.3
%RSD	38.7	31.4	13.6	-1200.	14.7
#1	I1910.	I17.0	I9.80	I.000	D43.5
#2	I1260.	I13.7	I7.53	I22.3	D36.5
#3	I874.	I8.76	I8.27	I.000	D49.1
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000[illegible]

Analysis Report QC Standard Tue 05-21-91 01:38:08 PM page 1

Method: CLPSOIL Sample Name: CCB4 Operator: SMM
Run Time: 05/21/91 13:35:00
Comment: Sauget Soil Sample - ug/l
Mode: CONC Corr. Factor: 1

Elem	Al3082	Ba4934	Be3131	Cd2288	Ca3179	Cr2677	Co2286
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	12.6	8.34	<.000	.135	232.	I.359	I2.37
SDev	6.8	3.06	.065	2.05	85.	1.53	4.06
%RSD	54.1	36.7	-18.5	1520.	36.6	425.	172.
#1	16.6	11.5	<.000	2.50	319.	I.000	6.89
#2	16.6	8.17	<.000	<.000	227.	I1.63	I1.20
#3	4.75	5.37	<.000	<.000	149.	I.777	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Cu3247	Fe2599	Mg2790	Mn2576	Ni2316	K_7664	Ag3280
Units	ppb	ppb	ppb	ppb	ppb	ppb	ppb
Avge	I.000	I.000	I203.	I.000	I.000	I267.	I.000
SDev	.501	4.09	89.	.396	3.72	299.	.981
%RSD	-33.3	-32.0	43.8	-9.06	-61.8	112.	-35.9
#1	I.000	<.000	290.	<.000	<.000	66.5	<.000
#2	I.000	I.000	I205.	I.000	I.000	I611.	I.000
#3	I.000	I.000	I113.	I.000	I.000	I124.	I.000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value							
Range							

Elem	Na5889	V_2924	Zn2138	Pb2203	Sb217s
Units	ppb	ppb	ppb	ppb	ppb
Avge	I116.	I.565	I11.6	I.000	D3.56
SDev	84.	1.11	.8	7.05	14.9
%RSD	72.7	196.	6.51	-1640.	420.
#1	202.	.165	I11.9	<.000	D.000
#2	I114.	I1.82	I10.8	I6.55	D11.7
#3	I33.0	I.000	I12.2	I.000	D12.6
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
Value					
Range					

B000150

LAB NAME: ILLINOIS EPA CHAMPAIGN LAB CONTRACT: Sauget SITES ATTEM

LAB CODE: _____ CASE NO.: _____ SAS NO.: _____ SDG NO.: 46

AA FURNACE CALIBRATION STANDARDS - WATER MATRIX

STD1 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/1/91
SPEX	PLPB2-2X	1-88-MD	PB	1000	100/1000	100	4	20	
SPEX	PLAS2-2X	1-84-MD	AS	1000	100/1000	100	4	20	
SPEX	PLSE2-2X	1-107-SE	SE	1000	100/1000	100	4	20	
SPEX	PLTL2-2X	1-126-TL	TL	1000	100/1000	100	4	20	
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	4	20	

STD2 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/1/91
SPEX	PLPB2-2X	1-88-MD	PB	1000	100/1000	100	8	40	
SPEX	PLAS2-2X	1-84-MD	AS	1000	100/1000	100	8	40	
SPEX	PLSE2-2X	1-107-SE	SE	1000	100/1000	100	8	40	
SPEX	PLTL2-2X	1-126-TL	TL	1000	100/1000	100	8	40	
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	8	40	

STD3 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/1/91
SPEX	PLPB2-2X	1-88-MD	PB	1000	100/1000	100	12	60	
SPEX	PLAS2-2X	1-84-MD	AS	1000	100/1000	100	12	60	
SPEX	PLSE2-2X	1-107-SE	SE	1000	100/1000	100	12	60	
SPEX	PLTL2-2X	1-126-TL	TL	1000	100/1000	100	12	60	
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	12	60	

STD4 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/1/91
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	16	80	

AA FURNACE QUALITY ASSURANCE STANDARDS - WATER MATRIX

	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ul/ml	ANAL. Level ug/l	Prep. Date
ICV1	SPEX	ICAL-4	2-59-VS	PB	50	20/50	20	4/1/91
				AS	100		40	
				SE	50		20	
				TL	100		40	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	
CRA	SPEX	ICAL-4	2-59-VS	PB	50	5/50	5	4/1/91
				AS	100		10	
				SE	50		5	
				TL	100		10	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	
SPIKE	SPEX	ICAL-4	2-59-VS	PB	50	20/50	20	4/1/91
				AS	100		40	
				SE	50		20	
				TL	100		40	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	
LCSW	SPEX	ICAL-4	2-59-VS	PB	50	20/50	20	4/1/91
				AS	100		40	
				SE	50		20	
				TL	100		40	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	

SOIL REFERENCE SAMPLE

LCSS	Source	Cat #	Lot	Ele.	STOCK Level mg/kg	Prep. g/ml	ANAL. Level ug/l	Prep. Date
	ICF	LCSS	0287	PB	236	0.25/50	1180	~~4/3/91~~ CN
				AS	917		4585	N/A
				SE	39.2		196	
				TL	39.0		195	
				SB	211		1055	

AA FURNACE CALIBRATION STANDARDS - SOIL MATRIX

STD1 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE ~~4/19/91~~
SPEX	PLPB2-2X	1-88-MD	PB	1000	100/1000	100	4	20	4/4/91 LNB
SPEX	PLAS2-2X	1-84-MD	AS	1000	100/1000	100	4	20	
SPEX	PLSE2-2X	1-107-SE	SE	1000	100/1000	100	4	20	
SPEX	PLTL2-2X	1-126-TL	TL	1000	100/1000	100	4	20	
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	4	20	

STD2 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/4/91
SPEX	PLPB2-2X	1-88-MD	PB	1000	100/1000	100	8	40	
SPEX	PLAS2-2X	1-84-MD	AS	1000	100/1000	100	8	40	
SPEX	PLSE2-2X	1-107-SE	SE	1000	100/1000	100	8	40	
SPEX	PLTL2-2X	1-126-TL	TL	1000	100/1000	100	8	40	
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	8	40	

STD3 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/4/91
SPEX	PLPB2-2X	1-88-MD	PB	1000	100/1000	100	12	60	
SPEX	PLAS2-2X	1-84-MD	AS	1000	100/1000	100	12	60	
SPEX	PLSE2-2X	1-107-SE	SE	1000	100/1000	100	12	60	
SPEX	PLTL2-2X	1-126-TL	TL	1000	100/1000	100	12	60	
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	12	60	

STD4 Source	Cat #	Lot	Ele	STOCK Level ug/ml	INT Prep. ul/ml	INT Level ug/l	PREP DIL. ul/20ul	ANAL Level ug/l	PREP DATE 4/4/91
SPEX	PLSB2-2X	1-76-MD	SB	1000	100/1000	100	16	80	

AA FURNACE QUALITY ASSURANCE STANDARDS - SOIL MATRIX

	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ul/ml	ANAL. Level ug/l	Prep. Date
ICV1	SPEX	ICAL-4	2-59-VS	PB	50	20/50	20	4/4/91
				AS	100		40	
				SE	50		20	
				TL	100		40	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	
CRA	SPEX	ICAL-4	2-59-VS	PB	50	5/50	5	4/4/91
				AS	100		10	
				SE	50		5	
				TL	100		10	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	
SPIKE	SPEX	ICAL-4	2-59-VS	PB	50	20/50	20	~~4/4/91~~ CNB
				AS	100		40	
				SE	50		20	4/3/91
				TL	100		40	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	
LCSW	SPEX	ICAL-4	2-59-VS	PB	50	20/50	20	N/A
				AS	100		40	
				SE	50		20	
				TL	100		40	
	SPEX	ICAL-5	2-60-VS	SB	600	5/50	60	

SOIL REFERENCE SAMPLE

	Source	Cat #	Lot	Ele.	STOCK Level mg/kg	Prep. g/ml	ANAL. Level ug/l	Prep. Date
LCSS	ICF	LCSS	0287	PB	236	0.25/50	1180	4/3/91
				AS	917		4585	
				SE	39.2		196	
				TL	39.0		195	
				SB	211		1055	

ANALYTICAL PROCEDURES BY AA FURNACE

QUALITY ASSURANCE STANDARD LEVELS ARE ACHIEVED WITH DILUTIONS FROM THE INTERMEDIATE LEVEL STANDARD, BY THE SAMPLER TABLE SET UP WITHIN THE FURNACE PROGRAM FOR EACH ELEMENT. THE AUTOMATIC SAMPLER MAKES THE FINAL DILUTION ON THE FURNACE PLATFORM TO ACHIEVE THE ANALYTICAL LEVEL.

SAMPLE CONCENTRATIONS THAT FALL ABOVE THE HIGHEST STANDARD ARE AUTOMATICALLY DILUTED BY THE SAMPLER ONTO THE FURNACE PLATFORM FROM A TABLE IN THE SOFTWARE. WHEN CONCENTRATIONS FALL ABOVE THE HIGHEST DILUTION FACTOR IN THE TABLE THE SAMPLES MUST BE DILUTED BY HAND. THE SAMPLES DILUTED BY THE SAMPLER ARE CALCULATED BY THE SOFTWARE FOR FINAL CONCENTRATION AND ONLY THE CORRECTED VALUE IS PRINTED ON THE RAW DATA. WHEN THE DATA FOR A SAMPLE HAS BEEN REPORTED AFTER HAVING A DILUTION FACTOR APPLIED, IT IS DELINEATED BY THE ABBREVIATION "DF =". HAND DILUTED VALUES MUST BE CALCULATED AND INSERTED AFTER RAW DATA IS PRINTED.

THE FURNACE SOFTWARE NAMES THE ICV AND ALL CCV'S AS QC STANDARDS.

THE FURNACE SOFTWARE NAMES THE ICB AND ALL CCB'S AS QC BLANKS.

THE FURNACE SOFTWARE NAMES "BLANK" TO ANY RANDOM BLANK PERFORMED DURING A RUN.

THE INTEGRATION TIMES FOR EACH ELEMENT RUN BY AA FURNACE ARE AS FOLLOWS:

LEAD - 0.9 SECONDS
ARSENIC - 0.8 SECONDS
SELENIUM - 0.8 SECONDS
THALLIUM - 0.8 SECONDS
ANTIMONY - 0.8 SECONDS

B000191

LAB NAME: ILLINOIS EPA CHAMPAIGN LAB CONTRACT: Sauget

LAB CODE: _____ CASE NO.: _____ SAS NO.: _____ SDG NO.: 46

COMMENTS FOR AA FURNACE DATA

COMMENTS: Sample #B104064, water matrix, Pb:
COMMENTS: This sample exhibited both >20% RSD
COMMENTS: and <40% recovery (3.9%R). Flow chart
COMMENTS: was unclear on how to proceed when both
COMMENTS: circumstances are present. Rerun by
COMMENTS: standard additions to verify sample
COMMENTS: result.
COMMENTS:
COMMENTS: LCSW, water matrix, Sb:
COMMENTS: The LCSW was within QC limits when
COMMENTS: first run. However, the following
COMMENTS: downrange QC standard (ccv) was out.
COMMENTS: The software failed to rerun this sample
COMMENTS: after recalibrating. Therefore, the LCSW
COMMENTS: was verified by putting it on the
COMMENTS: standard additions run. The result
COMMENTS: obtained by MSA was reported.
COMMENTS:
COMMENTS:
COMMENTS:
COMMENTS:
COMMENTS:
COMMENTS:

SAUGET SITES
FURNACE PARAMETERS
WATERS

Sauget Sites Set #46 As waters

Arsenic

Sample B104062#1
date 4/3/91
value 3.5 ug/l → 3.9 ug/l
No flag
no std. add'ns

Sample B104062#2
date 4/3/91
Value 3.4 ug/l → 3.8 ug/l
no flag
no Std. add'ns

Sample B104062SPK
date 4/3/91
Value 43.9 ug/l → 48.7 ug/l
No flag
no std add'ns

Sample B104063
date 4/3/91
Value 1.2 ug/l → 1.3 ug/l
No flag
no std. add'ns

Sample B104064
date 4/3/91
value 8.3 ug/l → 9.2 ug/l
No flag
No Std. add'ns

Sauget Sites Lot #46 as water

Arsenic

Sample B104065

date 4/3/91

Value 1.4 ug/l → 1.6 ug/l

no flag

no std. add'ns

Sample B104066

date 4/3/91

Value 9.8 ug/l → 10.9 ug/l

no flag

no std. add'ns

9222500075

9222500075

Sauget Sites Lot #46 as waters
Arsenic

QC Checks	
ICV (40)	41.4
ICB	0.4
CRA (20)	22.7
Prep Blank	0.7
LCS	38.3 → 42.5
CCV	40.7
CCB	1.4
CCV	41.3
CCB	-0.6

Dup/Spike Info	
B104662 #1	3.9 µg/l
B104662 #2	3.8 µg/l
B104662 SPK	48.7 µg/l
% difference	2.6%
Theo. Spike value	40 µg/l
% Recovery	112%

B000195

Varian SpectrAA 300/400 Zeeman QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/03/91
BATCH As LOT 46 WATERS

PROGRAM 5 As water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		-0.009	-0.010 03Apr91	-0.008 08:46
STANDARD 1 QC	20.0	3.6	0.118	0.121 03Apr91	0.115 08:50
STANDARD 2 QC	40.0	2.5	0.224	0.220 03Apr91	0.229 08:54
STANDARD 3 QC	60.0	2.0	0.320	0.324 03Apr91	0.315 08:58
QCSTANDARD QC	41.4 ICV	1.5	0.232	0.234 03Apr91 %R =	0.229 09:01 103.5
QCBLANK QC	0.4 ICB	9.6	0.002	0.002 03Apr91 ABS =	0.002 09:05 -0.001
B104062#1 QC	3.5	8.0	0.021	0.022 03Apr91	0.020 09:08
QCSPIKE QC	25.8	1.8	0.149	0.147 03Apr91 %R =	0.151 09:12 111.1
B104062#2 QC	3.4	7.5	0.020	0.021 03Apr91 RPD =	0.019 09:16 5.1
QCSPIKE QC	25.7	1.3	0.149	0.150 03Apr91 %R =	0.147 09:20 111.4
B104062SPK QC	43.9	2.8	0.244	0.239 03Apr91 %R =	0.249 09:23 202.6
QCSPIKE QC	OVER	1.2	0.361	0.358 03Apr91	0.364 09:27
QCSPIKE QC	88.4	0.5	0.245	0.245 03Apr91 DF =	0.246 09:31 2.00
B104062SPK QC	44.4	8.8	0.130	0.122 03Apr91 DF = %R =	0.138 09:34 2.00 205.0
QCSPIKE QC	87.9	2.2	0.244	0.240 03Apr91 DF = %R =	0.248 09:38 2.00 108.8
CRA QC	22.7	1.5	0.132	0.134 03Apr91	0.131 09:42
QCSPIKE QC	44.3	3.3	0.246	0.251 03Apr91 %R =	0.240 09:45 108.0
PREP BLANK QC	0.7	99.9	0.004	0.001 03Apr91	0.007 09:49

B000196

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSPIKE QC	20.4	2.8	0.120	0.122 03Apr91 %R =	0.117 09:53 98.8
QCSTANDARD QC	40.7 CCV1	1.2	0.228	0.226 03Apr91 %R =	0.230 09:56 101.8
QCBLANK QC	1.4 CCB1	42.7	0.008	0.006 03Apr91 ABS =	0.011 10:00 0.005
LCS QC	38.3	1.9	0.216	0.219 03Apr91	0.213 10:03
QCSPIKE QC	59.2	2.2	0.316	0.311 03Apr91 %R =	0.321 10:07 104.5
B104063 QC	1.2	26.3	0.007	0.006 03Apr91	0.008 10:11
QCSPIKE QC	23.5	1.6	0.137	0.136 03Apr91 %R =	0.139 10:14 112.0
B104064 QC	8.3	1.4	0.049	0.049 03Apr91	0.048 10:18
QCSPIKE QC	28.6	2.2	0.165	0.162 03Apr91 %R =	0.167 10:22 101.5
B104065 QC	1.4	67.7	0.009	0.013 03Apr91	0.004 10:25
QCSPIKE QC	23.0	1.4	0.134	0.136 03Apr91 %R =	0.133 10:29 107.9
B104066 QC	9.8	1.3	0.058	0.058 03Apr91	0.057 10:32
QCSPIKE QC	30.4	2.7	0.174	0.171 03Apr91 %R =	0.178 10:36 102.8
BLANK QC	0.0		0.006	0.004 03Apr91	0.007 10:42
QCSTANDARD QC	41.3 CCV2	3.5	0.231	0.236 03Apr91 %R =	0.225 10:45 103.2
QCBLANK QC	-0.6 CCB2	99.9	-0.003	-0.006 03Apr91 ABS =	-0.001 10:49 -0.005

Sauget Sites Lot 46 Pb waters

Lead

Sample B104062#1
date 4-2-91
value 3.0 µg/l → 3.3 µg/l
no flag
no std. add'ns

Sample B104062#2
date 4-2-91
value 1.5 µg/l → 1.7 µg/l
no flag
no std. add'ns

Sample B104062SPK
date 4-2-91
Value 20.0 µg/l → 22.2 µg/l
no flag
no std. add'ns

Sample B104063
date 4-2-91
value 1.2 µg/l → 1.3 µg/l
no flag
no std. add'ns

Sample B104064
date 4-2-91
Value 9.9 µg/l → 11.0 µg/l
flag S
std. add'ns

BLK	0.009	30	0.088	Cor. coef: 1.000
20	0.066	40	0.112	

B000198

Sauget Sites Lot 46 Pb waters

Lead

Sample B104065

date 4-2-91

Value 6.0 µg/l → 6.7 µg/l

no flag

no std. add'ns

Sample B104066

date 4-2-91

Value 0.6 µg/l → 0.7 µg/l

no flag

no std. add'ns

Sauget Sites Lot 46 Pb waters

QC Checks

ICV (20)	21.3
ICB	-0.1
CRA (10)	9.9
Prep Blank	0.7
LCS (20)	19.8 → 22.0
CCV	20.8
CCB	0.0
CCV	21.8
CCB	0.4

Dup/Spike Info

B104062#1	3.3 µg/l
B104062#2	1.7 µg/l
B104062SPK	22.2 µg/l
% difference	64%
Theo. spike value	20 µg/l
% Recovery	94.5%

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Pb LOT 46 WATERS

PROGRAM 1 Pb water/soil

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.015	0.014 02Apr91	0.016 13:26
STANDARD 1 QC	20.0	1.6	0.092	0.091 02Apr91	0.093 13:30
STANDARD 2 QC	40.0	0.1	0.181	0.181 02Apr91	0.181 13:33
STANDARD 3 QC	60.0	1.7	0.261	0.258 02Apr91	0.264 13:37
BLANK QC	0.0		-0.004	-0.002 02Apr91	-0.006 13:43
QCSTANDARD QC	21.3	1.3	0.098	0.098 02Apr91 %R =	0.097 13:47 106.6
QCBLANK QC	-0.1	99.9	-0.000	0.000 02Apr91 ABS =	-0.001 13:50 0.003
B104062#1 QC	3.0	12.4	0.014	0.012 02Apr91	0.015 13:54
QCSPIKE QC	16.9	33.0	0.077	0.059 02Apr91 %RSD GREATER THAN LIMIT	0.095 13:58
QCSPIKE QC	13.4	1.9	0.061	0.062 02Apr91 %R =	0.060 14:02 104.2
B104062#2 QC	1.5	15.4	0.007	0.007 02Apr91 RPD =	0.006 14:05 67.3
QCSPIKE QC	12.4	0.8	0.057	0.057 02Apr91 %R =	0.057 14:09 109.7
B104062SPK QC	20.0	2.9	0.092	0.090 02Apr91 %R =	0.094 14:13 185.5
QCSPIKE QC	29.5	1.2	0.134	0.135 02Apr91 %R =	0.133 14:16 94.5
CRA QC	9.9	3.5	0.045	0.044 02Apr91	0.047 14:20
QCSPIKE QC	20.8	0.2	0.095	0.095 02Apr91 %R =	0.095 14:24 109.2
PREP BLANK QC	0.7	58.6	0.003	0.005 02Apr91	0.002 14:27
QCSPIKE QC	11.7	3.7	0.054	0.052 02Apr91 %R =	0.055 14:31 109.9

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	20.8	3.5	0.095	0.098 02Apr91 %R =	0.093 14:35 104.2
QCBLANK QC	0.0	99.9	0.000	-0.000 02Apr91 ABS =	0.001 14:38 0.004
LCS QC	19.8	4.1	0.091	0.088 02Apr91	0.093 14:42
QCSPIKE QC	51.3	4.3 N	0.227	0.220 02Apr91 %R =	0.234 14:46 315.3
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104063 QC	1.2	32.1	0.005	0.007 02Apr91	0.004 14:49
QCSPIKE QC	12.1	13.1	0.055	0.050 02Apr91 %R =	0.060 14:53 106.8
B104064 QC	12.7	32.6	0.058	0.072 02Apr91	0.045 14:56
				%RSD GREATER THAN LIMIT	
B104064 QC	20.0	67.5 M	0.091	0.135 02Apr91	0.048 15:00
				REPEATED %RSD STILL GREATER THAN LIMIT	
QCSPIKE QC	23.5	27.8	0.107	0.086 02Apr91	0.129 15:04
				%RSD GREATER THAN LIMIT	
QCSPIKE QC	20.3	3.8 E	0.093	0.096 02Apr91 %R =	0.091 15:08 3.9
				%R LESS THAN MINIMUM LIMIT	
B104065 QC	6.0	7.0	0.028	0.029 02Apr91	0.026 15:11
QCSPIKE QC	16.7	3.7	0.077	0.079 02Apr91 %R =	0.075 15:15 107.1
B104066 QC	0.6	27.3	0.003	0.002 02Apr91	0.003 15:18
QCSPIKE QC	11.3	3.0	0.052	0.051 02Apr91 %R =	0.053 15:22 107.0
QCSTANDARD QC	21.8	2.8	0.100	0.098 02Apr91 %R =	0.102 15:25 109.1
QCBLANK QC	0.4	26.8	0.002	0.001 02Apr91 ABS =	0.002 15:29 0.005

Repeated by Standard additions - (questionable) (exit here) LNB

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Pb LOT 46 WATERS

PROGRAM 4 Pb water/soil sa

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.009	0.011	0.007
				02Apr91	15:36
ADDITION 1 QC	20.0	0.6	0.066	0.066	0.066
				02Apr91	15:40
ADDITION 2 QC	30.0	3.0	0.088	0.090	0.086
				02Apr91	15:44
ADDITION 3 QC	40.0	1.1	0.112	0.111	0.113
				02Apr91	15:48
BI04064 QC	9.9	1.7	0.023	0.022	0.023
		S		02Apr91	15:52
				r =	1.000
				Xi =	-9.9
				Yi =	0.022
				Y/X =	0.0022

Sauget Sites Lot 46 Se waters
Selenium

Sample B104062#1
date 4-2-91
value 2.4 µg/l → 2.7 µg/l
flag E
no std-add'ns

Sample B104062#2
date 4-2-91
value 1.4 µg/l → 1.6 µg/l
flag E
no std-add'ns

Sample B104062SPK
date 4-2-91
value 6.4 µg/l → 7.1 µg/l
flag E
no std-add'ns

Sample B104063
date 4-2-91
Value 1.2 µg/l → 1.3 µg/l
flag E
no std add'ns

Sample B104064
date 4-1-91
value 0.7 µg/l → 0.8 µg/l
flag W
no std-add'ns

Sauget Sites Lot 46 Se waters

Selenium

Sample B104065
date 4-2-91
Value 1.2 µg/l → 1.3 µg/l
flag E
no std. add'ns

Sample B104066
date 4-2-91
Value 0.6 µg/l → 0.7 µg/l
flag E
no std. add'ns

Sauget Sites Lot #46 Se waters
Selenium

QC Checks	4-1-91	4-2-92
ICV (20)	20.4	20.6
ICB	0.4	0.7
CRA (10)	9.4	10.2
Prep Blank	0.1	0.3
LCS (20)	19.9 → 22.1	19.0 → 21.1
CCV	19.6	20.1
CCB	-0.3	0.3
CCV	20.0	19.3
CCB	-0.0	0.1
CCV	18.0	
CCB	0.0	

Dup/Spike Info

B104062#1 2.7 µg/l
B104062#2 1.6 µg/l
B104062 SPK 7.1 µg/l
% difference 51.2%
Theo Spike Value 20 µg/l
% Recovery 22%

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Se LOT 46 WATERS

PROGRAM 6 Se water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		-0.002	-0.002 02Apr91	-0.001 11:04
STANDARD 1 QC	20.0	1.2	0.094	0.093 02Apr91	0.095 11:08
STANDARD 2 QC	40.0	1.4	0.187	0.186 02Apr91	0.189 11:12
STANDARD 3 QC	60.0	0.1	0.269	0.269 02Apr91	0.269 11:15
QCSTANDARD QC	0.6	86.0 Q	0.003	0.005 02Apr91 %R =	0.001 11:19 3.1
BLANK QC	0.0		0.002	0.003 02Apr91	0.002 11:29
STANDARD 1 QC	20.0	0.1	0.093	0.093 02Apr91	0.093 11:33
STANDARD 2 QC	40.0	1.9	0.183	0.186 02Apr91	0.181 11:36
STANDARD 3 QC	60.0	0.3	0.267	0.267 02Apr91	0.266 11:40
QCSTANDARD QC	20.6	0.3	0.096	0.096 02Apr91 %R =	0.096 11:44 103.1
QCBLANK QC	0.7	33.8	0.003	0.004 02Apr91 ABS =	0.002 11:47 0.003
B104062#1 1:1 dil QC LNB	1.2	10.6	0.006	0.006 02Apr91	0.005 11:51
QCSPIKE QC	3.5	1.6 E	0.016	0.016 02Apr91 %R =	0.016 11:55 22.6
				%R LESS THAN MINIMUM LIMIT	
B104062#2 1:1 dil QC LNB	0.7	18.3	0.003	0.004 02Apr91 RPD =	0.003 11:58 48.4
QCSPIKE QC	3.4	2.3 E	0.016	0.016 02Apr91 %R =	0.016 12:02 26.4
				%R LESS THAN MINIMUM LIMIT	
B104062SPK 1:1 dil QC LNB	3.2	7.4	0.015	0.016 02Apr91 %R =	0.014 12:06 24.2
QCSPIKE QC	5.7	4.2 E	0.027	0.027 02Apr91 %R =	0.026 12:09 25.1
				%R LESS THAN MINIMUM LIMIT	
CRA QC	10.2	3.9	0.048	0.049 02Apr91	0.047 12:13

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSPIKE QC	19.2	2.3	0.090	0.088 02Apr91 %R =	0.091 12:17 89.6
PREP BLANK QC	0.3	5.3	0.002	0.002 02Apr91	0.002 12:20
QCSPIKE QC	9.9	3.3	0.046	0.047 02Apr91 %R =	0.045 12:24 95.7
QCSTANDARD QC	20.1	0.6	0.094	0.093 02Apr91 %R =	0.094 12:28 100.5
QCBLANK QC	0.3	67.7	0.001	0.002 02Apr91 ABS =	0.001 12:31 0.002
LCS QC	19.0	0.4	0.089	0.089 02Apr91	0.089 12:35
QCSPIKE QC	29.2	2.6	0.135	0.137 02Apr91 %R =	0.132 12:38 101.2
B104063 1:1 dil QC LNB	0.6	38.1	0.003	0.004 02Apr91	0.002 12:42
QCSPIKE QC	1.4	6.5 E	0.006	0.007 02Apr91 %R =	0.006 12:46 7.2
				%R LESS THAN MINIMUM LIMIT	
B104065 1:1 dil QC LNB	0.6	36.9	0.003	0.002 02Apr91	0.003 12:49
QCSPIKE QC	1.7	4.7 E	0.008	0.008 02Apr91 %R =	0.008 12:53 11.2
				%R LESS THAN MINIMUM LIMIT	
B104066 1:1 dil QC LNB	0.3	14.2	0.001	0.002 02Apr91	0.001 12:56
QCSPIKE QC	1.3	12.2 E	0.006	0.005 02Apr91 %R =	0.006 13:00 9.6
				%R LESS THAN MINIMUM LIMIT	
QCSTANDARD QC	19.3	6.1	0.090	0.086 02Apr91 %R =	0.094 13:04 96.5
QCBLANK QC	0.1	99.9	0.000	0.002 02Apr91 ABS =	-0.001 13:07 0.001

Target Sites Lot #46 Il water

Thallium

Sample B104062 #1
date 4/2/91
value 2.0 ug/l → 2.2 ug/l
no flag
no std. add'ns

Sample B104062 #2
date 4/2/91
value 1.7 ug/l → 1.9 ug/l
no flag
no std. add'ns

Sample B104062SPK
date 4/2/91
value 37.2 ug/l → 41.3 ug/l
no flag
no std. add'ns

Sample B104063
date 4/2/91
value 2.8 ug/l → 3.1 ug/l
flag W
no std. add'ns

Sample B104064
date 4/2/91
value 1.9 ug/l → 2.1 ug/l
no flag
no std. add'ns

Sauget Sites lot #46 IL water

Thallium

Sample B104065

date 4/2/91

Value 2.2 µg/l → 2.4 µg/l

no flag

no std. add'ns

Sample B104066

date 4/2/91

Value 4.2 µg/l → 4.7 µg/l

no flag

no std. add'ns

Sauget Sites Lot #46 Tl waters
Thallium

QC Checks	
ICV (40)	40.1
ICB	0.2
CRA (20)	21.9
Prep Blank	2.3
LCS (40)	36.3 → 40.3
CCV	39.7
CCB	2.1
CCV	41.6
CCB	0.4

Dup/Spike Info	
B104062#1	2.2 ug/l
B104062#2	1.9 ug/l
B104062SPK	41.3 ug/l
% difference	14.6%
Theo Spike Value	40 ug/l
% Recovery	97.8%

9222500 0392
9222600 0392

B000211

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Tl As LOT 46 WATERS

PROGRAM 3 Tl water/soil

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.001	-0.004	0.005
				02Apr91	16:15
STANDARD 1 QC	20.0	2.1	0.105	0.103	0.106
				02Apr91	16:20
STANDARD 2 QC	40.0	2.3	0.200	0.203	0.197
				02Apr91	16:24
STANDARD 3 QC	60.0	0.8	0.279	0.281	0.278
				02Apr91	16:29
QCSTANDARD QC	31.7	39.0	0.162	0.206	0.117
				02Apr91	16:33
				%RSD GREATER THAN LIMIT	
QCSTANDARD QC	40.1	4.1	0.200	0.206	0.195
				02Apr91	16:37
				%R =	100.2
QCBLANK QC	0.2	99.9	0.001	-0.001	0.003
				02Apr91	16:41
				ABS =	0.001
B104062#1 QC	2.0	0.8	0.010	0.010	0.010
				02Apr91	16:45
QCSPIKE QC	21.0	4.8	0.109	0.113	0.106
				02Apr91	16:49
				%R =	95.0
B104062#2 QC	1.7	17.5	0.009	0.008	0.010
				02Apr91	16:53
				RPD =	16.1
QCSPIKE QC	21.1	0.4	0.110	0.110	0.110
				02Apr91	16:57
				%R =	97.0
B104062SPK QC	37.2	1.7	0.187	0.185	0.190
				02Apr91	17:01
				%R =	177.7
QCSPIKE QC	54.3	2.3	0.258	0.263	0.254
				02Apr91	17:06
				%R =	85.6
CRA QC	21.9	6.0	0.114	0.109	0.119
				02Apr91	17:10
QCSPIKE QC	40.4	7.6	0.202	0.213	0.191
				02Apr91	17:14
				%R =	92.5
PREP BLANK QC	2.3	50.9	0.012	0.016	0.008
				02Apr91	17:18
QCSPIKE QC	19.8	0.1	0.104	0.104	0.103
				02Apr91	17:23
				%R =	87.6
QCSTANDARD QC	39.7	2.9	0.199	0.195	0.203
				02Apr91	17:27
				%R =	99.3

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCBLANK QC	2.1	99.9	0.011	0.019 02Apr91 ABS =	0.003 17:31 0.011
LCS QC	36.3	0.4	0.183	0.182 02Apr91	0.183 17:34
QCSPIKE QC	54.5	0.6	0.259	0.260 02Apr91 %R =	0.258 17:39 91.2
B104063 QC	2.8	29.0	0.014	0.011 02Apr91	0.017 17:43
QCSPIKE QC	19.7	1.7	0.103	0.102 02Apr91 %R =	0.104 17:47 84.6
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104064 QC	1.9	91.9	0.010	0.017 02Apr91	0.004 17:51
QCSPIKE QC	19.4	1.7	0.101	0.100 02Apr91 %R =	0.103 17:55 87.2
B104065 QC	2.2	13.6	0.012	0.011 02Apr91	0.013 17:59
QCSPIKE QC	21.0	0.1	0.110	0.110 02Apr91 %R =	0.110 18:03 93.9
B104066 QC	4.2	43.2	0.022	0.015 02Apr91	0.028 18:07
QCSPIKE QC	21.3	2.0	0.111	0.112 02Apr91 %R =	0.109 18:12 85.4
QCSTANDARD QC	41.6	2.3	0.207	0.204 02Apr91 %R =	0.210 18:16 103.9
QCBLANK QC	0.4	99.9	0.002	-0.000 02Apr91 ABS =	0.004 18:20 0.002

Target Sites Lot 46 Sb waters

Antimony

Sample B104062#1

date 4/1/91

value 2.5 µg/l → 2.8 µg/l

no flag

no std. add'ns

Sample B104062#2

date 4/1/91

value −1.1 µg/l → −1.2 µg/l

no flag

no std. add'ns

Sample B104062SPK

date 4/2/91

value 51.7 µg/l → 57.4 µg/l

flag S

std. add'ns

Blk	0.029	30	0.186	cor. coef: 1.000
20	0.164	40	0.209	

Sample B104063

date 4/1/91

value −5.1 µg/l → −5.7 µg/l

no flag

no std. add'ns

Target Sites Lot 46 Sb waters
Antimony
Sample B104064
date 4/1/91
value -3.6 ug/l → -4.0 ug/l
no flag
no std. add'ns
Sample B104065
date ~~[illegible]~~ 4/1/91
value -4.4 ug/l → -4.9 ug/l
no flag
no std. add'ns
Sample B104066
date 4/1/91
value -4.1 ug/l → -4.6 ug/l
no flag
no std. add'ns

Sauget Sites Lot 46 Sb waters
Antimony

QC Checks

ICV (60)	65.5
ICB	1.4
CRA (30)	29.3
Prep Blank	-0.4
LCS	61.7 → 68.5 4/2/91
CCV	58.1
CCB	2.1
CCV	65.9
CCB	1.6
CCV	64.1
CCB	1.9

Dup/Spike Info

B104062 #1	2.8 µg/l
B104062 #2	-1.2 µg/l
B104062 SPK	57.4 µg/l
% difference	—
Theo. Spike Value	60 µg/l
% Recovery	91%

Varian SpectrAA 300/400 Zeeman QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/01/91
BATCH Sb Se As LOT 46 WATERS

PROGRAM 7 Sb water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.005	0.006	0.004
				01Apr91	16:20
STANDARD 1 QC	20.0	4.6	0.097	0.094	0.100
				01Apr91	16:24
STANDARD 2 QC	40.0	1.7	0.204	0.207	0.202
				01Apr91	16:28
STANDARD 3 QC	60.0	0.4	0.298	0.299	0.297
				01Apr91	16:32
STANDARD 4 QC	80.0	0.5	0.368	0.367	0.369
				01Apr91	16:36
QCSTANDARD QC	65.5	1.3	0.319	0.322	0.316
				01Apr91	16:39
				%R =	109.1
QCBLANK QC	1.4	99.9	0.007	0.012	0.001
				01Apr91	16:43
				ABS =	0.008
B104062#1 QC	2.5	17.1	0.012	0.011	0.014
				01Apr91	16:46
QCSPIKE QC	21.6	0.1	0.105	0.105	0.105
				01Apr91	16:50
				%R =	95.0
B104062#2 QC	-1.1	12.8	-0.005	-0.005	-0.006
				01Apr91	16:54
				RPD =	482.3
QCSPIKE QC	17.2	0.5	0.084	0.083	0.084
				01Apr91	16:57
				%R =	91.4
B104062SPK QC	45.9	3.0	0.232	0.227	0.237
				01Apr91	17:01
				%R =	234.9
QCSPIKE QC	60.6	1.5 N	0.300	0.297	0.304
				01Apr91	17:05
				%R =	73.6
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
CRA QC	29.3	6.8	0.146	0.139	0.153
				01Apr91	17:08
QCSPIKE QC	44.3	2.3 N	0.225	0.221	0.228
				01Apr91	17:12
				%R =	74.6
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
PREP BLANK QC	-0.4	68.3	-0.002	-0.003	-0.001
				01Apr91	17:16
QCSPIKE QC	19.0	2.1	0.093	0.094	0.091
				01Apr91	17:20
				%R =	97.4
QCSTANDARD QC	58.1	5.0	0.289	0.279	0.299
				01Apr91	17:23
				%R =	96.8

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCBLANK QC	2.1	30.4	0.010	0.008 01Apr91 ABS =	0.013 17:27 0.012
aqueous LCS~~0287~~ LNB QC	52.6	0.3	0.264	0.264 01Apr91	0.263 17:30
QCSPIKE QC	67.9	0.6 N	0.328	0.330 01Apr91 %R =	0.327 17:34 76.4
%R FAILED, REPEAT BY STANDARD ADDITIONS					
B104063 QC	-0.4	99.9	-0.002	0.002 01Apr91	-0.005 17:37
QCSPIKE QC	18.5	2.8	0.090	0.092 01Apr91 %R =	0.088 17:41 94.4
B104064 QC	-0.3	99.9	-0.001	0.002 01Apr91	-0.004 17:45
QCSPIKE QC	18.9	1.8	0.092	0.093 01Apr91 %R =	0.091 17:49 95.7
B104065 QC	-0.3	99.9	-0.002	-0.004 01Apr91	0.001 17:52
QCSPIKE QC	17.8	6.0	0.087	0.083 01Apr91 %R =	0.090 17:56 90.8
B104066 QC	-0.8	27.2	-0.004	-0.005 01Apr91	-0.003 17:59
QCSPIKE QC	16.7	0.7	0.081	0.081 01Apr91 %R =	0.082 18:03 87.7
QCSTANDARD QC	53.8	1.8 Q	0.269	0.266 01Apr91 %R =	0.273 18:06 89.6
BLANK QC	0.0		0.017	0.015 01Apr91	0.020 18:10
STANDARD 1 QC	20.0	7.2	0.080	0.076 01Apr91	0.084 18:14
STANDARD 2 QC	40.0	1.8	0.164	0.162 01Apr91	0.166 18:18
STANDARD 3 QC	60.0	2.5	0.247	0.243 01Apr91	0.251 18:22
STANDARD 4 QC	80.0	0.6	0.323	0.322 01Apr91	0.325 18:26
QCSTANDARD QC	65.9	0.1	0.270	0.270 01Apr91 %R =	0.271 18:29 109.8
QCBLANK QC	1.6	31.6	0.006	0.005 01Apr91 ABS =	0.008 18:33 0.014
JB software should have returned to LCS & reran from there - will run LCS by std. add'ns to verify					
B104063 QC	-5.1	8.5	-0.021	-0.019 01Apr91	-0.022 18:36
QCSPIKE QC	16.7	8.1	0.067	0.071 01Apr91 %R =	0.063 18:40 109.0
B104064 QC	-3.6	5.5	-0.014	-0.014 01Apr91	-0.015 18:43
QCSPIKE QC	18.8	4.9	0.075	0.073 01Apr91 %R =	0.078 18:47 111.8

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
B104065 QC	-4.4	13.6	-0.018	-0.016	-0.019
				01Apr91	18:51
QCSPIKE QC	17.5	3.0	0.070	0.072	0.069
				01Apr91	18:54
				%R =	109.4
B104066 QC	-4.1	17.6	-0.016	-0.014	-0.018
				01Apr91	18:58
QCSPIKE QC	17.2	0.4	0.069	0.069	0.069
				01Apr91	19:01
				%R =	106.5
QCSTANDARD QC	64.1	4.5	0.263	0.255	0.272
				01Apr91	19:05
				%R =	106.9
QCBLANK QC	1.9	45.1	0.008	0.005	0.010
				01Apr91	19:08
				ABS =	0.015

PROGRAM 6 Se water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		-0.000	0.002	-0.002
				01Apr91	19:13
STANDARD 1 QC	20.0	2.3	0.088	0.090	0.087
				01Apr91	19:17
STANDARD 2 QC	40.0	0.0	0.171	0.171	0.171
				01Apr91	19:21
STANDARD 3 QC	60.0	0.8	0.245	0.244	0.247
				01Apr91	19:24
QCSTANDARD QC	20.4	2.9	0.090	0.088	0.092
				01Apr91	19:28
				%R =	101.9
QCBLANK QC	0.4	88.4	0.002	0.003	0.001
				01Apr91	19:32
				ABS =	0.002
B104062#1 QC	1.4	29.5	0.006	0.005	0.007
				01Apr91	19:35
QCSPIKE QC	3.1	1.7 E	0.014	0.014	0.013
				01Apr91	19:39
				%R =	17.1
		Rerun 1:1 LNB		%R LESS THAN MINIMUM LIMIT	
B104062#2 QC	1.0	15.2	0.004	0.005	0.004
				01Apr91	19:42
				RPD =	33.4
QCSPIKE QC	2.3	15.1 E	0.010	0.009	0.011
				01Apr91	19:46
				%R =	13.4
		Rerun 1:1 LNB		%R LESS THAN MINIMUM LIMIT	
B104062SPK QC	4.0	6.8	0.018	0.018	0.017
				01Apr91	19:50
				%R =	30.0
QCSPIKE QC	5.6	2.3 E	0.025	0.024	0.025
				01Apr91	19:54
changed gas tank LNB		Rerun 1:1 LNB		%R =	16.2
				%R LESS THAN MINIMUM LIMIT	
BLANK QC	0.0		0.007	0.008	0.005
				01Apr91	20:10

B000218

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	19.6	4.8	0.086	0.083 01Apr91 %R =	0.089 20:13 98.0
QCBLANK QC	-0.3	99.9	-0.001	-0.000 01Apr91 ABS =	-0.002 20:17 0.001
CRA QC	9.4	0.1	0.041	0.041 01Apr91	0.041 20:20
QCSPIKE QC	19.7	5.7	0.087	0.083 01Apr91 %R =	0.090 20:24 103.2
PREP BLANK QC	0.1	99.9	0.001	0.002 01Apr91 RPD =	-0.001 20:28 195.2
QCSPIKE QC	9.9	2.1	0.044	0.044 01Apr91 %R =	0.043 20:31 98.0
aqueous LCS ~~0287~~ LNB QC	19.9	2.2	0.088	0.089 01Apr91 %R =	0.086 20:35 197.6
QCSPIKE QC	29.4	0.2	0.127	0.127 01Apr91 %R =	0.128 20:39 94.8
B104063 QC	0.1	99.9	0.000	0.001 01Apr91	-0.001 20:42
QCSPIKE QC	1.0	10.8 E Rerun 1:1 LNB	0.004	0.004 01Apr91 %R =	0.005 20:46 9.1
				%R LESS THAN MINIMUM LIMIT	
B104064 QC	0.7	13.9	0.003	0.004 01Apr91	0.003 20:49
QCSPIKE QC	7.3	0.7 N W LNB	0.032	0.032 01Apr91 %R =	0.032 20:53 65.5
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
QCSTANDARD QC	20.0	2.8	0.088	0.086 01Apr91 %R =	0.090 20:57 99.8
QCBLANK QC	-0.0	99.9	-0.000	-0.001 01Apr91 ABS =	0.001 21:00 0.002
B104065 QC	-0.0	99.9	-0.000	-0.002 01Apr91	0.002 21:04
QCSPIKE QC	1.2	5.7 E Rerun 1:1 LNB	0.005	0.005 01Apr91 %R =	0.005 21:07 12.3
				%R LESS THAN MINIMUM LIMIT	
B104066 QC	-0.1	99.9	-0.000	-0.001 01Apr91	0.000 21:11
QCSPIKE QC	0.6	48.7 E Rerun 1:1 LNB	0.003	0.002 01Apr91 %R =	0.004 21:14 7.1
				%R LESS THAN MINIMUM LIMIT	
QCSTANDARD QC	18.0	7.5	0.079	0.075 01Apr91 %R =	0.084 21:18 90.2
QCBLANK QC	0.0	99.9	0.000	0.001 01Apr91 ABS =	-0.001 21:22 0.002

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Sb As LOT 46 WATERS

PROGRAM 10 Sb water/soils s/a

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.026	0.021 02Apr91	0.031 08:45
ADDITION 1 QC	20.0	4.4	0.206	0.213 02Apr91	0.200 08:49
ADDITION 2 QC	30.0	4.3	0.210	0.217 02Apr91	0.204 08:53
ADDITION 3 QC	40.0	1.3	0.233	0.231 02Apr91	0.236 08:57
B104062SPK QC	62.5	6.4	0.139	0.132 02Apr91 r = Xi = Yi = Y/X =	0.145 09:01 0.969 -62.5 0.145 0.0023

1st Run
LNB

B000221

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Sb LOT 46 WATERS

PROGRAM 10 Sb water/soils s/a

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.029	0.029 02Apr91	0.030 09:50
ADDITION 1 QC	20.0	2.8	0.164	0.167 02Apr91	0.160 09:54
ADDITION 2 QC	30.0	0.9	0.186	0.185 02Apr91	0.187 09:58
ADDITION 3 QC	40.0	0.2	0.209	0.209 02Apr91	0.209 10:02
B104062SPK QC	51.7	4.6 S	0.118	0.122 02Apr91	0.114 10:06
				r =	1.000
				Xi =	-51.7
				Yi =	0.118
				Y/X =	0.0023

2nd Run

B000222

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/02/91
BATCH Sb L07 46 WATERS

PROGRAM 10 Sb water/soils s/a

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.040	0.039	0.042
				02Apr91	10:12
ADDITION 1 QC	20.0	4.0	0.167	0.163	0.172
				02Apr91	10:16
ADDITION 2 QC	30.0	0.7	0.184	0.183	0.185
				02Apr91	10:21
ADDITION 3 QC	40.0	3.4	0.205	0.210	0.200
				02Apr91	10:25
LCS QC	61.7	2.0	0.124	0.122	0.125
		S		02Apr91	10:28
				r =	0.999
				Xi =	-61.7
				Yi =	0.125
				Y/X =	0.0020

SAUGET SITES AREA 1
FURNACE PARAMETERS
SOILS

Sauget Sites Lot 46 As ~~[illegible]~~ Soils

Arsenic

Sample B104067#1
date 4/5/91
value 55.9 ug/l → ~~14.1 mg/kg~~ 13.6 mg/kg
flag S
std add'ns
BLK 0.013 30 0.128 cor. coef: 0.999
20 0.111 40 0.141

Sample B104067#2
date 4/4/91
value 28.1 ug/l → ~~7.2 mg/kg~~ 6.7 mg/kg
no flag
no std add'ns

Sample B104067 SPK
date 4/4/91
value 87.2 ug/l → ~~22.0 mg/kg~~ 20.7 mg/kg
no flag
no std. add'ns

Sample B104068
date 4/4/91
value 38.8 ug/l → ~~9.9 mg/kg~~ 10.3 mg/kg
no flag
no std add'ns

Sauget Sites Lot 46 As soils

Arsenic

Sample B104069

date 4/5/91

value 38.8 ug/l → ~~11.4 mg/kg~~ 10.7 mg/kg

flag S

Std add'ns

BKR	-0.011	30	0.178	cor. coef 0.997
20	0.154	40	0.208	

Sample B104070

date 4/5/91

value 32.6 ug/l → ~~7.6 mg/kg~~ 7.5 mg/kg

flag S

Std add'ns

BKR	0.001	30	0.157	cor. coef: 1.000
20	0.132	40	0.181	

Sample B104071

date 4/5/91

value 39.6 ug/l → ~~12.5 mg/kg~~ 11.2 mg/kg

flag S

Std add'ns

BKR	0.002	30	0.172	cor. coef 0.998
20	0.142	40	0.195	

Sample B104072

date 4/4/91

value 84.0 ug/l → ~~32.9 mg/kg~~ 30.3 mg/kg

no flag

no Std add'ns

Target Sites Lot 46 As soil
Arsenic

Sample B104073
date 4/5/91
value 34.8 ug/l → ~~11.9 mg/kg~~ 10.1 mg/kg
flag S
Std. add'ns
Blk [redacted] -0.001 30 [redacted] 0.153 Cor. Coef: 0.99-
20 [redacted] 0.133 40 0.185

Sample B104074
date 4/5/91
value 42.2 ug/l → ~~12.3 mg/kg~~ 12.2 mg/kg
flag S
Std. add'ns
Blk -0.005 30 0.186 Cor. Coef: 0.999
20 0.159 40 0.206

Sample B104075
date 4/5/91
value 40.2 ug/l → ~~10.5 mg/kg~~ 11.3 mg/kg
flag S
Std. add'ns
Blk -0.000 30 0.175 Cor. Coef: 0.999
20 0.150 40 0.203

Sample B104076
date 4/4/91
value 65.2 ug/l → ~~21.5 mg/kg~~ 19.5 mg/kg
no flag
no Std. add'ns

Sauget Sites Lot 46 As soils
Arsenic

Sample B104077
date 4/4/91
Value 8.5 ug/l → ~~2.0 mg/kg~~ 2.2 mg/kg
no flag
no std. add'ns

Sample B104078
date 4/4/91
Value 7.9 ug/l → ~~2.6 mg/kg~~ 2.6 mg/kg
no flag
no std. add'ns

Sample B104079
date 4/4/91
Value 31.5 ug/l → ~~9.1 mg/kg~~ 8.9 mg/kg
no flag
no std. add'ns

Sauget Sites Lot 46 As Soils
Arsenic

QC Checks

ICV (40)	43.8
ICB	0.0
CRA (20)	23.2
Prep Blk	0.7
CCV	40.3
CCB	-0.2
CCV	42.5
CCB	0.2
CCV	41.6
CCB	0.1
CCV	40.9
CCB	-0.4
CCV	40.6
CCB	-0.9
CCV	40.3
CCB	-1.1

LCS0287:
5300 µg/l → 1054.7 mg/kg

Dup/Spike Info

B104067#1	13.6 mg/kg
B104067#2	6.7 mg/kg
B104067SPK	20.7 mg/kg
% difference	68%
Theo Spike Value	9.48 mg/kg
% Recovery	74.9%

Correction Factors

B104067#1	0.244
B104067#2	0.237
B104067SPK	0.237
B104068	0.265
B104069	0.277
B104070	0.230
B104071	0.283
B104072	0.361
B104073	0.290
B104074	0.290
B104075	0.280
B104076	~~0.256~~ 0.299
B104077	~~0.334~~ 0.256
B104078	0.335
B104079	0.283
LCS0287	0.197

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/04/91
BATCH As Se LOT 46 SOILS

PROGRAM 5 As water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.001	0.002 04Apr91	-0.001 14:11
STANDARD 1 QC	20.0	1.2	0.117	0.116 04Apr91	0.118 14:14
STANDARD 2 QC	40.0	3.8	0.225	0.219 04Apr91	0.231 14:18
STANDARD 3 QC	60.0	0.8	0.329	0.331 04Apr91	0.327 14:22
QCSTANDARD QC	43.8	1.0	0.245	0.244 04Apr91 %R =	0.247 14:26 109.6
QCBLANK QC	0.0	99.9	0.000	0.000 04Apr91 ABS =	-0.000 14:29 0.000
B104067#1 QC	29.5	1.8	0.169	0.167 04Apr91	0.172 14:33
QCSPIKE QC	43.1	2.3 N	0.241	0.245 04Apr91 %R =	0.237 14:36 67.7
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104067#2 QC	28.1	4.6	0.162	0.167 04Apr91 RPD =	0.156 14:40 5.0
QCSPIKE QC	46.1	1.4	0.257	0.260 04Apr91 %R =	0.255 14:44 90.1
B104067SPK QC	OVER	1.4	0.422	0.417 04Apr91	0.426 14:47
B104067SPK QC	87.2	1.4	0.244	0.247 04Apr91 DF = %R =	0.242 14:51 2.00 295.7
QCSPIKE QC	128.0	1.7	0.349	0.345 04Apr91 DF = %R =	0.353 14:54 2.00 101.8
CRA QC	23.2	0.1	0.135	0.135 04Apr91	0.135 14:58
QCSPIKE QC	42.7	2.3	0.239	0.243 04Apr91 %R =	0.235 15:02 97.3
PREP BLANK QC	0.7	0.0	0.004	0.004 04Apr91	0.004 15:05
QCSPIKE QC	21.8	2.9	0.127	0.124 04Apr91 %R =	0.129 15:09 105.1
BLANK QC	0.0		-0.001	0.003 04Apr91	-0.004 15:15

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	40.3	0.8	0.227	0.228 04Apr91 %R =	0.226 15:18 100.8
QCBLANK QC	-0.2	0.0	-0.001	-0.001 04Apr91 ABS =	-0.001 15:22 -0.001
LCS0287 Modif LNB QC	OVER	2.7	1.338*	1.313* 04Apr91	1.364* 15:25
LCS0287 QC	OVER	2.7	1.014*	0.995* 04Apr91 DF =	1.034* 15:29 2.00
LCS0287 QC	OVER	0.1	0.708*	0.707* 04Apr91 DF =	0.709* 15:32 4.00
LCS0287 QC	571.9	0.7	0.314	0.316 04Apr91 DF =	0.313 15:36 10.00
QCSPIKE QC	OVER	0.9	0.417	0.419 04Apr91 DF =	0.414 15:39 10.00
QCSPIKE QC	992.4	2.1	0.275	0.280 04Apr91 DF =	0.271 15:43 20.00
LCS0287 QC	530.0	5.7	0.153	0.159 04Apr91 DF =	0.147 15:46 20.00
QCSPIKE QC	996.8	2.5 N	0.276	0.272 04Apr91 DF = %R =	0.281 15:50 20.00 116.7
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
BLANK QC	0.0		0.014	0.016 04Apr91	0.012 15:56
QCSTANDARD QC	42.5	2.5	0.238	0.243 04Apr91 %R =	0.234 16:00 106.2
QCBLANK QC	0.2	99.9	0.001	-0.001 04Apr91 ABS =	0.003 16:03 0.006
B104068 QC	41.5	0.4	0.233	0.234 04Apr91	0.233 16:07
QCSPIKE QC	62.7	0.3	0.342	0.342 04Apr91 %R =	0.343 16:11 106.1
B104069 QC	29.0	1.5	0.166	0.165 04Apr91 RPD =	0.168 16:14 35.7
QCSPIKE QC	47.0	0.6	0.262	0.261 04Apr91 %R =	0.263 16:18 90.4
B104070 QC	26.3	0.6	0.152	0.153 04Apr91 %R =	0.151 16:22 -13.2
QCSPIKE QC	45.3	0.8	0.253	0.252 04Apr91 %R =	0.255 16:26 95.1
B104071 QC	29.9	1.6	0.171	0.173 04Apr91	0.169 16:29
QCSPIKE QC	47.5	0.0	0.264	0.264 04Apr91 %R =	0.264 16:33 87.9

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
B104072 QC	OVER	2.0	0.428	0.422	0.434
				04Apr91	16:37
B104072 QC	93.4	2.0	0.260	0.257	0.264
				04Apr91	16:40
				DF =	2.00
QCSPIKE QC	129.7	1.2	0.353	0.356	0.350
				04Apr91	16:44
				DF =	2.00
				%R =	90.8
QCSTANDARD QC	45.4	0.4 Q	0.253	0.253	0.254
				04Apr91	16:48
				%R =	113.4
BLANK QC	0.0		0.005	0.006	0.003
				04Apr91	16:51
STANDARD 1 QC	20.0	0.3	0.120	0.120	0.120
				04Apr91	16:55
STANDARD 2 QC	40.0	0.1	0.238	0.238	0.238
				04Apr91	16:59
STANDARD 3 QC	60.0	0.6	0.341	0.339	0.342
				04Apr91	17:03
QCSTANDARD QC	41.6	0.4	0.247	0.246	0.248
				04Apr91	17:06
				%R =	104.1
QCBLANK QC	0.1	99.9	0.000	0.003	-0.002
				04Apr91	17:10
				ABS =	0.007
B104068 QC	38.8	2.6	0.231	0.235	0.227
				04Apr91	17:13
QCSPIKE QC	57.5	1.0	0.329	0.326	0.331
				04Apr91	17:17
				%R =	93.0
B104069 QC	27.0	0.2	0.162	0.162	0.161
				04Apr91	17:21
				RPD =	35.9
QCSPIKE QC	42.7	3.1 N	0.253	0.247	0.258
				04Apr91	17:25
				%R =	78.5
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104070 QC	23.6	3.5	0.142	0.138	0.145
				04Apr91	17:28
				%R =	-17.0
QCSPIKE QC	39.5	1.3 N	0.235	0.237	0.233
				04Apr91	17:32
				%R =	79.3
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104071 QC	27.6	1.2	0.165	0.166	0.164
				04Apr91	17:36
QCSPIKE QC	42.7	1.5 N	0.253	0.250	0.256
				04Apr91	17:40
				%R =	75.8
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104072 QC	OVER	0.3	0.415	0.414	0.416
				04Apr91	17:43
B104072 QC	84.0	4.3	0.249	0.257	0.241
				04Apr91	17:47
				DF =	2.00
QCSPIKE QC	120.5	1.8	0.342	0.338	0.346
				04Apr91	17:51
				DF =	2.00
				%R =	91.1

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
QCSTANDARD QC	40.9	1.2	0.243	0.241 0.245 04Apr91 17:54 %R = 102.3
QCBLANK QC	-0.4	28.4	-0.002	-0.003 -0.002 04Apr91 17:58 ABS = 0.004
B104073 QC	24.9	1.6	0.149	0.151 0.147 04Apr91 18:01
QCSPIKE QC	39.8	0.5 N	0.237	0.236 0.238 04Apr91 18:05 %R = 74.7 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104074 QC	26.9	3.4	0.161	0.157 0.165 04Apr91 18:08
QCSPIKE QC	43.8	0.5 N	0.259	0.258 0.260 04Apr91 18:12 %R = 84.4 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104075 QC	28.0	3.5	0.168	0.163 0.172 04Apr91 18:16
QCSPIKE QC	44.9	1.1 N	0.265	0.263 0.267 04Apr91 18:20 %R = 84.3 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104076 QC	60.8	2.0	0.345	0.349 0.340 04Apr91 18:23
QCSPIKE QC	OVER	3.5	0.432	0.421 0.442 04Apr91 18:27
QCSPIKE QC	105.9	1.0	0.307	0.304 0.309 04Apr91 18:31 DF = 2.00
B104076 QC	65.2	0.5	0.195	0.195 0.194 04Apr91 18:34 DF = 2.00
QCSPIKE QC	104.0	1.5	0.302	0.305 0.299 04Apr91 18:38 DF = 2.00 %R = 97.1
B104077 QC	8.5	2.5	0.051	0.050 0.052 04Apr91 18:41
QCSPIKE QC	28.5	1.8	0.170	0.173 0.168 04Apr91 18:45 %R = 100.1
QCSTANDARD QC	40.6	3.1	0.241	0.236 0.247 04Apr91 18:49 %R = 101.5
QCBLANK QC	-0.9	61.0	-0.006	-0.008 -0.003 04Apr91 18:52 ABS = 0.001
B104078 QC	7.9	12.9	0.047	0.043 0.052 04Apr91 18:56
QCSPIKE QC	27.6	0.5	0.165	0.165 0.166 04Apr91 19:00 %R = 98.5
B104079 QC	31.5	4.8	0.188	0.181 0.194 04Apr91 19:03
QCSPIKE QC	48.9	1.6	0.286	0.289 0.283 04Apr91 19:07 %R = 87.0

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	40.3	2.6	0.240	0.235 04Apr91 %R =	0.244 19:10 100.8
QCBLANK QC	-1.1	45.9	-0.007	-0.009 04Apr91 ABS =	-0.004 19:14 -0.000

PROGRAM 6 Se water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.006	0.008 04Apr91	0.005 19:18
STANDARD 1 QC	20.0	2.8	0.082	0.080 04Apr91	0.084 19:22
STANDARD 2 QC	40.0	0.3	0.161	0.161 04Apr91	0.160 19:26
STANDARD 3 QC	60.0	2.7	0.238	0.234 04Apr91	0.243 19:30
QCSTANDARD QC	22.6	2.2	0.092	0.094 04Apr91 %R =	0.091 19:33 113.0

Q

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/05/91
BATCH As LOT 46 SOILS S/A

PROGRAM 8 As water/soils s/a

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.015	0.009 05Apr91	0.020 11:56
ADDITION 1 QC	20.0	8.1	0.094	0.099 05Apr91	0.088 12:00
ADDITION 2 QC	30.0	3.0	0.110	0.113 05Apr91	0.108 12:04
ADDITION 3 QC	40.0	3.8	0.121	0.117 05Apr91	0.124 12:08
B104067#1 QC	64.0	3.0	0.075	0.074 05Apr91 r = Xi = Yi = Y/X =	0.077 12:12 0.994 -64.0 0.074 0.0011
		1st Run LNB			
BLANK QC	0.0		-0.011	-0.010 05Apr91	-0.011 12:16
ADDITION 1 QC	20.0	4.3	0.154	0.149 05Apr91	0.159 12:20
ADDITION 2 QC	30.0	2.2	0.178	0.175 05Apr91	0.180 12:24
ADDITION 3 QC	40.0	4.1	0.208	0.214 05Apr91	0.202 12:28
B104069 QC	38.8	2.2 S	0.102	0.100 05Apr91 r = Xi = Yi = Y/X = RPD =	0.104 12:32 0.999 -38.8 0.101 0.0026 50.2
BLANK QC	0.0		0.001	0.001 05Apr91	0.002 12:36
ADDITION 1 QC	20.0	4.9	0.132	0.136 05Apr91	0.127 12:40
ADDITION 2 QC	30.0	0.1	0.157	0.157 05Apr91	0.157 12:44
ADDITION 3 QC	40.0	0.5	0.181	0.182 05Apr91	0.180 12:48
B104070 QC	32.6	1.8 S	0.081	0.080 05Apr91 r = Xi = Yi = Y/X =	0.082 12:52 1.000 -32.6 0.082 0.0025
BLANK QC	0.0		0.002	0.003 05Apr91	0.001 12:56
ADDITION 1 QC	20.0	1.9	0.142	0.144 05Apr91	0.140 13:00

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
ADDITION 2 QC	30.0	1.2	0.172	0.173	0.170
				05Apr91	13:04
ADDITION 3 QC	40.0	2.4	0.195	0.199	0.192
				05Apr91	13:08
B104071 QC	39.6	0.1 S	0.098	0.098	0.098
				05Apr91	13:12
				r =	0.998
				Xi =	-39.6
				Yi =	0.097
				Y/X =	0.0024
BLANK QC	0.0		-0.001	0.002	-0.003
				05Apr91	13:16
ADDITION 1 QC	20.0	5.3	0.133	0.128	0.138
				05Apr91	13:20
ADDITION 2 QC	30.0	0.8	0.153	0.154	0.152
				05Apr91	13:24
ADDITION 3 QC	40.0	1.2	0.185	0.186	0.183
				05Apr91	13:28
B104073 QC	34.8	4.7 S	0.086	0.083	0.088
				05Apr91	13:32
				r =	0.997
				Xi =	-34.8
				Yi =	0.084
				Y/X =	0.0024
BLANK QC	0.0		-0.005	-0.003	-0.007
				05Apr91	13:36
ADDITION 1 QC	20.0	4.8	0.159	0.164	0.154
				05Apr91	13:40
ADDITION 2 QC	30.0	4.9	0.186	0.179	0.192
				05Apr91	13:44
ADDITION 3 QC	40.0	1.4	0.206	0.208	0.204
				05Apr91	13:48
B104074 QC	42.2	0.1 S	0.106	0.106	0.106
				05Apr91	13:52
				r =	0.999
				Xi =	-42.2
				Yi =	0.107
				Y/X =	0.0025
BLANK QC	0.0		-0.000	0.000	-0.001
				05Apr91	13:56
ADDITION 1 QC	20.0	1.7	0.150	0.148	0.152
				05Apr91	14:00
ADDITION 2 QC	30.0	8.6	0.175	0.186	0.164
				05Apr91	14:04
ADDITION 3 QC	40.0	1.7	0.203	0.205	0.201
				05Apr91	14:08
B104075 QC	40.2	1.4 S	0.102	0.103	0.101
				05Apr91	14:12
				r =	0.999
				Xi =	-40.2
				Yi =	0.101
				Y/X =	0.0025

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/05/91
BATCH As LOT 46 SOILS S/A

PROGRAM 8 As water/soils s/a

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.013	0.012	0.014
				05Apr91	14:18
ADDITION 1 QC	20.0	2.6	0.111	0.113	0.109
				05Apr91	14:22
ADDITION 2 QC	30.0	1.1	0.128	0.129	0.127
				05Apr91	14:26
ADDITION 3 QC	40.0	0.1	0.141	0.141	0.141
				05Apr91	14:30
B104075 QC	55.9	0.3	0.083	0.082	0.083
		S		05Apr91	14:34
				r =	0.999
				Xi =	-55.9
				Yi =	0.082
				Y/X =	0.0015

2nd Run
LWB

Sauget Sites Lot 46 Pb soils

Lead

Sample B104067 #1
date 4/10/91
Value 327 µg/l → 79.9 mg/kg
no flag
no std. add'ns

Sample B104067 #2
date 4/10/91
value 414 µg/l → 98.1 mg/kg
no flag
no std-add'ns

Sample B104067 SPK
date 4/10/91
Value 445 µg/l → 105.5 mg/kg
no flag
no std-add'ns

Sample B104068
date 4/10/91
Value 1040 µg/l → 275.6 mg/kg
no flag
no std. add'ns

Sample B104069
date 4/10/91
Value 730 µg/l → 202.2 mg/kg
no flag
no std. add'ns

Sauget Sites Lot 46 Pb soils

Lead

Sample B104070
date 4/10/91
value 223 µg/l → 51.3 mg/kg
no flag
no std. add'ns

Sample B104071
date 5/10/91
value 740 µg/l → 209.4 mg/kg
no flag
no std. add'ns

Sample B104072
date 4/10/91
Value 3520 µg/l → 1270.7 mg/kg
no flag
no std. add'ns

Sample B104073
date 4/10/91
Value 810 µg/l → 234.9 mg/kg
no flag
no std. add'ns

Sample B104074
date 4/10/91
value 483 µg/l → 140.1 mg/kg
flag S
Std. add'ns BLR 0.008 30 0.188 Cor. coef: 1.000
20 0.165 40 0.212

B000228

Sauget Sites Lot 46 Pb soils

Lead

Sample B104075
date 4/10/91
Value 1570 ug/l → 439.6 mg/kg
flag S
Std. add'ns
Blk 0.001 30 0.103 cor coef: 1.000
20 0.081 40 0.123

Sample B104076
date 4/10/91
Value 279 ug/l → ~~327 mg/kg~~ 83.4 mg/kg
No flag
no std-add'ns

Sample B104077
date 4/10/91
Value 29.9 ug/l → 7.7 mg/kg
no flag
no std-add'ns

Sample B104078
date 4/10/91
Value 18.9 ug/l → 6.3 mg/kg
no flag
no std-add'ns

Sample B104079
date 4/10/91
value 89 ug/l → 25.2 mg/kg
no flag
no std-add'ns

Sauget Sites Lot 46 Pb soils
Lead

QC Checks

ICV(20)	20.0
ICB	0.3
CRA(10)	10.8
Prep Blk	0.5
CCV	21.2
CCB	0.6
CCV	20.1
CCB	0.0
CCV	19.8
CCB	-0.2
CCV	19.6
CCB	-0.4

LCS0287:
1330 µg/l → 264.7 mg/kg

Dup/Spike Info

B104067#1	79.9 mg/kg
B104067#2	98.1 mg/kg
B104067SPK	105.5 mg/kg
% difference	20.4%
Theo. Spike value	~~5.07 mg~~ 4.74 mg/kg
% recovery	540.1%

Correction Factors

B104067#1	.244
B104067#2	.237
B104067SPK	.237
B104068	.265
B104069	.277
B104070	.230
B104071	.283
B104072	.361
B104073	.290
B104074	.290
B104075	.280
B104076	.299
B104077	.256
B104078	.335
B104079	.283
LCS0287	.199

Varian SpectrAA 300/400 Zeeman QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/10/91
BATCH Pb LOT 46 SOILS

PROGRAM 1 Pb water/soil

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.006	0.005 10Apr91	0.007 08:02
STANDARD 1 QC	20.0	3.7	0.105	0.108 10Apr91	0.102 08:06
STANDARD 2 QC	40.0	0.7	0.201	0.202 10Apr91	0.200 08:10
STANDARD 3 QC	60.0	0.3	0.288	0.287 10Apr91	0.288 08:14
QCSTANDARD QC	20.0	0.2	0.105	0.105 10Apr91 %R =	0.105 08:17 99.9
QCBLANK QC	0.3	63.8	0.001	0.001 10Apr91 ABS =	0.002 08:21 0.003
B104067#1 1:10dil LNB QC	32.7	0.2	0.167	0.167 10Apr91	0.167 08:24
QCSPIKE QC	44.0	0.8	0.219	0.220 10Apr91 %R =	0.218 08:28 113.1
B104067#2 1:10dil LNB QC	41.4	2.0	0.207	0.210 10Apr91 RPD =	0.204 08:32 23.4
QCSPIKE QC	51.2	1.4	0.251	0.253 10Apr91 %R =	0.248 08:36 98.2
B104067SPK 1:10 dil LNB QC	44.5	0.0	0.221	0.221 10Apr91 %R =	0.221 08:39 30.9
QCSPIKE QC	54.4	1.5	0.264	0.261 10Apr91 %R =	0.267 08:43 98.9
CRA QC	10.8	1.1	0.057	0.057 10Apr91	0.056 08:47
QCSPIKE QC	21.5	0.6	0.113	0.112 10Apr91 %R =	0.113 08:51 107.2
PREP BLANK QC	0.5	23.9	0.003	0.002 10Apr91	0.003 08:54
QCSPIKE QC	10.9	0.2	0.057	0.057 10Apr91 %R =	0.057 08:58 103.5
QCSTANDARD QC	21.2	1.1	0.111	0.112 10Apr91 %R =	0.110 09:02 105.9
QCBLANK QC	0.6	0.0	0.003	0.003 10Apr91 ABS =	0.003 09:05 0.005

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
LCS0287 1:100dil LNB QC	13.3	0.5	0.070	0.070 10Apr91	0.070 09:09
QCSPIKE QC	24.2	0.6	0.126	0.126 10Apr91 %R =	0.127 09:12 109.1
B104068 1:100dil LNB QC	10.4	3.4	0.055	0.056 10Apr91	0.053 09:16
QCSPIKE QC	20.4	2.1	0.107	0.106 10Apr91 %R =	0.109 09:20 100.1
B104069 1:100dil LNB QC	7.3	2.9	0.038	0.039 10Apr91	0.038 09:23
QCSPIKE QC	17.5	1.2	0.092	0.091 10Apr91 %R =	0.093 09:27 101.5
B104070 1:10dil LNB QC	22.3	1.4	0.117	0.118 10Apr91	0.115 09:30
QCSPIKE QC	32.2	1.7	0.165	0.163 10Apr91 %R =	0.167 09:34 99.5
B104071 1:100dil LNB QC	7.4	2.2	0.039	0.038 10Apr91	0.040 09:38
QCSPIKE QC	17.8	0.2	0.093	0.093 10Apr91 %R =	0.093 09:41 103.3
QCSTANDARD QC	20.1	0.7	0.106	0.105 10Apr91 %R =	0.106 09:45 100.4
QCBLANK QC	0.0	99.9	0.000	0.000 10Apr91 ABS =	-0.000 09:49 0.002
B104072 1:100dil LNB QC	35.2	3.5	0.179	0.183 10Apr91	0.174 09:52
QCSPIKE QC	46.0	0.0	0.228	0.228 10Apr91 %R =	0.228 09:56 108.4
B104073 1:100dil LNB QC	8.1	1.8	0.043	0.043 10Apr91	0.042 09:59
QCSPIKE QC	18.3	1.6	0.096	0.097 10Apr91 %R =	0.095 10:03 102.0
B104074 1:10dil LNB QC	39.4	3.3	0.198	0.203 10Apr91	0.194 10:06
QCSPIKE QC	54.3	9.8 N	0.264	0.246 10Apr91 %R =	0.282 10:10 149.0
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104075 1:100dil LNB QC	16.4	16.6	0.086	0.096 10Apr91	0.076 10:14
QCSPIKE QC	24.3	0.4 N	0.127	0.127 10Apr91 %R =	0.126 10:17 79.0
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104076 1:10dil LNB QC	27.9	1.2	0.144	0.143 10Apr91	0.145 10:21
QCSPIKE QC	37.1	0.6	0.188	0.188 10Apr91 %R =	0.187 10:25 91.7

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
QCSTANDARD QC	19.8	0.7	0.104	0.105 10Apr91 %R =	0.104 10:28 99.0
QCBLANK QC	-0.2	6.9	-0.001	-0.001 10Apr91 ABS =	-0.001 10:32 0.001
B104077 QC	29.9	2.8	0.154	0.151 10Apr91	0.157 10:35
QCSPIKE QC	40.5	0.4	0.203	0.204 10Apr91 %R =	0.203 10:39 105.7
B104078 QC	18.9	1.0	0.099	0.098 10Apr91	0.100 10:43
QCSPIKE QC	29.0	0.9	0.149	0.150 10Apr91 %R =	0.148 10:46 101.3
B104079 1:10dil LWA QC	8.9	1.7	0.047	0.047 10Apr91	0.046 10:50
QCSPIKE QC	19.4	3.1	0.102	0.100 10Apr91 %R =	0.104 10:54 104.6
QCSTANDARD QC	19.6	0.8	0.103	0.103 10Apr91 %R =	0.102 10:57 97.8
QCBLANK QC	-0.4	19.7	-0.002	-0.002 10Apr91 ABS =	-0.002 11:01 -0.000

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/10/91
BATCH Pb Se LOT 46 SOILS S/A

PROGRAM 4 Pb water/soil sa

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.008	0.008 10Apr91	0.007 11:12
ADDITION 1 QC	20.0	1.7	0.165	0.163 10Apr91	0.167 11:16
ADDITION 2 QC	30.0	0.8	0.188	0.187 10Apr91	0.189 11:20
ADDITION 3 QC	40.0	1.1	0.212	0.214 10Apr91	0.211 11:24
B104074 1:10dil QC LWB	48.3	2.0 S	0.116	0.114 10Apr91 r = Xi = Yi = Y/X =	0.118 11:28 1.000 -48.3 0.116 0.0024
BLANK QC	0.0		0.001	0.002 10Apr91	0.001 11:31
ADDITION 1 QC	20.0	5.1	0.081	0.083 10Apr91	0.078 11:36
ADDITION 2 QC	30.0	3.9	0.103	0.101 10Apr91	0.106 11:40
ADDITION 3 QC	40.0	1.5	0.123	0.125 10Apr91	0.122 11:44
B104075 1:100dil QC LWB	15.7	3.3 S	0.035	0.034 10Apr91 r = Xi = Yi = Y/X = RPD =	0.035 11:48 1.000 -15.7 0.035 0.0022 102.9

PROGRAM 9 Se water/soils s/a

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		-0.004	-0.003 10Apr91	-0.005 11:52
ADDITION 1 QC	20.0	7.4	0.063	0.060 10Apr91	0.066 11:56
ADDITION 2 QC	30.0	6.5	0.082	0.085 10Apr91	0.078 12:00
ADDITION 3 QC	40.0	6.3	0.097	0.102 10Apr91	0.093 12:04
B104067SPK QC	22.3	2.5 S	0.036	0.035 10Apr91 r = Xi = Yi = Y/X =	0.036 12:08 0.998 -22.3 0.034 0.0015

B200244

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.005	0.006 10Apr91	0.005 12:12
ADDITION 1 QC	20.0	8.6	0.037	0.039 10Apr91	0.034 12:16
ADDITION 2 QC	30.0	8.9	0.053	0.050 10Apr91	0.057 12:20
ADDITION 3 QC	40.0	2.1	0.067	0.066 10Apr91	0.068 12:24
B104068 QC	3.5	2.8 S	0.005	0.005 10Apr91 r = Xi = Yi = Y/X = RPD =	0.005 12:28 1.000 -3.5 0.005 0.0016 148.4

Sauget Sites Lot 46 Se soils

Selenium

Sample B104067#1

date 4/9/91

value 0.3 µg/l $\xrightarrow{1:1\ dil}$ 0.6 µg/l → ~~0.2 mg/kg~~ 0.1 mg/kg

flag W

no std. add'ns

Sample B104067#2

date 4/9/91

value 1.8 µg/l → ~~0.5 mg/kg~~ 0.4 mg/kg

flag W

no std. add'ns

Sample B104067SPK

date 4/10/91

value 22.3 µg/l → ~~5.6 mg/kg~~ 5.3 mg/kg

flag S

Std. add'ns

Blk	-0.004	30	0.082	Cor. coef: 0.998
20	0.063	40	0.097	

Sample B104068

date 4/10/91

Value 3.5 µg/l → 0.9 mg/kg

flag S

Std. add'ns

Blk	0.005	30	0.053	Cor. coef 1.000
20	0.037	40	0.067	

Puget Sites Lot 46 Se Soils

Selenium

Sample B104069
date 4/9/91
value 2.3 µg/l → ~~0.7 mg/kg~~ 0.6 mg/kg
flag W
no std. add'ns

Sample B104070
date 4/9/91
value 0.1 µg/l $\xrightarrow{1:1\ dil}$ 0.2 µg/l → 0.05 mg/kg
flag W
no std. add'ns

Sample B104071
date 4/9/91
value 1.2 µg/l $\xrightarrow{1:1\ dil}$ 2.4 µg/l → ~~0.8 mg/kg~~ 0.7 mg/kg
flag W
no std. add'ns

Sample B104072
date 4/9/91
value 2.0 µg/l $\xrightarrow{1:1\ dil}$ 4.0 µg/l → ~~1.6 mg/kg~~ 1.4 mg/kg
flag W
no std. add'ns

Sample B104073
date 4/9/91
value 0.4 µg/l $\xrightarrow{1:1\ dil}$ 0.8 µg/l → ~~0.3 mg/kg~~ 0.2 mg/kg
flag W
no std. add'ns

Sauget Sites Lot 46 Se soils

Selenium

Sample B104074

date 4/9/91

Value 1.0 µg/l → 0.3 mg/Kg

flag W

no std. add'ns

Sample B104075

date 4/9/91

Value -0.0 µg/l 1:1 dil → -0.0 µg/l → -0.0 mg/Kg

flag E

no std. add'ns

Sample B104076

date 4/9/91

Value 1.5 µg/l → ~~0.5 mg/Kg~~ 0.4 mg/Kg

flag W

no std. add'ns

Sample B104077

date 4/9/91

value 0.4 µg/l → 0.1 mg/Kg

flag W

no std. add'ns

Sample B104078

date 4/9/91

Value 0.7 µg/l → 0.2 mg/Kg

no flag

no std. add'ns

Sauget Sites Lot 46 Se soils
Selenium
Sample B104079
date 4/9/91
Value 0.7 µg/l → 0.2 mg/kg
flag W
no std. add'ns

B000249

Sauget Sites Lot 46 Se soils
Selenium

QC Checks	4/9/91 #1	4/9/91 #2 (1:1 run
ICV (20)	21.8	21.9
ICB	0.9	-0.0
CRA (10)	10.4	10.3
Prep Blank	0.5	-0.1
CCV	21.3	19.4
CCB	1.3	-0.2
CCV	20.2	20.2
CCB	0.1	0.6
CCV	18.7	
CCB	0.2	
CCV	19.7	
CCB	-0.4	

LCS0287: 117 µg/l → ~~23.6 mg/kg~~ 23.3 mg/kg

Dup/Spike Info

B104067 #1	~~0.2 mg/kg~~	0.1 mg/kg
B104067 #2	~~0.5 mg/kg~~	0.4 mg/kg
B104067 SPK	~~5.6 mg/kg~~	5.3 mg/kg
% difference	~~45.7%~~	120%
Theo. Spike value	~~5.04 mg/kg~~	4.74 mg/kg
% Recovery	~~107.1~~	109.7%

2000250

Sangat Sites Lot 46 Selenium 50.75

Conversion Factors

B104067#1	0.244
B104067#2	0.237
B104067SPK	0.237
B104068	0.265
B104069	0.277
B104070	0.230
B104071	0.283
B104072	0.361
B104073	0.290
B104074	0.290
B104075	0.280
B104076	0.299
B104077	0.256
B104078	0.335
B104079	0.283
LCS0287	0.199

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/09/91
BATCH Se LOT 46 SOILS

PROGRAM 6 Se water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.005	0.006 09Apr91	0.005 08:43
STANDARD 1 QC	20.0	2.0	0.081	0.082 09Apr91	0.080 08:47
STANDARD 2 QC	40.0	1.1	0.159	0.158 09Apr91	0.160 08:50
STANDARD 3 QC	60.0	1.8	0.231	0.234 09Apr91	0.228 08:54
BLANK QC	0.0		-0.004	-0.004 09Apr91	-0.005 09:00
QCSTANDARD QC	21.8	0.9	0.088	0.088 09Apr91 %R =	0.089 09:04 109.0
QCBLANK QC	0.9	99.9	0.004	0.007 09Apr91 ABS =	0.001 09:07 0.004
B104067#1 QC	1.4	31.0	0.006	0.007 09Apr91	0.005 09:11
QCSPIKE QC	4.0	4.9 E 1st Run LNB	0.016	0.016 09Apr91 %R =	0.017 09:14 25.3
				%R LESS THAN MINIMUM LIMIT	
B104067#2 QC	1.8	10.5	0.007	0.007 09Apr91 RPD =	0.008 09:18 20.6
QCSPIKE QC	8.4	13.8 N N LNB	0.034	0.037 09Apr91 %R =	0.031 09:22 66.1
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104067SPK QC	14.5	8.0	0.059	0.062 09Apr91 %R =	0.055 09:25 127.0
QCSPIKE QC	19.8	0.9 N	0.080	0.080 09Apr91 %R =	0.081 09:29 53.5
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
CRA QC	10.4	1.7	0.042	0.043 09Apr91	0.042 09:33
QCSPIKE QC	20.5	1.9	0.083	0.082 09Apr91 %R =	0.084 09:36 100.6
PREP BLANK QC	0.5	83.8	0.002	0.003 09Apr91	0.001 09:40
QCSPIKE QC	10.3	12.9	0.042	0.038 09Apr91 %R =	0.046 09:44 98.3
QCSTANDARD QC	21.3	1.5	0.086	0.085 09Apr91 %R =	0.087 09:47 106.6

B000252

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
QCBLANK QC	1.3	21.4	0.005	0.005 0.006 09Apr91 09:51 ABS = 0.006
LCS0287 1:10 dil LNB QC	11.7	1.0	0.047	0.047 0.048 09Apr91 09:54
QCSPIKE QC	15.0	15.2 E LNB	0.061	0.067 0.054 09Apr91 09:58 %R = 32.7 %R LESS THAN MINIMUM LIMIT
B104068 QC	2.7	9.2	0.011	0.012 0.010 09Apr91 10:02
QCSPIKE QC	8.0	6.9 N	0.033	0.031 0.034 09Apr91 10:05 %R = 53.0 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104069 QC	2.3	4.9	0.009	0.010 0.009 09Apr91 10:09
QCSPIKE QC	9.0	5.8 N W LNB	0.037	0.038 0.035 09Apr91 10:13 %R = 67.3 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104070 QC	0.2	47.7	0.001	0.001 0.001 09Apr91 10:16
QCSPIKE QC	3.4	11.0 E 1ST run LNB	0.014	0.013 0.015 09Apr91 10:20 %R = 31.4 %R LESS THAN MINIMUM LIMIT
B104071 QC	0.8	99.9	0.003	0.006 -0.000 09Apr91 10:23
QCSPIKE QC	3.3	6.5 E 1ST run LNB	0.013	0.013 0.014 09Apr91 10:27 %R = 25.[illegible] %R LESS THAN MINIMUM LIMIT
BLANK QC	0.0		0.002	0.001 0.003 09Apr91 10:33
QCSTANDARD QC	20.2	1.2	0.082	0.081 0.083 09Apr91 10:36 %R = 101.2
QCBLANK QC	0.1	99.9	0.001	0.001 0.000 09Apr91 10:40 ABS = 0.002
B104072 QC	1.9	28.0	0.008	0.009 0.006 09Apr91 10:43
QCSPIKE QC	3.4	3.1 E 1ST run LNB	0.014	0.013 0.014 09Apr91 10:47 %R = 15.0 %R LESS THAN MINIMUM LIMIT
B104073 QC	0.4	19.0	0.002	0.002 0.002 09Apr91 10:50
QCSPIKE QC	1.7	10.3 E 1ST run LNB	0.007	0.008 0.007 09Apr91 10:54 %R = 13.0 %R LESS THAN MINIMUM LIMIT
B104074 QC	1.0	24.0	0.004	0.005 0.003 09Apr91 10:57
QCSPIKE QC	5.3	6.2 N W LNB	0.021	0.020 0.022 09Apr91 11:01 %R = 43.1 %R FAILED, REPEAT BY STANDARD ADDITIONS

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
B104075 QC	-0.1	99.9	-0.000	-0.001 0.001 09Apr91 11:05
QCSPIKE QC	0.6	4.4 E 1st run LNB	0.002	0.002 0.002 09Apr91 11:08 %R = 6.6 %R LESS THAN MINIMUM LIMIT
B104076 QC	1.5	3.9	0.006	0.006 0.006 09Apr91 11:12
QCSPIKE QC	5.9	4.3 N W LNB	0.024	0.025 0.023 09Apr91 11:16 %R = 44.3 %R FAILED, REPEAT BY STANDARD ADDITIONS
QCSTANDARD QC	18.7	1.6	0.076	0.075 0.077 09Apr91 11:19 %R = 93.4
QCBLANK QC	0.2	99.9	0.001	0.003 -0.002 09Apr91 11:23 ABS = 0.002
B104077 QC	0.4	24.8	0.002	0.001 0.002 09Apr91 11:26
QCSPIKE QC	8.6	2.8 N W LNB	0.035	0.034 0.036 09Apr91 11:30 %R = 82.0 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104078 QC	0.7	23.3	0.003	0.002 0.003 09Apr91 11:33
QCSPIKE QC	9.5	8.7	0.039	0.041 0.036 09Apr91 11:37 %R = 88.0
B104079 QC	0.7	25.2	0.003	0.003 0.002 09Apr91 11:41
QCSPIKE QC	6.2	1.1 N W LNB	0.025	0.025 0.025 09Apr91 11:44 %R = 54.5 %R FAILED, REPEAT BY STANDARD ADDITIONS
QCSTANDARD QC	19.7	3.2	0.080	0.082 0.078 09Apr91 11:48 %R = 98.3
QCBLANK QC	-0.4	99.9	-0.001	-0.000 -0.003 09Apr91 11:51 ABS = -0.001

Varian SpectrAA 300/400 Zeeman
QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/09/91
BATCH Se LOT 46 1:1 RUN SOILS

PROGRAM 6 Se water/soils

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		0.002	0.002 09Apr91	0.002 13:53
STANDARD 1 QC	20.0	0.8	0.094	0.094 09Apr91	0.095 13:57
STANDARD 2 QC	40.0	1.5	0.187	0.185 09Apr91	0.189 14:01
STANDARD 3 QC	60.0	1.6	0.260	0.257 09Apr91	0.263 14:05
BLANK QC	0.0		0.005	0.006 09Apr91	0.003 14:11
QCSTANDARD QC	21.9	1.9	0.103	0.102 09Apr91 %R =	0.104 14:14 109.5
QCBLANK QC	-0.0	99.9	-0.000	0.000 09Apr91 ABS =	-0.000 14:18 0.002
CRA QC	10.3	0.3	0.049	0.049 09Apr91	0.048 14:21
QCSPIKE QC	21.3	0.2	0.100	0.100 09Apr91 %R =	0.100 14:25 110.1
PREP BLANK QC	-0.1	0.0	-0.000	-0.000 09Apr91 RPD =	-0.000 14:29 202.1
QCSPIKE QC	10.4	4.6	0.049	0.047 09Apr91 %R =	0.051 14:33 104.7
B104067#1 1:1dil QC LNB	0.3	69.6	0.002	0.002 09Apr91 %R =	0.001 14:36 3.9
QCSPIKE QC	6.8	6.7 N W LNB	0.032	0.034 09Apr91 %R =	0.031 14:40 65.0
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104070 1:1dil QC LNB	0.1	86.0	0.001	0.001 09Apr91	0.000 14:44
QCSPIKE QC	6.3	11.9 N W LNB	0.030	0.027 09Apr91 %R =	0.032 14:47 61.9
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
B104071 1:1dil QC LNB	1.2	17.2	0.006	0.006 09Apr91	0.005 14:51
QCSPIKE QC	6.9	1.7 N W LNB	0.033	0.032 09Apr91 %R =	0.033 14:55 57.2
				%R FAILED, REPEAT BY STANDARD ADDITIONS	
QCSTANDARD QC	19.4	3.2	0.091	0.089 09Apr91 %R =	0.093 14:58 96.8

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
QCBLANK QC	-0.2	40.2	-0.001	-0.001 -0.001 09Apr91 15:02 ABS = 0.001
B104072 1:1 dil QC LNB	2.0	26.5	0.010	0.011 0.008 09Apr91 15:05
QCSPIKE QC	6.9	0.5 N W LNB	0.032	0.033 0.032 09Apr91 15:09 %R = 48.7 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104073 1:1 dil QC LNB	0.4	55.5	0.002	0.001 0.003 09Apr91 15:13
QCSPIKE QC	6.7	1.8 N W LNB	0.031	0.032 0.031 09Apr91 15:17 %R = 62.6 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104075 1:1 dil QC LNB	-0.0	99.9	-0.000	0.001 -0.001 09Apr91 15:20
QCSPIKE QC	3.9	0.0 E 2nd run LNB	0.018	0.018 0.018 09Apr91 15:24 %R = 38.7 %R LESS THAN MINIMUM LIMIT
BLANK QC	0.0		-0.002	-0.001 -0.002 09Apr91 15:30
QCSTANDARD QC	20.2	0.6	0.095	0.095 0.095 09Apr91 15:33 %R = 100.9
QCBLANK QC	0.6	83.9	0.003	0.004 0.001 09Apr91 15:37 ABS = 0.004

Sauget Sites Lot 46 Il soils

Thallium

Sample B104067#1
date 4/8/91
value 3.6 µg/l → 0.9 mg/kg
no flag
no std. add'ns

Sample B104067#2
date 4/8/91
value 4.3 µg/l → ~~1.1 mg/kg~~ 1.0 mg/kg
no flag
no std. add'ns

Sample B104067SPK
date 4/8/91
value 44.4 µg/l → ~~11.2 mg/kg~~ 10.5 mg/kg
no flag
no std. add'ns

Sample B104068
date 4/8/91
value 5.6 µg/l → ~~1.4 mg/kg~~ 1.5 mg/kg
no flag
no std. add'ns

Sample B104069
date 4/8/91
value 3.1 µg/l → 0.9 mg/kg
no flag
no std. add'ns

Sauget Sites Lot 46 Il soils

Thallium

Sample B104070
date 4/8/91
Value 2.4 ug/l → 0.6 mg/kg
no flag
no std. add'ns

Sample B104071
date 4/8/91
value 4.1 ug/l → ~~1.3 mg/kg~~ 1.2 mg/kg
no flag
no std. add'ns

Sample B104072
date 4/8/91
value 5.7 ug/l → ~~2.2 mg/kg~~ 2.1 mg/kg
flag W
no std. add'ns

Sample B104073
date 4/8/91
Value 3.0 ug/l → ~~1.0 mg/kg~~ 0.9 mg/kg
flag N
no std. add'ns

Sample B104074
date 4/8/91
value 3.8 ug/l → 1.1 mg/kg
no flag
no std. add'ns

Sauget Sites Lot 46 II soils

Thallium

Sample B104075
date 4/8/91
value 4.6 ug/l → ~~1.2 mg/kg~~ 1.3 mg/kg
no flag
no std. add'ns

Sample B104076
date 4/8/91
value 3.6 ug/l → ~~1.0 mg/kg~~ 1.1 mg/kg
no flag
no std. add'ns

Sample B104077
date 4/8/91
value 2.2 ug/l → ~~0.5 mg/kg~~ 0.6 mg/kg
no flag
no std. add'ns

Sample B104078
date 4/8/91
value 0.6 ug/l → 0.2 mg/kg
no flag
no std. add'ns

Sample B104079
date 4/8/91
value 3.8 ug/l → 1.1 mg/kg
no flag
no std add'ns

Squget Sites Lot 46 Tl soils

Thallium

QC Checks

ICV (40)	41.0
ICB	2.7
CRA (20)	22.1
Prep Blk	3.0
CCV	43.8
CCB	1.3
CCV	41.7
CCB	0.0
CCV	41.6
CCB	0.2
CCV	41.5
CCB	-0.2

LCS0287:

203 µg/l → 40.4 mg/kg

Dup/Spike Info

B104067#1	0.9 mg/kg
B104067#2	1.0 mg/kg
B104067SPK	10.5 mg/kg
% difference	10.5%
Spike Value	9.48 ~~9.74~~ mg/kg
% recovery	101.3%

Correction Factors

B104067#1	0.244
B104067#2	0.237
B104067SPK	0.237
B104068	0.265
B104069	0.277
B104070	0.230
B104071	0.283
B104072	0.361
B104073	0.290
B104074	0.290
B104075	0.280
B104076	0.299
B104077	0.256
B104078	0.335
B104079	0.283
LCS0287	0.199

Varian SpectrAA 300/400 Zeeman QC Protocol Report

Illinois Enviromental Protection Agency
2125 S 1st Street
Champaign Il. 61820

OPERATOR LEENA BOLIN
DATE 4/08/91
BATCH TI LOT 46 SOILS

PROGRAM 3 TI water/soil

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
BLANK QC	0.0		-0.005	-0.007 08Apr91	-0.004 07:36
STANDARD 1 QC	20.0	3.7	0.114	0.117 08Apr91	0.111 07:41
STANDARD 2 QC	40.0	2.8	0.197	0.201 08Apr91	0.193 07:45
STANDARD 3 QC	60.0	1.4	0.273	0.270 08Apr91	0.276 07:49
QCSTANDARD QC	41.0	7.5	0.201	0.211 08Apr91 %R =	0.190 07:53 102.6
QCBLANK QC	2.7	19.2	0.016	0.013 08Apr91 ABS =	0.018 07:57 0.014
B104067#1 QC	3.6	13.4	0.020	0.018 08Apr91	0.022 08:01
QCSPIKE QC	20.8	99.9	0.118	0.265 08Apr91 %RSD GREATER THAN LIMIT	-0.029 08:06
QCSPIKE QC	21.0	1.8	0.119	0.117 08Apr91 %R =	0.120 08:10 87.2
B104067#2 QC	4.3	1.1	0.024	0.025 08Apr91 RPD =	0.024 08:14 18.2
QCSPIKE QC	22.5	10.1	0.126	0.135 08Apr91 %R =	0.117 08:18 90.9
B104067SPK QC	44.4	2.6	0.213	0.217 08Apr91 %R =	0.210 08:22 200.7
QCSPIKE QC	64.0	1.2	0.287	0.289 08Apr91 %R =	0.285 08:27 97.8
CRA QC	22.1	3.0	0.124	0.127 08Apr91	0.121 08:31
QCSPIKE QC	44.5	3.8	0.214	0.220 08Apr91 %R =	0.208 08:35 112.2
PREP BLANK QC	3.0	25.2	0.017	0.020 08Apr91	0.014 08:39
QCSPIKE QC	24.2	79.3	0.133	0.059 08Apr91 %RSD GREATER THAN LIMIT	0.208 08:44
QCSPIKE QC	13.6	77.5 M N	0.078	0.120 08Apr91 %R =	0.035 08:48 52.9
				REPEATED %RSD STILL GREATER THAN LIMIT	

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS
BLANK QC	0.0		-0.001	-0.005 0.003 08Apr91 08:55
QCSTANDARD QC	43.8	2.0	0.211	0.208 0.214 08Apr91 08:59 %R = 109.4
QCBLANK QC	1.3	48.2	0.007	0.010 0.005 08Apr91 09:03 ABS = 0.005
LCS0287 Redil QC	31.9	42.2	0.166	0.117 0.216 08Apr91 09:06 %RSD GREATER THAN LIMIT
LCS0287 QC	20.3	5.4	0.115	0.120 0.111 08Apr91 09:10
QCSPIKE QC	43.6	4.2 N	0.210	0.217 0.204 08Apr91 09:15 %R = 116.7 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104068 QC	5.6	8.8	0.032	0.034 0.030 08Apr91 09:19
QCSPIKE QC	23.0	3.1	0.128	0.125 0.131 08Apr91 09:23 %R = 87.3
B104069 QC	3.1	42.5	0.018	0.023 0.012 08Apr91 09:27
QCSPIKE QC	21.5	2.5	0.121	0.119 0.124 08Apr91 09:31 %R = 92.3
B104070 QC	2.4	33.5	0.013	0.017 0.010 08Apr91 09:35
QCSPIKE QC	21.1	3.6	0.119	0.116 0.122 08Apr91 09:39 %R = 93.5
B104071 QC	4.1	6.6	0.023	0.022 0.024 08Apr91 09:43
QCSPIKE QC	22.0	1.2	0.124	0.125 0.123 08Apr91 09:47 %R = 89.8
QCSTANDARD QC	41.7	0.2	0.203	0.203 0.203 08Apr91 09:51 %R = 104.2
QCBLANK QC	0.0	99.9	0.000	-0.001 0.001 08Apr91 09:55 ABS = -0.002
B104072 QC	5.7	0.0	0.032	0.032 0.032 08Apr91 09:59
QCSPIKE QC	22.0	5.4 N W LWB	0.124	0.119 0.128 08Apr91 10:04 %R = 81.9 %R FAILED, REPEAT BY STANDARD ADDITIONS
B104073 QC	3.0	29.2	0.017	0.014 0.021 08Apr91 10:07
QCSPIKE QC	33.8	36.3	0.174	0.218 0.129 08Apr91 10:12 %RSD GREATER THAN LIMIT
QCSPIKE QC	18.7	25.3 M N W LWB	0.107	0.088 0.126 08Apr91 10:16 %R = 78.4 REPEATED %RSD STILL GREATER THAN LIMIT

SAMPLE	CONC ppb	%RSD	MEAN ABS	READINGS	
B104074 QC	3.8	10.3	0.022	0.020 08Apr91	0.023 10:20
QCSPIKE QC	22.6	1.2	0.126	0.127 08Apr91 %R =	0.125 10:24 94.0
B104075 QC	4.6	22.9	0.026	0.022 08Apr91	0.031 10:28
QCSPIKE QC	22.4	5.3	0.125	0.130 08Apr91 %R =	0.121 10:33 88.8
B104076 QC	3.6	34.9	0.021	0.016 08Apr91	0.026 10:37
QCSPIKE QC	23.6	1.0	0.131	0.130 08Apr91 %R =	0.132 10:41 100.0
QCSTANDARD QC	41.6	0.1	0.203	0.203 08Apr91 %R =	0.203 10:45 104.0
QCBLANK QC	0.2	99.9	0.001	0.005 08Apr91 ABS =	-0.003 10:49 -0.001
B104077 QC	2.2	27.0	0.012	0.010 08Apr91	0.015 10:53
QCSPIKE QC	19.5	4.9	0.111	0.108 08Apr91 %R =	0.115 10:57 86.8
B104078 QC	0.6	43.9	0.004	0.002 08Apr91	0.005 11:01
QCSPIKE QC	18.1	4.4	0.103	0.100 08Apr91 %R =	0.106 11:05 87.3
B104079 QC	3.8	18.8	0.022	0.019 08Apr91	0.024 11:09
QCSPIKE QC	24.4	1.2	0.134	0.136 08Apr91 %R =	0.133 11:14 103.1
QCSTANDARD QC	41.5	5.5	0.202	0.195 08Apr91 %R =	0.210 11:18 103.8
QCBLANK QC	-0.2	34.9	-0.001	-0.002 08Apr91 ABS =	-0.001 11:22 -0.003

LAB NAME: ILLINOIS EPA CHAMPAIGN LAB CONTRACT: SAUGET SITES ~~AREA~~ 1

LAB CODE:____ CASE NO.:_____ SAS NO.:_____ SDG NO.: 46

MERCURY CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS

STD#	Source	Cat #	Lot	Ele.	STOCK Level ug/ml	Prep. ml/ml	ANAL. Level ug/l	Prep. Date
STOCK	SPEX	PLHG4-2X	1-97-HG	Hg	1000			30/NOV/90
INTSTOCK	SPEX	PLHG4-2X	1-97-HG	Hg	1000	1/1000	1000	5/JUL/90
INTSTOCK	SPEX	PLHG4-2X	1-97-HG	Hg	1	100/1000	100	5/JUL/90
HG20	SPEX	PLHG4-2X	1-97-HG	Hg	1	2/100	20	4/2/91
HG10	SPEX	PLHG4-2X	1-97-HG	Hg	1	1/100	10	4/2/91
HG5	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	5 /100	5	4/2/91
HG3	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	3 /100	3	4/2/91
HG2	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	2 /100	2	4/2/91
HG1	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	1 /100	1	4/2/91
HG0.5	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	0.5/100	0.5	4/2/91
HG0.4	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	0.4/100	0.4	4/2/91
HG0.2	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	0.2/100	0.2	4/2/91
HG0.1	SPEX	PLHG4-2X	1-97-HG	Hg	0.1	0.1/100	0.1	4/2/91
ICV1	USEPA	HG1172	1172#3	Hg	1.400	1/1000	1.4	8/MAR/91
CRA	SPEX	PLHG4-2X	1-97HG	Hg	1	0.4/1000	0.4	4/2/91
SPIKE	BANC0	40320	C8-17	Hg	0.1	1/100	1	4/2/91
LCSW	USEPA	HG1172	1172#3	Hg	1.400	1/1000	1.4	4/2/91

LCSS	SOIL REFERENCE SAMPLE Source	Cat #	Lot	Ele.	STOCK Level mg/kg	Prep. g/ml	ANAL. Level ug/l	Prep. Date
	ICF	LCSS	0287	Hg	12.7	0.2/100	25.4	4/2/91

COMMENTS

COMMENTS

COMMENTS

COMMENTS

COMMENTS

COMMENTS

COMMENTS

COMMENTS

COMMENTS

COMMENTS

Sanget Sites-Bb6

Hg LOG

Sanget Sites Area 1

Mercury

SAMPLE NUMBER DATE REC'D		PROJECT CODE		DELIVERED BY	DATE RESULTS FORWARDED	Balance Check	Hotplate 95°C	Digestion	ICP Acid	IC Anal	Solids	Sulfide	Sulfate	Nitrate	Nitrite	Phosphate	Hardness	B	105	108
20.0ppb						✓	✓	✓	✓	✓	✓	✓	✓	✓						
10.0ppb						✓	✓		✓	✓	✓	✓	✓	✓						
5.0ppb						✓	✓		✓	✓	✓	✓	✓	✓						
3.0ppb						✓	✓		✓	✓	✓	✓	✓	✓						
1.0ppb						✓	✓		✓	✓	✓	✓	✓	✓						
0.5ppb						✓	✓		✓	✓	✓	✓	✓	✓						
0.4ppb						✓	✓		✓	✓	✓	✓	✓	✓						
0.2ppb						✓	✓		✓	✓	✓	✓	✓	✓						
0.1ppb						✓	✓		✓	✓	✓	✓	✓	✓						
0.0ppb						✓	✓		✓	✓	✓	✓	✓	✓						
K=1.4ppb						✓	✓		✓	✓	✓	✓	✓	✓						
LCS0287						✓	✓	✓		✓	✓	✓	✓	✓						
B104062#1	- Water - 4/3/91					✓	✓		✓	✓	✓	✓	✓	✓						
B104062#2						✓	✓		✓	✓	✓	✓	✓	✓						
B104062 spike						✓	✓		✓	✓	✓	✓	✓	✓						
B104063						✓	✓		✓	✓	✓	✓	✓	✓						
B104064						✓	✓		✓	✓	✓	✓	✓	✓						
B104065						✓	✓		✓	✓	✓	✓	✓	✓						

Sangat Sites - B66

SAMPLE NUMBER DATE REC'D	SOURCE	PROGRAM CODE / TYPE	RECEIVED BY	DELIVERED BY	DATE RESULTS FORWARDED	Balance Check	Holding Time	Organics Analysis	177 IC Anal	178 IC Anal	Spec Cond	Hardness	Hard. B	105	106
B104066						✓	✓	✓	✓	✓	✓	✓			
SOIL - 4/3/91															
B104067 #1						✓	✓	✓	✓	✓	✓	✓			
B104067 #2						✓	✓	✓	✓	✓	✓	✓			
B104067 + spike						✓	✓	✓	✓	✓	✓	✓			
B104068						✓	✓	✓	✓	✓	✓	✓			
B104069						✓	✓	✓	✓	✓	✓	✓			
B104070						✓	✓	✓	✓	✓	✓	✓			
B104071						✓	✓	✓	✓	✓	✓	✓			
B104072						✓	✓	✓	✓	✓	✓	✓			
B104073						✓	✓	✓	✓	✓	✓	✓			
B104074						✓	✓	✓	✓	✓	✓	✓			
B104075						✓	✓	✓	✓	✓	✓	✓			
B104076						✓	✓	✓	✓	✓	✓	✓			
B104077						✓	✓	✓	✓	✓	✓	✓			
B104078						✓	✓	✓	✓	✓	✓	✓			
B104079						✓	✓	✓	✓	✓	✓	✓			

B000366

Prep date 4/2/91
run date 4/3/91

Sauget Sites
Lot #46

				µg/l	CONVERT	mg/kg
BIK						
0.1						
0.2						
0.4						
0.5						
1.0						
3.0						
5.0						
[illegible]						
[illegible]						
[illegible]						
[illegible]	(20%)		(7.1%)	1.50		
[illegible]				<0.05		
[illegible]				0.42		
[illegible]				<0.05		
CS [illegible]	(1.4)(20%)		(8.6%)	1.52		
CS [illegible]				overrange		
[illegible]	(8.5-17.0)	12.70 x 2 =		25.40	0.50	12.70
RINSE						
B104062				<0.05		
[illegible] DUP				<0.05		
[illegible] SPIKE [illegible]				1.14		
B104063		(0.75-1.25 over sample)		<0.05		
B104064				<0.05		
[illegible]				<0.05		
B104066				<0.05		
CCV			(5.7%)	1.48		
CCB				<0.05		
B104067				0.12	0.601	0.07
B104067 DUP				0.18	0.600	0.11
B104067 SPIKE [illegible]			l=0.60 mg/kg	0.86	0.601	0.52
B104068				0.11	0.628	0.07
B104069				0.28	0.707	0.20
B104070				0.08	0.575	0.05
B104071				0.27	0.751	0.20
B104072				1.61	0.948	1.53
B104073				1.66	0.705	1.17

		µg/l	CONVERT	mg/kg
	B104074	0.86	0.726	0.62
(7.9%)	CCV	1.51		
	CCB	<0.05		
	B104075	0.46	0.695	0.32
	B104076	0.44	0.769	0.34
	B104077	0.06	0.655	0.04
	B104078	<0.05	0.828	<0.04
	B104079	<0.05	0.724	<0.04
(5%)	CCV	1.47		
	CCB	<0.05		
	CRA	0.36		
	IDL (0.5 µg/l)	0.51		
	IDL	0.50		
	IDL	0.45		
	IDL	0.59		
	IDL	0.51		
	IDL	0.49		
	IDL	0.47		

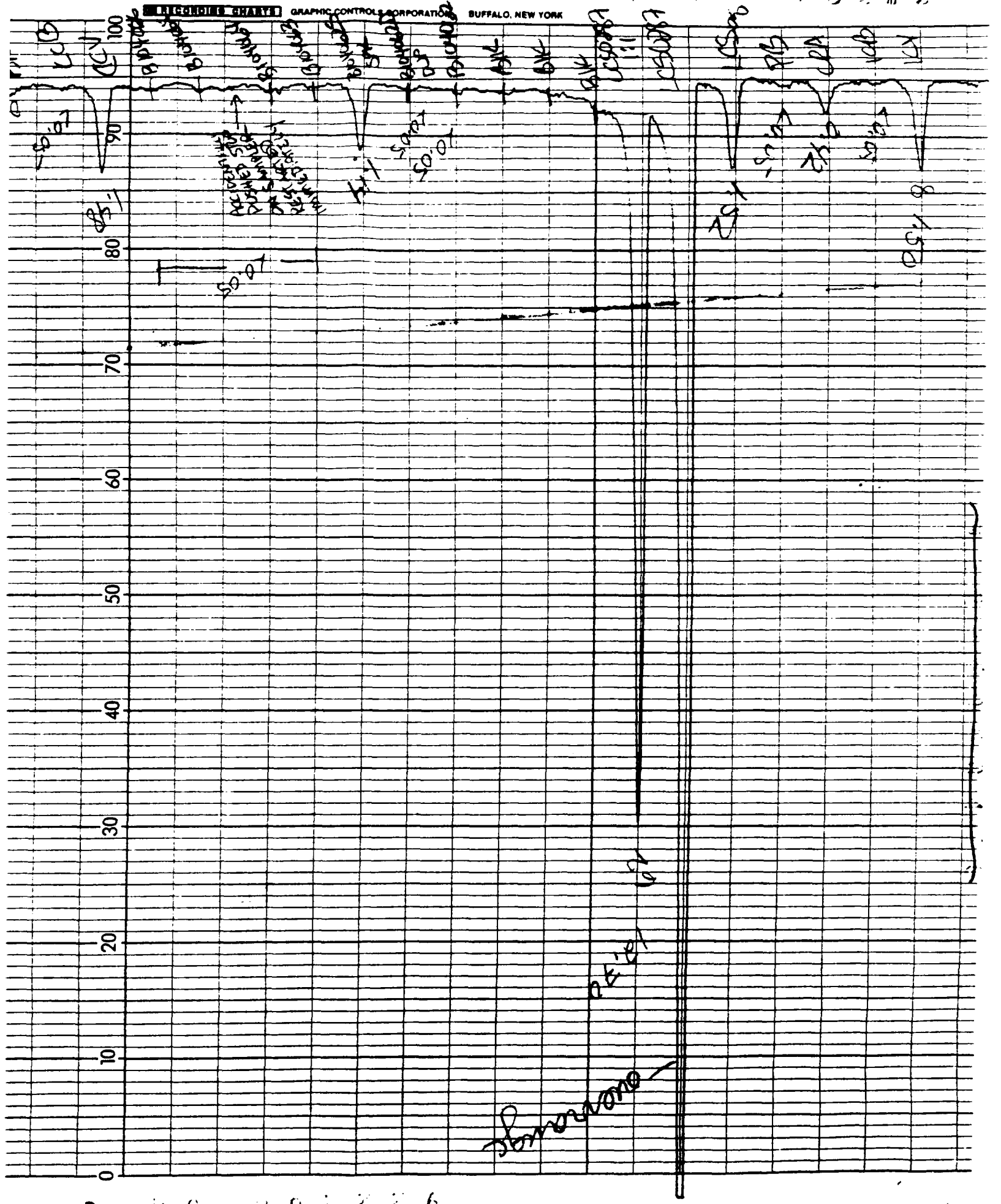
Sauget Sites
Area 1
Mercury

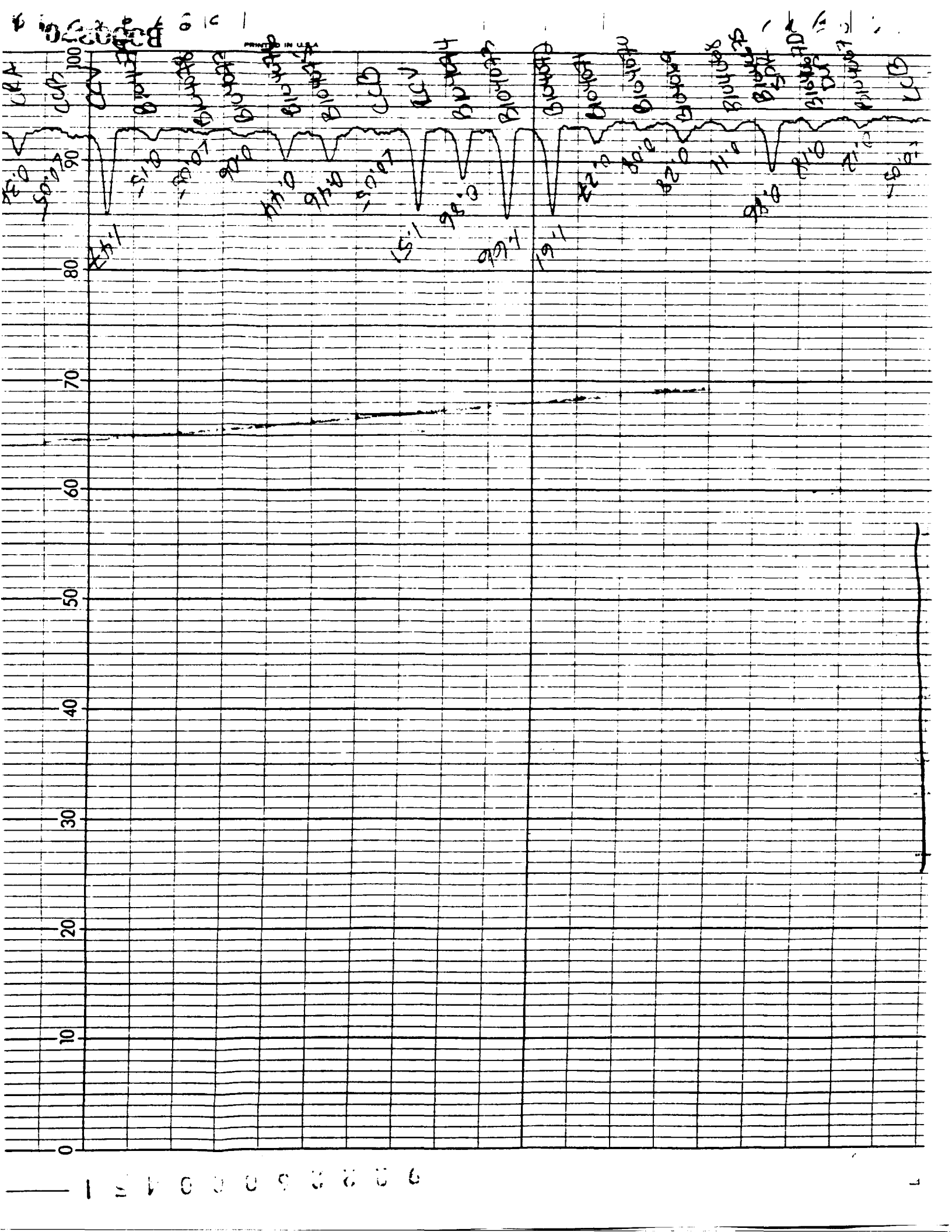
O-1475

B000267

No. PR 159-1003

RECORDING CHARTS GRAPHIC CONTROLS CORPORATION BUFFALO, NEW YORK




PRINTED IN U.S.A.
100
90
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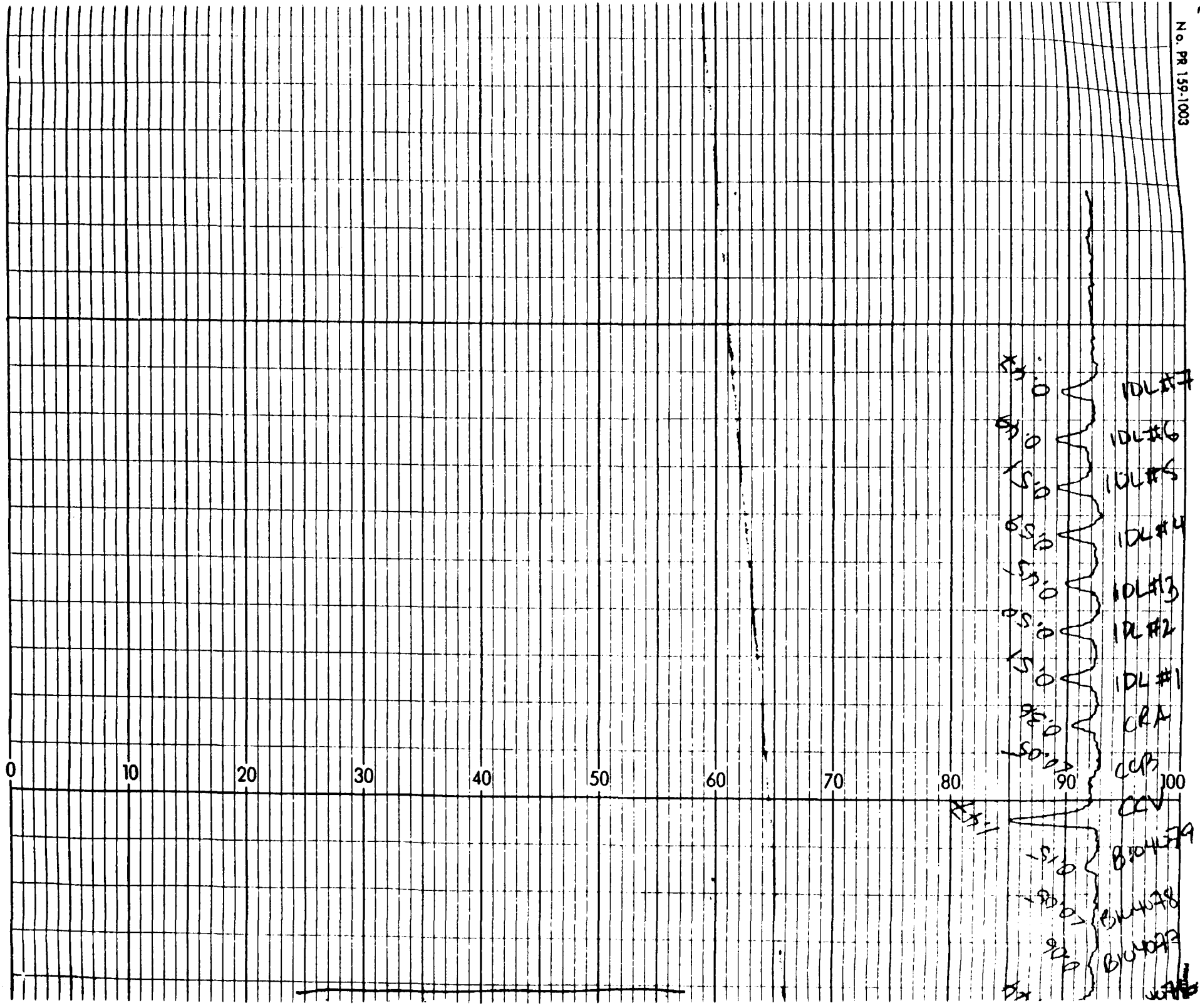

No. PR 159-1003
IDL#7
IDL#6
IDL#5
IDL#4
IDL#3
IDL#2
IDL#1
CRA
CCB
CCV
B104479
B104478
B104477
0
10
20
30
40
50
60
70
80
90
100

LAB NAME: ILLINOIS EPA CHAMPAIGN LAB CONTRACT: SAUGET SITES AREA 1

LAB CODE:_____ CASE NO.:_____ SAS NO.:_____ SDG NO.: 46

CYANIDE CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS

STD	Source	Cat #	Lot	Ele.	STOCK Level mg/l	Prep. ml/ml	ANAL. Level mg/l	Prep. Date
SSTD	VRW	22380	L9-12	CN	1000			3/16/90
ISTD1	VRW	22380	L9-12	CN	100	10/100		3/16/90
ISTD2	VRW	22380	L9-12	CN	10	10/100		4/2/91
WSTD1	VRW	22380	L9-12	CN	10	5.00/250	0.200	4/2/91
WSTD2	VRW	22380	L9-12	CN	10	3.75/250	0.150	4/2/91
WSTD3	VRW	22380	L9-12	CN	10	2.50/250	0.100	4/2/91
WSTD4	VRW	22380	L9-12	CN	10	1.25/250	0.050	4/2/91
WSTD5	VRW	22380	L9-12	CN	10	0.50/250	0.010	4/2/91
WSTD6	VRW	22380	L9-12	CN	10	0.00/250	0.000	4/2/91
ICV1	ICF	ICV-6	0789	CN	9.4	2.66/250	0.100	4/2/91
CRA	VWR	22380	L9-12	CN	10	0.50/250	0.010	4/2/91
SPIKE	VRW	22380	L9-12	CN	10	2.50/250	0.100	4/2/91
LCSW	USEPA	1182	1182-8	CN	26.9	0.93/250	0.100	4/2/91

LCSS	SOIL REFERENCE SAMPLE Source	Cat #	Lot	Ele.	STOCK Level mg/kg	Prep. g/ml	ANAL. Level ug/l	Prep. Date
	ICF	LCSCN	0689	CN	5.62	5/250		4/2/91

SULFATE CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS

STD	Source	Cat #	Lot	Ele.	STOCK Level mg/l	Prep. ml/ml	ANAL. Level mg/l	Prep. Date
SSTD	VRW	72650	B0-20	SO4	1000			3/16/90
WSTD1	VRW	72650	B0-20	SO4	1000	200/1000	200	10/90
WSTD2	VRW	72650	B0-20	SO4	1000	150/1000	150	10/90
WSTD3	VRW	72650	B0-20	SO4	1000	100/1000	100	10/90
WSTD4	VRW	72650	B0-20	SO4	1000	50/1000	50	10/90
WSTD5	VRW	72650	B0-20	SO4	1000	30/1000	30	10/90
WSTD6	VRW	72650	B0-20	SO4	1000	25/1000	25	10/90
WSTD7	VRW	72650	B0-20	SO4	1000	20/1000	20	10/90
WSTD8	VRW	72650	B0-20	SO4	1000	15/1000	15	10/90
WSTD9	VRW	72650	B0-20	SO4	1000	10/1000	10	10/90
WSTD10	VRW	72650	B0-20	SO4	1000	5/1000	5	10/90
WSTD11	VRW	72650	B0-20	SO4	1000	0/1000	0	10/90
ICVSTOCK	FISHER	S-421	876730	SO4	1000			1/30/90
ICV1	FISHER	S-421	876730	SO4	1000	105/1000	105	10/26/90
SPIKE	VWR	72650	B0-20	SO4	1000	0.50/10	50	4/12/91
LCSW	USEPA	WP987	WP987	SO4	1968	15.25/300	100	7/30/90

SULFIDE CALIBRATION STANDARDS AND QUALITY ASSURANCE STANDARDS

	Source Cat #	Lot	Ele.	STOCK Level mg/l	Prep. ml/ml	ANAL. Level mg/l	Prep. Date
SSTD	FISHER S-425	871108	S=	* 199			~~5/30~~ 3 27/91
WSTD1	FISHER S-425	871108	S=	* 199	20.10/200	20	4/3/91
WSTD2	FISHER S-425	871108	S=	* 199	15.08/200	15	4/3/91
WSTD3	FISHER S-425	871108	S=	* 199	10.05/200	10	4/3/91
WSTD4	FISHER S-425	871108	S=	* 199	5.03/200	5	4/3/91
WSTD5	FISHER S-425	871108	S=	* 199	1.00/200	1	4/3/91
WSTD6	FISHER S-425	871108	S=	* 199	0.00/200	0	4/3/91

*VARIES WITH STOCK CONC. MUST TITRATE FOR EACH RUN

ICVSTOCK	MALKRT 8044	KHTC	S=	* 167			~~5/30~~ 3 27/91
ICV1	MALKRT 8044	KHTC	S=	* 167	11.98/200	10	4/3/91
SPIKE	FISHER S-425	871108	S=	* 199	5.03/200	5	4/3/91

9222600004

B300223

Sample #	wt (gm)	Date Rec'd	Date Dist	Date Analyzed	Chart (ppm)	Factor	Mg/Kg (ppm)
4062		3-29	4-2	4-15	<0.01		
4062					<0.01		
# 4062					0.119		
4063					<0.01		
4064					<0.01		
4065					<0.01		
4066					<0.01		
4067	3.0		4-2		<0.01	0.83	<1.0
4068	3.0				<0.01	0.79	<1.0
4069	3.0				<0.01	0.71	<1.2
4070	3.0				<0.01	0.87	<0.96
4071	3.0				<0.01	0.67	<1.2
4072	3.0				<0.01	0.53	<1.6
4073	3.0				<0.01	0.71	<1.2
4074	3.0				<0.01	0.69	<1.2
4075	3.0				<0.01	0.72	<1.2
4076	3.0				<0.01	0.65	<1.3
4077	3.0				<0.01	0.76	<1.1
4078	3.0				<0.01	0.60	<1.4
4079	3.0				<0.01	0.69	<1.2
4080	3.0				<0.01		
4067	3.0				<0.01	0.83	<1.0
# 4067	3.0				0.119	0.83	11.98

B000274

0006641 IEPA-CLP

0006642 IEPA-CLP

0006648 IEPA-CLP

0006649 IEPA-CLP

0006650 IEPA-CLP

0006659 IEPA-CLP

0006660 IEPA-CLP

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6649

Date Sealed: 3/26/91 By: AWW

Facility
Name : SAUGET SITES AREA#1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
B104062	G204	3/28/91	12:10pm

Sample Appearance : Clear

Collector Comments: H.E. Kearby well 30' - Rex Fitzgerald (Fitz's Well Drilling - Cahokia)

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
1	3	1L	GRN	TOTAL METALS	N		
1	3	1L	BLK	CYANIDE	N		
1	3	1L	RED	SULFIDE	N		
1	3	1L		SULFATE	N		
1	10	500ml	GRY	MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 9:25 Am Seal #: 0006649 Intact?: Y / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 12:25p Seal #: 0006650

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping [illegible] that each bottle in the shipping container was intact. After recording the sample in the official [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45 PM Seal #: 6650 [illegible]

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: (6649)

Date Sealed: 3/26/91 By: AWW

Facility
Name : SAUGET SITES AREA#1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
B104063	G203	3/27/91	10:40am

Sample Appearance : rusty at first clear during purge + sample

Collector Comments: Ballett well x 20'

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	3	1L	GRN	TOTAL METALS	N		
1	3	1L	BLK	CYANIDE	N		
1	3	1L	RED	SULFIDE	N		
1	3	1L		SULFATE	N		
1	10	500ml	GRY	MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date 3/27/91 Time: 9:25am Seal #: 0006649 Intact?: (Y) / N

I certify that the sample bottle was collected and placed in bottles in my presence, that each bottle was placed intact in the shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 12:25p Seal #: 0006650

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container [illegible] that each bottle in the shipping container was intact. After recording the sample in the official record book, [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45 PM Seal #: 6650 Intact: (Y) / N

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6659

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA#1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY # B104064

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
G205	3/27/91	10:00 am

Sample Appearance : clear

Collector Comments: Allen well 17' may have fertilizer + malathion in sample

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
1	3	1L	GRN	TOTAL METALS	N		
1	3	1L	BLK	CYANIDE	N		
1	3	1L	RED	SULFIDE	N		
1	3	1L		SULFATE	N		
1	10	500ml	GRY	MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 9:45 am Seal #: 0006659 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 10:10 am Seal #: 0006660

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container [illegible] that each bottle in the shipping container was intact. After recording the sample in the official record book, [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45 PM Seal #: 6660 Intact [illegible]

Lab Name: IEPA - Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By RKM

Facility
Name : SAUGET SITES AREA#1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I D	SAMPLE DATE	SAMPLE TIME
B104065	G201	3/27/91	11:25am

Sample Appearance : clear

Collector Comments: TJM Settled ~~Wright~~ well 26' 102 Judith LN. Next door(E.) of Wright

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	3	1L	GRN	TOTAL METALS	N		
1	3	1L	BLK	CYANIDE	N		
1	3	1L	RED	SULFIDE	N		
1	3	1L		SULFATE	N		
1	10	500ml	GRY	MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 11:~~0~~10 am TJM Seal #: 0006647 Intact?: (Y) / N

I certify that the sample listed below was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 12:05p Seal #: 0006648

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container sealed and that each bottle in the shipping container was intact. After recording the sample in the official [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 7:45 PM Seal #: 6648

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6647

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA#1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

[redacted]	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
	G202	3/27/91	11:55A

Sample Appearance : clear/partly cloudy (iron)

Collector Comments: Schmidt well 49'

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
1	3	1L	GRN	TOTAL METALS	TJM [redacted] N	[redacted]	
1	3	1L	BLK	CYANIDE	N		
1	3	1L	RED	SULFIDE	N		
1	3	1L		SULFATE	N		
1	10	500ml	GRY	MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Timothy J. Murphy Signature: Timothy J. Murphy

Date 3/27/91 Time: 11:10am Seal #: 0006647 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence; that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 12:05p Seal #: 0006648

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the seal intact; that each bottle in the shipping container was placed after recording the sample in the office in the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45 pm Seal #: 6648

Lab Name: IEPA-Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
B104067	X101	3/28/91	1:15p

Sample Appearance : brown soil

Collector Comments: Vernon Shepard property 25 David St. on N. side 0-6"

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE,	N		
				SULFIDE, SULFATE,	~~N~~		
				MERCURY	~~N~~		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed [illegible] the sample shipping container and that I sealed the sample shipping container on the date and time listed below.

Sealed by (print) Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the [illegible] that each bottle in the shipping container was intact. After recording the [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45 PM Seal #: 6642

Lab Name: IEPA - Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal # 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
[illegible]	X10Z	3/28/91	1:00pm

Sample Appearance: black Soil

Collector Comments: W. Schmidt property S. side 0-6"

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE,	N		
				SULFIDE, SULFATE,	~~N~~		
				MERCURY	~~N~~		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the shipping container, and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container [illegible] that each bottle in the shipping container was intact. After recording the sample in the official record book, the sample [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: Michael Davison

Date: 3-28-91 Time: 4:45 PM Seal #: 6642 Intact?: [illegible]

Lab Name: IEPA-Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

[redacted]	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
	X103	3/28/91	12:45p

Sample Appearance : 0-6"

Collector Comments: NW corner of Ballett yard 3300 Falling Springs Rd

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE,	N		
				SULFIDE, SULFATE,			
				MERCURY			

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was labeled intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container sealed and that each bottle in the shipping container was intact. After recording the sample in the official [illegible] I kept it in the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Dawson Signature: Michael Dawson

Date: 3-28-91 Time: 4:45 PM Seal #: 6642 Intact? (Y) / N

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
B104070	X104	3/28/91	12:00 p

Sample Appearance :

Collector Comments: H.E. Kearby property 144 St. James 0-6" SE side

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	S	32oz		TOTAL METALS, CYANIDE,	N		
2				SULFIDE, SULFATE,			
3				MERCURY			
4							
5							
6							
7							
8							
9							

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date 3/27/91 Time: 3:00pm Seal #: 000664l Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container sealed and that each bottle in the shipping container was intact. After recording the sample in the official record book, the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison **Signature:** [illegible]

Date: 3-28-91 **Time:** 4:45pm **Seal #:** 6642 **Intact:**

Lab Name: IEPA-Champaign **Comments:**

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I D.	SAMPLE DATE	SAMPLE TIME
B104071	X106	3/28/91	10:50A

Sample Appearance : 3' water 0-1.5' Sed

Collector Comments: Dead Creek at Garage on Jerome

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
1	S	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact? Y / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the ship[illegible] that each bottle in the shipping container was intact. After recording the sample in the official [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davidson Signature: [illegible]

Date: 3-28-91 Time: 2:45PM Seal #: 6642

Lab Name: IEPA Chemistry Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

[redacted]

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
X107	3/28/91	10:15am

Sample Appearance : 2' water 0-1.5' Sed

Collector Comments: Dead Creek behind 3809 White St 32' George Gain Mitchell next door 3811

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE,			
				SULFIDE, SULFATE,			
				MERCURY			

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: [illegible]

I certify that I received the sample shipping [illegible] that each bottle in the shipping container [illegible] the custody of competent laboratory personnel at all times or locked in a secured area

Opened by (print): Michael DavBon Signature: [illegible]

Date: 3-28-91 Time: 4:45 PM Seal #: 6642 Intact?: [illegible]

Lab Name: IEPA Champaign Comments: [illegible]

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D	SAMPLE DATE	SAMPLE TIME
B104073	X108	3/28/91	9:50 AM

Sample Appearance :

Collector Comments: Dead Creek at S. end VFW culvert 1' water 1-2' sed

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	S	32oz		TOTAL METALS, CYANIDE,	N		
				SULFIDE, SULFATE,			
				MERCURY			

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier [illegible] that each bottle in the shipping container was intact. After recording the sample [illegible] the custody of competent laboratory personnel at all times or locked in a secure area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:15 PM Seal #: 6642

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

[redacted]	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
	X109	3/28/91	9:30A

Sample Appearance :

Collector Comments: Dead Creek at N end of Parks College 6" water 0-1'

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier, listed above with the shipping container that each bottle in the shipping container was intact. After recording the sample in the official [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: Michael Davison

Date: 3-28-91 Time: 4:45 PM Seal #: 6642 Intact?: (Y)

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
B104075	X110	3/28/91	9:05

Sample Appearance : 4" water 0-1' sed.

Collector Comments: Dead Creek at Parks College culvert N. end

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container, and that I sealed the sample shipping container at the date and time listed below

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container sealed and intact, that each bottle in the shipping container was intact. After recording the sample in the official [illegible] I maintained the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Dawson Signature: [illegible]

Date: 3-28-91 Time: 4:45PM Seal #: 6642

Lab Name: IEPA-Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
B104076	X111	3/27/91	5:30pm

Sample Appearance : brown silt to sand at depth 1'

Collector Comments: Dead Creek at Wetlands Near N. corner power line pole 1' water, 0-1.5' depth, sed

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY			

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container on the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container seal intact and that each bottle in the shipping container was intact. After recording the sample in the official record book, I maintained the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: Michael Davison

Date: 3-28-91 Time: 4:45 PM Seal #: 6642 Intact: Y / N

Lab Name: IEPA-Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY # B104077

SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
X112	3/27/91	4:40p

Sample Appearance : fine grain gray brown silty clay area around 4 sed. tested on ground 7 on HNU

Collector Comments: 200' upstream of entrance of Dead Creek to 2' water 0-1.5 into sed. Old Prairie du Pont

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container [illegible] that each bottle in the shipping container was intact. After recording the sample in the official [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45PM Seal #: 6642 Intact? [illegible]

Lab Name: IEPA - Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D.	SAMPLE DATE	SAMPLE TIME
[redacted]	X113	3/27/91	4:25PM

Sample Appearance : 1.5' water deep ½ soft brown 0-2.5' into sediment 2' black sludge 7 on HNU

Collector Comments: entrance of Dead Creek to Old Prairie du Pont Creek

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER No.	Code	Size	Pres	ANALYSIS	FILTERING (Y/N)	Date	Time
1	5	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence, that each bottle was placed intact in the sample shipping container and that I sealed the sample shipping container at the date and time listed below

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container and [illegible] that each bottle in the shipping container was intact. After recording the sample in the official record book, the sample [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: Michael Davison

Date: 3-28-91 Time: 4:45 PM Seal #: 6642 Intact?: (Y)

Lab Name: IEPA Champaign Comments:

IEPA - CLP
CHAIN OF CUSTODY

Seal #: 6641

Date Sealed: 3/26/91 By: RKM

Facility
Name : SAUGET SITES AREA #1
Region: COLLINSVILLE
County: ST CLAIR

Site Inventory # :
Site Billing Code: SA-06660
Project Manager : TIM MURPHY

LABORATORY #	SAMPLE I.D	SAMPLE DATE	SAMPLE TIME
B104079	X114	3/27/91	3:45p

Sample Appearance : clay silt

Collector Comments: 3' water in old Prairie du Pont Creek 1' deep Sed.

Sampler Signature : Timothy J. Murphy Division/Company IEPA

CONTAINER				ANALYSIS	FILTERING		
No.	Code	Size	Pres		(Y/N)	Date	Time
	5	32oz		TOTAL METALS, CYANIDE, SULFIDE, SULFATE, MERCURY	N		

CHAIN OF CUSTODY CHRONICLE

I certify that I received the sample shipping container with the shipping container sealed and intact.

Opened by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/27/91 Time: 3:00pm Seal #: 0006641 Intact?: (Y) / N

I certify that the sample listed above was collected and placed in bottles in my presence; that each bottle was placed intact in the sample shipping container; and that I sealed the sample shipping container at the date and time listed below.

Sealed by (print): Tim Murphy Signature: Timothy J. Murphy

Date: 3/28/91 Time: 1:20p Seal #: 0006642

Courier - sample pickup:

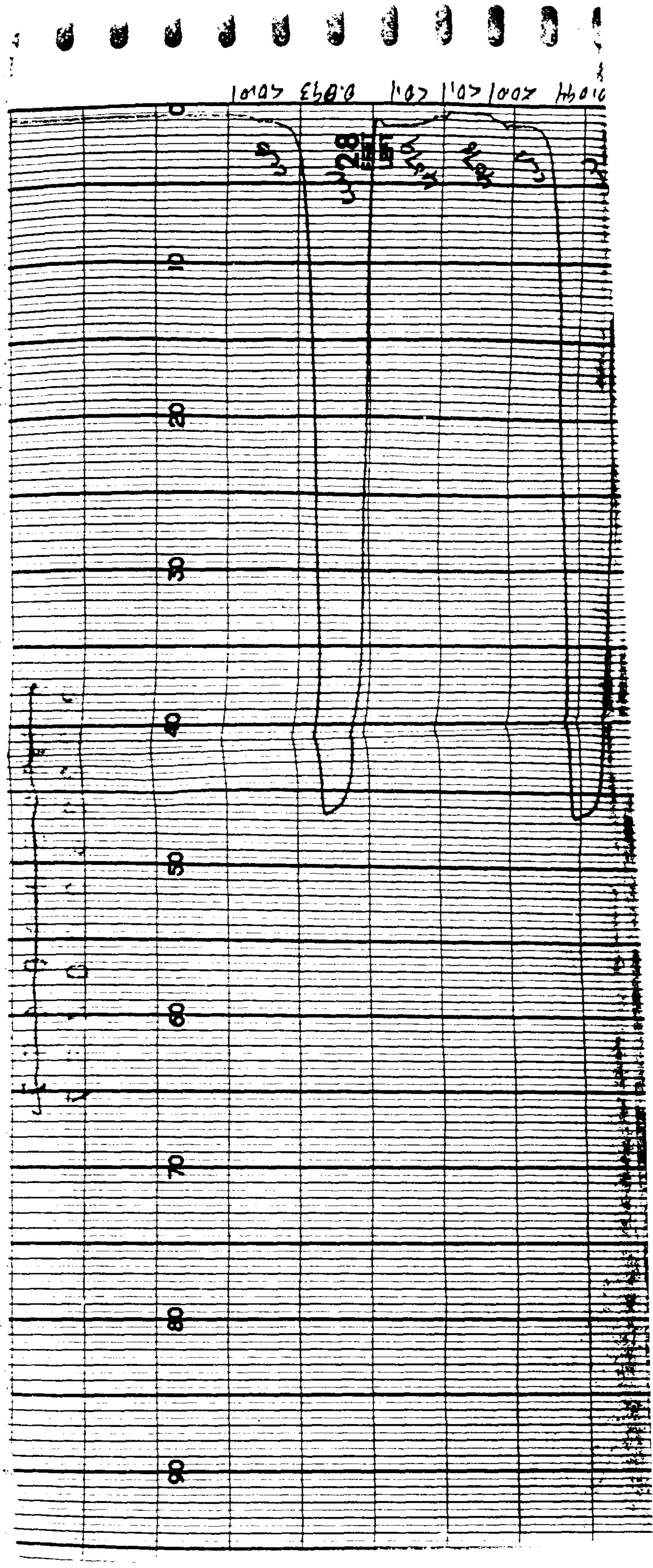
Courier - sample delivery: IEPA

I certify that I received the sample shipping container from the courier listed above with the shipping container [illegible] and that each bottle in the shipping container was intact. After recording the sample in the official [illegible] the custody of competent laboratory personnel at all times or locked in a secured area.

Opened by (print): Michael Davison Signature: [illegible]

Date: 3-28-91 Time: 4:45PM Seal #: 6642 Intact? [illegible]

Lab Name: IEPA Champaign Comments: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10
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Sanger Sites
area 1
Sulfate

DATE OF ANALYSIS :04/12/91 --

ANALYST :S.M.POOLE --

CHART NUMBER :10-91

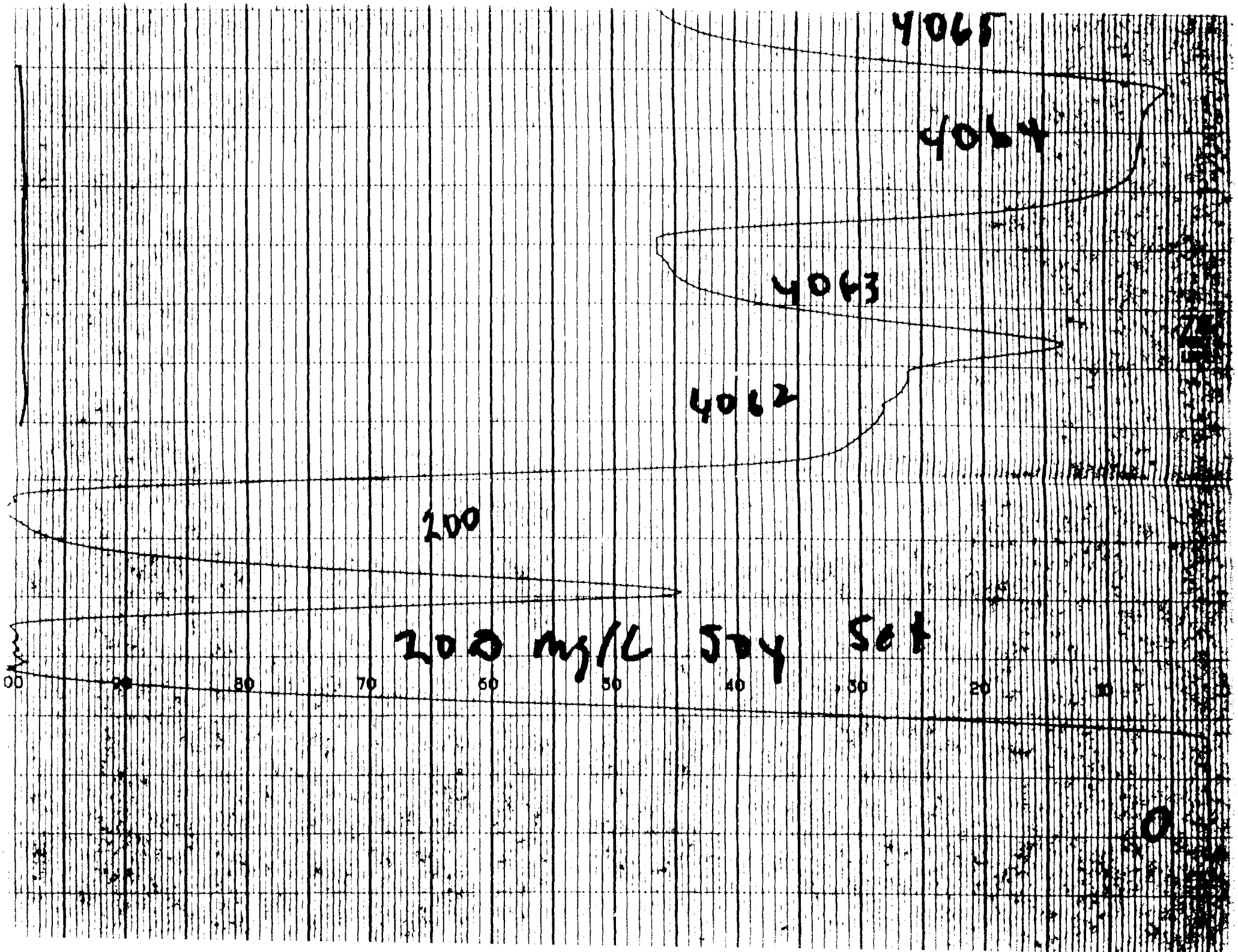
		TRUE VALUE	OBTAINED VALUE
1	STANDARD 1	200.00MG/L	=199.9
2	STANDARD 2	150.00MG/L	=150.1
3	STANDARD 3 T	100.00MG/L	=100.0
4	STANDARD 4	50.00MG/L	=49.9
5	STANDARD 5	30.00MG/L	=30.1
6	STANDARD 6	25.00MG/L	=24.9
7	STANDARD 7	20.00MG/L	=20.1
8	STANDARD 8	15.00MG/L	=14.9
9	STANDARD 9	10.00MG/L	=10.0
10	STANDARD 10	5.00MG/L	=4.9
11	STANDARD 11	0.00MG/L	=0.0

CORRELATION COEFFICIENT OF STD CURVE = 1.0

12	INTERMEDIATE STD "S"	100.00MG/L	=99.5
13	LAB CONTROL SAMPLE "K"	100.00MG/L	=100.3
14	CALIB VER STD "C"	105.00MG/L	=103.9
15	INTERMEDIATE STD "S"	100.00MG/L	=100.4
16	LAB CONTROL SAMPLE "K"	100.00MG/L	=101.1
17	CALIB VER STD "C"	105.00MG/L	=103.8
18	INTERMEDIATE STD "S"	100.00MG/L	=100.0
19	LAB CONTROL SAMPLE "K"	100.00MG/L	=100.5
20	CALIB VER STD "C"	105.00MG/L	=103.6
21	ZERO VER. STD.	0.00MG/L	=0.0

IS CORRELATION COEFFICIENT OF STD CURVE 0.995 TO 1.000 Y/N

TRAY#	SAMPLE# TEST	PROMPT		
23	INITIAL CALIB VER STD ("C")		105.00MG/L	=103.9
24	B104062 109T0 P00945 SULFATE,TOTAL		MG/L	:48.8
25	B104063 109T0 P00945 SULFATE,TOTAL		MG/L	:93
26	B104064 109T0 P00945 SULFATE,TOTAL		MG/L	:13
27	B104065 109T0 P00945 SULFATE,TOTAL		MG/L	:95
28	B104066 109T0 P00945 SULFATE,TOTAL		MG/L	:146
29	B104442 109T0 P00945 SULFATE,TOTAL		MG/L	:72.9
30	B103850 109T0 P00945 SULFATE,TOTAL		MG/L	:92
31	B103851 109T0 P00945 SULFATE,TOTAL		MG/L	:66
32	B103852 109T0 P00945 SULFATE,TOTAL		MG/L	:114
33	B103853 109T0 P00945 SULFATE,TOTAL		MG/L	:233
34	CAL BLANK (ZERO STD)			=0.0
35	CALIB VER STD("C")		105.00MG/L	=103.5
36	B103854 109T0 P00945 SULFATE,TOTAL		MG/L	:112
37	B103855 109T0 P00945 SULFATE,TOTAL		MG/L	:89
38	B103856 109T0 P00945 SULFATE,TOTAL		MG/L	:10K
39	B103857 109T0 P00945 SULFATE,TOTAL		MG/L	:113
40	B103858 109T0 P00945 SULFATE,TOTAL		MG/L	:247
41	B103877 109T0 P00945 SULFATE,TOTAL		MG/L	:106
42	B103878 109T0 P00945 SULFATE,TOTAL		MG/L	:46
43	B103879 109T0 P00945 SULFATE,TOTAL		MG/L	:102
44	B103880 109T0 P00945 SULFATE,TOTAL		MG/L	:253
45	B103949 109T0 P00945 SULFATE,TOTAL		MG/L	:62
46	DUPLICATE OF SAMPLE B104062 109T0			=48.8 MG/L RPD= 0.0%
47	SPIKE 50.00MG/L IN B104062 109T0			=96.6 MG/L RECOV= 95.6%
48	CAL BLANK (ZERO STD)			=0.0
49	CALIB VER STD("C")		105.00MG/L	=105.2
50	LAB CONT SAMP("K")		100.00MG/L	=101.0
51	B103959 109T0 P00945 SULFATE,TOTAL		MG/L	:27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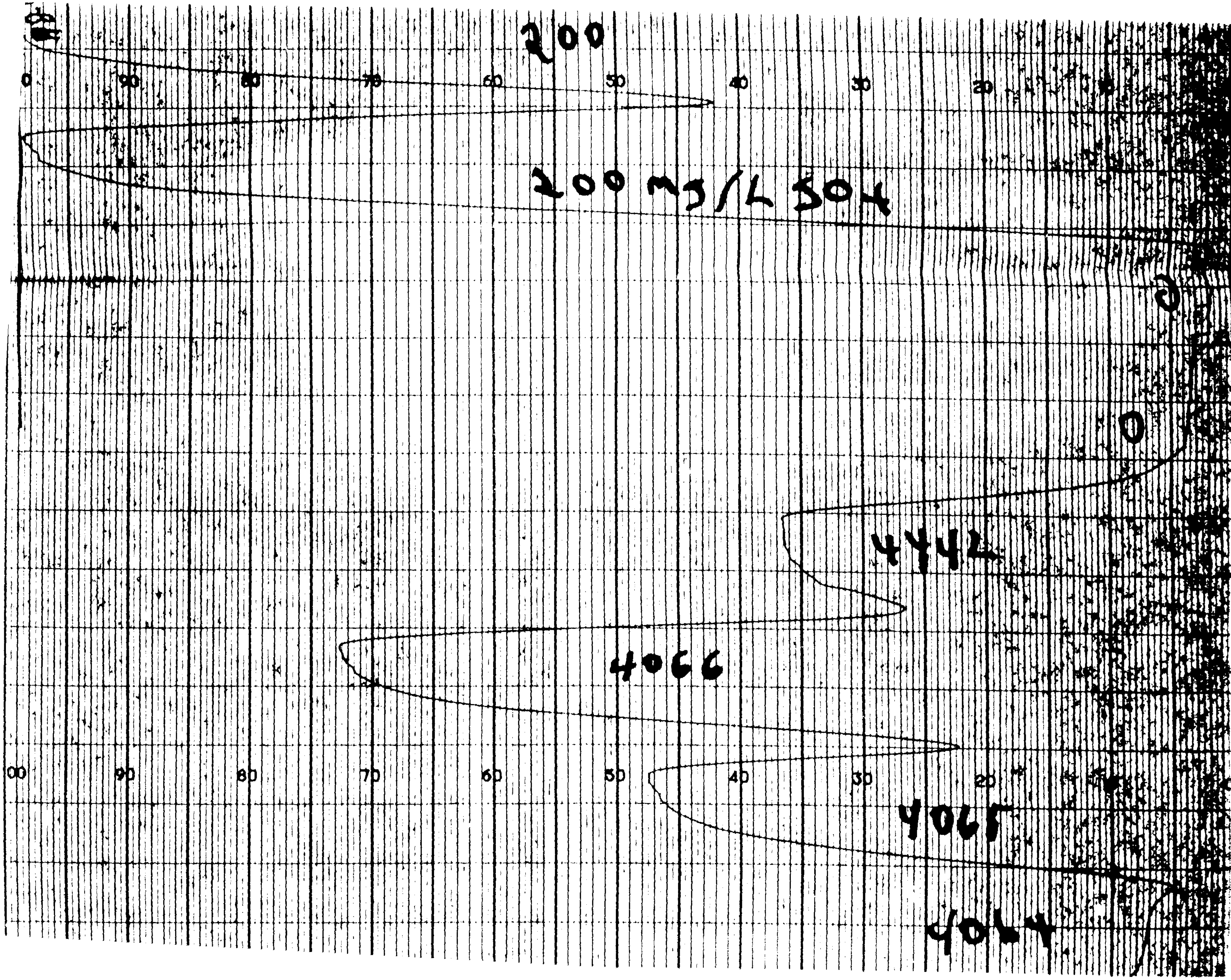
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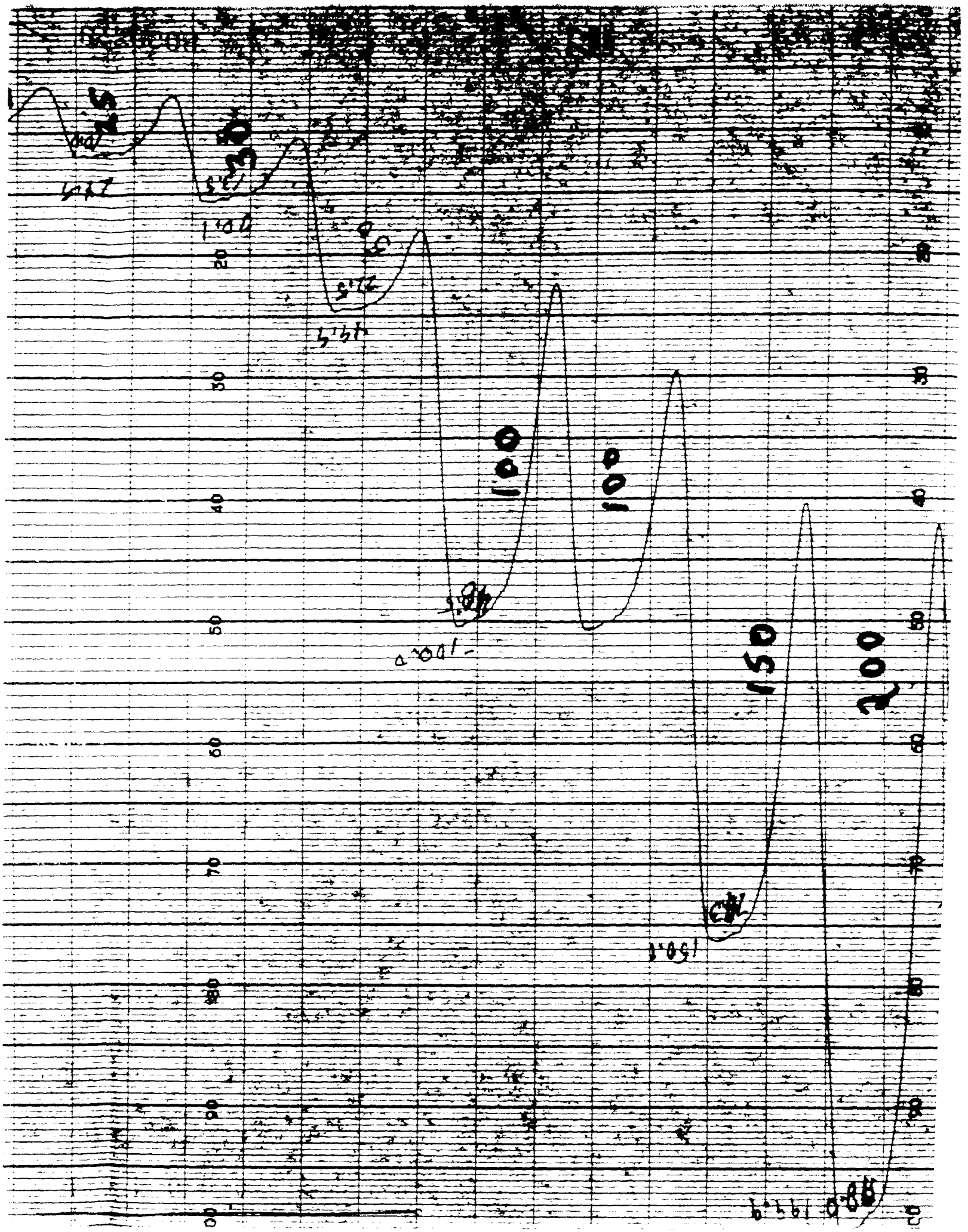

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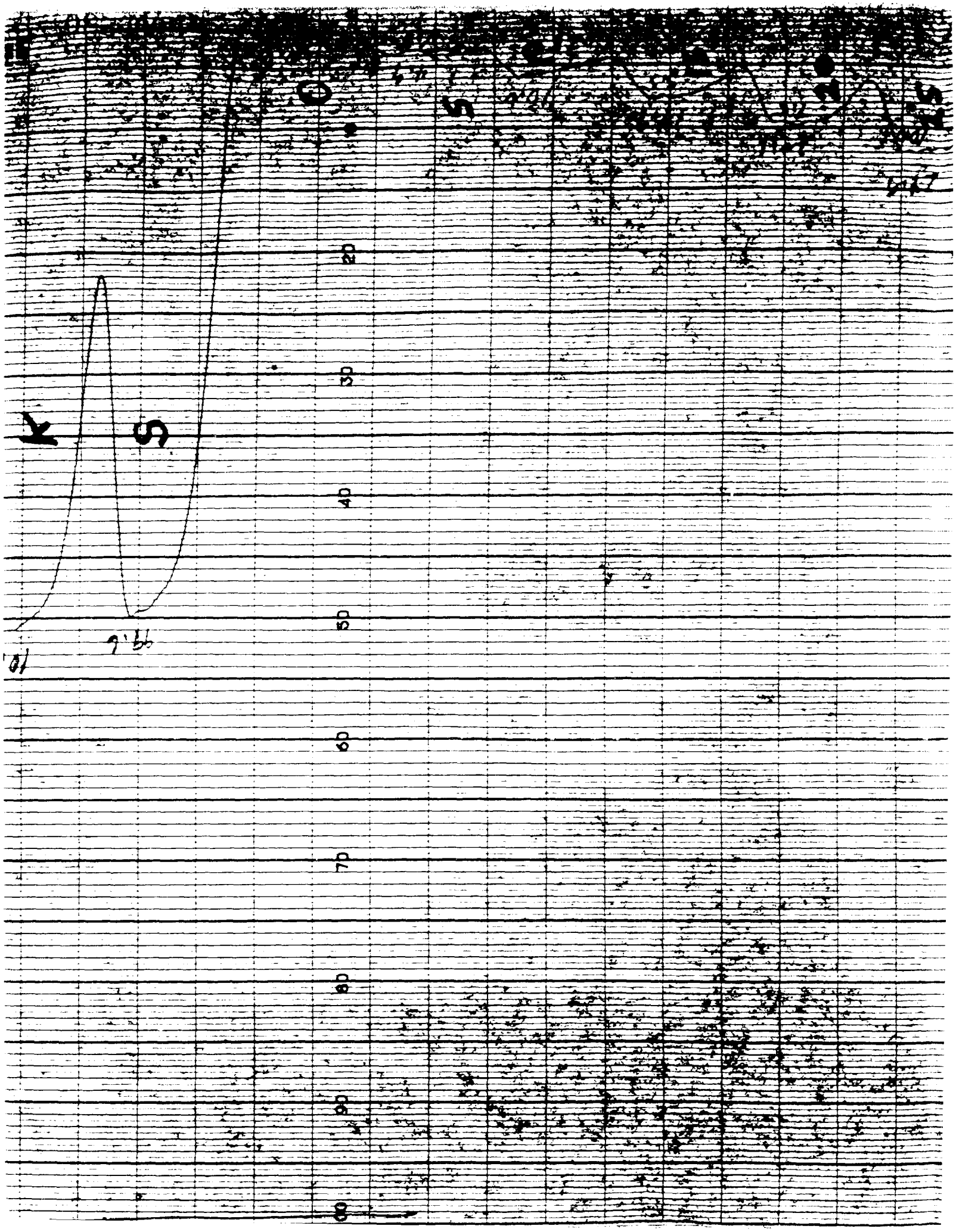

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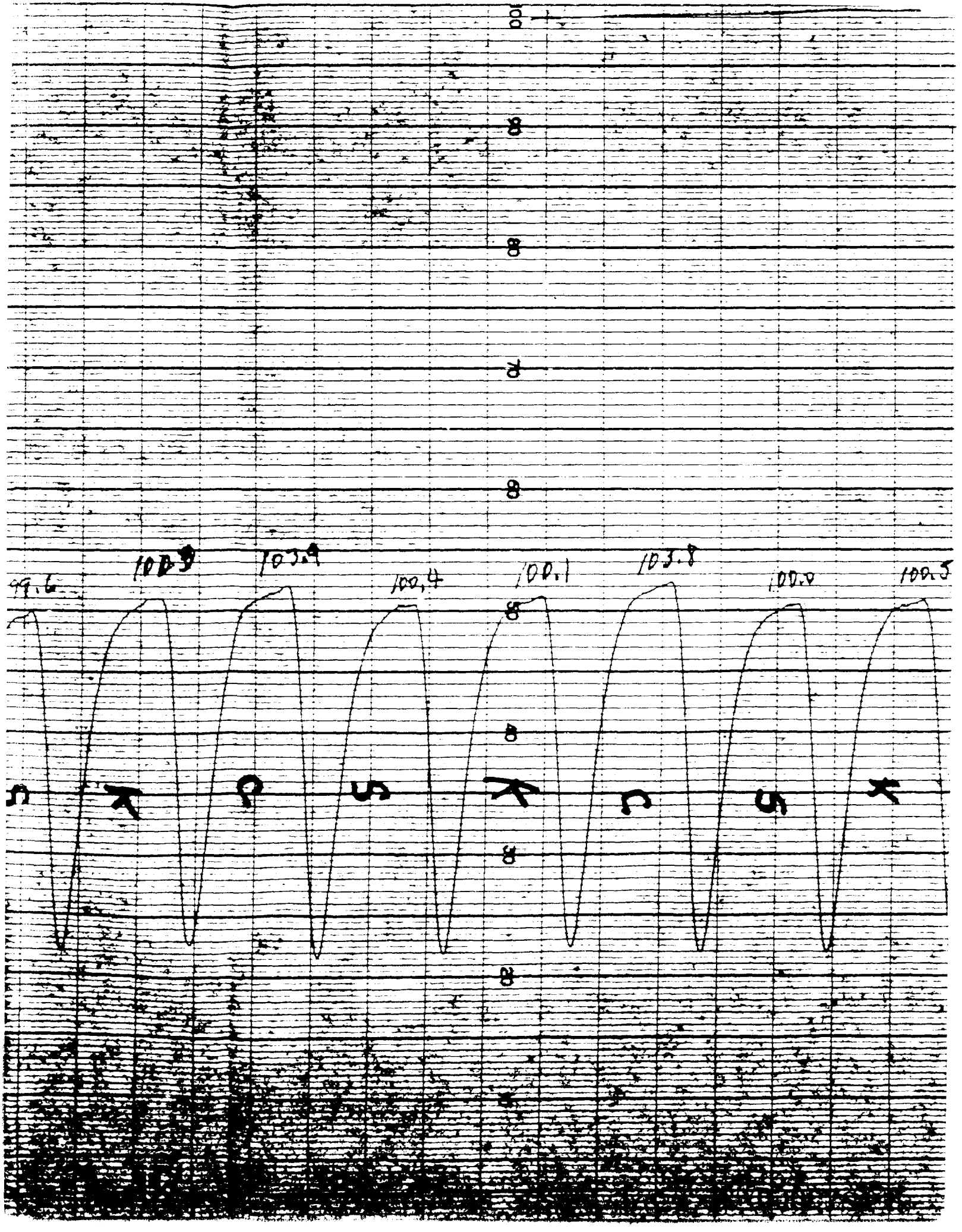
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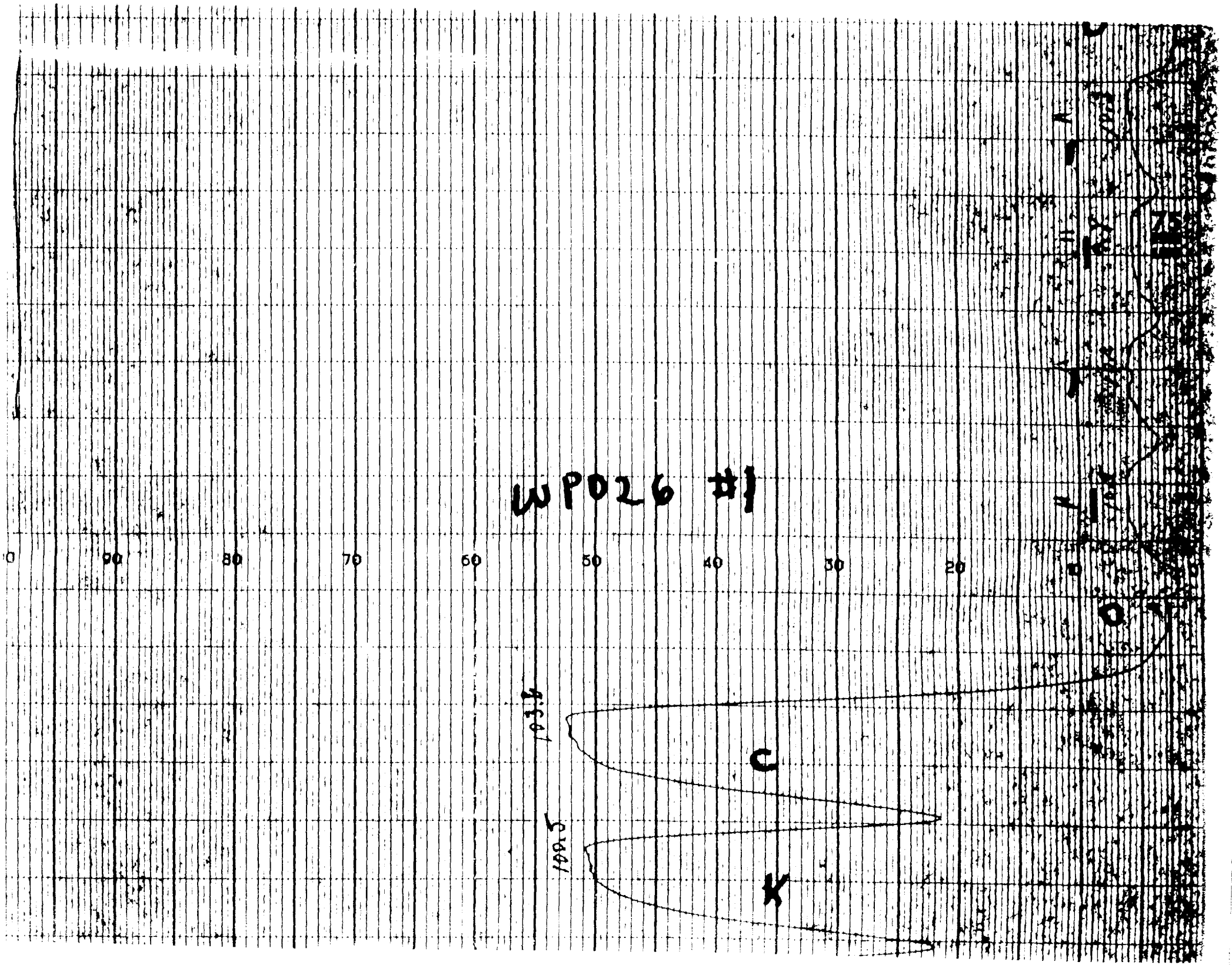
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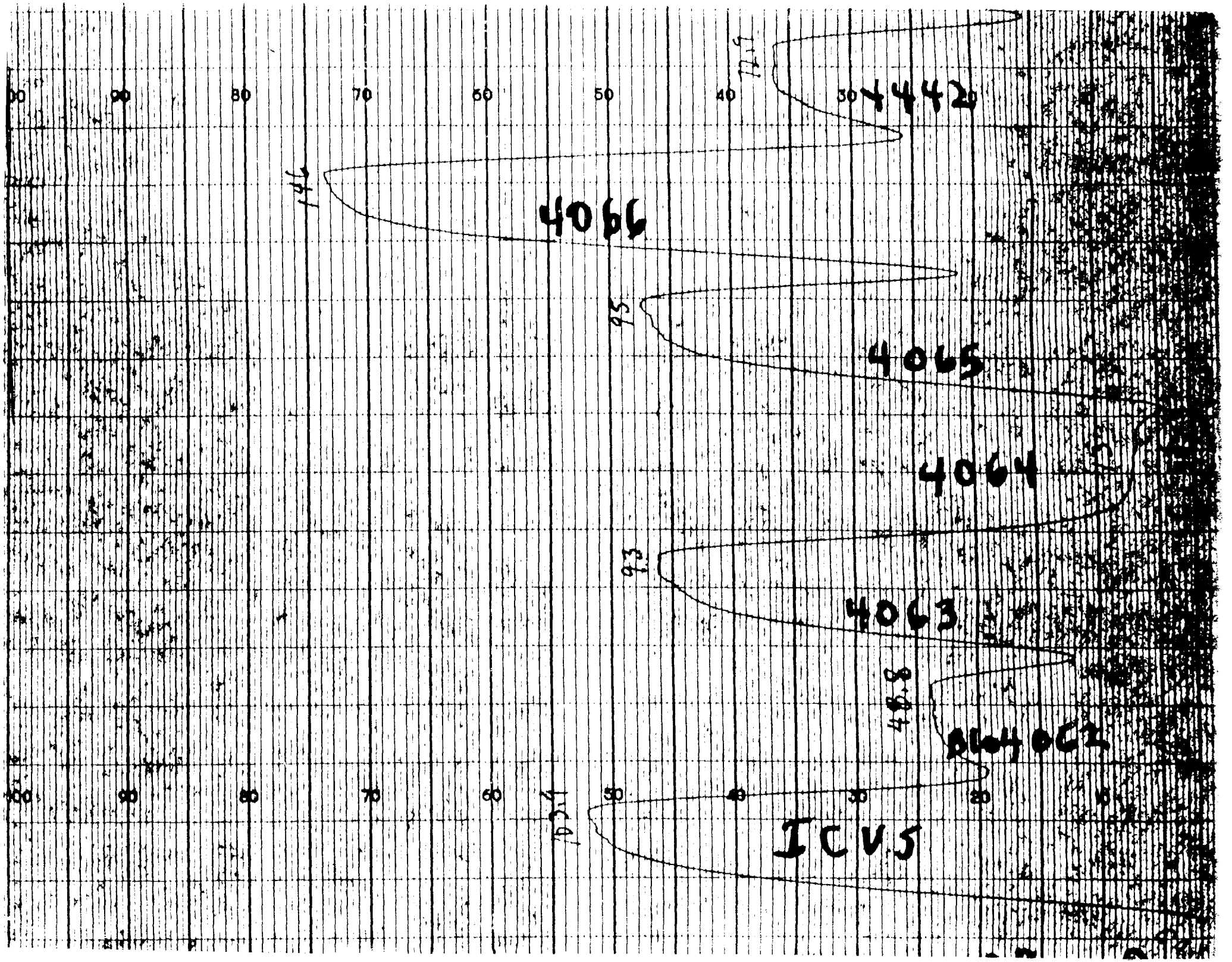

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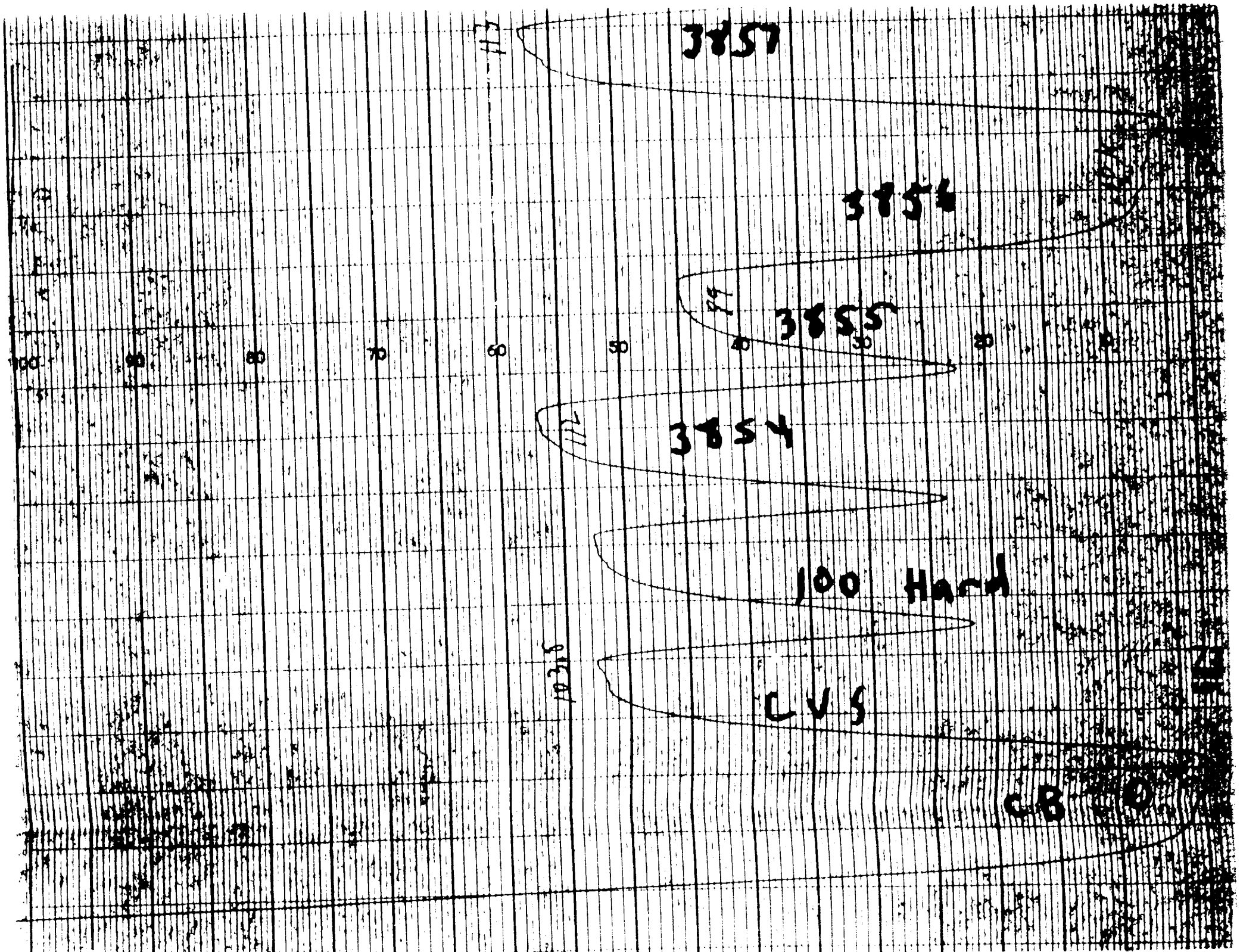
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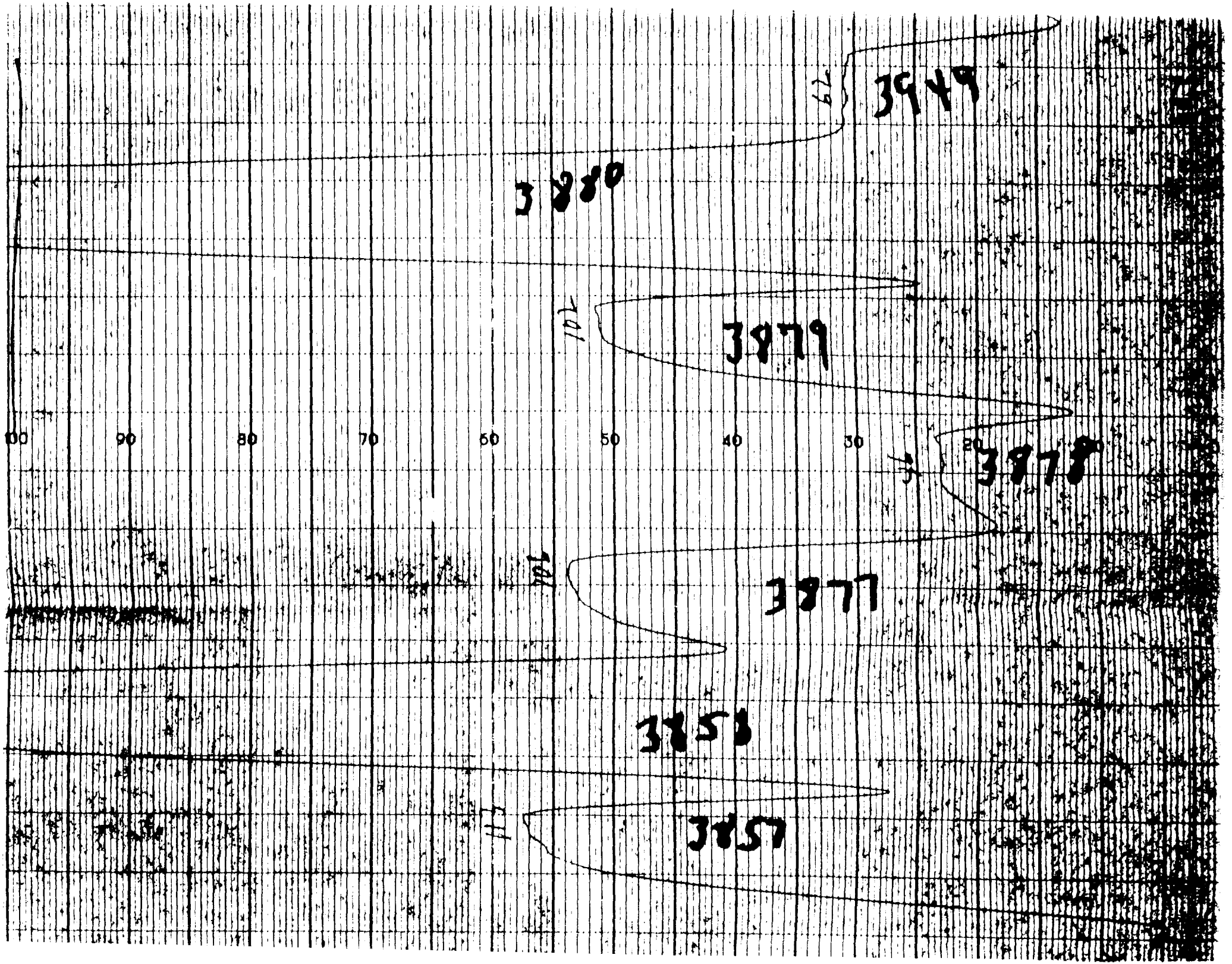
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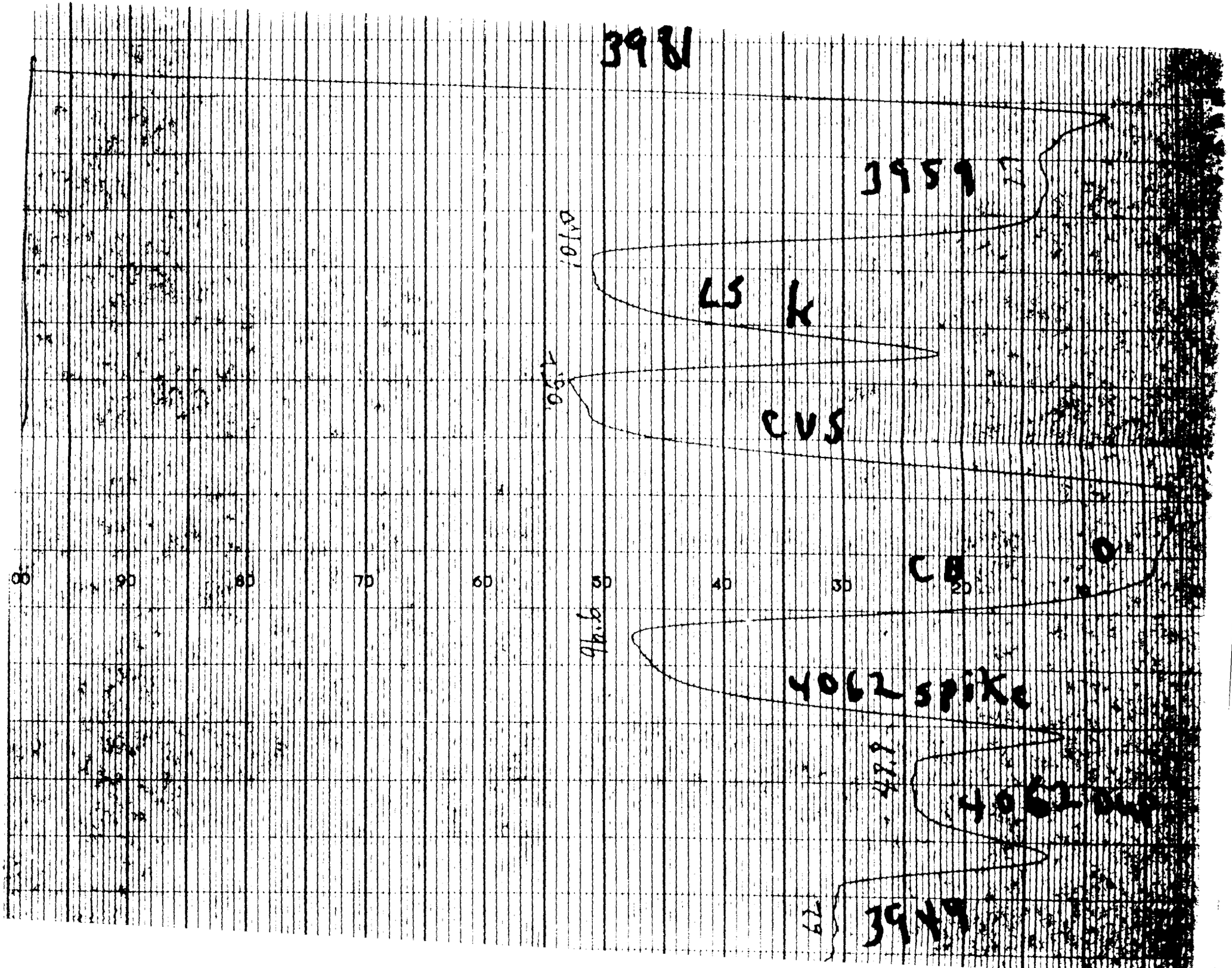
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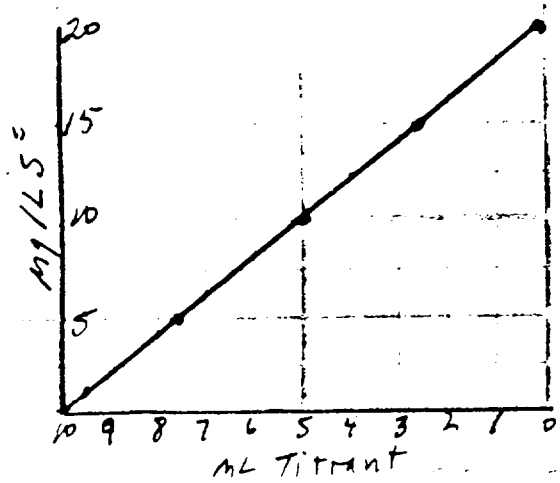
Sample #	Titr. Supernant A	B	C	D	Titr. Precipited Solids A	B	C	D	Results
B104062	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104063	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104064	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104065	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104066	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
Dup B104062	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
Spike B104062	10.0	0.025	10.0	0.025	10.0	0.025	8.75	0.025	5.0
Blank	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
Check Standard	10.0	0.025	7.5	0.025	10.0	0.025	8.75	0.025	10.0
Stock Std	189 mg/L			~~0.025~~ 8mP					
"C" Stock Std	169 mg/L			~~0.1~~					

Sauget Site
Area 1
Sulfide

	A	B	C	D	mg/L of Stock Std / 200mL
20.0	20.0	0.025	10.0	0.025	20.90
15.0	10.0	0.025	2.5	0.025	15.08
10.0	10.0	0.025	5.0	0.025	10.05
5.0	10.0	0.025	7.5	0.025	5.03
1.0	10.0	0.025	9.5	0.025	1.00
0.0	10.0	0.025	10.0	0.025	0.00



4/3/91 Stephen M Poole

Inorganic Data Validation completed 2/10/91 Janet Cruse

Sauget Sites Area 1
Inorganics Data Package Validation
IEPA Champaign Laboratory

5 water samples (TM, CN, SO_4, $S^=$, Hg)
13 soil samples (TM, CN)

I. Holding Times
All acceptable

II. 1. Initial Calibration
A. ICP - waters acceptable
Soils - As additional ICV for 2nd run was listed as a CCV (sum p24 rp 231)
B. AA - waters acceptable
soils acceptable
C. Hg - acceptable
D. CN - acceptable
E. $S^=$ - acceptable
F. SO_4 - acceptable
2. ICV's and CCV's
Waters < Al^{ICP} %R for CCV 119% (2nd CCV) no data effe
Fe^{ICP} %R for CCV 119% (2nd CCV)
no data effected.
Soils - acceptable
Hg - acceptable
CN - acceptable

III Blanks
Water Blanks
As 1.4 CCB / 1.3 data results <7 flag U (G201)

Ba	ICB 43 / 0.4	data effected flagged U (G203, 205, 20
Be	ICB 0.9 / 0.2	data not effected
Ca	ICB 1120 / 120	data not effected
Cr	PB 4.2 / 3.1	data effected flagged U (G 203, 205, G201, 20
Co	ICB 22.9 / 2.7	data effected flagged U (G204, 203, 201, 202)
Mg	ICB 1060 / 94	data effected flagged U (G 205)
K	ICB 865 / 480	data effected flagged U (G205)
Na	ICB 996 / 73	data effected flagged U (G205)
V	ICB 10.8 / 2.3	data not effected
Zn	PB 6.5 / 4.1	data effected flagged U (G202)

Soils

Al	ICB 70 / 62	no data effected
Ba	CCB 9.6 / 0.4	no data effected
Ca	ICB 281 / 120	no data effected
Co	CCB 5.6 / 2.7	data results <28 are flagged U (X108, 109, 110, 112, 113
Mg	ICB 210 / 94	no data effected
K	ICB 544 / 480	no data effected
Se	ICB 0.9 / 0.8	data effected flag U (X103, X109, X111, X112, X113, X
Na	ICB 202 / 73	data results <1010 flagged U (X101D, X101S, X102, X103, X10 X107, X110, X111, X112, X11
Tl	ICB 2.7 / 2.4	all results flagged U
V	ICB 3.7 / 2.3	no data effected
Zn	CCV 11.6 / 4.1	no data effected

IV ICP Interference Check Samples
Waters - acceptable
Soils - acceptable

V Laboratory Control Standards
Waters - acceptable
Soils - acceptable

VI Duplicate Samples
Waters -
Pb difference between (S) + (D) were < CRDL
Se difference between (S) + (D) were < CRDL

Soils -
As all soil samples are qualified as (J)
Hg no data effected

VII. Spike Sample Recovery
Waters -
Se % R is 22 ; all Se results flagged J, Se results below IDL (
Soils -

Al % R is -245	data not effected
Sb % R is 42	all results est. (J)
Fe % R is -162	data not effected
Pb % R is 527	data not effected
Mn % R is 70	all results est (J)
[illegible] 511	[illegible]

VIII Furnace AA

The Furnace AA scheme was followed

MSA results acceptable.

ICP Serial Dilution

waters - acceptable

soils - acceptable

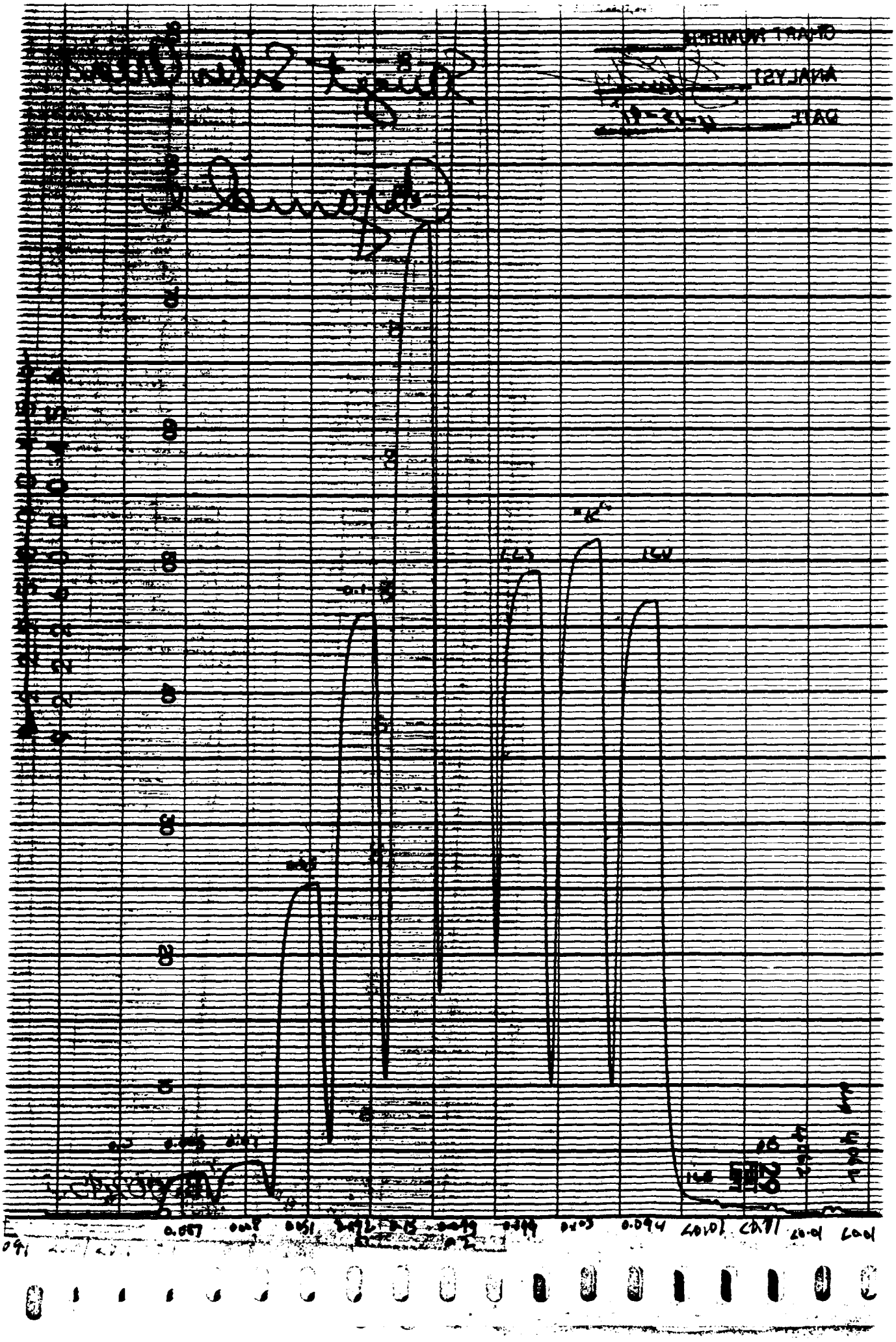
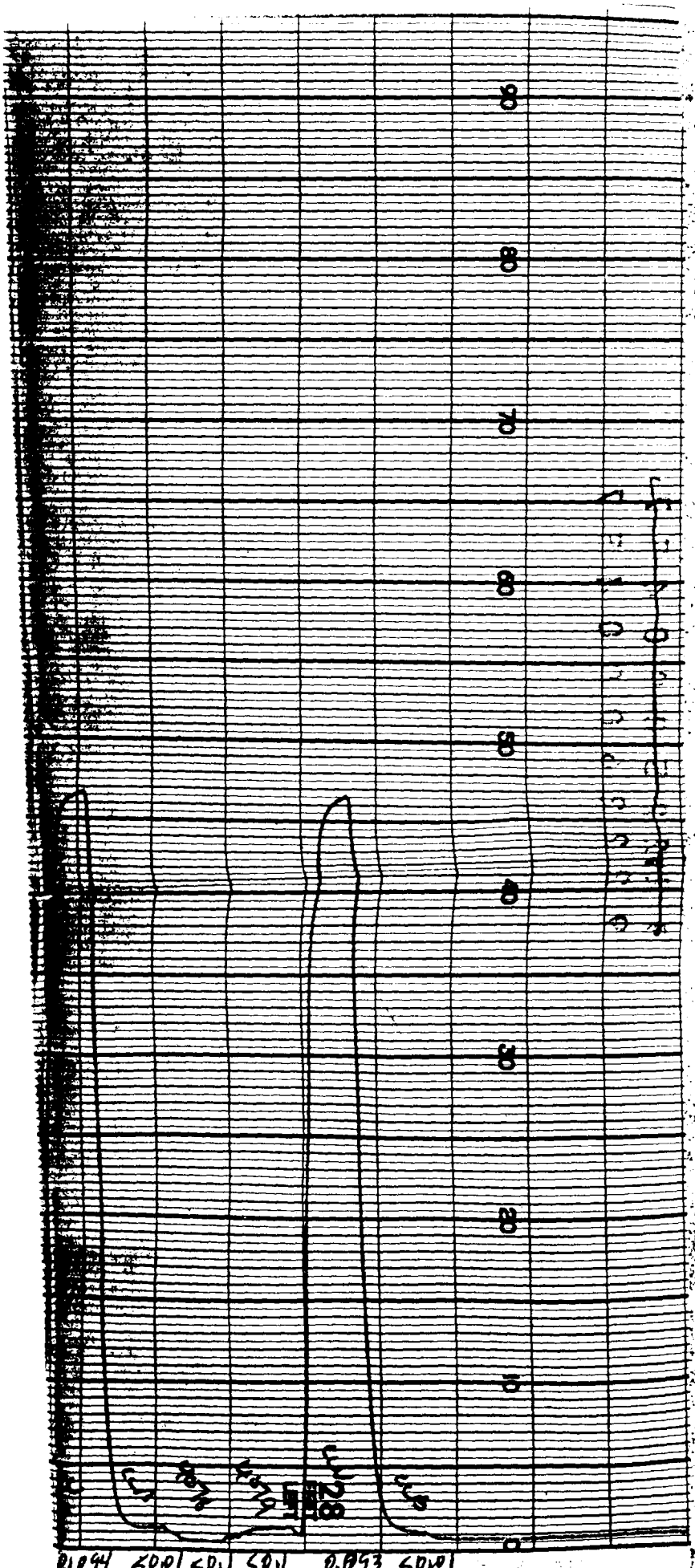


CHART NUMBER
ANALYSI
DATE
TAG
"K"
0.067
0.094

10
20
30
40
50
60
70
80
90


0.1094 <0.01 <0.1 <0.1 0.093 <0.01

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DATE.RESULTS ENTERED INTO THIS DATA FILE  04/19/91 08:48:51
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Sanget Sites
Area 1
Sulfate

```
 ------
 ------ !  DATE OF ANALYSIS !04/12/91                  --
 ------
 ------ !  ANALYST !S.M.POOLE                  --
 ------
 ------ !  CHART NUMBER !10-91                    TRUE VALUE  OBTAINED VALUE
 ------
    1 ! STANDARD 1                              200.00MG/L =199.9
    2 ! STANDARD 2                              150.00MG/L =150.1
    3 ! STANDARD 3    T                          100.00MG/L =100.0
    4 ! STANDARD 4                               50.00MG/L =49.9
    5 ! STANDARD 5                               30.00MG/L =30.1
    6 ! STANDARD 6                               25.00MG/L =24.9
    7 ! STANDARD 7                               20.00MG/L =20.1
    8 ! STANDARD 8                               15.00MG/L =14.9
    9 ! STANDARD 9                               10.00MG/L =10.0
   10 ! STANDARD 10                               5.00MG/L =4.9
   11 ! STANDARD 11                               0.00MG/L =0.0
CORRELATION COEFFICIENT OF STD CURVE = 1.0
   12 ! INTERMEDIATE  STD "S"                  100.00MG/L =99.6
   13 !  LAB CONTROL SAMPLE "K"                100.00MG/L =100.3
   14 !  CALIB VER STD "C"                     105.00MG/L =103.9
   15 ! INTERMEDIATE  STD "S"                  100.00MG/L =100.4
   16 !  LAB CONTROL SAMPLE "K"                100.00MG/L =100.1
   17 !  CALIB VER STD "C"                     105.00MG/L =103.8
   18 ! INTERMEDIATE  STD "S"                  100.00MG/L =100.0
   19 !  LAB CONTROL SAMPLE "K"                100.00MG/L =100.5
   20 !  CALIB VER STD "C"                     105.00MG/L =103.6
   21 !  ZERO VER. STD.                          0.00MG/L =0.0
 ------
 ------ !  IS CORRELATION COEFFICIENT OF STD CURVE 0.995 TO 1.000 Y/N
 ------
 TRAY#  SAMPLE# TEST            PROMPT
   23 ! INITIAL CALIB VER STD ("C")            105.00MG/L =103.9
   24 ! B104062 109T0 P00945 SULFATE,TOTAL          MG/L :48.8
   25 ! B104063 109T0 P00945 SULFATE,TOTAL          MG/L :93
   26 ! B104064 109T0 P00945 SULFATE,TOTAL          MG/L :13
   27 ! B104065 109T0 P00945 SULFATE,TOTAL          MG/L :95
   28 ! B104066 109T0 P00945 SULFATE,TOTAL          MG/L :146
   29 ! B104442 109T0 P00945 SULFATE,TOTAL          MG/L :72.9
   30 ! B103850 109T0 P00945 SULFATE,TOTAL          MG/L :92
   31 ! B103851 109T0 P00945 SULFATE,TOTAL          MG/L :66
   32 ! B103852 109T0 P00945 SULFATE,TOTAL          MG/L :114
   33 ! B103853 109T0 P00945 SULFATE,TOTAL          MG/L :233
   34 ! CAL BLANK ( ZERO STD)                                =0.0
   35 ! CALIB VER STD("C")                     105.00MG/L =103.5
   36 ! B103854 109T0 P00945 SULFATE,TOTAL          MG/L :112
   37 ! B103855 109T0 P00945 SULFATE,TOTAL          MG/L :89
   38 ! B103856 109T0 P00945 SULFATE,TOTAL          MG/L :10K
   39 ! B103857 109T0 P00945 SULFATE,TOTAL          MG/L :113
   40 ! B103858 109T0 P00945 SULFATE,TOTAL          MG/L :247
   41 ! B103877 109T0 P00945 SULFATE,TOTAL          MG/L :106
   42 ! B103878 109T0 P00945 SULFATE,TOTAL          MG/L :46
   43 ! B103879 109T0 P00945 SULFATE,TOTAL          MG/L :102
   44 ! B103880 109T0 P00945 SULFATE,TOTAL          MG/L :253
   45 ! B103949 109T0 P00945 SULFATE,TOTAL          MG/L :62
   46 ! DUPLICATE OF SAMPLE  B104062 109T0                   =48.8   MG/L RPD=    0.0%
   47 ! SPIKE   50.00MG/L IN B104062 109T0                   =96.6   MG/L RECOV= 95.6%
   48 ! CAL BLANK ( ZERO STD)                                =0.0
   49 ! CALIB VER STD("C")                     105.00MG/L =105.2
   50 ! LAB CONT SAMP("K")                     100.00MG/L =101.0
   51 ! B103959 109T0 P00945 SULFATE,TOTAL          MG/L :27
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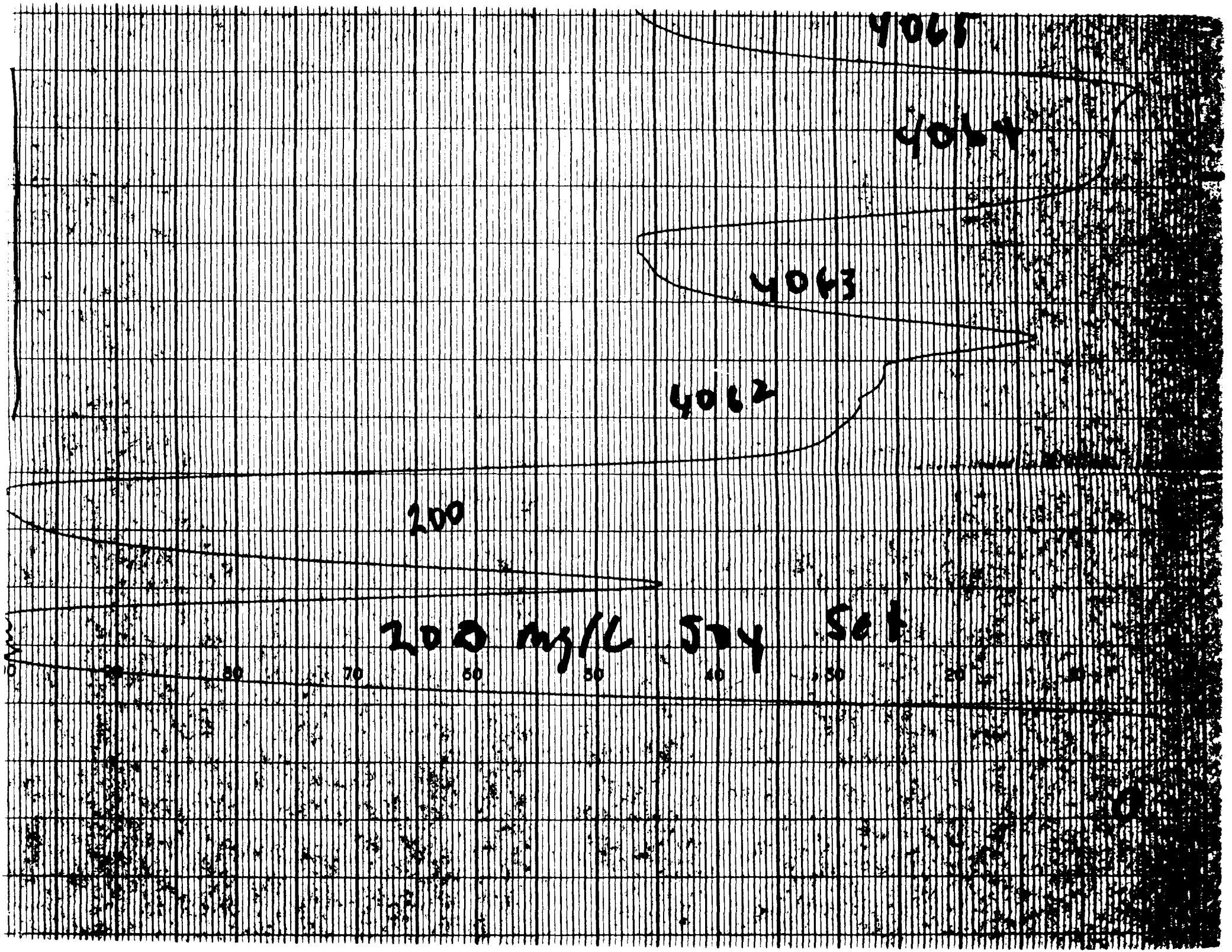
B000276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4064
4063
4062
200
200 mg/L Soy Set
80
70
60
50
40
30
20

2002
2004
2006
2008
2010
2012
2014
2016
2018
2020
2022
2024
2026
2028
2030
2032
2034
2036
2038
2040
2042
2044
2046
2048
2050
2052
2054
2056
2058
2060
2062
2064
2066
2068
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2072
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2076
2078
2080
2082
2084
2086
2088
2090
2092
2094
2096
2098
2100
2102
2104
2106
2108
2110
2112
2114
2116
2118
2120
2122
2124
2126
2128
2130
2132
2134
2136
2138
2140
2142
2144
2146
2148
2150
2152
2154
2156
2158
2160
2162
2164
2166
2168
2170
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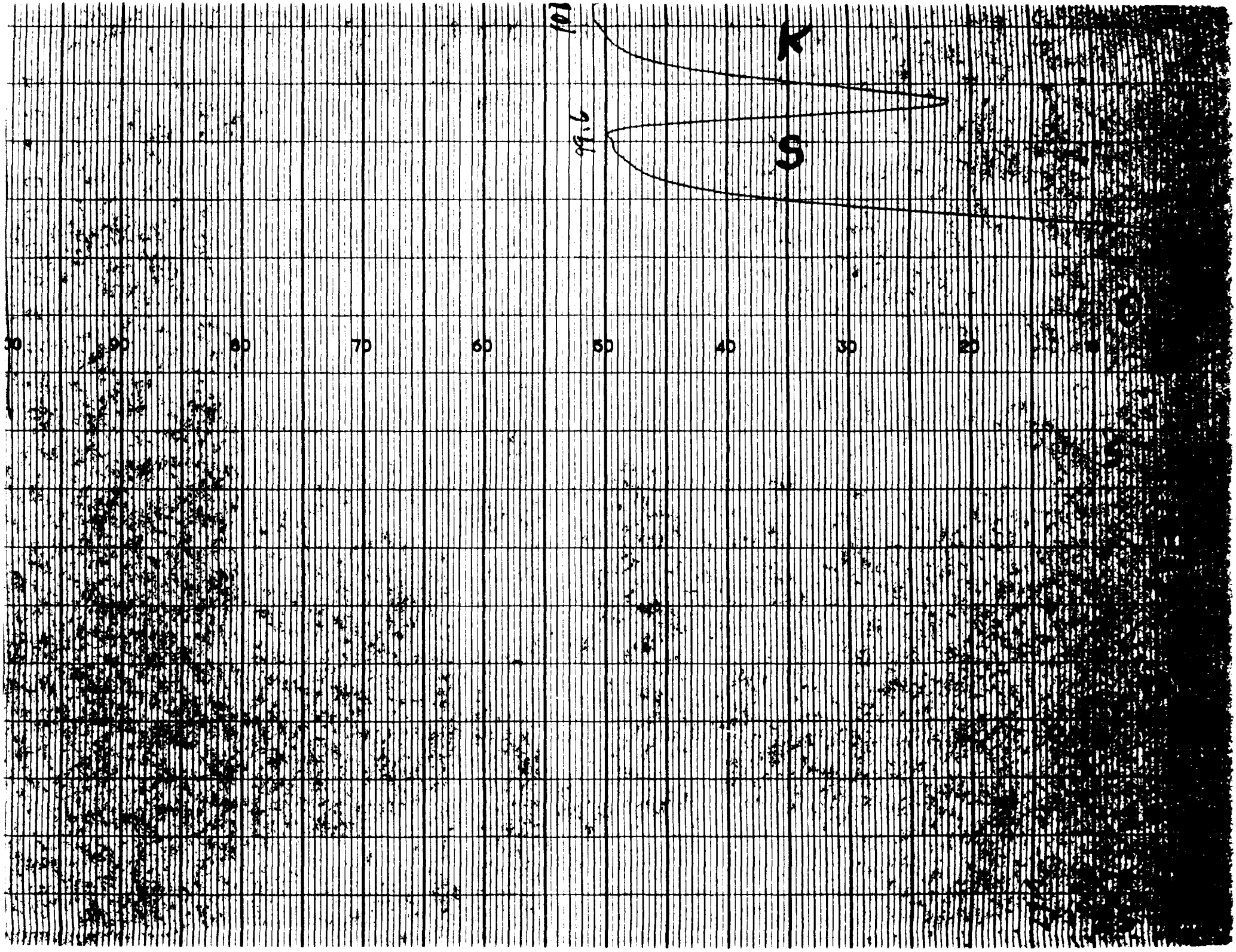
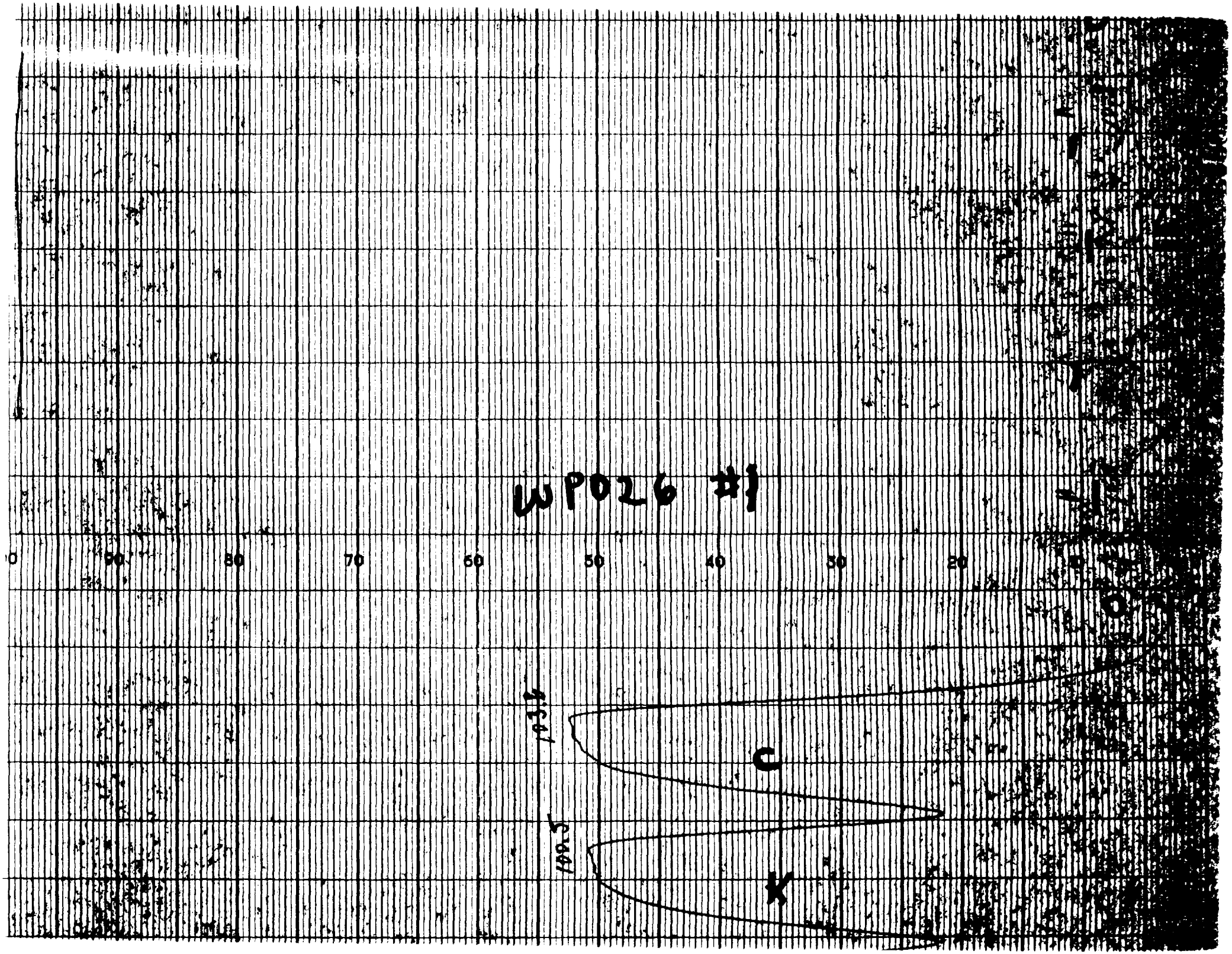
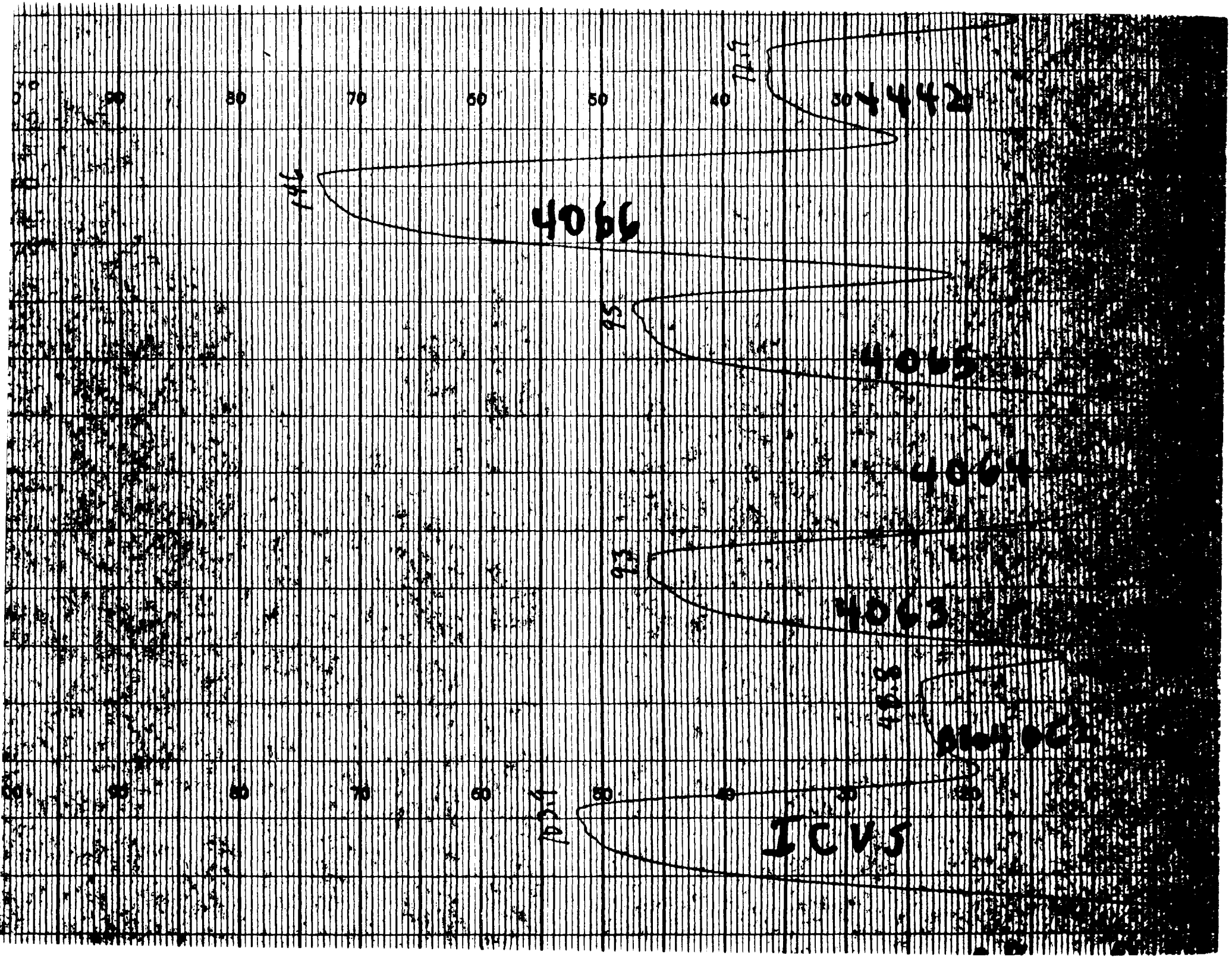
2192
2194
2196
2198
2200


K
S
90
80
70
60
50
40
30
20

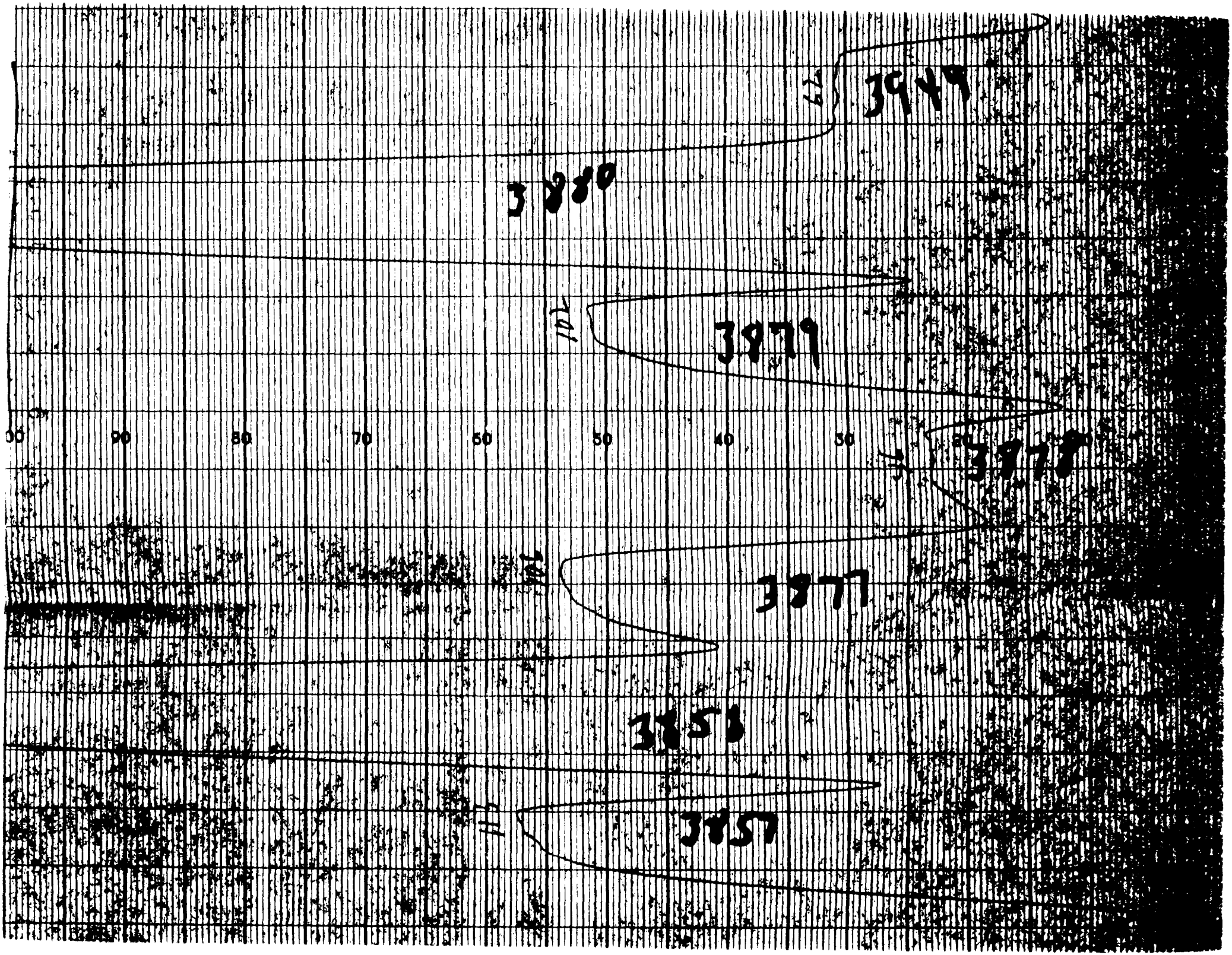
K
S
C
K
S
C
K
S
100
90
80
70
60
50
40
30
20


WP026 #1
0
90
80
70
60
50
40
30
20
10
C
K



4442
4066
4065
4064
4063
ICVS

3853
3852
3851
3850
100
90
80
70
60
50
40
30
20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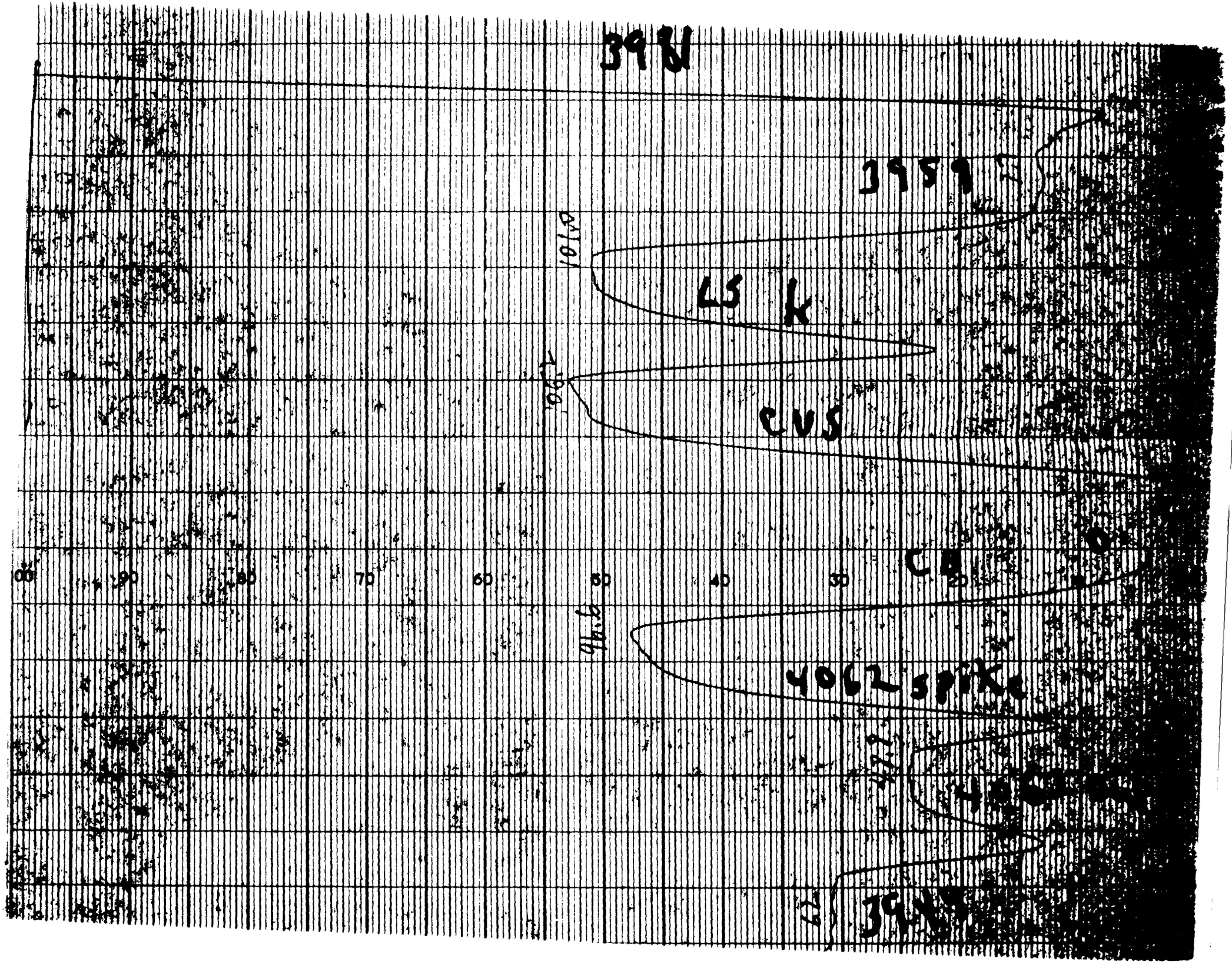
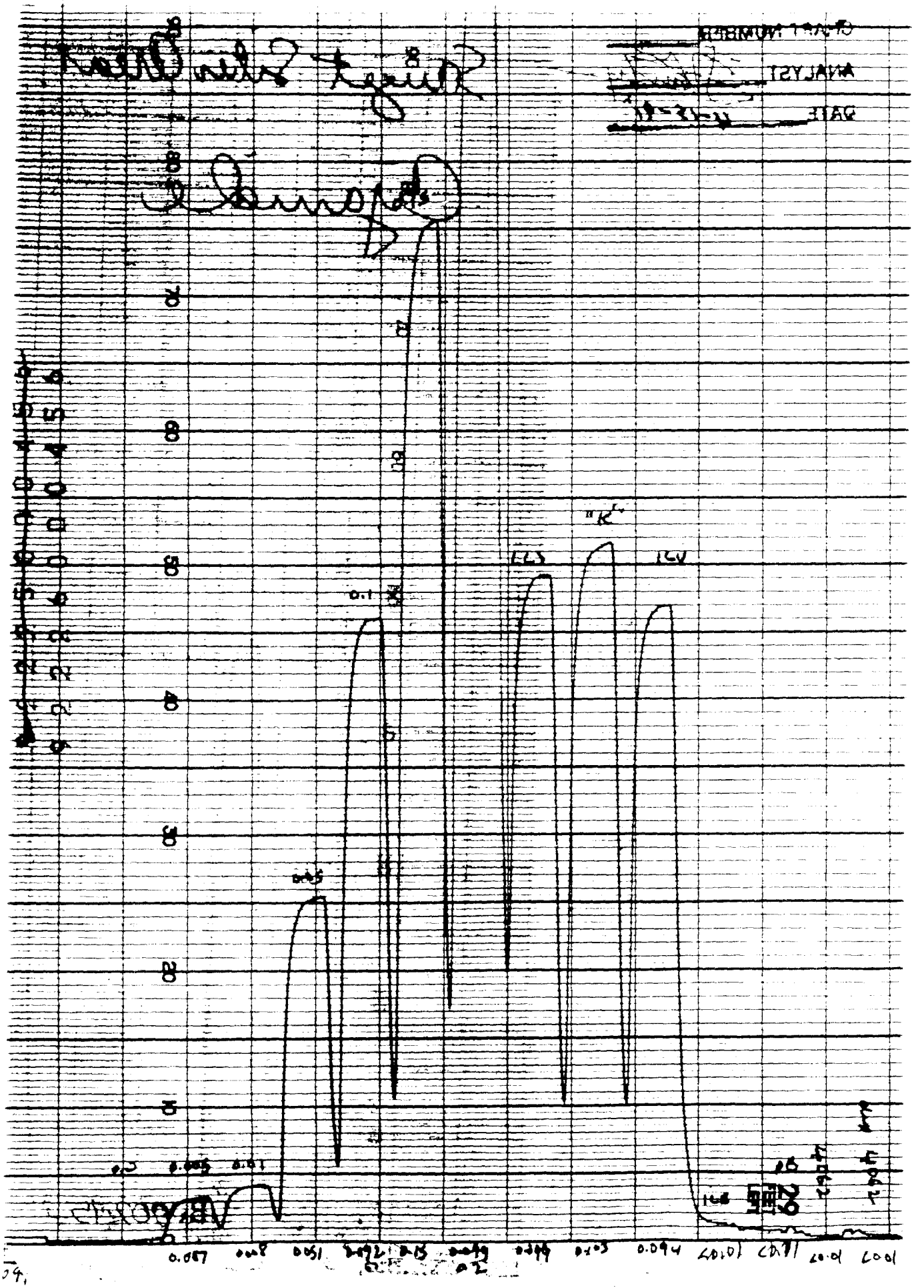
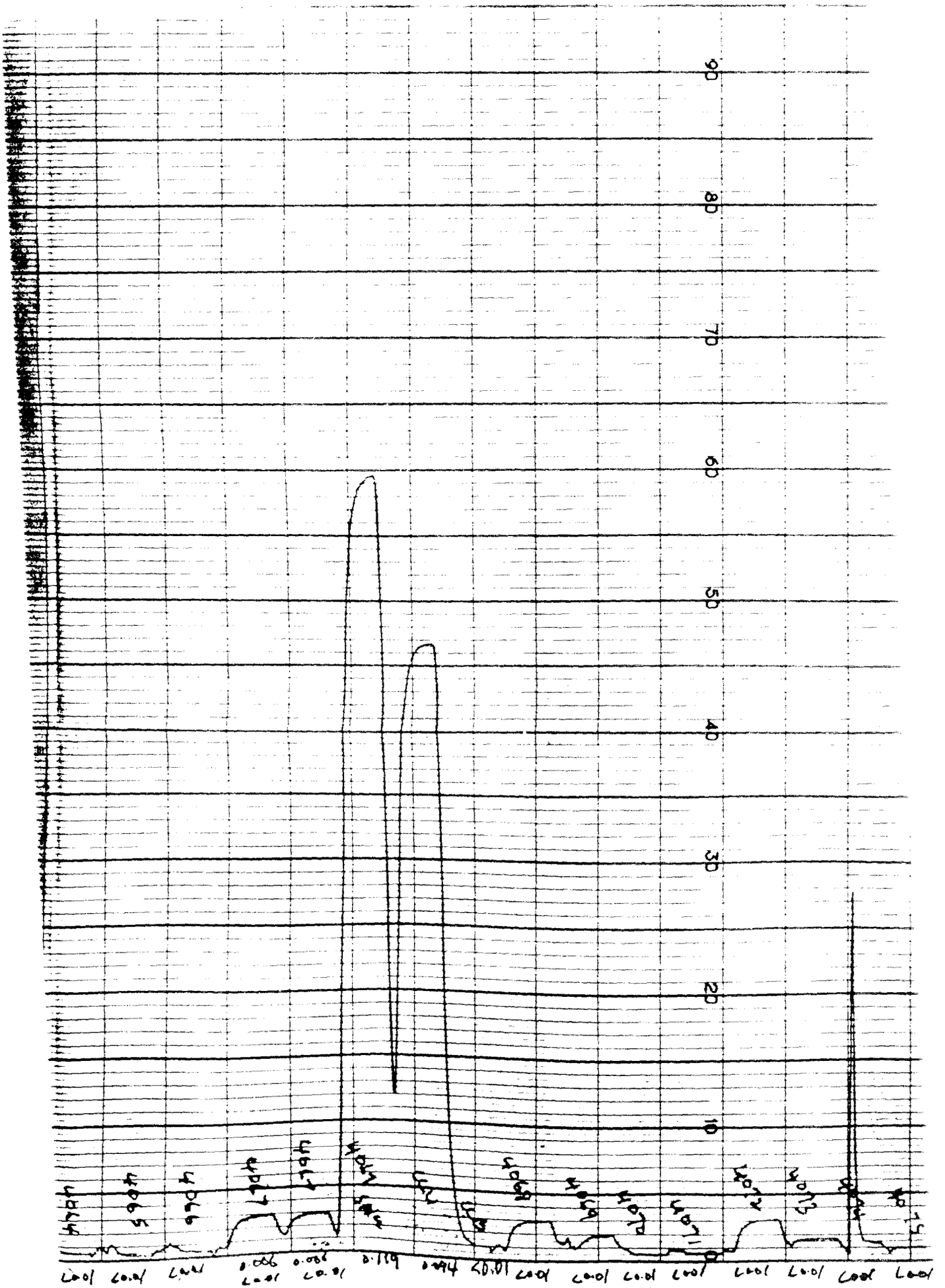
3880
3879
3878
3877
3853
3857
90
80
70
60
50
40
30

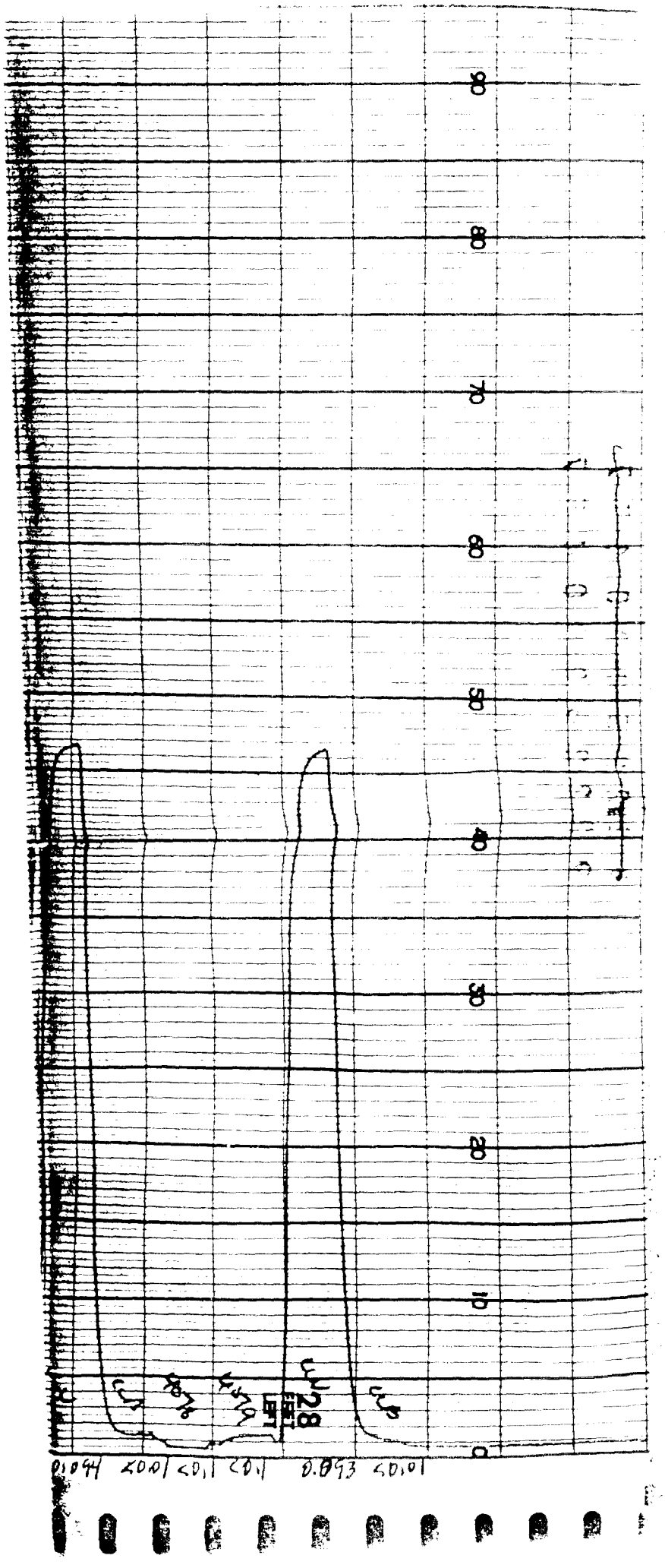


39N
3959
LS K
CVS
CB
4062 spike
100
90
80
70
60
50
40
30
20



"K"
0.1
0.005
0.01
0.007
0.008
0.051
0.094


90
80
70
60
50
40
30
20
10
0
4064
4065
4066
4067
4068
4069
4070
4071
4072
4073
4074
4075
<0.01
0.006
0.119
0.094



90
80
70
60
50
40
30
20
10
0
28
FEET
LEFT
0.094
<0.01
<0.1
<0.1
0.093
<0.01

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****SQC109T0.QC   FROM FILE S0449.3RT  04/08/91 15:17:24
DATE RESULTS ENTERED INTO THIS DATA FILE  04/19/91 08:48:51
```

Sanger Sites
area 1
Sulfate

```
 ------
 ------!  DATE OF ANALYSIS !04/12/91          --
 ------
 ------!  ANALYST !S.M.POOLE          --
 ------
 ------!  CHART NUMBER !10-91                 TRUE VALUE  OBTAINED VALUE
 ------
    1 ! STANDARD 1                          200.00MG/L =199.9
    2 ! STANDARD 2                          150.00MG/L =150.1
    3 ! STANDARD 3   T                       100.00MG/L =100.0
    4 ! STANDARD 4                           50.00MG/L =49.9
    5 ! STANDARD 5                           30.00MG/L =30.1
    6 ! STANDARD 6                           25.00MG/L =24.9
    7 ! STANDARD 7                           20.00MG/L =20.1
    8 ! STANDARD 8                           15.00MG/L =14.9
    9 ! STANDARD 9                           10.00MG/L =10.0
   10 ! STANDARD 10                           5.00MG/L =4.9
   11 ! STANDARD 11                           0.00MG/L =0.0
CORRELATION COEFFICIENT OF STD CURVE = 1.0
   12 ! INTERMEDIATE  STD "S"               100.00MG/L =99.6
   13 !  LAB CONTROL SAMPLE "K"             100.00MG/L =100.3
   14 !  CALIB VER STD "C"                   105.00MG/L =103.9
   15 ! INTERMEDIATE  STD "S"               100.00MG/L =100.4
   16 !  LAB CONTROL SAMPLE "K"             100.00MG/L =100.1
   17 !  CALIB VER STD "C"                   105.00MG/L =103.8
   18 ! INTERMEDIATE  STD "S"               100.00MG/L =100.0
   19 !  LAB CONTROL SAMPLE "K"             100.00MG/L =100.5
   20 !  CALIB VER STD "C"                   105.00MG/L =103.6
   21 !  ZERO VER. STD.                        0.00MG/L =0.0
 ------
 ------!  IS CORRELATION COEFFICIENT OF STD CURVE 0.995 TO 1.000 Y/N
 ------
 TRAY#  SAMPLE# TEST            PROMPT
   23 ! INITIAL CALIB VER STD ("C")         105.00MG/L =103.9
   24 ! B104062 109T0 P00945 SULFATE,TOTAL       MG/L :48.8
   25 ! B104063 109T0 P00945 SULFATE,TOTAL       MG/L :93
   26 ! B104064 109T0 P00945 SULFATE,TOTAL       MG/L :13
   27 ! B104065 109T0 P00945 SULFATE,TOTAL       MG/L :95
   28 ! B104066 109T0 P00945 SULFATE,TOTAL       MG/L :146
   29 ! B104442 109T0 P00945 SULFATE,TOTAL       MG/L :72.9
   30 ! B103850 109T0 P00945 SULFATE,TOTAL       MG/L :92
   31 ! B103851 109T0 P00945 SULFATE,TOTAL       MG/L :66
   32 ! B103852 109T0 P00945 SULFATE,TOTAL       MG/L :114
   33 ! B103853 109T0 P00945 SULFATE,TOTAL       MG/L :233
   34 ! CAL BLANK ( ZERO STD)                          =0.0
   35 ! CALIB VER STD("C")                  105.00MG/L =103.5
   36 ! B103854 109T0 P00945 SULFATE,TOTAL       MG/L :112
   37 ! B103855 109T0 P00945 SULFATE,TOTAL       MG/L :89
   38 ! B103856 109T0 P00945 SULFATE,TOTAL       MG/L :10K
   39 ! B103857 109T0 P00945 SULFATE,TOTAL       MG/L :113
   40 ! B103858 109T0 P00945 SULFATE,TOTAL       MG/L :247
   41 ! B103877 109T0 P00945 SULFATE,TOTAL       MG/L :106
   42 ! B103878 109T0 P00945 SULFATE,TOTAL       MG/L :46
   43 ! B103879 109T0 P00945 SULFATE,TOTAL       MG/L :102
   44 ! B103880 109T0 P00945 SULFATE,TOTAL       MG/L :253
   45 ! B103949 109T0 P00945 SULFATE,TOTAL       MG/L :62
   46 ! DUPLICATE OF SAMPLE  B104062 109T0             =48.8   MG/L RPD=     0.0
   47 ! SPIKE   50.00MG/L IN B104062 109T0             =96.6   MG/L RECOV= 95.6
   48 ! CAL BLANK ( ZERO STD)                          =0.0
   49 ! CALIB VER STD("C")                  105.00MG/L =105.2
   50 ! LAB CONT SAMP("K")                  100.00MG/L =101.0
   51 ! B103959 109T0 P00945 SULFATE,TOTAL       MG/L :27
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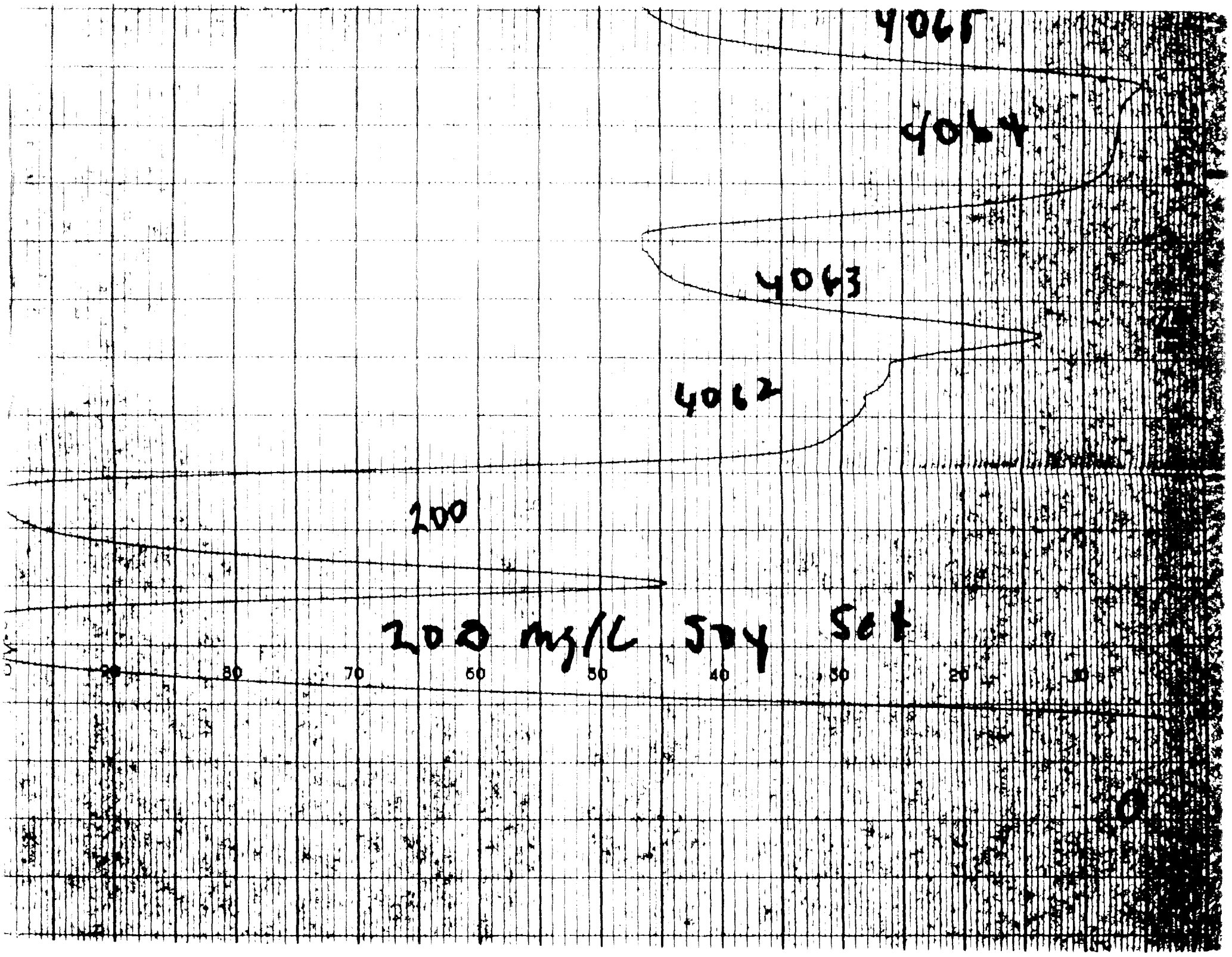
B000276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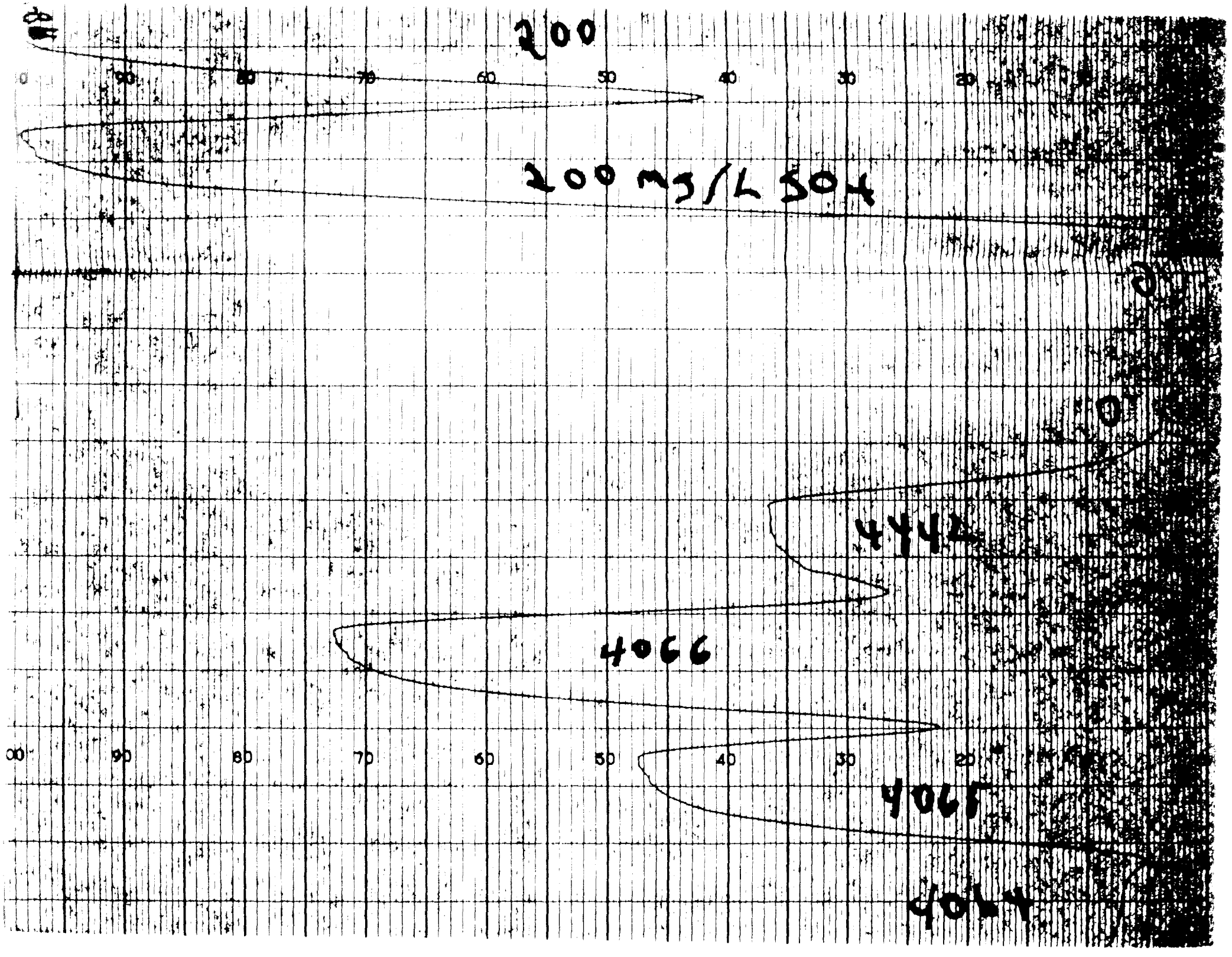
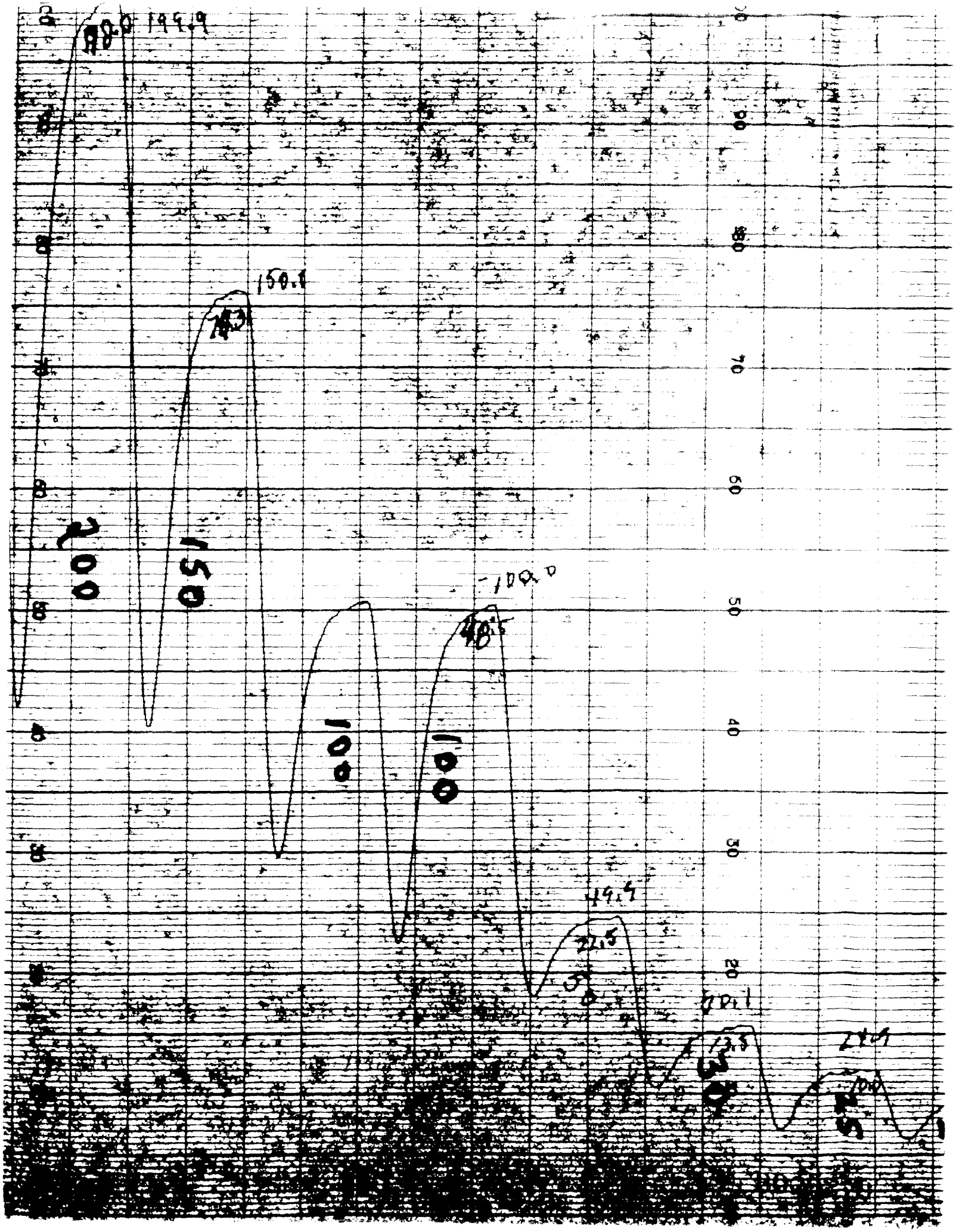
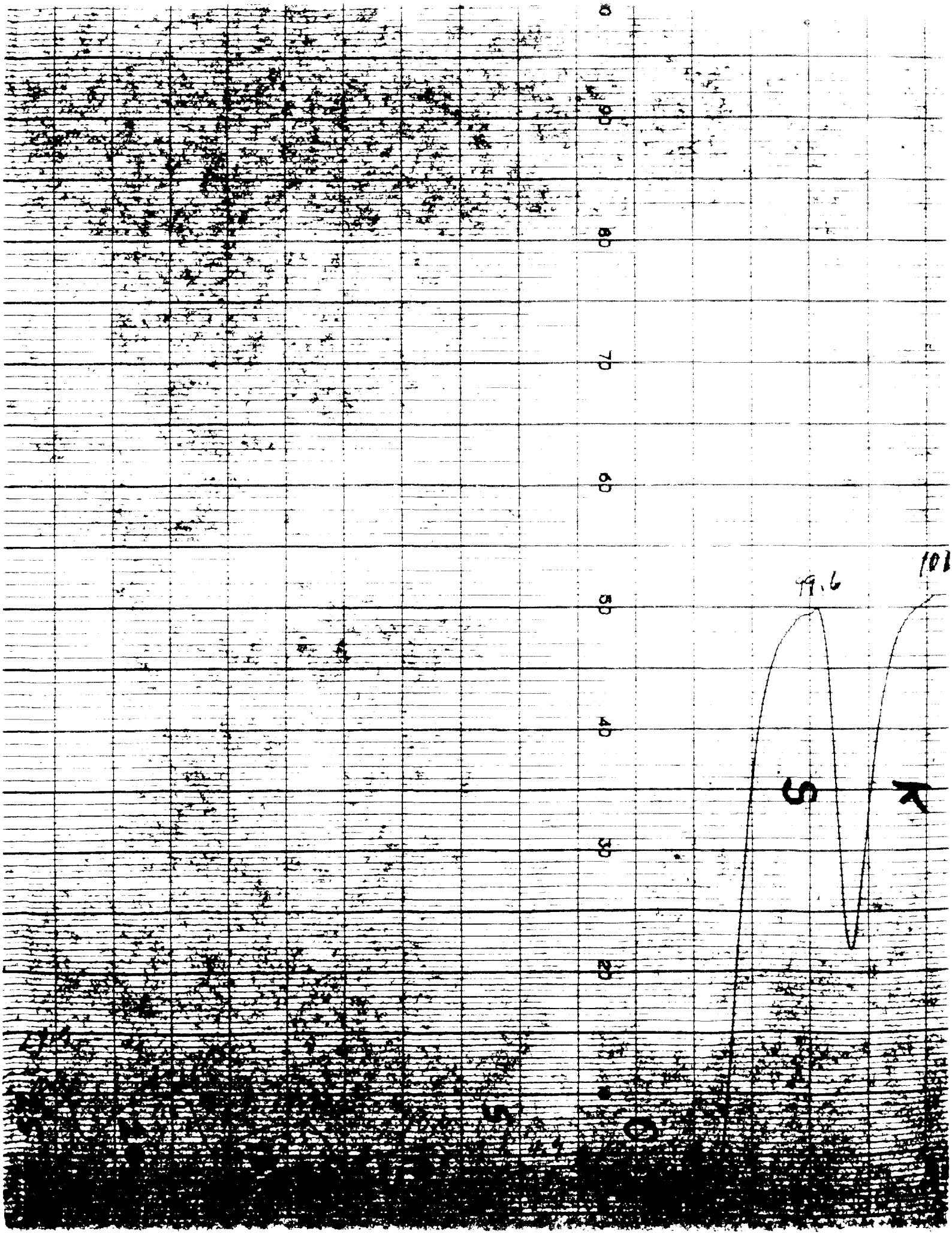
4064
4063
4062
200
200 mg/L SO4 Set
80
70
60
50
40
30
20
10

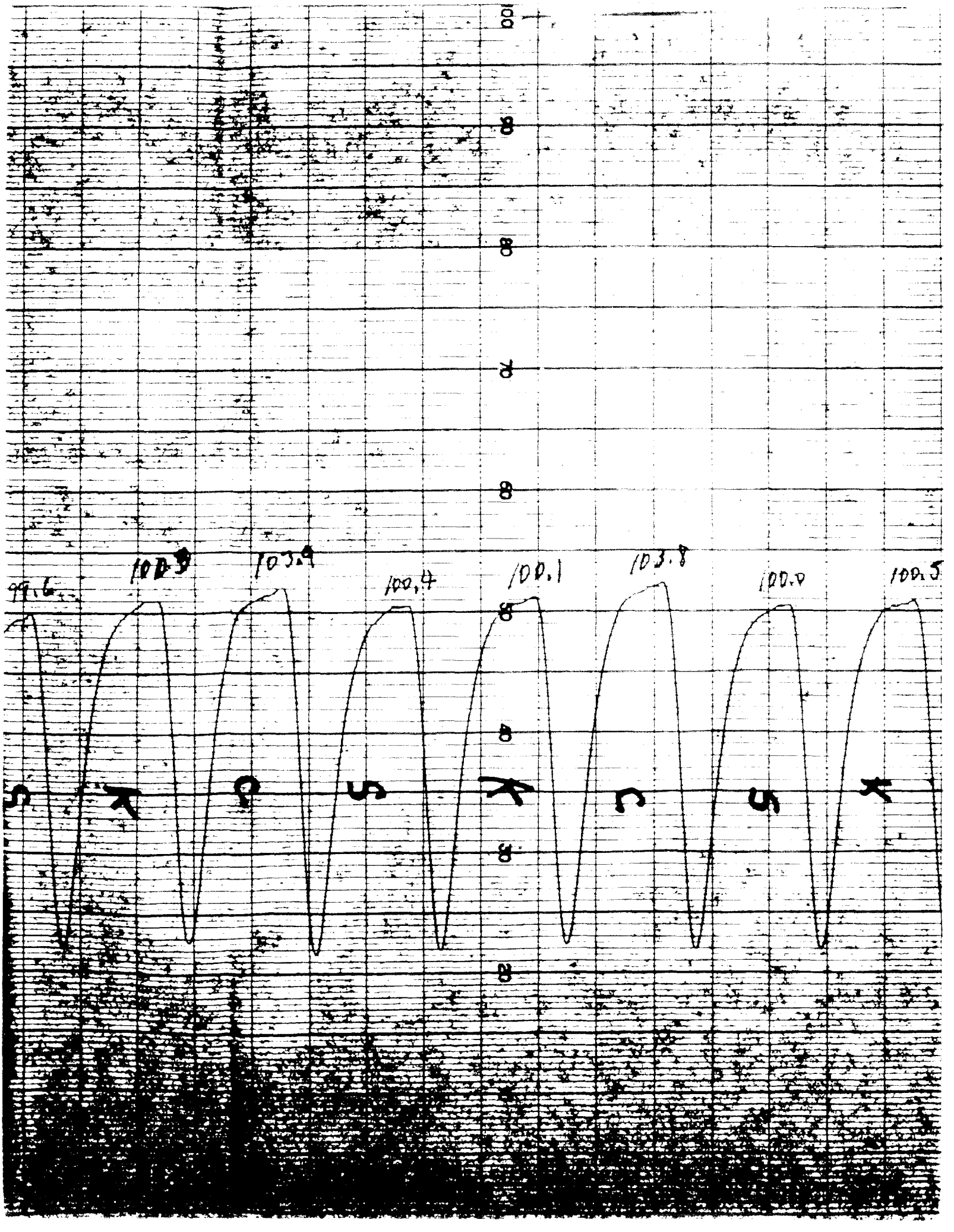

200
200 mg/L SO4
4442
4066
4065
4064
90
80
70
60
50
40
30
20

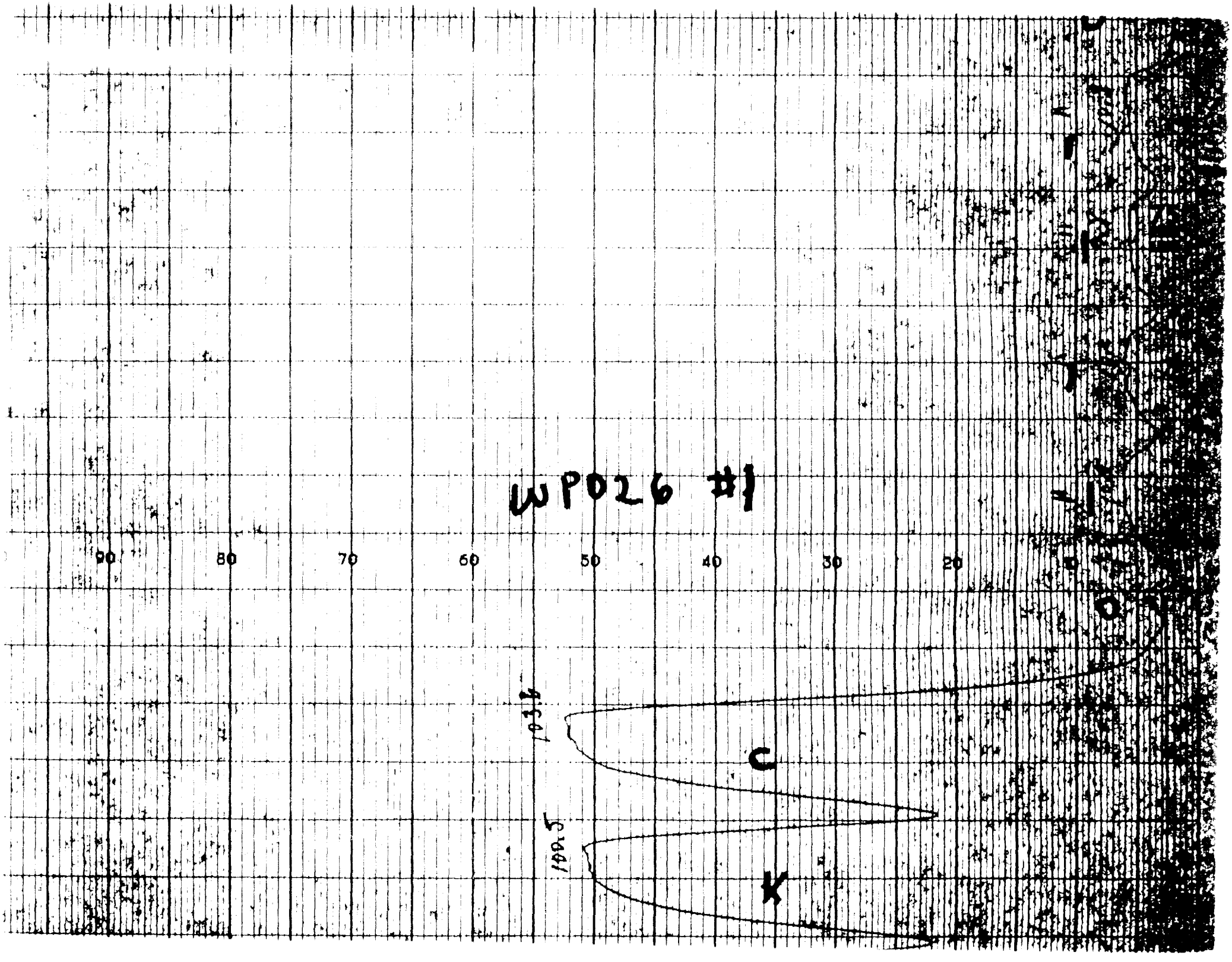


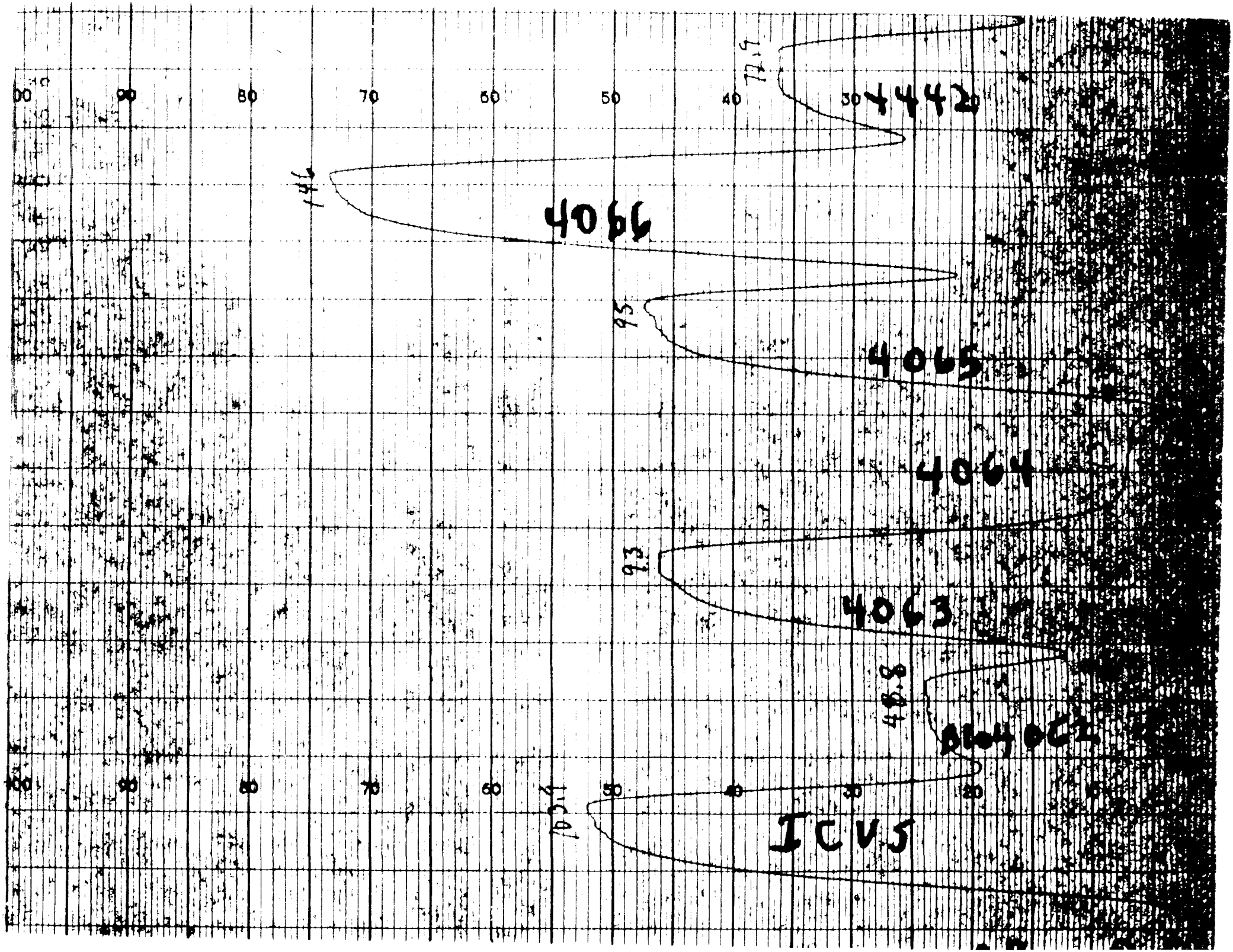
199.9
150.1
200
150
100.0
100
100
49.9
22.5



0
90
80
70
60
50
40
30
20
99.6
101
S
K


100
80
80
70
80
80
80
80
99.6
100.9
103.9
100.4
100.1
103.8
100.0
100.5


WP026 #1
90
80
70
60
50
40
30
20
10
0
C
K


4442
4066
4065
4064
4063
ICVS
100
90
80
70
60
50
40
30
20

3857
3856
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3854
100 Hard
CVS
CB
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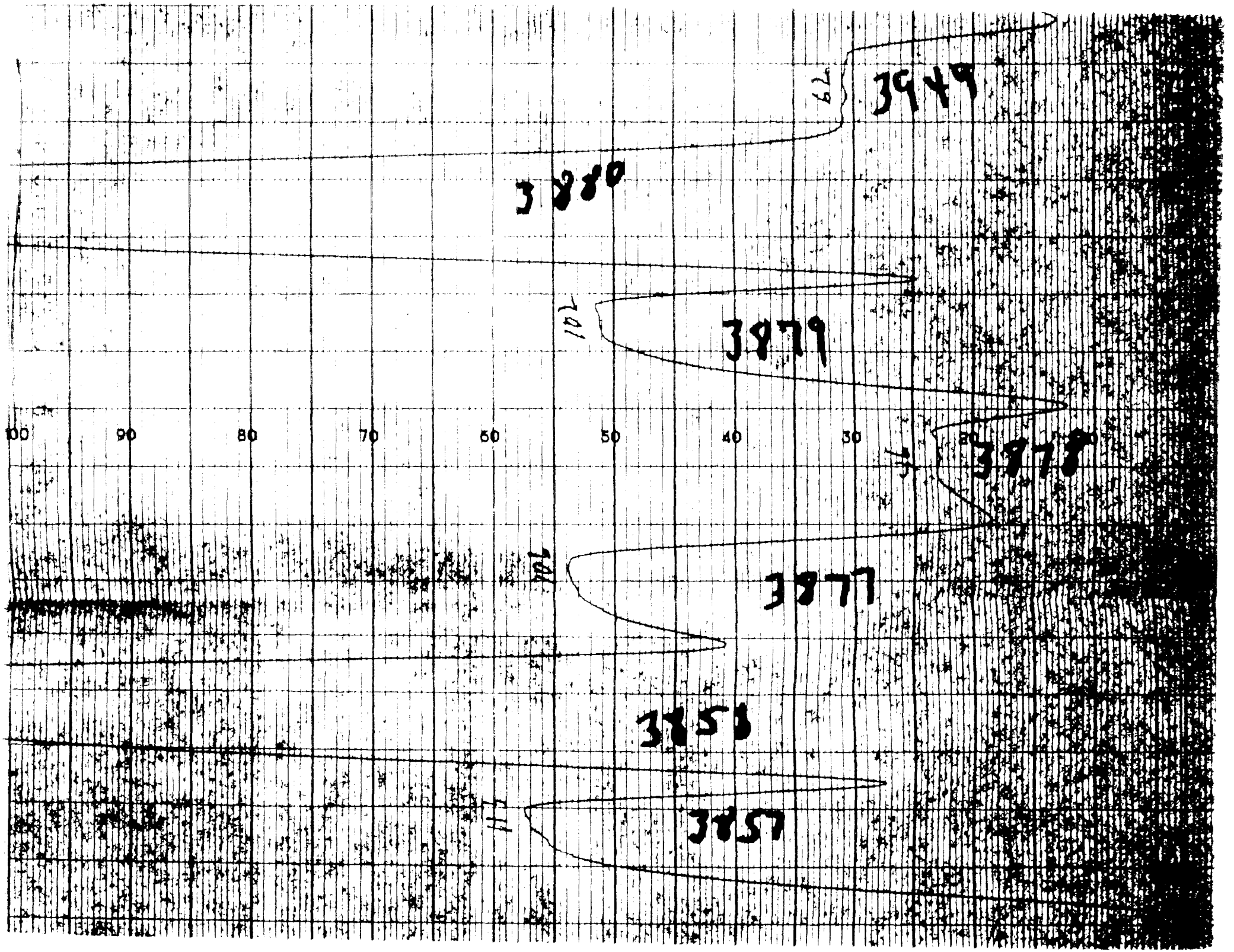
70
60
50
40
30
20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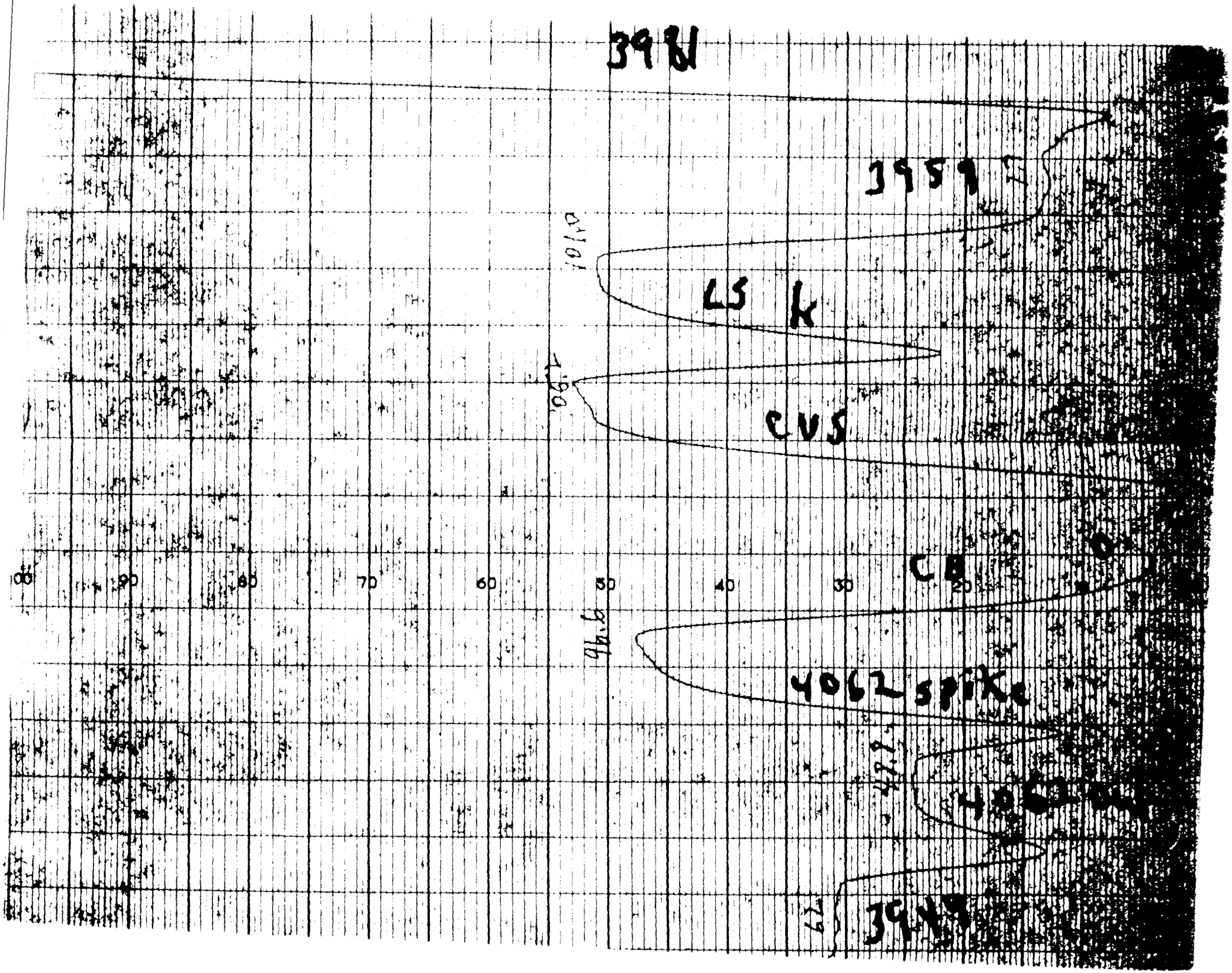
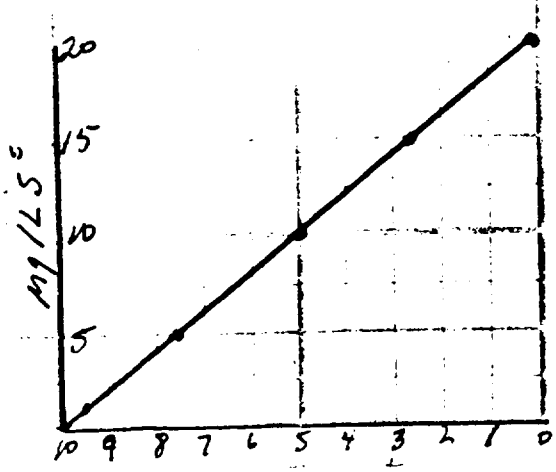
3879
3878
3877
3850
3857
100
90
80
70
60
50
40
30
20


3981
3959
LS k
CVS
CB
4062 spike
100
90
80
70
60
50
40
30
20

Sample #	Titr. Supernant A	B	C	D	Titr. Precipited Solids A	B	C	D	mg/L Results
B104062	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104063	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104064	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104065	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
B104066	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
Dup B104062	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
Spike B104062	10.0	0.025	10.0	0.025	10.0	0.025	8.75	0.025	5.0
Blank	10.0	0.025	10.0	0.025	10.0	0.025	10.0	0.025	< 1.0
Check Standard	10.0	0.025	7.5	0.025	10.0	0.025	8.75	0.025	10.0
Stock Std	189 mg/L			~~0.025~~ 8mP					
"C" Stock Std	169 mg/L			~~0.1~~					

Sauget Site
Area 1
Sulfide

	A	B	C	D	mg/L of Stock Std / 200mL
20.0	20.0	0.025	10.0	0.025	20.90
15.0	10.0	0.025	2.5	0.025	15.08
10.0	10.0	0.025	5.0	0.025	10.05
5.0	10.0	0.025	7.5	0.025	5.03
1.0	10.0	0.025	9.5	0.025	1.00
0.0	10.0	0.025	10.0	0.025	0.00



4/3/91 Stephen M Poole