MERCURY RUN LOG

93NOV12

INORGANICS DEPARTMENT

TM

Analyst J Spiff SWOK

Date 11-12-93

Instrument Leeman PS200B

Element Hg

Wavelength 253.7

MEWN02

460

CALIBRATION STANDARD	
SOURCE:	N2M80N1PF
PREP DATE:	11-12-93

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0	0.0	-8692	
STD 1	0.2	-4825	
STD 2	1.0	12195	
STD 3	5.0	97873	
STD 4	10.0	197594	0.999858

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
ICV						5.46/4.9	111%
ICB						<0.2	
CCV						5.19/5.0	104%
CCB						<0.2	
CCV						5.01/5.00	100%
CCB						<0.2	
BLK	(16289.01)					<0.2	
	16289.01					<0.2	
	16291.01					<0.2	
	16294.01					<0.2	
	.02					<0.2	
	16297.48					<0.2	
	.49S					0.851	85.1%
	.50SD					0.890	89.0%
	.51					<0.2	
	.52					<0.2	
CCV						4.96/5.0	99.1%
CCB						<0.2	
	16297.53					<0.2	
	.54					2.12	
	.55					<0.2	

US EPA RECORDS CENTER REGION 5
539636

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[IN021-0593-01]

MERCURY RUN LOG

INORGANICS DEPARTMENT

461

Analyst [signature] SWOK

Date 11-12-93

Instrument Leeman PS200B

Element Hg

Wavelength 253.7

CALIBRATION STANDARD	
SOURCE:	N2M80N1PF
PREP DATE:	11-12-93

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
	16297.56					<0.2	
	.57					<0.2	
	.58					<0.2	
	.59					<0.2	
	16308.01					<0.2	
	.02					0.209	
	.03					<0.2	
CCV						4.85/5.0	97.1%
CCB						<0.2	
	16326.19					<0.2	
	16317.01					<0.2	
	16318.01					<0.2	
	16319.01					<0.2	
	.02					<0.2	
PBW	(16216.11)					<0.2	
MEWN02	16216.11					<0.2	
MHBG42	16259.01					0.580	
43	.02					<0.2	
44	.03					<0.2	
CCV						4.86/5.0	97.1%
CCB						<0.2	

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[IN021-0593-01]

12:26:07 12 Nov 1993 Protocol: MERCURY PRP7470

462

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1 Seq: 0 12:26:07 12 Nov 1993 HG

Hg .000 ppb -8692
Ave. Int. = -8692 S. D. = 0

*** Standard: 2 Rep: 1 Seq: 1 12:28:33 12 Nov 1993 HG

Hg .200 ppb -4825
Ave. Int. = -4825 S. D. = 0

*** Standard: 3 Rep: 1 Seq: 2 12:30:59 12 Nov 1993 HG

Hg 1.00 ppb 12195
Ave. Int. = 12195 S. D. = 0

*** Standard: 4 Rep: 1 Seq: 3 12:33:25 12 Nov 1993 HG

Hg 5.00 ppb 97873
Ave. Int. = 97873 S. D. = 0

*** Standard: 5 Rep: 1 Seq: 4 12:35:54 12 Nov 1993 HG

Hg 10.0 ppb 197594
Ave. Int. = 197594 S. D. = 0

d

11/12/93
Leeman PS 200B
Hg
93NOV12

Protocol: WFD/UBV PRP7470

Rev: 2.000 Time: 12:36:01 12 Nov 1993

Folder: 93NOV12 Seq: 5 Print: On

USER: Batch: ID: Standard Cup: Gas: 0.30 LPM

State: Idle Macro STANDARD 39 F3 Point Wait: Off Autosampler: On

CALIBRATION: Line Calibration

Line: Mg Accepted

	Conc.	Calc.	Dev.	Linear
S1	.000	-.019	-.019	Quadratic
S2	.200	.168	-.032	WtdLinear
S3	1.00	.989	-.011	
S4	5.00	5.12	.124	Accept
S5	10.0	9.94	-.063	
S6				StdAdd

A .0000000 r .999858

m 4.02744E-5 c 4.00030E-1

	Mean	%RSD	
S1	-.0692	0	-.0692
S2	-.4825	0	-.4825
S3	1.6170	0	1.6170
S4	9.7973	0	9.7973
S5	19.7594	0	19.7594
S6			

Relative Absorbance

New cal coefficients stored

464

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Check Standard: 2 Ck2 ICV Seq: 5 12:39:57 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		111.	5.46	4.90	ppb	.000

*** Check Standard: 3 Ck3 ICB Seq: 6 12:42:22 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		15000	.015	.000	ppb	.000

*** Check Standard: 4 Ck4 CCV Seq: 7 12:44:45 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		104.	5.19	5.00	ppb	.000

*** Check Standard: 5 Ck5 CCB Seq: 8 12:47:10 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		17500	.018	.000	ppb	.000

*** Check Standard: 4 Ck4 CCV Seq: 9 14:19:32 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		100.	5.01	5.00	ppb	.000

*** Check Standard: 5 Ck5 CCB Seq: 10 14:22:01 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		-^^^^^	-.185	.000	ppb	.000

*** Sample ID: BLK Seq: 11 15:16:46 12 Nov 1993 HG

Hg -.183 L ppb .000 -.183

*** Sample ID: 1628901 Seq: 12 15:19:06 12 Nov 1993 HG

Hg -.111 L ppb .000 -.111

*** Sample ID: 1629101 Seq: 13 15:21:27 12 Nov 1993 HG

Hg -.272 L ppb .000 -.272

*** Sample ID: 1626401 Seq: 14 15:23:48 12 Nov 1993 HG

Hg -.207 L ppb .000 -.207

*** Sample ID: 1626402 Seq: 15 15:26:09 12 Nov 1993 HG

Hg -.219 L ppb .000 -.219

*** Sample ID: 1629748 Seq: 16 15:28:31 12 Nov 1993 HG

Hg -.079 L ppb .000 -.079

465

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1629749S Seq: 17 15:30:54 12 Nov 1993 HG

Hg	.851	ppb	.000	.851

*** Sample ID: 1629750SD Seq: 18 15:33:15 12 Nov 1993 HG

Hg	.890	ppb	.000	.890

*** Sample ID: 1629751 Seq: 19 15:35:36 12 Nov 1993 HG

Hg	-.194 L	ppb	.000	-.194

*** Sample ID: 1629752 Seq: 20 15:37:57 12 Nov 1993 HG

Hg	-.149 L	ppb	.000	-.149

*** Check Standard: 4 Ck4 CCV Seq: 21 15:40:20 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		99.1	4.96	5.00	ppb	.000

*** Check Standard: 5 Ck5 CCB Seq: 22 15:42:43 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	-.175	.000	ppb	.000

*** Sample ID: 1629753 Seq: 23 15:45:06 12 Nov 1993 HG

Hg	-.155 L	ppb	.000	-.155

*** Sample ID: 1629754 Seq: 24 15:47:26 12 Nov 1993 HG

Hg	2.12	ppb	.000	2.12

*** Sample ID: 1629755 Seq: 25 15:49:45 12 Nov 1993 HG

Hg	-.214 L	ppb	.000	-.214

*** Sample ID: 1629756 Seq: 26 15:52:04 12 Nov 1993 HG

Hg	-.186 L	ppb	.000	-.186

*** Sample ID: 1629757 Seq: 27 15:54:24 12 Nov 1993 HG

Hg	-.130 L	ppb	.000	-.131

*** Sample ID: 1629758 Seq: 28 15:56:44 12 Nov 1993 HG

Hg	-.207 L	ppb	.000	-.207

466

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1629759 Seq: 29 15:59:03 12 Nov 1993 HG

Hg	-.197	L ppb	.000	-.197	

*** Sample ID: 1630801 Seq: 30 16:01:22 12 Nov 1993 HG

Hg	-.171	L ppb	.000	-.171	

*** Sample ID: 1630802 Seq: 31 16:03:43 12 Nov 1993 HG

Hg	.209	ppb	.000	.209	

*** Sample ID: 1630803 Seq: 32 16:06:02 12 Nov 1993 HG

Hg	-.159	L ppb	.000	-.159	

*** Check Standard: 4 Ck4 CCV Seq: 33 16:08:24 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		97.1	4.85	5.00	ppb	.000

*** Check Standard: 5 Ck5 CCB Seq: 34 16:10:50 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	-.178	.000	ppb	.000

*** Sample ID: 1632619 Seq: 35 16:13:11 12 Nov 1993 HG

Hg	-.091	L ppb	.000	-.091	

*** Sample ID: 1631701 Seq: 36 16:15:31 12 Nov 1993 HG

Hg	-.214	L ppb	.000	-.214	

*** Sample ID: 1631801 Seq: 37 16:17:49 12 Nov 1993 HG

Hg	-.213	L ppb	.000	-.213	

*** Sample ID: 1631901 Seq: 38 16:20:06 12 Nov 1993 HG

Hg	-.023	L ppb	.000	-.023	

*** Sample ID: 1631902 Seq: 39 16:22:23 12 Nov 1993 HG

Hg	-.089	L ppb	.000	-.089	

*** Sample ID: PBW Seq: 40 16:24:41 12 Nov 1993 HG

1621611

Hg	-.129	L ppb	.000	-.129	

467

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1621611 Seq: 41 16:26:59 12 Nov 1993 HG
MEWN12
Hg -.208 L ppb .000 -.208

*** Sample ID: 1625901 Seq: 42 16:29:17 12 Nov 1993 HG
MHBG42
Hg .580 ppb .000 .580

*** Sample ID: 1625902 Seq: 43 16:31:36 12 Nov 1993 HG
MHBG43
Hg -.219 L ppb .000 -.219

*** Sample ID: 1625903 Seq: 44 16:33:55 12 Nov 1993 HG
MHBG44
Hg -.167 L ppb .000 -.167

*** Check Standard: 4 Ck4 CCV Seq: 45 16:36:16 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		97.1	4.86	5.00	ppb	.000

*** Check Standard: 5 Ck5 CCB Seq: 46 16:38:39 12 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	-.191	.000	ppb	.000

*** Sample ID: 1625904 Seq: 47 16:41:00 12 Nov 1993 HG
MHBG45
Hg -.205 L ppb .000 -.205

*** Sample ID: 1625905 Seq: 48 16:43:18 12 Nov 1993 HG
MHBG46
Hg -.235 L ppb .000 -.235

*** Sample ID: 1625906 Seq: 49 16:45:38 12 Nov 1993 HG
MHBG47
Hg -.150 L ppb .000 -.150

DATA NOT USED
11/15/93

*** Sample ID: 1625906D Seq: 50 16:47:56 12 Nov 1993 HG
MHBG47D
Hg -.228 L ppb .000 -.228

*** Sample ID: 1625906S Seq: 51 16:50:14 12 Nov 1993 HG
MHBG47S
Hg .812 ppb .000 .812

*** Sample ID: 1625907 Seq: 52 16:52:32 12 Nov 1993 HG
MHBG48
Hg -.213 L ppb .000 -.213

MERCURY RUN LOG

93NOV15

INORGANICS DEPARTMENT 168

SWOK

Analyst J. Spiff

Date 11-15-93

Instrument Leeman PS200B

Element Hg

Wavelength 253.7

MEWN02

CALIBRATION STANDARD	
SOURCE:	N2M80NIPF
PREP DATE:	11-15-93

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0	0.0	-954	
STD 1	0.2	11211	
STD 2	1.0	22113	
STD 3	5.0	110066	
STD 4	10.0	221995	0.999462

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
ICV						5.14/4.9	105%
ICB						<0.2	
CCV						4.94/5.0	98.8%
CCB						<0.2	
PBS	(16298.02)					<0.2	
	16298.02					<0.2	
	.03					<0.2	
	.04					<0.2	
	.05					<0.2	
	.06					<0.2	
	.07					<0.2	
	.08					<0.2	
	16326.01					<0.2	
	.02					<0.2	
CCV						4.97/5.0	99.5%
CCB						<0.2	
	16326.03					<0.2	
	.04S					1.36	136%
	.05S					.887	88.7%
	.06					<0.2	
	.07					<0.2	

MERCURY RUN LOG

INORGANICS DEPARTMENT

SWOK

169

Analyst: [illegible]

Date: 11-15-93

Instrument: Leeman PS200B

Element: Hg

Wavelength: 253.7

CALIBRATION STANDARD	
SOURCE:	N2M80NIPF
PREP DATE:	11-15-93

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
	16326.08					<0.2	
	.09					<0.2	
	.10					0.211	
	.11					<0.2	
	.12					<0.2	
CCV						4.92/5.0	98.5%
CCB						<0.2	
	16326.135					0.91+	91.4%
	.145					0.93+	93.4%
	.15					<0.2	
	.16					<0.2	
	.17					0.276	
	.18					<0.2	
CCV						4.90/5.0	98.1%
CCB						<0.2	
PBW	(16335.01)					<0.2	
	16335.01					0.3+7	
	16340.01					<0.2	
	16359.01					<0.2	
	.02					<0.2	
	.03					<0.2	

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[IN021-0593-01]

MERCURY RUN LOG

INORGANICS DEPARTMENT

470

Analyst: [illegible] SWOK

Date: 11-15-93

Instrument: Leeman PS200B

Element: Hg

Wavelength: 253.7

CALIBRATION STANDARD	
SOURCE:	
PREP DATE:	

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
	16359.01					<0.2	
	16361.01					<0.2	
	16381.01					<0.2	
	↓ .02					0.796	
CCV						4.86/5.0	97.2%
CCB						<0.2	
	16381.03					0.214	
	↓ .04					0.607	
	16382.01					<0.2	
	.02					<0.2	
	.03					<0.2	
	.04					<0.2	
	↓ .05					<0.2	
CCV						4.78/5.0	95.7%
CCB						<0.2	
ZZZZZ						<0.2	
CCV						4.60/5.0	92.0%
CCB						<0.2	
ZZZZZ						<0.2	
CCV						4.55/5.0	91.0%
CCB						<0.2	

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[IN021-0593-01]

MERCURY RUN LOG

INORGANICS DEPARTMENT

471

SWOK

Analyst: Lappin

Date: 11-15-93

Instrument: Leeman PS200B

Element: Hg

Wavelength: 253.7

CALIBRATION STANDARD	
SOURCE:	
PREP DATE:	

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. ug/L mg/Kg	COMMENTS
PBS	(16216.01)						RERUN - A/S MISSED CUPS
LCSS	↓						
MEWN 02	16216.01						
02D	.01D						
02S	.01S						
03	.02						
04	.03						
05	.04					0.250	
06	.05					.296	
07	.06					<0.2	
07	.06					<0.2	
CCV						4.58/5.0	91.6%
CCB						<0.2	
~~MEWN 07~~	~~16216.06~~					~~<0.2~~	
MEWN08	16216.07					<0.2	
09	.08					<0.2	
10	.09					0.271	
11	.10					<0.2	
MFBA 67	16263.04					<0.2	
68	.05					2.03	
69	.06					<0.2	
70	.07					<0.2	
71	.08					<0.2	

12/07/93

MERCURY RUN LOG

INORGANICS DEPARTMENT

472

Analyst J Sepiffo SWOK

Date 11-15-93

Instrument Leeman PS200B

Element Hg

Wavelength 253.7

CALIBRATION STANDARD	
SOURCE:	
PREP DATE:	

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
MFBA 72	16263.09					<0.2	
CCV						4.75/5.0	95.1%
CCB						<0.2	
MFBA 73	16263.10					<0.2	
74	.11					12.4	
75	.12					<0.2	
CCV						4.65/5.0	93.1
CCB						<0.2	

11/15/93

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[IN021-0593-01]

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1 Seq: 5 11:58:46 15 Nov 1993 HG

Hg .000 ppb -954
Ave. Int. = -954 S. D. = 0

*** Standard: 2 Rep: 1 Seq: 6 12:01:12 15 Nov 1993 HG

Hg .200 ppb 11211
Ave. Int. = 11211 S. D. = 0

*** Standard: 3 Rep: 1 Seq: 7 12:03:38 15 Nov 1993 HG

Hg 1.00 ppb 22113
Ave. Int. = 22113 S. D. = 0

*** Standard: 4 Rep: 1 Seq: 8 12:06:04 15 Nov 1993 HG

Hg 5.00 ppb 110066
Ave. Int. = 110066 S. D. = 0

*** Standard: 5 Rep: 1 Seq: 9 12:08:31 15 Nov 1993 HG

Hg 10.0 ppb 221995
Ave. Int. = 221995 S. D. = 0

d

11/15/93
Leeman PS200B
Hg
93NOV15

Protocol: MERCURY PRP7470

Rev: 2.008 Time: 12:08:38 15 Nov 1993

Folder: 93NOV15 Seq: 10 Print: On

USER: Data: Id: Cup: Gas: 0.00 Lim

State: Idle Macro STANDARD 38 Wait: Off Autosampler: On

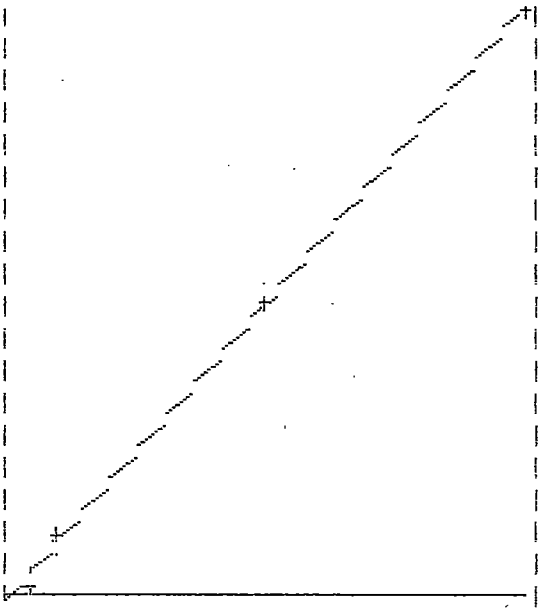
CALIBRATION: Line Calibration

Line: Hg Accepted

	Conc.	Calc.	Dev.	Linear
S1	.000	-.122	-.122	Quadratic
S2	.200	.432	.232	WtdLinear
S3	1.00	.929	-.071	
S4	5.00	4.93	.007	Accept
S5	10.0	10.0	.020	
S6				StdAdd

A .0000000 P .999467

B 4.552508E-5 C 7.010018E-7



	Mean	%RSD	
S1	-954	0	-954
S2	11711	0	11711
S3	22443	0	22443
S4	110066	0	110066
S5	221995	0	221995
S6			

Relative Abundance

New cal coefficients stored

Line Conc. Units SD/RSD 1 2 3 4 5

*** Check Standard: 2 Ck2icv Seq: 10 12:10:59 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		105.	5.14	4.90	ppb	.000

*** Check Standard: 3 Ck3icb Seq: 11 12:13:24 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		61400	.061	.000	ppb	.000

*** Check Standard: 4 Ck4ccv Seq: 12 12:15:47 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		98.8	4.94	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 13 12:18:13 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		99500	.099	.000	ppb	.000

*** Sample ID: PBS Seq: 14 12:33:11 15 Nov 1993 HG

Hg -.110 L ppb .000 -.110

*** Sample ID: 1629802 Seq: 15 12:35:31 15 Nov 1993 HG

Hg -.045 L ppb .000 -.045

*** Sample ID: 1629803 Seq: 16 12:37:51 15 Nov 1993 HG

Hg -.102 L ppb .000 -.102

*** Sample ID: 1629804 Seq: 17 12:40:11 15 Nov 1993 HG

Hg -.105 L ppb .000 -.105

*** Sample ID: 1629805 Seq: 18 12:42:32 15 Nov 1993 HG

Hg -.104 L ppb .000 -.104

*** Sample ID: 1629806 Seq: 19 12:44:53 15 Nov 1993 HG

Hg -.093 L ppb .000 -.093

*** Sample ID: 1629807 Seq: 20 12:47:14 15 Nov 1993 HG

Hg -.080 L ppb .000 -.080

*** Sample ID: 1629808 Seq: 21 12:49:35 15 Nov 1993 HG

Hg -.104 L ppb .000 -.104

476

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1632601 Seq: 22 12:51:56 15 Nov 1993 HG

Hg -.113 L ppb .000 -.113

*** Sample ID: 1632602 Seq: 23 12:54:17 15 Nov 1993 HG

Hg -.116 L ppb .000 -.116

*** Check Standard: 4 Ck4ccv Seq: 24 12:56:39 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		99.5	4.97	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 25 12:59:02 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	.114	.000	ppb	.000

*** Sample ID: 1632603 Seq: 26 13:01:24 15 Nov 1993 HG

Hg -.127 L ppb .000 -.127

*** Sample ID: 1632604S Seq: 27 13:03:45 15 Nov 1993 HG

Hg 1.36 ppb .000 1.36 1.0/136%

*** Sample ID: 1632605S Seq: 28 13:06:04 15 Nov 1993 HG

Hg .887 ppb .000 .887 1.0/88.7%

*** Sample ID: 1632606 Seq: 29 13:08:23 15 Nov 1993 HG

Hg -.103 L ppb .000 -.103

*** Sample ID: 1632607 Seq: 30 13:10:42 15 Nov 1993 HG

Hg -.084 L ppb .000 -.084

*** Sample ID: 1632608 Seq: 31 13:13:01 15 Nov 1993 HG

Hg -.103 L ppb .000 -.103

*** Sample ID: 1632609 Seq: 32 13:15:20 15 Nov 1993 HG

Hg -.023 L ppb .000 -.023

*** Sample ID: 1632610 Seq: 33 13:17:39 15 Nov 1993 HG

Hg .211 ppb .000 .211

Line Conc. Units SD/RSD 1 2 3 4 5

*** Sample ID: 1632611 Seq: 34 13:19:58 15 Nov 1993 HG

Hg -.079 L ppb .000 -.079

*** Sample ID: 1632612 Seq: 35 13:22:17 15 Nov 1993 HG

Hg -.070 L ppb .000 -.070

*** Check Standard: 4 Ck4ccv Seq: 36 13:24:38 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		98.5	4.92	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 37 13:27:03 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		95500	.096	.000	ppb	.000

*** Sample ID: 1632613S Seq: 38 13:29:24 15 Nov 1993 HG

Hg .914 ppb .000 .914

*** Sample ID: 1632614S Seq: 39 13:31:43 15 Nov 1993 HG

Hg .934 ppb .000 .934

*** Sample ID: 1632615 Seq: 40 13:34:01 15 Nov 1993 HG

Hg -.113 L ppb .000 -.113

*** Sample ID: 1632616 Seq: 41 13:36:18 15 Nov 1993 HG

Hg -.090 L ppb .000 -.090

*** Sample ID: 1632617 Seq: 42 13:38:36 15 Nov 1993 HG

Hg .276 ppb .000 .276

*** Sample ID: 1632618 Seq: 43 13:40:53 15 Nov 1993 HG

Hg .012 L ppb .000 .012

*** Check Standard: 4 Ck4ccv Seq: 44 13:43:13 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		98.1	4.90	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 45 13:45:36 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	.101	.000	ppb	.000

478

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: PBW (1633S.01) Seq: 46 13:58:33 15 Nov 1993 HG

Hg -.078 L ppb .000 -.078

*** Sample ID: 1633501 Seq: 47 14:00:52 15 Nov 1993 HG

Hg .347 ppb .000 .347

*** Sample ID: 1634001 Seq: 48 14:03:11 15 Nov 1993 HG

Hg -.015 L ppb .000 -.015

*** Sample ID: 1635901 Seq: 49 14:05:30 15 Nov 1993 HG

Hg -.085 L ppb .000 -.085

*** Sample ID: 1635902 Seq: 50 14:07:49 15 Nov 1993 HG

Hg -.083 L ppb .000 -.083

*** Sample ID: 1635903 Seq: 51 14:10:08 15 Nov 1993 HG

Hg -.117 L ppb .000 -.117

*** Sample ID: 1635904 Seq: 52 14:12:27 15 Nov 1993 HG

Hg -.119 L ppb .000 -.119

*** Sample ID: 1636101 Seq: 53 14:14:46 15 Nov 1993 HG

Hg -.131 L ppb .000 -.131

*** Sample ID: 1638101 Seq: 54 14:17:05 15 Nov 1993 HG

Hg .199 L ppb .000 .199

*** Sample ID: 1638102 Seq: 55 14:19:24 15 Nov 1993 HG

Hg .796 ppb .000 .796

*** Check Standard: 4 Ck4ccv Seq: 56 14:21:45 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		97.2	4.86	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 57 14:24:10 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		82300	.082	.000	ppb	.000

479

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1638103 Seq: 58 14:26:31 15 Nov 1993 HG

Hg .214 ppb .000 .214

*** Sample ID: 1638104 Seq: 59 14:28:51 15 Nov 1993 HG

Hg .607 ppb .000 .607

*** Sample ID: 1638201 Seq: 60 14:31:11 15 Nov 1993 HG

Hg -.093 L ppb .000 -.093

*** Sample ID: 1638202 Seq: 61 14:33:32 15 Nov 1993 HG

Hg -.095 L ppb .000 -.095

*** Sample ID: 1638203 Seq: 62 14:35:53 15 Nov 1993 HG

Hg -.094 L ppb .000 -.094

*** Sample ID: 1638204 Seq: 63 14:38:14 15 Nov 1993 HG

Hg -.054 L ppb .000 -.054

*** Sample ID: 1638205 Seq: 64 14:40:35 15 Nov 1993 HG

Hg -.097 L ppb .000 -.097

*** Check Standard: 4 Ck4ccv Seq: 65 14:42:57 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		95.7	4.78	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 66 14:45:25 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	.114	.000	ppb	.000

*** Sample ID: 22222 Seq: 67 16:00:03 15 Nov 1993 HG

Hg -.127 L ppb .000 -.127

*** Check Standard: 4 Ck4ccv Seq: 68 16:02:23 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		92.0	4.60	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 69 16:04:52 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	.105	.000	ppb	.000

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: ZZZZZ Seq: 70 16:53:44 15 Nov 1993 HG

Hg	-.163	L ppb	.000	-.163

*** Check Standard: 4 Ck4ccv Seq: 71 16:56:11 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		91.0	4.55	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 72 16:58:35 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		46500	.047	.000	ppb	.000

*** Sample ID: PBS (16216.01) Seq: 73 17:22:39 15 Nov 1993 HG

Hg -.119 L ppb .000 -.119

*** Sample ID: LCSS (16216.01) Seq: 74 17:24:59 15 Nov 1993 HG

Hg -.107 L ppb .000 -.107

*** Sample ID: 1621601 MEWN02 Seq: 75 17:27:19 15 Nov 1993 HG

Hg -.115 L ppb .000 -.115

*** Sample ID: 1621601D MEWN02D Seq: 76 17:29:39 15 Nov 1993 HG

Hg -.113 L ppb .000 -.113

*** Sample ID: 1621601S MEWN02S Seq: 77 17:32:00 15 Nov 1993 HG

Hg -.118 L ppb .000 -.118

*** Sample ID: 1621602 MEWN03 Seq: 78 17:34:21 15 Nov 1993 HG

Hg -.108 L ppb .000 -.108

*** Sample ID: 1621603 MEWN04 Seq: 79 17:36:42 15 Nov 1993 HG

Hg -.112 L ppb .000 -.112

*** Sample ID: 1621604 MEWN05 Seq: 80 17:39:03 15 Nov 1993 HG

Hg .250 ppb .000 .250

*** Sample ID: 1621605 MEWN06 Seq: 81 17:41:24 15 Nov 1993 HG

Hg .296 ppb .000 .296

RERUN - AUTOSMPLR MISSED CUPS

Line Conc. Units SD/RSD 1 2 3 4 5

*** Sample ID: 1621606 MEWN009 Seq: 82 17:43:45 15 Nov 1993 HG

Hg .107 L ppb .000 .107

*** Check Standard: 4 Ck4ccv Seq: 83 17:46:07 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		91.6	4.58	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 84 17:48:35 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	.130	.000	ppb	.000

*** Sample ID: 1621607 MEWN08 Seq: 85 17:50:57 15 Nov 1993 HG

Hg .058 L ppb .000 .058

*** Sample ID: 1621608 MEWN09 Seq: 86 17:53:20 15 Nov 1993 HG

Hg .079 L ppb .000 .079

1621609 [illegible] 11/07/93

*** Sample ID: ~~1621809~~ MEWN10 Seq: 87 17:55:38 15 Nov 1993 HG

Hg .271 ppb .000 .271

*** Sample ID: 1621610 MEWN11 Seq: 88 17:57:57 15 Nov 1993 HG

Hg -.077 L ppb .000 -.077

*** Sample ID: 1626304 MFBA67 Seq: 89 18:00:16 15 Nov 1993 HG

Hg -.011 L ppb .000 -.011

*** Sample ID: 1626305 MFBA68 Seq: 90 18:02:35 15 Nov 1993 HG

Hg 2.03 ppb .000 2.03

*** Sample ID: 1626306 MFBA69 Seq: 91 18:04:55 15 Nov 1993 HG

Hg -.093 L ppb .000 -.093

*** Sample ID: 1626307 MFBA70 Seq: 92 18:07:14 15 Nov 1993 HG

Hg -.087 L ppb .000 -.087

*** Sample ID: 1626308 MFBA71 Seq: 93 18:09:33 15 Nov 1993 HG

Hg -.054 L ppb .000 -.054

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1626309 MFBA72 Seq: 94 18:11:52 15 Nov 1993 HG

Hg	-.085	L ppb	.000	-.085

*** Check Standard: 4 Ck4ccv Seq: 95 18:14:13 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		95.1	4.75	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 96 18:16:37 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		^^^^^	.102	.000	ppb	.000

*** Sample ID: 1626310 MFBA73 Seq: 97 18:18:58 15 Nov 1993 HG

Hg	-.022	L ppb	.000	-.022

*** Sample ID: 1626311 MFBA74 Seq: 98 18:21:17 15 Nov 1993 HG

Hg	12.4	H ppb	.000	12.4

*** Sample ID: 1626312 MFBA75 Seq: 99 18:23:50 15 Nov 1993 HG

Hg	-.091	L ppb	.000	-.091

*** Check Standard: 4 Ck4ccv Seq: 100 18:26:10 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		93.1	4.65	5.00	ppb	.000

*** Check Standard: 5 Ck5ccb Seq: 101 18:28:34 15 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		77100	.077	.000	ppb	.000

DATA NOT USED
DDB 11-18-93

MERCURY RUN LOG

18 Nov 93

INORGANICS DEPARTMENT

484

Analyst: J Appleton

Date: 11-18-93

Instrument: Leeman PS200A

Element: 253.7

Wavelength: Hg

Reviewed BY SKM 11/19/93

CALIBRATION STANDARD	
SOURCE:	N2M 80NIPF
PREP DATE:	11-18-93

CALIBRATION			
STD	CONC.	ABS.	R
STD 0	0.0	-1002	
STD 1	0.2	3759	
STD 2	1.0	23676	
STD 3	5.0	125324	
STD 4	10.0	249876	0.999991

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
ICV						5.52/4.9	113%
ICB						<0.2	
CCV						5.23/5.0	105%
CCB						<0.2	
PBS	(16338.01)					<0.2	
LCSS	↓				10	2.31	92.1%
T2SD1	16338.01					0.389	
T3SD1-D	.02					0.451	
T3SD1 MS	.03S					1.44	98.9%
T3SD1 DUP	.05D					0.336	
T4SD1	.06					0.310	
T5SD1	.07					0.551	
T3SD2	.08					0.497	
T4SD2	.09					0.346	
CCV						5.21/5.0	104%
CCB						<0.2	
T5SD2	16388.10					<0.2	
T3SD4	16352.01					0.327	
T4SD4	.02					0.193	
T5SD4	.03					0.2	
T5SD4-D	.04					0.239	

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[IN021-0593-01]

MERCURY RUN LOG

INORGANICS DEPARTMENT

485

Analyst: J Spiffler
Date: 11-18-93
Instrument: Leeman PS200A
Element: Hg
Wavelength: 253.7

CALIBRATION STANDARD	
SOURCE:	
PREP DATE:	

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. µg/L mg/Kg	COMMENTS
T35D3	1632505					0.334	
T45D4	.06					0.275	
T55D3	.07					0.300	
PBS	(16388.01)					<0.2	
LCSS	↓				10	2.21	87.0%
CCV						5.17/5.0	103%
CCB						<0.2	
MFBL 31	16388.01					<0.2	
31D	.01D					<0.2	
31S	.01S					1.06	106%
32	.02					<0.2	
33	.03					<0.2	
34	.04					<0.2	
35	.05					<0.2	
36	.06					<0.2	
37	.07					<0.2	
38	.08					<0.2	
CCV						5.14/5.0	103%
CCB						<0.2	
MFBL 39	16388.09					<0.2	
40	.10					.317	

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[IN021-0593-01]

MERCURY RUN LOG

INORGANICS DEPARTMENT

486

Analyst: [signature]

Date: 11-18-93

Instrument: Leeman PS200A

Element: Hg

Wavelength: 253.7

CALIBRATION STANDARD	
SOURCE:	
PREP DATE:	

CALIBRATION			
STD #	CONC.	ABS.	R
STD 0			
STD 1			
STD 2			
STD 3			
STD 4			

CLIENT ID	SWL ID	TIME OF ANALYSIS	WT/VOL	PERCENT ABS	DILUT FACTOR	FINAL CONC. ug/L mg/Kg	COMMENTS
MFBL41	16388.11					<0.2	
42	.12					<0.2	
43	.13					<0.2	
44	.14					0.205	
PBS	(16216.01)					<0.2	
LCSS	↓				10	2.20	86.6%
MEWN02	16216.01					0.438	
MEWN02D	.010					0.343	
CCV	~~.015~~ 11/18					5.03/5.0	101%
CCB						<0.2	
MEWN02S	16216.015					1.17	
MEWN03	.02					<0.2	
MEWN04	.03					<0.2	
CCV						5.03/5.0	101%
CCB						<0.2	

11/18/93

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[IN021-0593-01]

11:57:19 18 Nov 1993 Protocol: MERCURY PRP7470

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1 Seq: 0 11:57:19 18 Nov 1993 HG

Hg .000 ppb -1002
Ave. Int. = -1002 S. D. = 0

*** Standard: 2 Rep: 1 Seq: 1 11:59:45 18 Nov 1993 HG

COPY

Hg .200 ppb 3759
Ave. Int. = 3759 S. D. = 0

*** Standard: 3 Rep: 1 Seq: 2 12:02:11 18 Nov 1993 HG

Hg 1.00 ppb 23676
Ave. Int. = 23676 S. D. = 0

*** Standard: 4 Rep: 1 Seq: 3 12:04:42 18 Nov 1993 HG

Hg 5.00 ppb 125324
Ave. Int. = 125324 S. D. = 0

*** Standard: 5 Rep: 1 Seq: 4 12:07:30 18 Nov 1993 HG

Hg 10.0 ppb 249876
Ave. Int. = 249876 S. D. = 0

ORIGINALS FILED WITH CSF
26214 /MFBL31

SAG 12/06/93

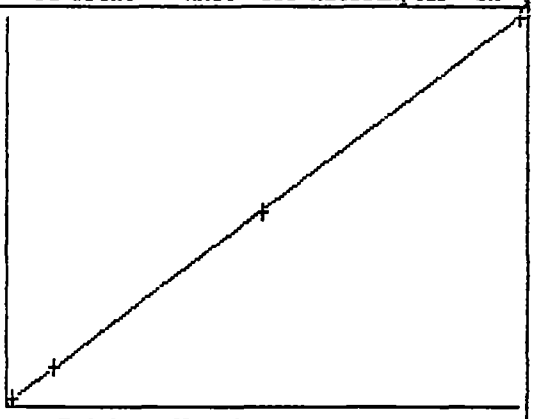
Protocol: MERCURY PRP7470
Rev: 2.005 Time: 12:07:38 18 Nov 1993
Folder: 18NOV93 Seq: 5 Print: On
User: Batch: Id: Std5Rep1 Cup: 1 12 Gas: 0.30 LPM
State: Idle Macro STANDARD 30 : F3 Print Xmit: Off Autosampler: On

CALIBRATION: Line Calibration

Line: Hg

	Conc.	Calc.	Dev.	Accepted
S1	.000	.004	.004	LiNear
S2	.200	.193	-.007	Quadratic
S3	1.00	.986	-.014	WtdLinear
S4	5.00	5.03	.030	Accept
S5	10.0	9.99	-.014	
S6				StdAdd

A .0000000 r .999991
B 3.97890e-5 C 4.30853e-2



Relative Absorbance

	Mean	%RSD	
S1	-1002	0	-1002
S2	3759	0	3759
S3	23676	0	23676
S4	125324	0	125324
S5	249876	0	249876
S6			

New cal coefficients stored

COPY

Folder: 18NOV93 Page 37
12:10:24 18 Nov 1993 Protocol: MERCURY PRP7470

Line Conc. Units SD/RSD 1 2 3 4 5

*** Check Standard: 2 Ck2ICV Seq: 5 12:10:24 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		113.	5.52	4.90	ppb	.000

COPY

*** Check Standard: 3 Ck3ICB Seq: 6 12:13:12 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.130	.000	ppb	.000

*** Check Standard: 4 Ck4CCV Seq: 7 12:15:35 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		105.	5.23	5.00	ppb	.000

*** Check Standard: 5 Ck5CCB Seq: 8 12:18:28 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.064	.000	ppb	.000

*** Sample ID: PBS Seq: 9 12:27:20 18 Nov 1993 HG
1633801
Hg .031 L ppb .000 .031

*** Sample ID: LCSS Seq: 10 12:29:41 18 Nov 1993 HG
1:9
Hg 2.34 ppb .000 2.34

*** Sample ID: 1633801 Seq: 11 12:32:24 18 Nov 1993 HG
T2SD1
Hg .389 ppb .000 .389

*** Sample ID: 1638802 Seq: 12 12:34:45 18 Nov 1993 HG
T3SD1-D
Hg .451 ppb .000 .451

*** Sample ID: 1638803S Seq: 13 12:37:09 18 Nov 1993 HG
T3SD1 MS
Hg 1.44 ppb .000 1.44

*** Sample ID: 1638805D Seq: 14 12:39:43 18 Nov 1993 HG
T3SD1 DUP
Hg .336 ppb .000 .336

*** Sample ID: 1638806 Seq: 15 12:42:05 18 Nov 1993 HG
T4SD1
Hg .310 ppb .000 .310

*** Sample ID: 1638807 Seq: 16 12:44:28 18 Nov 1993 HG
T5SD1
Hg .551 ppb .000 .551

Folder: 18NOV93 Page 38
12:46:52 18 Nov 1993 Protocol: MERCURY PRP7470

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1638808 Seq: 17 12:46:52 18 Nov 1993 HG

				T3SD2
Hg	.497	ppb	.000	.497

*** Sample ID: 1638809 Seq: 18 12:49:14 18 Nov 1993 HG

				T4SD2
Hg	.346	ppb	.000	.346

COPY

*** Check Standard: 4 Ck4CCV Seq: 19 12:51:38 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		104.	5.21	5.00	ppb	.000

*** Check Standard: 5 Ck5CCB Seq: 20 12:54:26 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.073	.000	ppb	.000

*** Sample ID: 1638810 Seq: 21 12:56:49 18 Nov 1993 HG

				T5SD2
Hg	.049	L ppb	.000	.049

*** Sample ID: 1635201 Seq: 22 12:59:11 18 Nov 1993 HG

				T3SD4
Hg	.327	ppb	.000	.327

*** Sample ID: 1635202 Seq: 23 13:01:30 18 Nov 1993 HG

				T4SD4
Hg	.193	L ppb	.000	.193

*** Sample ID: 1635203 Seq: 24 13:03:50 18 Nov 1993 HG

				T5SD4
Hg	.088	L ppb	.000	.088

*** Sample ID: 1635204 Seq: 25 13:06:09 18 Nov 1993 HG

				T5SD4-D
Hg	.239	ppb	.000	.239

*** Sample ID: 1635205 Seq: 26 13:08:28 18 Nov 1993 HG

				T3SD3
Hg	.334	ppb	.000	.334

*** Sample ID: 1635206 Seq: 27 13:10:47 18 Nov 1993 HG

				T4SD3
Hg	.275	ppb	.000	.275

*** Sample ID: 1635207 Seq: 28 13:13:06 18 Nov 1993 HG

				T5SD3
Hg	.300	ppb	.000	.300

Folder: 18NOV93 Page 39
13:15:27 18 Nov 1993 Protocol: MERCURY PR97470

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: PBS Seq: 29 13:15:27 18 Nov 1993 HG
1638801
Hg .013 L ppb .000 .013

COPY

*** Sample ID: LCSS Seq: 30 13:17:47 18 Nov 1993 HG
1:9
Hg 2.21 ppb .000 2.21

*** Check Standard: 4 Ck4CCV Seq: 31 13:20:22 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		103.	5.17	5.00	ppb	.000

*** Check Standard: 5 Ck5CCB Seq: 32 13:23:08 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.082	.000	ppb	.000

*** Sample ID: 1638801 Seq: 33 13:25:29 18 Nov 1993 HG
MFBL31
Hg .129 L ppb .000 .129

*** Sample ID: 1638801D Seq: 34 13:27:49 18 Nov 1993 HG
MFBL31D
Hg .087 L ppb .000 .087

*** Sample ID: 1638801S Seq: 35 13:30:09 18 Nov 1993 HG
MFBL31S
Hg 1.06 ppb .000 1.06

*** Sample ID: 1638802 Seq: 36 13:32:33 18 Nov 1993 HG
MFBL32
Hg .065 L ppb .000 .065

*** Sample ID: 1638803 Seq: 37 13:34:51 18 Nov 1993 HG
MFBL33
Hg .107 L ppb .000 .107

*** Sample ID: 1638804 Seq: 38 13:37:10 18 Nov 1993 HG
MFBL34
Hg .080 L ppb .000 .080

*** Sample ID: 1638805 Seq: 39 13:39:28 18 Nov 1993 HG
MFBL35
Hg .092 L ppb .000 .092

*** Sample ID: 1638806 Seq: 40 13:41:47 18 Nov 1993 HG
MFBL36
Hg .067 L ppb .000 .067

Folder: 18NOV93 Page 40
13:44:06 18 Nov 1993 Protocol: MERCURY PRP7470

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1638807 Seq: 41 13:44:06 18 Nov 1993 HG
MFBL37
Hg .108 L ppb .000 .108

COPY

*** Sample ID: 1638808 Seq: 42 13:46:25 18 Nov 1993 HG
MFBL38
Hg .154 L ppb .000 .154

*** Check Standard: 4 Ck4CCV Seq: 43 13:48:46 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		103.	5.14	5.00	ppb	.000

*** Check Standard: 5 Ck5CCB Seq: 44 13:51:29 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.125	.000	ppb	.000

*** Sample ID: 1638809 Seq: 45 13:53:51 18 Nov 1993 HG
MFBL39
Hg .160 L ppb .000 .160

*** Sample ID: 1638810 Seq: 46 13:56:10 18 Nov 1993 HG
MFBL40
Hg .317 ppb .000 .317

*** Sample ID: 1638811 Seq: 47 13:58:29 18 Nov 1993 HG
MFBL41
Hg .156 L ppb .000 .156

*** Sample ID: 1638812 Seq: 48 14:00:47 18 Nov 1993 HG
MFBL42
Hg .135 L ppb .000 .135

*** Sample ID: 1638813 Seq: 49 14:03:04 18 Nov 1993 HG
MFBL43
Hg .082 L ppb .000 .082

*** Sample ID: 1638814 Seq: 50 14:05:23 18 Nov 1993 HG
MFBL44
Hg .205 ppb .000 .205

*** Sample ID: PBS Seq: 51 14:07:42 18 Nov 1993 HG
1621601
Hg .132 L ppb .000 .132

*** Sample ID: LCSS Seq: 52 14:10:01 18 Nov 1993 HG
1:9
Hg 2.20 ppb .000 2.20

Folder: 18NOV93 Page 41
14:12:32 18 Nov 1993 Protocol: MERCURY PRP7470

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: 1621601 Seq: 53 14:12:32 18 Nov 1993 HG

Hg .438 ppb .000 .438

*** Sample ID: 1621601D Seq: 54 14:14:51 18 Nov 1993 HG

Hg .343 ppb .000 .343

*** Check Standard: 4 Ck4CCV Seq: 55 14:17:12 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	5.03	5.00	ppb	.000

*** Check Standard: 5 Ck5CCB Seq: 56 14:19:59 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.082	.000	ppb	.000

*** Sample ID: 1621601S Seq: 57 14:22:20 18 Nov 1993 HG

Hg 1.17 ppb .000 1.17

*** Sample ID: 1621602 Seq: 58 14:24:44 18 Nov 1993 HG

Hg .031 L ppb .000 .031

*** Sample ID: 1621603 Seq: 59 14:27:03 18 Nov 1993 HG

Hg .122 L ppb .000 .122

*** Check Standard: 4 Ck4CCV Seq: 60 14:29:24 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg		101.	5.03	5.00	ppb	.000

*** Check Standard: 5 Ck5CCB Seq: 61 14:32:10 18 Nov 1993 HG

Line	Flag	%Rcv.	Found	True	Units	SD/RSD
Hg	H	^^^^^	.060	.000	ppb	.000

COPY

$ Distillation Batch # 110593CN

494

CYANIDE ANALYSIS LOG

INORGANICS DEPARTMENT

Analyst: L. Morrison

EPA Case #: B+V / 21170

Distillation Date: 11-05-93 SWOK

SDG No: MEWN02

Run Date: 11-08-93

Lab Batch No: 93110801 · RS Review 11/09/93

Time	EPA Sample ID	Lab Sample ID	Abs	Dilution Factor	Initial: Wt (g) Vol (mL)	Final Conc. µg/L mg/Kg
		STD CURVE			Prepped: 11-08-93	
		µg/L				
13:17	S_4	200	0.0718	R^2 = 0.9999		
13:18	S_3	100	0.0365	KCN Source: EM Science		
13:19	S_2	50	0.0183	INST: Lachat QuikChem		
13:20	S_1	10	0.0038		AE Automated	
13:21	S_0	BLK	-0.0001		ION Analyzer	
		Results				
13:23	ICV	—			50ml	104.588
13:24	ICB	—			—	-0.849
13:25	CCV	—			—	100.833
13:25	CCB	—			—	-1.159
13:28	LCSS	—			1.00g	124.430
13:28	PBS	—			50ml	0.109
13:31	101/110293/0-2	16203.01			1.00g	0.147
13:31	101/25-4.5	16203.02			"	-0.123
13:32	103/0-2	16203.03			"	0.159
13:33	103/0-2	16203.04			"	0.215
13:34	CCV	—			—	99.829
13:34	CCB	—			—	-0.542

DISTILLATE TRANSFER

Removed from Storage Area#: _____ Returned to Storage Area#: _____ Received By: _____

By: _____ By: _____ Date: _____

Date: _____ Date: _____ Logbook No: _____

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OFFICE (918) 251-2858 • FAX (918) 251-2599

[IN023-0693-01]

CYANIDE ANALYSIS LOG

INORGANICS DEPARTMENT

495

Analyst: L. Morrison SWOK

EPA Case #: B2Y / 21170

Distillation Date: 11-05-93

SDG No:

Run Date: 11-08-93

Lab Batch No: 93110801. RS

Time	EPA Sample ID	Lab Sample ID	Abs	Dilution Factor	Initial: Wt (g) Vol (mL)	Final Conc. µg/L mg/Kg
13:36	103/2.5-4.5	16203.05			1.00g	0.130
13:37	MELON02	16216.01			"	11.865
13:38	MELON02D	16216.01D			"	11.702
13:39	MELON02S	16216.01S			"	96.186
13:39	MELON03	16216.02			"	1.148
13:40	MELON04	16216.03			"	3.560
13:41	MELON05	16216.04			"	4.359
13:42	MELON06	16216.05			"	4.345
13:42	MELON07	16216.06			"	0.481
13:43	MELON08	16216.07			"	1.315
13:44	CCV	—			—	99.558
13:45	CCB	—			—	-0.902
13:47	MELON09	16216.08			1.00g	0.843
13:47	MELON10 LM	16216.09			"	-0.217
13:48	MELON11	16216.10			"	0.746
13:49	CCV	—			—	100.278
13:50	CCB	—			—	-1.280
					11-08-93 LM	

DISTILLATE TRANSFER

Removed from Storage Area#: _____ Returned to Storage Area#: _____ Received By: _____

By: _____ By: _____ Date: _____

Date: _____ Date: _____ Logbook No: _____

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[IN023-0693-01]

№ 127

QuikChem AE Calibration Report for Calibration 93110801
Method: CYANIDE
This calibration was done on 11/08/93 at 13:19
This report prepared on 11/08/93 at 13:19

	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard A,	CYANIDE	ug/l	200.000	199.352	0.32	0.0718

	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard B,	CYANIDE	ug/l	100.000	101.113	-1.11	0.0365

	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard C,	CYANIDE	ug/l	50.000	50.379	-0.76	0.0183

	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard D,	CYANIDE	ug/l	10.000	9.924	0.76	0.0038

	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard E,	CYANIDE	ug/l	0.000	-0.769	***.**	-0.0001

---------- End of Calibration Report For Calibration 93110801 ----------

Calibration Statistics Report

Cal Ref: 93110801 11/08/93 01:20 pm
Method: CYANIDE

Channel: CYANIDE

Correlation Coefficients

Seg	Stds	Full	Chord 1	Chord 2	Chord 3	Chord 4	Chord 5
1	A-E	0.9999	0.9999	0.9999	0.9999	0.9999	0.9984

Percent Standard Deviation in Slope

1	A-E	0.5	0.6	0.7	0.6	0.5	2.3

```
==========================================================================
  kChem AE Runtime Report for Tray 93110801.RS
  hod: CYANIDE

    This tray was started on 11/08/93 at 13:21   .
    This report was prepared on 11/08/93 at 13:21   .

    Operator: L. MORRISON                          Tray Template: 110893B
    Calibration now in effect is Ref: 93110801, 11/08/93, 13:19


==========================================================================

-- Page  1 of report for tray 93110801.RS ------------------------------------

*** QC Set Check Standards Report for QC Sample: ICV                    13:23
Ch1, CYANIDE          Known:     94.000 Det:    104.588ug/l        Diff:  11.26%
*** ICV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given

*** QC Set Check Standards Report for QC Sample: ICB                    13:24
Ch1, CYANIDE          Known:      0.000 Det:     -0.849ug/l        Diff:   0.85
*** ICB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given

*** QC Set Check Standards Report for QC Sample: CCV                    13:25
Ch1, CYANIDE          Known:    100.000 Det:    100.833ug/l        Diff:   0.83%
*** CCV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given

*** QC Set Check Standards Report for QC Sample: CCB                    13:25
Ch1, CYANIDE          Known:      0.000 Det:     -1.159ug/l        Diff:   1.16
*** CCB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given

*** QC Set Check Standards Report for QC Sample: LCS                    13:28
Ch1, CYANIDE          Known:    112.000 Det:    124.430ug/l        Diff:  12.43
*** LCS PASSED (Absolute diff. < 26.0 ug/l)
*** Action To Be Taken: Just Message Given

*** QC Set Check Standards Report for QC Sample: PBS                    13:28
Ch1, CYANIDE          Known:      0.000 Det:      0.109ug/l        Diff:   0.11
*** PBS PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given
```

Report for tray 93110801.RS continued on next page . . .

Cup 107, Sample: 16203.01 101/110293/0-2 Dil: 1.00 13:31
Ch. 1: CYANIDE ; 0.147ug/l PIF=0.56 Abs= 0.0003
** Above conc. is significantly less than the lowest non-zero std's conc.
** If sample was diluted, concentration after dilution is shown.

Cup 108, Sample: 16203.02 101/25-4.5 Dil: 1.00 13:31
Ch. 1: CYANIDE ; -0.123ug/l PIF=0.21 Abs= 0.0002
** Above conc. is significantly less than the lowest non-zero std's conc.
** If sample was diluted, concentration after dilution is shown.

Cup 109, Sample: 16203.03 103/0-2 Dil: 1.00 13:32
Ch. 1: CYANIDE ; 0.159ug/l PIF=0.78 Abs= 0.0003
** Above conc. is significantly less than the lowest non-zero std's conc.
** If sample was diluted, concentration after dilution is shown.

Cup 110, Sample: 16203.04 103/0-2 Dil: 1.00 13:33
Ch. 1: CYANIDE ; 0.215ug/l PIF=0.76 Abs= 0.0003
** Above conc. is significantly less than the lowest non-zero std's conc.
** If sample was diluted, concentration after dilution is shown.

*** QC Set Check Standards Report for QC Sample: CCV 13:34
Ch1, CYANIDE Known: 100.000 Det: 99.829ug/l Diff: 0.17%
*** CCV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given

*** QC Set Check Standards Report for QC Sample: CCB 13:34
Ch1, CYANIDE Known: 0.000 Det: -0.542ug/l Diff: 0.54
*** CCB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given

Cup 111, Sample: 16203.05 103/2.5-4.5 Dil: 1.00 13:36
Ch. 1: CYANIDE ; 0.130ug/l PIF=0.70 Abs= 0.0002
** Above conc. is significantly less than the lowest non-zero std's conc.
** If sample was diluted, concentration after dilution is shown.

Cup 112, Sample: 16216.01 MEWN02 Dil: 1.00 13:37
Ch. 1: CYANIDE ; 11.865ug/l PIF=0.98 Abs= 0.0045

Cup 113, Sample: 16216.01DUP MEWN02-DUP Dil: 1.00 13:38
Ch. 1: CYANIDE ; 11.702ug/l PIF=0.98 Abs= 0.0044

-- Report for tray 93110801.RS continued on next page . . .

```
Cup 114, Sample: 16216.01MS MEWN02-MS                    Dil:  1.00    13:39
 Ch. 1: CYANIDE                ;      96.186ug/l         PIF=0.99 Abs= 0.0347

Cup 115, Sample: 16216.02 MEWN03                         Dil:  1.00    13:39
 Ch. 1: CYANIDE                ;       1.148ug/l         PIF=0.79 Abs= 0.0006
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

Cup 116, Sample: 16216.03 MEWN04                         Dil:  1.00    13:40
 Ch. 1: CYANIDE                ;       3.560ug/l         PIF=0.93 Abs= 0.0015
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

Cup 117, Sample: 16216.04 MEWN05                         Dil:  1.00    13:41
 Ch. 1: CYANIDE                ;       4.359ug/l         PIF=0.97 Abs= 0.0018
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

Cup 118, Sample: 16216.05 MEWN06                         Dil:  1.00    13:42
 Ch. 1: CYANIDE                ;       4.345ug/l         PIF=0.93 Abs= 0.0018
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

 p 119, Sample: 16216.06 MEWN07                          Dil:  1.00    13:42
 Ch. 1: CYANIDE                ;       0.481ug/l         PIF=0.75 Abs= 0.0004
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

Cup 120, Sample: 16216.07 MEWN08                         Dil:  1.00    13:43
 Ch. 1: CYANIDE                ;       1.315ug/l         PIF=0.87 Abs= 0.0007
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                    13:44
Ch1, CYANIDE          Known:   100.000 Det:    99.558ug/l        Diff:   0.44%
*** CCV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                    13:45
Ch1, CYANIDE          Known:     0.000 Det:    -0.902ug/l        Diff:   0.90
*** CCB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given
```

Report for tray 93110801.RS continued on next page . . .

```
Cup 121, Sample: 16216.08 MEWN09                          Dil:  1.00    13:47
 Ch. 1: CYANIDE                  ;      0.843ug/l        PIF=0.79 Abs= 0.0005
  * Above conc. is significantly less than the lowest non-zero std's conc.
  * If sample was diluted, concentration after dilution is shown.

Cup 122, Sample: 16216.09 MEWN10                          Dil:  1.00    13:47
 Ch. 1: CYANIDE                  ;     -0.217ug/l        PIF=0.33 Abs= 0.0001
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

Cup 123, Sample: 16216.10 MEWN11                          Dil:  1.00    13:48
 Ch. 1: CYANIDE                  ;      0.746ug/l        PIF=0.74 Abs= 0.0005
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                    13:49
Ch1, CYANIDE        Known:   100.000 Det:   100.278ug/l       Diff:   0.28%
*** CCV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                    13:50
Ch1, CYANIDE        Known:     0.000 Det:    -1.280ug/l       Diff:   1.28
*** CCB PASSED (Absolute diff. < 10.0 ug/l)
  * Action To Be Taken: Just Message Given

Cup 126, Sample: BLANK                                    Dil:  1.00    13:52
 Ch. 1: CYANIDE                  ;      0.037ug/l        PIF=0.54 Abs= 0.0002
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.

Cup 127, Sample: CONTROL 10.0 ug/l                        Dil:  1.00    13:53
 Ch. 1: CYANIDE                  ;     10.648ug/l        PIF=0.98 Abs= 0.0040

Cup 128, Sample: CONTROL 100.0 ug/l                       Dil:  1.00    13:53
 Ch. 1: CYANIDE                  ;     99.936ug/l        PIF=0.99 Abs= 0.0361

Cup 129, Sample: 16205.01 ES-AUS                          Dil:  1.00    13:54
 Ch. 1: CYANIDE                  ;      0.070ug/l        PIF=0.54 Abs= 0.0002
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.
```

-- Report for tray 93110801.RS continued on next page . . .

```
Cup 130, Sample: 16205.02 ES-AUS                          Dil:  1.00    13:55
 Ch. 1: CYANIDE                  ;      0.305ug/l        PIF=0.62 Abs= 0.0003
 ** Above conc. is significantly less than the lowest non-zero std's conc.
  * If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                    13:56
Ch1, CYANIDE          Known:   100.000 Det:   100.166ug/l        Diff:   0.17%
*** CCV PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                    13:56
Ch1, CYANIDE          Known:     0.000 Det:    -0.843ug/l        Diff:   0.84
*** CCB PASSED (Absolute diff. ( 10.0 ug/l)
*** Action To Be Taken: Just Message Given

Cup 131, Sample: 16205.03 ES-AUS                          Dil:  1.00    13:58
 Ch. 1: CYANIDE                  ;      0.154ug/l        PIF=0.20 Abs= 0.0003
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 132, Sample: 16205.04 ES-AUS                          Dil:  1.00    13:59
 Ch. 1: CYANIDE                  ;     -0.389ug/l        PIF=0.00 Abs= 0.0001
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 133, Sample: 16205.05 ES-AUS                          Dil:  1.00    14:00
 Ch. 1: CYANIDE                  ;     -0.243ug/l        PIF=0.25 Abs= 0.0001
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 134, Sample: 16205.06 ES-AUS                          Dil:  1.00    14:01
 Ch. 1: CYANIDE                  ;      0.002ug/l        PIF=0.56 Abs= 0.0002
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 135, Sample: 16205.07 ES-AUS                          Dil:  1.00    14:01
 Ch. 1: CYANIDE                  ;     -0.237ug/l        PIF=0.04 Abs= 0.0001
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.
```

-- Report for tray 93110801.RS continued on next page . . .

```
Cup 136, Sample: 16205.08 ES-AUS                          Dil:  1.00    14:02
 Ch. 1: CYANIDE                  ;      0.155ug/l         PIF=0.63 Abs= 0.0003
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 137, Sample: 16205.09 ES-AUS                          Dil:  1.00    14:03
 Ch. 1: CYANIDE                  ;      0.663ug/l         PIF=0.67 Abs= 0.0004
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 138, Sample: 16205.10MS ES-AUS-MS                     Dil:  1.00    14:04
 Ch. 1: CYANIDE                  ;     97.465ug/l         PIF=0.99 Abs= 0.0352

Cup 139, Sample: 16205.11MSD ES-AUS-MSD                   Dil:  1.00    14:04
 Ch. 1: CYANIDE                  ;     94.184ug/l         PIF=0.99 Abs= 0.0340

Cup 140, Sample: 16205.12 ES-AUS                          Dil:  1.00    14:05
 Ch. 1: CYANIDE                  ;      0.997ug/l         PIF=0.87 Abs= 0.0006
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                    14:06
Ch1, CYANIDE          Known:   100.000 Det:    98.527ug/l        Diff:   1.47%
*** CCV PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                    14:07
Ch1, CYANIDE          Known:     0.000 Det:    -0.548ug/l        Diff:   0.55
*** CCB PASSED (Absolute diff. ( 10.0 ug/l)
*** Action To Be Taken: Just Message Given

Cup 141, Sample: 16205.13 ES-AUS                          Dil:  1.00    14:09
 Ch. 1: CYANIDE                  ;     -0.032ug/l         PIF=0.16 Abs= 0.0002
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                    14:09
Ch1, CYANIDE          Known:   100.000 Det:    99.115ug/l        Diff:   0.89%
*** CCV PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given
```

-- Report for tray 93110801.RS continued on next page . . .

*** QC Set Check Standards Report for QC Sample: CCB 14:10
Ch1, CYANIDE Known: 0.000 Det: -1.351ug/l Diff: 1.35
*** CCB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given

503

--------- End of Report for Tray 93110801.RS ----------

Distillation Batch # 110893CN

Reviewed 11/10/93

CYANIDE ANALYSIS LOG

INORGANICS DEPARTMENT

504

Analyst: L. Morrison

EPA Case #: 21170

Distillation Date: 11-08-93 SWOK

SDG No: MEWINO2

Run Date: 11-09-93

Lab Batch No: 93110901. RS

Time	EPA Sample ID	Lab Sample ID	Abs	Dilution Factor	Initial: Wt (g) Vol (mL)	Final Conc. µg/L mg/Kg
		STD. CURVE			Prepped: 11-09-93	
		µg/l				
09:34	S_4	200	0.0692	R^2 = 0.9998		
09:35	S_3	100	0.0354	KCN Source: EM Science		
09:36	S_2	50	0.0176	INST: Lachat QuikChem		
09:37	S_1	10	0.0036		AE Automated	
09:38	S_0	BLK	-0.0001		ION Analyzer	
		Results				
09:41	ICV	—			50ml	105.465
09:42	ICB	—			—	-0.437
09:42	CCV	—			—	101.290
09:43	CCB	—			—	-0.712
09:45	PBW	—			50ml	0.009
09:46	MEWNI2	16216.11			"	0.304
09:47	PW1-2	16246.01			"	1.601
09:48	PW1-2-MS	16246.01MS			"	92.127
09:48	PW1-2-MSD	16246.01MSD			"	99.413
09:49	PW2-2	16246.02			"	0.223
09:50	CCV	—			—	101.189
09:51	CCB	—			—	-1.188

DISTILLATE TRANSFER

Removed from Storage Area#: _____ Returned to Storage Area#: _____ Received By: _____

By: _____ By: _____ Date: _____

Date: _____ Date: _____ Logbook No: _____

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[IN023-0693-01]

QuikChem AE Calibration Report for Calibration 93110901
Method: CYANIDE
This calibration was done on 11/09/93 at 09:36
This report prepared on 11/09/93 at 09:36

	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard A,	CYANIDE	ug/l	200.000	199.135	0.43	0.0692
	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard B,	CYANIDE	ug/l	100.000	101.681	-1.68	0.0354
	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard C,	CYANIDE	ug/l	50.000	50.112	-0.22	0.0176
	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard D,	CYANIDE	ug/l	10.000	9.937	0.63	0.0036
	Analyte	Units	---- Average Concentrations --- Known	Determined	% Residual	Baseline Corrected Average Absorbance
Standard E,	CYANIDE	ug/l	0.000	-0.864	***.**	-0.0001

---------- End of Calibration Report For Calibration 93110901 ----------

Calibration Statistics Report

Cal Ref: 93110901 11/09/93 09:37 am
Method: CYANIDE

Channel: CYANIDE

Correlation Coefficients

Seg	Stds	Full	Chord 1	Chord 2	Chord 3	Chord 4	Chord 5
1	A-E	0.9998	0.9999	0.9998	0.9997	0.9998	0.9937 ?

Percent Standard Deviation in Slope

1	A-E	0.7	0.7	0.8	1.1	0.7	4.6

```
==============================================================================
 ikChem AE Runtime Report for Tray 93110901.RS
 :hod: CYANIDE

   This tray was started on 11/09/93 at 09:38   .
   This report was prepared on 11/09/93 at 09:38   .

   Operator: L. MORRISON                          Tray Template: 110993A
   Calibration now in effect is Ref: 93110901, 11/09/93, 09:36


==============================================================================

-- Page  1 of report for tray 93110901.RS ----------------------------------

*** QC Set Check Standards Report for QC Sample: ICV                    09:41
Ch1, CYANIDE          Known:     94.000 Det:    105.465ug/l        Diff:  12.20%
*** ICV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: ICB                    09:42
Ch1, CYANIDE          Known:      0.000 Det:     -0.437ug/l        Diff:   0.44
*** ICB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCV                    09:42
Ch1, CYANIDE          Known:    100.000 Det:    101.290ug/l        Diff:   1.29%
*** CCV PASSED (Relative % < +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                    09:43
Ch1, CYANIDE          Known:      0.000 Det:     -0.712ug/l        Diff:   0.71
*** CCB PASSED (Absolute diff. < 10.0 ug/l)
*** Action To Be Taken: Just Message Given

Cup 105, Sample: PBW                                     Dil:  1.00     09:45
 Ch. 1: CYANIDE                  ;       0.009ug/l        PIF=0.00 Abs= 0.0002
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 106, Sample: 16216.11 MEWN12                         Dil:  1.00     09:46
 Ch. 1: CYANIDE                  ;       0.304ug/l        PIF=0.56 Abs= 0.0003
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.
```

Report for tray 93110901.RS continued on next page . . .

```
  ) 107, Sample: 16246.01 PW1-2                          Dil:  1.00    09:47
  ). 1: CYANIDE                  ;      1.601ug/l        PIF=0.35 Abs= 0.0007
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 108, Sample: 16246.01MS PW1-2-MS                     Dil:  1.00    09:48
 Ch. 1: CYANIDE                  ;     92.127ug/l        PIF=0.99 Abs= 0.0321

Cup 109, Sample: 16246.01MSD PW1-2-MSD                   Dil:  1.00    09:48
 Ch. 1: CYANIDE                  ;     99.413ug/l        PIF=0.99 Abs= 0.0346

Cup 110, Sample: 16246.02 PW2-2                          Dil:  1.00    09:49
 Ch. 1: CYANIDE                  ;      0.223ug/l        PIF=0.44 Abs= 0.0003
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                   09:50
Ch1, CYANIDE          Known:   100.000 Det:   101.189ug/l       Diff:   1.19%
*** CCV PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                   09:51
  1, CYANIDE          Known:     0.000 Det:    -1.188ug/l       Diff:   1.19
*** CCB PASSED (Absolute diff. ( 10.0 ug/l)
*** Action To Be Taken: Just Message Given

Cup 111, Sample: 16246.03 PW3-2                          Dil:  1.00    09:53
 Ch. 1: CYANIDE                  ;      0.007ug/l        PIF=0.06 Abs= 0.0002
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                   09:54
Ch1, CYANIDE          Known:   100.000 Det:   101.229ug/l       Diff:   1.23%
*** CCV PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                   09:54
Ch1, CYANIDE          Known:     0.000 Det:    -1.032ug/l       Diff:   1.03
*** CCB PASSED (Absolute diff. ( 10.0 ug/l)
*** Action To Be Taken: Just Message Given


-- Report for tray 93110901.RS continued on next page . . .
```

Data not used
SPG 12/07/93

```
*** QC Set Check Standards Report for QC Sample: PREP. BLANK          09:57
Ch1, CYANIDE          Known:     0.000 Det:    -1.020ug/l        Diff:   1.02
*** PREP. BLANK PASSED (Abs. diff. (10.0 ug/l)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CONTROL              09:57
Ch1, CYANIDE          Known:   100.000 Det:    88.775ug/l        Diff:  11.22%
*** CONTROL PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given

Cup 116, Sample: 16187.02 MIDAMERI                        Dil:  1.00    09:59
 Ch. 1: CYANIDE                  ;       1.221ug/l        PIF=0.68 Abs= 0.0006
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


Cup 117, Sample: 16208.02 ATAS                            Dil:  1.00    10:00
 Ch. 1: CYANIDE                  ;       0.454ug/l        PIF=0.43 Abs= 0.0004
 ** Above conc. is significantly less than the lowest non-zero std's conc.
 ** If sample was diluted, concentration after dilution is shown.


*** QC Set Check Standards Report for QC Sample: CCV                  10:01
Ch1, CYANIDE          Known:   100.000 Det:   101.534ug/l        Diff:   1.53%
*** CCV PASSED (Relative % ( +/- 15%)
*** Action To Be Taken: Just Message Given


*** QC Set Check Standards Report for QC Sample: CCB                  10:02
Ch1, CYANIDE          Known:     0.000 Det:    -0.822ug/l        Diff:   0.82
*** CCB PASSED (Absolute diff. ( 10.0 ug/l)
*** Action To Be Taken: Just Message Given

   --------- End of Report for Tray 93110901.RS ----------
```

PERCENT SOLIDS DETERMINATION

ANALYST: [illegible] 509

DATE: 11-6 ,19 9

EPA CASE NO: SDG NO: MEW1N02 LAB BATCH NO:

EPA Sample #	Lab Sample #	Crucible (g)	Crucible + Sample (g)	Crucible + Dry Sample (g)	Dry Weight	% Solids
MEW1N02	1621601	1.61	11.61	9.42	7.81	78.1
02	.01D	1.60	11.60	9.51	7.91	79.1
03	.02	1.60	11.60	9.68	8.08	80.8
04	.03	1.60	11.60	9.27	7.67	76.7
05	.04	1.60	11.60	9.02	7.42	74.2
06	.05	1.60	11.60	9.15	7.55	75.5
07	.06	1.60	11.60	10.59	8.99	89.9
08	.07	1.60	11.60	9.65	8.05	80.5
09	.08	1.59	11.59	10.17	8.58	85.8
10	.09	1.59	11.59	10.63	9.04	90.4
11	.10	1.60	11.60	10.25	8.65	86.5
					11-6-93	[illegible]

SAMPLE TRANSFER

REMOVED FROM STORAGE:		RETURNED TO STORAGE:	
Area #:	Walk-in	Area #:	Walk-in
By:	[illegible]	By:	[illegible]
On:	11-6-93	On:	11-6-93

Received by _____ Date 11-6-93 Logbook No: 4 Page No: 29

SOUTHWEST LABORATORY OF OKLAHOMA, INC.
1700 W. ALBANY • BROKEN ARROW, OKLAHOMA 74012 • OFFICE (918) 251-2858 • FAX (918) 251-2599

11.06
SR

SWLO / AATS Sample Digestion Record Page Book

510

Date : 11/06/1993 10:40 Batch: 11069314 Analyst: SR
Type : MT600 ACID DIGESTION - ICP/AA Client: CLP-EPA EPAMTI Matrix: S

SWOK

LAB ID	Client ID	Initial Weight	Final Weight	Color Before	Color After	Texture	pH	Comments
PBS		1.0 GM	200 ML					
LCSS		1.0 GM	200 ML					EPA-LCV
~~16216.01~~	~~MEWN02 (CASE#21~~	~~1.0 GM~~	~~200 ML~~	~~BL~~	~~YE/CL~~	~~M~~		
~~16216.01D~~	~~MEWN02 (CASE#21~~	~~1.0 GM~~	~~200 ML~~	~~BL~~	~~YE/CL~~	~~M~~		
~~16216.01S~~	~~MEWN02 (CASE#21~~	~~1.0 GM~~	~~200 ML~~	~~BL~~	~~YE/CL~~	~~M~~		~~2.0 ML M-1, M-2~~
16216.02	MEWN03 (CASE#21	1.0 GM	200 ML	GY	YE/CL	C		
16216.03	MEWN04 (CASE#21	1.0 GM	200 ML	BL	YE/CL	M		
16216.04	MEWN05 (CASE#21	1.0 GM	200 ML	BL	YE/CL	M		
16216.05	MEWN06 (CASE#21	1.0 GM	200 ML	BL	YE/CL	M		
16216.06	MEWN07 (CASE#21	1.0 GM	200 ML	BR	CO/CL	M		
16216.07	MEWN08 (CASE#21	1.0 GM	200 ML	BR	YE/CL	M		
16216.08	MEWN09 (CASE#21	1.0 GM	200 ML	BR	CO/CL	M		
16216.09	MEWN10 (CASE#21	1.0 GM	200 ML	BR	CO/CL	C		
16216.10	MEWN11 (CASE#21	1.0 GM	200 ML	BR	CO/CL	C		

re-prepped
AnB 11/17/93

11-8
8r

SWLD / AATS Sample Digestion Record Page Book

511

Date : 11/08/1993 14:15 Batch: 11039311 Analyst: SR
Type : MT600 ACID DIGESTION - ICP/AA Client: CLP-EPA EPAMT1 Matrix: S

SWOK

LAB ID	Client ID	Initial Weight	Final Weight	Color Before	Color After	Texture	pH	Comments
PBS 2		1.0 GM	200 ML					
LCSS 2		1.0 GM	200 ML					EPA-LCV
16216.01	MEWN02 (CASE#21	1.0 GM	200 ML	BR	YE/CL	N		
16216.01D	MEWN02 (CASE#21	1.0 GM	200 ML	BR	YE/CL	N		
16216.01S	MEWN02 (CASE#21	1.0 GM	200 ML	BR	YE/CL	N		2.0 ML W-1, W-2

11-12
SR

SWLB / AATS Sample Digestion Record

Date : 11/12/1993 Batch: 11127314 Analyst: SR
Type : MT600 ACID DIGESTION - ICP/AA Client: CLP-EPA EPAM71 Matrix: W

LAB ID	Client ID	TYP	Initial Weight	Final Weight	Color Before	Color After	Texture	pH	Comments
PBW			100 ML	100 ML					
LCSW-1			100 ML	100 ML					10.0 ML ICV-1, 10 ML ICV-3
LCSW-2			100 ML	100 ML					5.0 ML ICV-2, 10 ML ICV-4
16216.11	MEWN12 (CASE#21		100 ML	100 ML	CO/CL	CO/CL		<2	

SWOK

11-16
8a

SWLD / AATS Sample Digestion Record Page Book

Date : 11/16/1993 11:03 Batch: 11169311 Analyst: SR
Type : MT600 ACID DIGESTION - ICP/AA Client: CLP-EPA EPAMTI Matrix: W

SWOK

LAB ID	Client ID	Initial Weight	Final Weight	Color Before	Color After	Texture	pH	Comments
PBW 2		100 ML	100 ML					
LCSW-3		100 ML	100 ML					10.0 ML ICV-1,ICV-3
LCSW-4		100 ML	100 ML					5.0 ML ICV-2, 10.0 ML ICV-4
16216.11D	MEWN12 (CASE#21	100 ML	100 ML	CO/CL	CO/CL		<2	
16216.11S	MEWN12 (CASE#21	100 ML	100 ML	CO/CL	CO/CL		<2	1.0 ML W-1, W-2

SWLO / AATS

SAMPLE DIGESTION RECORD

SWOK

Digestion Date 11-12-93
Type of Analysis Hg

Digestion Batch No. _____
Client _____

Analyst [signature]
Matrix Soil/H2O

Sample ID	Client ID	Beaker No.	Initial wt/vol g/ml	Final vol (ml)	Description Water-Color,Clarity Soil-Color,Texture Artifacts	pH <2>	Comments (Spiking Sol)	Soil Preparation Pan wt(g)	Wet wt(g)	Dry wt(g)	Solid %
0.0 ng/L			100ml	100ml							
0.2							0.2ml 100ppb Hg				
1.0							1.0ml 100ppb Hg				
5.0							5.0ml 100ppb Hg				
10.0							10.0ml 100ppb Hg				
ICV							1.0ml ICV-S				
ICB											
CCV							5.0ml 100ppb Hg				
CCB											

11/12/93

514

Date : 11/12/1993 13:43 Batch: 111293HG02 Analyst: GAS 11/12/93
Type : HT620 ACID DIGESTION - COLD VAPOR Client: VARIED Matrix: S

SWOK

LAB ID	Client ID	Initial Weight	Final Weight	Color Before	Color After	Texture	pH	Comments
PBS		0.2 GM	100 ML					
LCSS		0.2 GM	100 ML					
16216.01	MEWN02 (CASE#21	0.2 GM	100 ML					
16216.01D	MEWN02 (CASE#21	0.2 GM	100 ML					
16216.01S	MEWN02 (CASE#21	0.2 GM	100 ML					1.0 ML 100 PPB HG
16216.02	MEWN03 (CASE#21	0.2 GM	100 ML					
16216.03	MEWN04 (CASE#21	0.2 GM	100 ML					
16216.04	MEWN05 (CASE#21	0.2 GM	100 ML					
16216.05	MEWN06 (CASE#21	0.2 GM	100 ML					
16216.06	MEWN07 (CASE#21	0.2 GM	100 ML					
16216.07	MEWN08 (CASE#21	0.2 GM	100 ML					
16216.08	MEWN09 (CASE#21	0.2 GM	100 ML					
16216.09	MEWN10 (CASE#21	0.2 GM	100 ML					
16216.10	MEWN11 (CASE#21	0.2 GM	100 ML					

SWLO / AATS

SAMPLE DIGESTION RECORD

Digestion Date 11-12-93
Type of Analysis Hg

Digestion Batch No. _____
Client _____

SWOK

Analyst [signature]
Matrix Soil/H2O

Sample ID	Client ID	Beaker No.	Initial wt/vol g/ml	Final vol (ml)	Description Water-Color,Clarity Soil-Color,Texture Artifacts	pH <2>	Comments (Spiking Sol)	Soil Preparation Pan wt(g)	Wet wt(g)	Dry wt(g)	Solid %
0.0 µg/L			100ml	100ml							
0.2							0.2ml 100ppb Hg				
1.0							1.0ml 100ppb Hg				
5.0							5.0ml 100ppb Hg				
10.0							10.0ml 100ppb Hg				
ICV							1.0ml ICV-S				
ICB											
CCV							5.0ml 100ppb Hg				
CCB											

11/12/93

516

Date : 11/12/1993 13:45 Batch: 111293HG04 Analyst: SAB
Type : M7620 ACID DIGESTION - COLD VAPOR Client: VARIED Matrix: W 11/12/93

SWOK

LAB ID	Client ID	Initial Weight	Final Weight	Color Before	Color After	Texture	pH	Comments
PBW		100 ML	100 ML					
16216.11	MEWN12 (CASE#21	100 ML	100 ML					
16259.01	MHBG42 (CASE#21	100 ML	100 ML					
16259.02	MHBG43 (CASE#21	100 ML	100 ML					
16259.03	MHBG44 (CASE#21	100 ML	100 ML					
16259.04	MHBG45 (CASE#21	100 ML	100 ML					
16259.05	MHBG46 (CASE#21	100 ML	100 ML					
16259.06	MHBG47 #QA/QC	100 ML	100 ML					
16259.06D	MHBG47 #QA/QC	100 ML	100 ML					
16259.06S	MHBG47 #QA/QC	100 ML	100 ML					1.0 ML 100 PPB HG
16259.07	MHBG48 (CASE#21	100 ML	100 ML					
16259.08	MHBG49 (CASE#21	100 ML	100 ML					

SWLO / AATS

SAMPLE DIGESTION RECORD

Digestion Date 11-18-93
Type of Analysis Hg

Digestion Batch No. _____
Client _____

Analyst [signature]
Matrix H2O / Soil

Sample ID	Client ID	Beaker No.	Initial wt/vol g/ml	Final vol (ml)	Description Water-Color,Clarity Soil-Color,Texture Artifacts	pH <2>	Comments (Spiking Sol)	Soil Preparation Pan wt(g)	Wet wt(g)	Dry wt(g)	Solid %
0.0 ug/L			100ml	100ml							
0.2							0.2mL 100ppb Hg				
1.0							1.0mL 100ppb Hg				
5.0						✓	5.0mL 100ppb Hg				
10.0							10.0mL 100ppb Hg				
ICV							1.0mL ICV-5				
ICB											
CCV							5.0mL 100ppb Hg				
CCB											
						11/18/93					

518

M

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

SAMPLE DISTILLATION RECORD

Distillation Date 11-05-93
Type of Analysis CN

Distillation Batch No. 110593CN
Client CLP

SWOK

Analyst DSF
Matrix soil

Sample ID	Client ID	Beaker No.	Initial wt/vol g/ml	Final vol (ml)	Description Water-Color,Clarity Soil-Color,Texture Artifacts	pH <2>	Comments (Spiking Sol)	Soil Preparation Pan wt(g)	Wet wt(g)	Dry wt(g)	Solid %
ICV	ICV693	1	50.0ml	50.0			0.5ml ICV #6				
PBS	—	2									
LCSS	LCS091	3	1.00g								
16203.01	BHV STPSB-101/110293/0-2	4									
16203.02	STPSB-101/2.5-4.5	5									
16203.03	STP MW-103/0-2	6									
16203.04	STPSB-103/0-2	7									
16203.05	STPSB-103/2.5-4.5	8									
16216.01	(#21170) MEWN02	9									
D 16216.01	MEWN02	10									
S 16216.01	MEWN02	11						0.5ml 10ug/ml ICV			
16216.02	MEWN03	12									
16216.03	MEWN04	13									
16216.04	MEWN05	14									
16216.05	MEWN06	15									

SWLO FOR 24W

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

SAMPLE DISTILLATION RECORD

Distillation Date 11-05-93
Type of Analysis CN

Distillation Batch No. 110593CN
Client CLP/PKIV

SWOK

Analyst DSF
Matrix Soil

Sample ID	Client ID	Beaker No.	Initial wt/vol (g)(ml)	Final vol (ml)	Description Water-Color,Clarity Soil-Color,Texture Artifacts	pH <2>	Comments (Spiking Sol)	Soil Preparation Pan wt(g)	Wet wt(g)	Dry wt(g)	Solid %
16216.06	MEWN07	16	1.00g	50.0							
16216.07	MEWN08	17									
16216.08	MEWN09	18									
16216.09	MEWN10	19									
16216.10	MEWN11	20									
BLK	—	21	50.0ml								
BLK SPK	10ug/ml	22									
BLK SPK	100ug/ml	23									
16205.01	ES-AUS	24	1.00g								
16205.02		25									
16205.03		26									
16205.04		27									
16205.05		28									
16205.06		29									
16205.07		30									

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SOUTHWEST LABORATORY OF OKLAHOMA, INC.

SAMPLE DISTILLATION RECORD

Distillation Date 11-08-93
Type of Analysis CN

Distillation Batch No. 110893CN
Client PRIVATE/CLP

SWOK

Analyst DSF
Matrix H_2O

Sample ID	Client ID	Beaker No.	Initial wt/vol g/ml	Final vol (ml)	Description Water-Color,Clarity Soil-Color,Texture Artifacts	pH <2> <12>	Comments (Spiking Sol)	Soil Preparation Pan wt(g)	Wet wt(g)	Dry wt(g)	Solid %
ICV	ICV693	1	50.0ml	50.0ml			0.5ml ICV #6				
PBW	–	2									
S BLK SPK	–	3					0.5ml 10ug/ml KCN				
16187.02	MIDAMERI	4				<12 ph 8					
16208.02	ATAS (#21170)	5				>12					
16216.11	MEWN12	6				<12 ph 7					
16246.01	DTMSTLOU PW1-2	7				7					
16246.01	PW1-2	8				7	0.5ml 10ug/ml KCN				
SD 1624601	PW1-2	9				7	0.5ml 10ug/ml KCN				
16246.02	PW2-2	10				7					
16246.03	PW3-2	11				7					

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11-93

SWLO FORM 1204W

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# Std. 1
Date/Analyst 11/02/93 Az
TJAGIET

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Al	Inorganic Ventures I-AL02036	10,000 ug/ml	2.0ml	200ml	5% HNO3	100 ug/ml	ug/ml
Ca	I-CA01616	⊥	⊥	⊥	⊥	⊥	⊥
Mg	I-MG01089	⊥	⊥	⊥	⊥	⊥	⊥
Mn	I-MN01059	1,000 ug/ml	⊥	⊥	⊥	10 ug/ml	⊥
U	H-V0143	⊥	⊥	⊥	⊥	⊥	⊥
Fe	I-FE01097	10,000 ug/ml	⊥	⊥	⊥	100 ug/ml	⊥
					Az	11/02/93	

522

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# Std. 2
Date/Analyst 11/02/93 AZ
TJAGIET

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol. of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Pb	CLPP-CAL-3 H-MEB0R0198	1,000,000 ug/l	0.200 ml	100 ml	5% HNO3	1,000 ug/l	ug/l
Tl							
As							
Se							

AZ 11/02/93

523

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# STD #1
Date/Analyst 11-1-93/Bm
TJAG1

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Ca	CLPPCal 1 IMEB0211Y	5000	2.0 ml	200 ml	2% HNO_3	50.0	mg/L
Mg							
K							
Na							
Al		2000				20.0	
Ba							
Fe		1000				10.0	
Ag		250				2.5	
Co		500				5.0	
Mn							
Ni							
V							
Zn							
Cu		250				2.5	
Cr		200				2.0	
Be		50				0.5	
Sb	CLPPCal 2 1S9.0826 1S9.1226	1000				10.0	

524

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# STD #2
Date/Analyst 10-15-93/[illegible]
TJAGI

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
As	1000	HMEG08098 CLPP Cal 3	2.0 ml	200 ml	2% HNO_3	10.0	mg/L
Pb	↓	↓	↓	↓	↓	↓	↓
Se	↓	↓	↓	↓	↓	↓	↓
Tl	↓	↓	↓	↓	↓	↓	↓
Cd	500	↓	↓	↓	↓	5.0	↓

[illegible] 10-15-93

Page 95 of Book 20

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# STD #3
Date/Analyst 10-15-93
TJA61

Approved ________

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Ti	Stock #1	100	20.0 ml	200 ml	2% HNO_3	10.0	mg/l
Mo	↓	↓	↓	↓	↓	↓	↓
B	↓	↓	↓	↓	↓	↓	↓
Sn	↓	↓	↓	↓	↓	↓	↓

[illegible initials] 10-15-93

526

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# STD # 4
Date/Analyst 10-15-83/
TJAGI

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Cd	Plasma Chem M3M48N1M	1000	1.0 ml	200 ml	2% HNO_3	5.0	mg/L
						10-15-83	

527

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# Std. 1
Date/Analyst 11/11/93 Az
TJAGIET

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Al	Inorganic Ventures I-AL02036	10,000,000 µg/l	2.0ml	200ml	5% HNO3	100,000 µg/l	µg/l
Ca	I-CA01066	⊥	⊥	⊥	⊥	⊥	⊥
Fe	I-FE01097	⊥	⊥	⊥	⊥	⊥	⊥
Mg	I-MG01089	⊥	⊥	⊥	⊥	⊥	⊥
Mn	I-MN01082	1,000,000 µg/l	⊥	⊥	⊥	⊥	⊥
V	H-V0143	⊥	⊥	⊥	⊥	⊥	⊥

Az 11/11/93

528

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# Std. 2
Date/Analyst 11/11/93 AZ
TJA61ET

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Pb	CLPP-CAL3 H-ME B08129	1,000,000 ug/l	0.200ml	200ml	5% HNO3	1,000 ug/l	ug/l
Tl							
As							
Se							

AZ 11/11/93

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# Std 1
Date/Analyst 11-15-93 GJW
ARL3560

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol.of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
Ca	IMEB08114 CLPP-CAL1	5000	2.0ml	200ml	5%HNO3	50.0	mg/l
Mg							
K							
Na							
Al		2000				20.0	
Ba							
Fe		1000				10.0	
Co		500				5.0	
Mn							
Ni							
V							
Zn							
Ag		250				2.5	
Cu							
Cr		200				2.0	
Be		50.0				0.50	
Sb	ISB01076 CLPP-CAL2	1000				10.0	

5.30

SOUTHWEST LABORATORY OF OKLAHOMA, INC.

PREPARATION OF STOCK MIXTURE SOLUTION (MULTI-COMPONENT)

Mixture I.D.# Std 1
Date/Analyst 11-15-93 GHW
AR135600

Approved _____

Component Compound	Parent I.D.#	Conc. of Parent Soln.	Vol. of Parent	Total Vol. of Mixture	Matrix	Component Concentration	Unit
As	IMEB03129 CLPP-CAL3	1000	2.0ml	200ml	5%HNO3	10.0	mg/l
Se							
Pb							
Tl							
Cd		500				5.0	
Mo	IM00139	1000				10.0	
Sr	ISR0157		1.0ml			5.0	
				11-15-93 GHW			

SAMPLE DELIVERY GROUP (SDG)
TRAFFIC REPORT (TR) COVER SHEET

LAB NAME: SOUTHWEST LABORATORY OF OKLAHOMA, Inc.

LAB CODE: SWOK CONTRACT No.: 68-D2-0040

RAS No.: 21170 SAS No.:

SDG 1 of 1

SDG No./First Sample in SDG: MEWN02
(Lowest EPA Sample Number in first shipment of samples) Receipt Date: 11/04/93

Last Sample in SDG: MEWN12
(Highest EPA Sample Number in last shipment of samples) Receipt Date: 11/04/93

EPA Sample Numbers in the SDG (listed in alphanumeric order)

1.	MEWN02	16216.01	11.	MEWN12	16216.11
2.	MEWN03	.02	12.		
3.	MEWN04	.03	13.		
4.	MEWN05	.04	14.		
5.	MEWN06	.05	15.		
6.	MEWN07	.06	16.		
7.	MEWN08	.07	17.		
8.	MEWN09	.08	18.		
9.	MEWN10	.09	19.		
10.	MEWN11	.10	20.		

Note: There are a maximum of 20 field samples in SDG.

Attach Traffic Reports to this form in alphanumberic order (i.e., the order listed on this form).

Diana S. Baker 11-04-93
Diana S. Baker Date
Inorganic Document Control Officer

FEDERAL EXPRESS

USE THIS AIRBILL FOR SHIPMENTS WITHIN THE CONTINENTAL U.S.A., ALASKA AND HAWAII.
USE THE INTERNATIONAL AIR WAYBILL FOR SHIPMENTS TO PUERTO RICO AND ALL NON U.S. LOCATIONS.
QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL PACKAGE TRACKING NUMBER 07 [illegible] 42

0715180642

RECIPIENT'S COPY

1 Date 11-3-93

From (Your Name) Please Print: Peter Sawyer
Your Phone Number (Very Important): (505) [illegible]
Company: Tres Comunidad Farmworker Agency
Department/Floor No.:
Street Address: 2500 Second St. NW
City: Sandoval State: TX ZIP Required: 2079[illegible]

2 To (Recipient's Name) Please Print: [illegible]
Recipient's Phone Number (Very Important): (918) [illegible]
Company: FWOK
Department/Floor No.:
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): 1700 West Albany Ste. [illegible]
City: Inola Arrow State: Oklahoma ZIP Required: 7401[illegible]

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)

H IF HOLD AT FEDEX LOCATION, Print FEDEX Address Here
Street Address:
City: State: ZIP Required:

3 PAYMENT 1 [x] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card 5 [ ] Cash/Check

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
- 11 [ ] OTHER PACKAGING
- 16 [ ] FEDEX LETTER*
- 12 [ ] FEDEX PAK*
- 13 [ ] FEDEX BOX
- 14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
- 51 [x] OTHER PACKAGING
- 56 [ ] FEDEX LETTER*
- 52 [ ] FEDEX PAK*
- 53 [x] FEDEX BOX
- 54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day† 1)
- 30 [ ] ECONOMY*

* Economy Letter Rate not available. Minimum charge. One pound Economy rate.

Government Overnight (Restricted for authorized users only)
- 46 [ ] GOV'T LETTER
- 41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
- 70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
- 80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas.
*Declared Value Limit $500
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)

Weekday Service
- 1 [ ] HOLD AT FEDEX LOCATION WEEKDAY (Fill in Section H)
- 2 [x] DELIVER WEEKDAY

Saturday Service
- 31 [ ] HOLD AT FEDEX LOCATION SATURDAY (Fill in Section H)
- 3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
- 9 [ ] SATURDAY PICK-UP (Extra charge)

Special Handling
- 4 [ ] DANGEROUS GOODS (Extra charge)
- 6 [ ] DRY ICE Dangerous Goods Shipper's Declaration not required
  Dry Ice, 9, UN 1845 ____ X ____ kg 904 III
- [ ] DESCRIPTION
- 12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6

PACKAGES	WEIGHT In Pounds Only	YOUR DECLARED VALUE (See right)
1	36	
1	44	
Total 2	Total 80	Total

DIM SHIPMENT (Chargeable Weight) [ ] ____ lbs.
L x W x H

Received At
1 [ ] Regular Stop 2 [ ] On-Call Stop 3 [ ] Drop Box 4 [ ] B.S.C. 5 [ ] Station

Emp. No. Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By: [illegible]
Date/Time Received FedEx Employee Number
11-4-93 0845

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 12/92
PART #137205 GBFE
FORMAT #158
158
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533

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Inorganic Traffic Report & Chain of Custody Record

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 21170

1. Sample Description (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Rinsate
   5. Soil/Sediment
   6. Oil (High only)
   7. Waste (High only)
   8. Other (Specify)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO_3
   3. NaOH
   4. H_2SO_4
   5. $K_2CR_2O_7$
   6. Ice only
   7. Other (Specify)
   N. Not preserved

3. Region No.:

Sampling Co.: IEPA

5. Date Shipped: 11-3-93

Carrier: FEDERAL EXPRESS

7. Date Received -- Received by: K Williamson 11-4-93

Sampler (Name): Scott R Davis

Airbill Number: 0715180642

Laboratory Contract Number: 68-D2-0040

Unit Price: $113.00

Sampler Signature: Scott Davis

6. Ship To: SWOK, 1700 West Albany, Suite C, Broken Arrow, Oklahoma 74012

ATTN:

8. Transfer to:

Date Received:

Received by:

Contract Number:

Price:

4. Type of Activity

Lead		Pre-Remedial		Remedial		Removal	
SF		PA		RIFS		CLEM	
PRP		SSI	✓	RD		REMA	
ST		LSI		RA		REM	
FED				O&M		OIL	
				NPLD		UST	

CLP Sample Numbers (from labels)	A Enter # from Box 1	B Conc. Low Med High	C Sample Type: Comp./ Grab	D Preservative from Box 6	E - RAS Analysis: Metals Total	Metals Dissolved	Cyanide	Low Conc. only: Nitrate/Nitrite	Fluoride	High only: pH	Conductivity	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Org. Samp. No.	K Sample Condition on Receipt	L High Conc. Phases (Check below): Solids	Water -- MIS Liq.	Non Water -- Mis Liq.
MEWN02	5	L	G	N								5-191201	X106	11/2/93/11:05	SD	EXQ02	intact			
MEWN03	5	L	G	N								5-191205	X105	11/2/93/11:30	SD	EXQ03				
MEWN04	5	L	G	N								5-191217	X104	11/2/93/13:40	SD	EXQ04				
MEWN05	5	L	G	N								5-191213	X101	11/2/93/13:50	SD	EXQ05				
MEWN06	5	L	G	N								5-191217	X102	11/2/93/13:50	SD	EXQ06				
MEWN07	5	L	G	N								5-191212	X201	11/2/93/13:20	SD	EXQ07				
MEWN08	5	L	G	N								5-191001	X202	11/2/93/14:45	SD	EXQ08				
MEWN09	5	L	G	N								5-191005	X203	11/2/93/15:00	SD	EXQ09				
MEWN10	5	L	G	N								5-191009	X204	11/2/93/15:30	SD	EXQ10				
MEWN11	5	L	G	N								5-191013	X205	11/2/93/16:10	SD	EXQ11				

Shipment for Case complete? (Y/N): Y

Page 1 of 1

Sample used for a spike and/or duplicate:

Additional Sampler Signatures:

Chain of Custody Seal Number: 142209 / 142210

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Debi Fowler	11-3-93 / 16:15	Debi Fowler			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Is custody seal intact? (Y)/N/none	
		K Williamson	11/4/93 / 0845		

Split Samples: ☐ Accepted (Signature) ☐ Declined

EPA Form 9110-1 (Rev. 5-91) Replaces EPA Form (2075-6), previous edition which may be used

DISTRIBUTION:
Green - Region Copy Pink - SMO Copy White - Lab Copy for Return to Region Yellow - Lab Copy for Return to SMO

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

Inorg-2

534

352243

Inorganic Sample Collection Requirements

"This form replaces both the Individual Traffic Report and EPA Chain of Custody Record. If the sampling team elects to use an alternative chain-of-custody form, cross out the bottom portion of this record and indicate that chain-of-custody information is recorded on an alternative form."

Water Samples	Required Volume	Container Type
Metals Analysis (Low Level)	1 Liter	1 X 1-Liter Polyethylene Bottle OR 2 X 500-ml. Polyethylene Bottle
Metals Analysis (Medium Level*)	16 oz.	1 X 16-oz Wide-Mouth Glass Jar
Extractable Analysis (Medium Level*)	1 Liter	1 X 1-Liter Polyethylene Bottle OR 2 X 500-ml. Polyethylene Bottle
Volatile Analysis (Low or Medium Level*)	16 oz.	1 X 16-oz. Wide-Mouth Glass Jar

Soil/Sediment Samples	Required Volume	Container Type
Metals and Cyanide (CN⁻) Analysis (Low or Medium Level*)	6 oz.	1 X 8-oz. Wide-Mouth Glass Jar OR 2 X 4-oz. Wide-Mouth Glass Jars

HIGH CONCENTRATION SAMPLE COLLECTION REQUIREMENTS

Liquid or Solid Samples	Required Volume	Container Type
Metals and Cyanide* Analysis	6 oz.	1 X 8-oz. Wide-Mouth Glass Jar

*All Medium and High Level Samples to be Sealed in Metal Can for Shipment

1. Inorganic Sample Collection Requirements

- Aqueous samples require one double-volume sample per twenty for Matrix Spike/Matrix Spike Duplicate.
- Preserve low level water samples:

Total metals	Preserve with HNO_3 to pH ≤ 2.
Dissolved metals	Preserve with HNO_3 to pH ≤ 2. No further digestion required.
Cyanide	Preserve with 10 NaOH to pH ≥12.

- Oily samples must be analyzed under the Special Analytical Services (SAS) program.
- Ship medium and high concentration samples in paint cans.

2. Cooler and Sample Documentation

- Complete all sections of the Traffic Report/Chain of Custody Form - Press firmly with a ball point pen to ensure that carbon copies are legible. Check the information and correct any errors.
- Please remember to complete the Chain of Custody information on the form.
- Seal the two sets of laboratory Traffic Report/Chain of Custody form copies in a plastic bag. Include a return address for the cooler. Tape bag under cooler lid.
- Overlap the lid and bottle of each sample container with custody seals.
- Seal each container in a plastic bag.
- Pack medium and high concentration samples in metal cans.
- Separate and surround cooler contents with vermiculite or equivalent packaging.
- Seal the cooler, overlapping the lid and body with custody seals.
- Send SMO the pink copy of the Traffic Report within 5 days.
- In column E RAS analysis indicate number of sample bottles sent for analysis.

3. Sample Shipment Reporting

- PHONE IN ALL SHIPMENTS IMMEDIATELY TO SMO (or to RSCC, if instructed)

  Required information:

  Case (and/or SAS) Number
  Date shipped
  Number of samples by concentration and matrix
  Carrier and airbill number
  Next planned shipment

  Leave your name and a number where you can be reached.
- Information for SATURDAY DELIVERIES must be phoned in by 3:00 PM. (Eastern) the preceding FRIDAY.
- Report any delays or changes of scope (i.e., changes in number of samples to be collected, matrix changes, etc.)
- CALL IF YOU HAVE ANY QUESTIONS

  USEPA Contract Laboratory Program
  Sample Management Office
  P.O. Box 818
  Alexandria, VA 22313
  Phone: (703) 557-2490
  (703) 684-5678
  FAX: (703) 683-0378

United States Environmental Protection Agency
Contract Laboratory Program Sample Management Office
PO Box 818 Alexandria, VA 22313
703-557-2490 FTS 557-2490

Inorganic Traffic Report & Chain of Custody Record

(For Inorganic CLP Analysis)

SAS No. (if applicable):

Case No.: 21170

1. Sample Description (Enter in Column A)
   1. Surface Water
   2. Ground Water
   3. Leachate
   4. Rinse
   5. Soil/Sediment
   6. Oil (High only)
   7. Waste (High only)
   8. Other (Specify)

2. Preservative (Enter in Column D)
   1. HCl
   2. HNO3
   3. NaOH
   4. H_2SO_4
   5. $K_2CR_2O_7$
   6. Ice only
   7. Other (Specify)
   N. Not preserved

3. Region No.: V

Sampling Co.: IEPA

Sampler (Name): Brad Taylor

Sampler Signature: Brad Taylor

4. Type of Activity: Lead: SF, PRP, ST, FED; Pre-Remedial: PA, SSI (x), LSI; Remedial: RIFS, RD, RA, O&M, NPLD; Removal: CLEM, REMA, REM, OIL, UST

5. Date Shipped: 11-3-93

Carrier: FEDERAL EXPRESS

Airbill Number: 0715180612

6. Ship To: SWOK, 1700 West Albany, Suite C, Broken Arrow, Oklahoma 74012

ATTN: Gordon

7. Date Received -- Received by: K. Williamson 11-4-93

Laboratory Contract Number: 68-D2-0040

Unit Price: $113.00

8. Transfer to

Date Received

Received by

Contract Number

Price

CLP Sample Numbers (from labels)	A Enter # from Box 1	B Conc. Low Med High	C Sample Type: Comp./ Grab	D Preservative from Box 6	E - RAS Analysis: Metals Total	Metals Dissolved	Cyanide	Low Conc. only: Nitrate/Nitrite	Fluoride	High only: pH	Conductivity	F Regional Specific Tracking Number or Tag Numbers	G Station Location Number	H Mo/Day/ Year/Time Sample Collection	I Sampler Initials	J Corresp. CLP Org. Samp. No.	K Sample Condition on Receipt (intact)	L High Conc. Phases (Check below): Solids	Water -- MIS Liq.	Non Water -- Mis Liq.
MEWN12	2	L	G	2	X							5-191022	G202	11/3/93/0900	BT	EXQ12	*	Special sample		
MEWN12	2	L	G	3			X					5-191023	G202	11/3/93/0900	BT	EXQ12	*	Receipt TQ.		
MEWN12	2	L	G	7 Al								5-191024	G202	11/3/93/0900	BT	EXQ12	*			11/4/93
MEWN12	2	L	G	N								5-191025	G202	11/3/93/0900	BT	EXQ12	*			
MEWN12	2	L	G	5								5-191151	G202	11/3/93/0900	BT	EXQ12	* ✓			

Shipment for Case complete? (Y/N): Y

Page 1 of ___

Sample used for a spike and/or duplicate

Additional Sampler Signatures

Chain of Custody Seal Number: 141 7207 / 141 7208

CHAIN OF CUSTODY RECORD

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
[illegible]	11-3-93 / 16:15	[illegible]			
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Is custody seal intact? Y/N/none
		K. Williamson	11/4/93 / 0845		

Split Samples: ☐ Accepted (Signature) ☐ Declined

EPA Form 9110-1 (Rev. 5-91) Replaces EPA Form (2075-6), previous edition which may be used

DISTRIBUTION:
Green - Region Copy Pink - SMO Copy White - Lab Copy for Return to Region Yellow - Lab Copy for Return to SMO

SEE REVERSE FOR ADDITIONAL STANDARD INSTRUCTIONS

Inorg-2

535

I 372239

Inorganic Sample Collection Requirements

"This form replaces both the individual Traffic Report and EPA Chain of Custody Record. If the sampling team elects to use an alternative chain-of-custody form, cross out the bottom portion of this record and indicate that chain-of-custody information is recorded on an alternative form."

Water Samples	Required Volume	Container Type
Metals Analysis (Low Level)	1 Liter	1 X 1-Liter Polyethylene Bottle OR 2 X 500-ml. Polyethylene Bottle
Metals Analysis (Medium Level*)	16 oz.	1 X 16-oz. Wide-Mouth Glass Jar
Extractable Analysis (Medium Level*)	1 Liter	1 X 1-Liter Polyethylene Bottle OR 2 X 500-ml. Polyethylene Bottle
Volatile Analysis (Low or Medium Level*)	16 oz.	1 X 16-oz. Wide-Mouth Glass Jar

Soil/Sediment Samples	Required Volume	Container Type
Metals and Cyanide (CN^-) Analysis (Low or Medium Level*)	6 oz.	1 X 8-oz. Wide-Mouth Glass Jar OR 2 X 4-oz. Wide-Mouth Glass Jars

HIGH CONCENTRATION SAMPLE COLLECTION REQUIREMENTS

Liquid or Solid Samples	Required Volume	Container Type
Metals and Cyanide* Analysis	6 oz.	1 X 8-oz. Wide-Mouth Glass Jar

*All Medium and High Level Samples to be Sealed in Metal Can for Shipment

1. Inorganic Sample Collection Requirements

- Aqueous samples require one double-volume sample per twenty for Matrix Spike/Matrix Spike Duplicate.
- Preserve low level water samples:

Total metals	Preserve with HNO_3 to pH ≤ 2.
Dissolved metals	Preserve with HNO_3 to pH ≤ 2. No further digestion required.
Cyanide	Preserve with 10 NaOH to pH ≥12.

- Oily samples must be analyzed under the Special Analytical Services (SAS) program.
- Ship medium and high concentration samples in paint cans.

2. Cooler and Sample Documentation

- Complete all sections of the Traffic Report/Chain of Custody Form - Press firmly with a ball point pen to ensure that carbon copies are legible. Check the information and correct any errors.
- Please remember to complete the Chain of Custody information on the form.
- Seal the two sets of laboratory Traffic Report/Chain of Custody form copies in a plastic bag. Include a return address for the cooler. Tape bag under cooler lid.
- Overlap the lid and bottle of each sample container with custody seals.
- Seal each container in a plastic bag.
- Pack medium and high concentration samples in metal cans.
- Separate and surround cooler contents with vermiculite or equivalent packaging.
- Seal the cooler, overlapping the lid and body with custody seals.
- Send SMO the pink copy of the Traffic Report within 5 days.
- In column E RAS analysis indicate number of sample bottles sent for analysis.

3. Sample Shipment Reporting

- PHONE IN ALL SHIPMENTS IMMEDIATELY TO SMO (or to RSCC, if instructed)
  Required information:
  - Case (and/or SAS) Number
  - Date shipped
  - Number of samples by concentration and matrix
  - Carrier and airbill number
  - Next planned shipment

  Leave your name and a number where you can be reached.
- Information for SATURDAY DELIVERIES must be phoned in by 3:00 PM. (Eastern) the preceding FRIDAY.
- Report any delays or changes of scope (i.e., changes in number of samples to be collected, matrix changes, etc.)
- CALL IF YOU HAVE ANY QUESTIONS

  USEPA Contract Laboratory Program
  Sample Management Office
  P.O. Box 818
  Alexandria, VA 22313
  Phone: (703) 557-2490
  (703) 684-5678
  FAX: (703) 683-0378

SAMPLE LOG-IN SHEET

Lab Name: SOUTHWEST LABORATORY OF OKLAHOMA, Inc. Page 1 of 1

Received By (Print Name): ~~Karen Lollis~~/Kim Willison Log-in Date: 11-4-93

Received By: (Signature): K Willison

Case Number: 21170

Sample Delivery Group No: MEWN02

SAS Number:

REMARKS:

1. Custody Seal(s) Present/Absent* Intact/Broken
2. Custody Seal Nos.: 142209-10 142207-08
3. Chain-of-Custody Records Present/Absent*
4. Traffic Reports or Packing List Present/Absent
5. Airbill Airbill/Sticker Present/Absent*
5. Airbill No: 0715180642
7. Sample Tags Present/Absent

   Sample Tag Numbers Listed/Not Listed on Chain-of-Custody
8. Sample Condition: Intact/Broken*/Leaking
9. Does information on custody records, traffic reports, and sample tags agree? Yes/No*
10. Date Received at Lab: 11-4-93
11. Time Received 0845

Sample Transfer

Fraction:

Area #:

By: KW KW

On:

	CORRESPONDING		
EPA SAMPLE #	SAMPLE TAG #	ASSIGNED LAB #	REMARKS: CONDITION OF SAMPLE SHIPMENT, ETC.
MEWN02	S-191201	16216.01	INTACT
MEWN03	S-191205	16216.02	
MEWN04	S-191212	16216.03	
MEWN05	S-191213	16216.04	
MEWN06	S-191217	16216.05	
MEWN07	S-191212	16216.06	
MEWN08	S-191001	16216.07	
MEWN09	S-191005	16216.08	
MEWN10	S-191009	16216.09	
MEWN11	S-191013	16216.10	
MEWN12	S-191151 S-191022-25	16216.11	

* Contact SMO and attach record of resolution

Received By:

Date:

Logbook No:

Logbook Page No:

FORM DC-1

INTERNAL CHAIN OF CUSTODY
SAMPLE TRACKING SHEET
SDG NUMBER :
FRACTION : ICP
MATRIX : Soil

SWOK

537

WALK-IN DATE LOGGED-IN/ ANALYST	SAMPLE #	CASE/SAMPLE ID	SDG	NC	DATE LOGGED-OUT FOR PREP/ ANALYST	DATE RETURNED TO WALK-IN/ ANALYST	DATE DISCARDED/ ANALYST
11/04/1993	16216.01	MEWN02 (CASE#21170)		1	11-6		
11/04/1993	16216.02	MEWN03 (CASE#21170)		1			
11/04/1993	16216.03	MEWN04 (CASE#21170)		1			
11/04/1993	16216.04	MEWN05 (CASE#21170)		1			
11/04/1993	16216.05	MEWN06 (CASE#21170)		1			
11/04/1993	16216.06	MEWN07 (CASE#21170)		1			
11/04/1993	16216.07	MEWN08 (CASE#21170)		1			
11/04/1993	16216.08	MEWN09 (CASE#21170)		1			
11/04/1993	16216.09	MEWN10 (CASE#21170)		1			
11/04/1993	16216.10	MEWN11 (CASE#21170)		1			

INTERNAL CHAIN OF CUSTODY
SAMPLE TRACKING SHEET
SDG NUMBER :
FRACTION : CV
MATRIX : Soil

SWOK

WALK-IN DATE LOGGED-IN/ ANALYST	SAMPLE #	CASE/SAMPLE ID	SDG	NC	DATE LOGGED-OUT FOR PREP/ ANALYST	DATE RETURNED TO WALK-IN/ ANALYST	DATE DISCARDED/ ANALYST
11/04/1993	16216.01	MEWN02 (CASE#21170)		1	11/12	11/12	
11/04/1993	16216.02	MEWN03 (CASE#21170)		1			
11/04/1993	16216.03	MEWN04 (CASE#21170)		1			
11/04/1993	16216.04	MEWN05 (CASE#21170)		1			
11/04/1993	16216.05	MEWN06 (CASE#21170)		1			
11/04/1993	16216.06	MEWN07 (CASE#21170)		1			
11/04/1993	16216.07	MEWN08 (CASE#21170)		1			
11/04/1993	16216.08	MEWN09 (CASE#21170)		1			
11/04/1993	16216.09	MEWN10 (CASE#21170)		1			
11/04/1993	16216.10	MEWN11 (CASE#21170)		1			

INTERNAL CHAIN OF CUSTODY
SAMPLE TRACKING SHEET
SDG NUMBER :
FRACTION : CN
MATRIX : Soil

SWOK

WALK-IN DATE LOGGED-IN/ ANALYST	SAMPLE #	CASE/SAMPLE ID	SDG	NC	DATE LOGGED-OUT FOR PREP/ ANALYST	DATE RETURNED TO WALK-IN/ ANALYST	DATE DISCARDED/ ANALYST
11/04/1993	16216.01	MEWN02 (CASE#21170)		1	11.5.93 DSF	11.5.93 DSF	
11/04/1993	16216.02	MEWN03 (CASE#21170)		1			
11/04/1993	16216.03	MEWN04 (CASE#21170)		1			
11/04/1993	16216.04	MEWN05 (CASE#21170)		1			
11/04/1993	16216.05	MEWN06 (CASE#21170)		1			
11/04/1993	16216.06	MEWN07 (CASE#21170)		1			
11/04/1993	16216.07	MEWN08 (CASE#21170)		1			
11/04/1993	16216.08	MEWN09 (CASE#21170)		1			
11/04/1993	16216.09	MEWN10 (CASE#21170)		1			
11/04/1993	16216.10	MEWN11 (CASE#21170)		1			

INTERNAL CHAIN OF CUSTODY
SAMPLE TRACKING SHEET
SDG NUMBER :
FRACTION : ICP
MATRIX : Water

SWOK

WALK-IN DATE LOGGED-IN/ ANALYST	SAMPLE #	CASE/SAMPLE ID	SDG	NC	DATE LOGGED-OUT FOR PREP/ ANALYST	DATE RETURNED TO WALK-IN/ ANALYST	DATE DISCARDED/ ANALYST
11/04/1993	16216.11	MEWN12 (CASE#21170)		5	11-12-93 SR	11-12-93 SR	

INTERNAL CHAIN OF CUSTODY
SAMPLE TRACKING SHEET
SDG NUMBER :
FRACTION : CV
MATRIX : Water

SWOK

WALK-IN DATE LOGGED-IN/ ANALYST	SAMPLE #	CASE/SAMPLE ID	SDG	NC	DATE LOGGED-OUT FOR PREP/ ANALYST	DATE RETURNED TO WALK-IN/ ANALYST	DATE DISCARDED/ ANALYST
11/04/1993	16216.11	MEWN12 (CASE#21170)		5	11/12	11/12	

INTERNAL CHAIN OF CUSTODY
SAMPLE TRACKING SHEET
SDG NUMBER :
FRACTION : CN
MATRIX : Water

SWOK

WALK-IN DATE LOGGED-IN/ ANALYST	SAMPLE #	CASE/SAMPLE ID	SDG	NC	DATE LOGGED-OUT FOR PREP/ ANALYST	DATE RETURNED TO WALK-IN/ ANALYST	DATE DISCARDED/ ANALYST
11/04/1993	16216.11	MEWN12 (CASE#21170)		5	11-08-93 DSF	11-08-93 DSF	

SOUTHWEST LABORATORY OF OKLAHOMA, Inc.
Sample Tag Summary

RAS # 21170
SAS #
SDG # MEWN02

Samples are listed here as samples are listed on the Sample Delivery Group Traffic Report Cover Sheet.

	Sample ID	Assigned #		Sample ID	Assigned #
1.	MEWN02	543	21.		
2.	MEWN03	544	22.		
3.	MEWN04	545	23.		
4.	MEWN05	546	24.		
5.	MEWN06	547	25.		
6.	MEWN07	548	26.		
7.	MEWN08	549	27.		
8.	MEWN09	550	28.		
9.	MEWN10	551	29.		
10.	MEWN11	552	30.		
11.	MEWN12	553	31.		
12.	MEWN12	554	32.		
13.	MEWN12	555	33.		
14.	MEWN12	556	34.		
15.	MEWN12	557	35.		
16.			36.		
17.			37.		
18.			38.		
19.			39.		
20.			40.		

\SDGTAGS.DOC

O'Hara Property

Case No(s): 21170
SDG No(s) M8(0)N02

Contract Laboratory Program
REGIONAL/LABORATORY COMMUNICATION SYSTEM

Telephone Record Log

Date of Call: 12/13/93

Laboratory Name: Sirmic

Lab Contact: Jocelyn Kuehnau

Region: V

Call Initiated By: _____ Laboratory _____ Region ✓ CCS _____ Other

Summary of Questions/Issues Discussed:

- Faxed initial assessment report as above.
- Lab contacted and confirmed fax received.
- Requested for replacement bottle.

Summary of Resolution:

Signature: [illegible] Title: [illegible] Date Completed: 12/13/93

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

Dis

O'Hara Property

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM

REGION 5 COPY

****
****
****
**** ****
**** S C R E E N I N G P A C K A G E ****
**** S U M M A R Y I N F O R M A T I O N ****
**** ****
**** ILM02.1 VER. 4 ****
**** ****
**** SDG: MEWN02 ****
**** ****
**** CASE: 21170 ****
**** ****
**** LAB: SWOK ****
**** ****
**** CONTRACT: 68-D2-0040 ****
**** ****
**** REGION: 5 ****
**** ****
**** DRD: 12/10/93 ****
**** ****
**** FORMAT: AGENCY STD ****
**** ****
**** SCREEN DATE: 12/22/93 ****
**** ****
**** MAIL DATE 1: 12/28/93 ****
**** ****
**** ****
**** SCREENER: AM ****
**** ****
****
****
****

INORGANIC CONTRACT COMPLIANCE SCREENING SUMMARY
DEFECT COUNT BY SAMPLE AND CRITERION

EXPLANATORY NOTES

THIS REPORT SUMMARIZES BY SAMPLE THE TECHNICAL DEFECTS NOTED ON THE DISKETTE AND HARDCOPY DATA PACKAGE. THE "CYN" (CYANIDE) AND "METAL" (METALS) COLUMNS SHOW WHETHER THE SAMPLE WAS (Y) OR WAS NOT (NA) ANALYZED. NUMBERS UNDER COLUMNS "A" THROUGH "MAN. DEF." SHOW THE NUMBER OF NON-COMPLIANCE DEFECTS NOTED FOR A SAMPLE WITH REFERENCE TO A SPECIFIC CRITERION.

CASE: 21170 SAMPLES: 17 DATE RECEIVED: 12/10/93

LAB CODE: SWOK CONTRACT: 68-D2-0040 SAS NO: SCREENER: AM DATE SCREENED: 12/22/93

SDG NUMBER: MEWN02 REGION: 5 DATE MAILED: 12/28/93

SAMPLE NO.	CYN	METAL	A COVER	B DATA SHEET 1	CA ICV/CCV 2A	CB CRDL 2B	D BLANK 3	E ICS 4	FA SPIKE 5A	FB PD SPIKE 5B	G DUPS 6	H LCS 7	I MSA 8	J SER. DIL. 9	L IDL 10	M CORR FACT. 11	N LIN. RANGE 12	R PREP. LOG 13	RA RUN LOG 14	MAN. DEF.
LCSS	Y	Y																		
MEWN02	Y	Y							2		4									
MEWN02S	Y	Y																		
MEWN02D	Y	Y																		
MEWN03	Y	Y																		
MEWN04	Y	Y																		
MEWN05	Y	Y																		
MEWN06	Y	Y																		
MEWN07	Y	Y																		
MEWN08	Y	Y																		1
MEWN09	Y	Y																		
MEWN10	Y	Y		1																
MEWN11	Y	Y																		
LCSW	NA	Y																		
MEWN12	Y	Y																		4

INORGANIC CONTRACT COMPLIANCE SCREENING SUMMARY
DEFECT COUNT BY SAMPLE AND CRITERION

CASE: 21170 SAMPLES: 17 DATE RECEIVED: 12/10/93

LAB CODE: SWOK CONTRACT: 68-D2-0040 SAS NO: SCREENER: AM DATE SCREENED: 12/22/93

SDG NUMBER: MEWN02 REGION: 5 DATE MAILED: 12/28/93

SAMPLE NO.	CYN	METAL	A COVER	B DATA SHEET 1	CA ICV/CCV 2A	CB CRDL 2B	D BLANK 3	E ICS 4	FA SPIKE 5A	FB PD SPIKE 5B	G DUPS 6	H LCS 7	I MSA 8	J SER. DIL. 9	L IDL 10	M CORR FACT. 11	N LIN. RANGE 12	R PREP. LOG 13	RA RUN LOG 14	MAN. DEF.
MEWN12S	NA	Y																		
MEWN12D	NA	Y																		

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM
TECHNICAL DEFECT FREQUENCY REPORT

| THIS REPORT PROVIDES A STATISTICAL SUMMARY OF THE TECHNICAL DEFECTS PRESENT IN THIS SDG. |

LAB: SWOK SDG: MEWN02

DEFECT CODE	NUMBER OF DEFECTS	PERCENT OF TOTAL DEFECTS	DEFECT MESSAGE
790	2	28.57	SPIKE ANALYSIS MISSING FOR LOW WATER
990	2	28.57	SAMPLE RESULT IS MISSING
991	2	28.57	DUPLICATE RESULT IS MISSING
290	1	14.29	CONC. MISSING
	7	100.00	

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM

| THIS REPORT DISPLAYS ALL DISKETTE RECORDS WITH STRUCTURAL PROBLEMS. |

NO DEFECTS FOUND FOR STRUCTURAL REPORT

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM

TEXTUAL DEFECT REPORT

EXPLANATORY NOTES

THIS REPORT SUMMARIZES DEFECT MESSAGES. INFORMATION IN PARENTHESES AT THE END OF A DEFECT REFERENCES THE SOW PAGE NUMBER WHERE THE REQUIREMENTS ORIGINATED. FOLLOWING THE DEFECT MESSAGE IS A LIST OF ALL AFFECTED SAMPLES. FOR EACH SAMPLE, ADDITIONAL DETAIL REGARDING THE ELEMENT, METHOD AND VALUES ARE REPORTED.

LAB: SWOK SDG: MEWN02

TECHNICAL DEFECTS

CRITERION FA. - SPIKE

Spike analysis is missing for low water. (E15)

SAMPLES AFFECTED	ELEMENT	METHOD	MATRIX	REPORTED VALUE	COMPARED VALUE
MEWN02	CN	CA	WATER		
	HG	CV	WATER		

CRITERION G. - DUPLICATES

Sample result is missing for analyte. (B29)

SAMPLES AFFECTED	ELEMENT	METHOD	MATRIX	REPORTED VALUE	COMPARED VALUE
MEWN02	CN	CA	WATER		
	HG	CV	WATER		

Duplicate result is missing for analyte. (B30)

SAMPLES AFFECTED	ELEMENT	METHOD	MATRIX	REPORTED VALUE	COMPARED VALUE
MEWN02	CN	CA	WATER		
	HG	CV	WATER		

REPORTING DEFECTS

CRITERION B. - DATA SHEET

Concentration value is missing for analyte. (B6)

SAMPLES AFFECTED	ELEMENT	METHOD	MATRIX	REPORTED VALUE	COMPARED VALUE
MEWN10	HG				

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM

MANUAL DEFECT REPORT

EXPANATORY NOTES
THIS REPORT PROVIDES A SUMMARY OF THE DEFECTS ASSOCIATED WITH MANUAL SCREENING OF THE DATA PACKAGE.

LAB: SWOK SDG: MEWN02

***** SAMPLE: MEWN08-1 *****

MD3 RAW DATA IS NOT PRESENT FOR ANALYTE CU AND METHOD AND FOR ANALYTE AND METHOD P

***** SAMPLE: MEWN12-1 *****

MD3 RAW DATA IS NOT PRESENT FOR ANALYTE AS AND METHOD P AND FOR ANALYTE SE AND METHOD P AND FOR AND ANALYTE PB AND METHOD P FOR ANALYTE TL AND METHOD P

U.S.E.P.A. - C.L.P.

SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP.VIAR

INORGANICS
RESOLUTION OF CONTRACT COMPLIANCE SCREENING (CCS) RESULTS

LABORATORY CODE : SWOK CASE : 21170 SDG_NO.: MEWN02

RECONCILED BY : RECONCILIATION DATE :

CRITERION	COMMENTS
MD3	ON ICP RUN OF 11/14-11/15/93 AT 2330. SEE PAGE 211.
MD3	FOR COPPER, SEE ICP RUN OF 11/19/93 AT 1533, SEE PAGE 452.
	THE CRDL STANDARD FOR MERCURY "CRA" IS MISSING. PER THE SOW IT IS A REQUIRED AA STANDARD. AT SOME POINT IN TIME IN THE FUTURE, THE LABORATORY WILL BE CODED IF THE MERCURY CRA STANDARD IS NOT RUN IN THE PROPER SEQUENCE.

O'Hara Property

COVER SHEET

LABORATORY RESPONSE TO RESULTS OF CONTRACT COMPLIANCE SCREENING (CCS)

4

Response To: (Check One) _____ Organic CCS

✓ Inorganic CCS

Response materials should be sent to the attention of the CCS Coordinator.

Labcode: SWOK

Response Date: JAN 12 1994

Date Screening Results Received at Laboratory: DEC 29 1993

EPA Contract No. 68-D2-0040

Case No. 21170

SDG No. MEWN02

Sample Nos.*

MEWN02

MEWN08

MEWN10

MEWN12

*Only list sample numbers that require reconciliation.

This form is used to identify materials sent in response to results of Contract Compliance Screening (CCS). A separate form must accompany the response for each SDG.

Please indicate (on the attached continuation form) which fractions and/or which criteria correspond with your resubmission. Response materials sent to CCS should also be copied to the Region and to EMSL/LV, each with this blue Cover Sheet.

Laboratory Response to Results of CCS

RAS 21170 SDG MEWW02

Criterion	Comments
B	DEFECT CODE 290:
	IN AGENCY STANDARD FILE I08, SAMPLE
	MEWW10 CONTAINED QC QUALIFIER 'REX'.
	QC QUALIFIER 'REX' HAS BEEN REMOVED,
	PREP DATE, INITIAL WEIGHT, FINAL VOLUME
	AND RECORD SEQUENCE NUMBER HAS BEEN
	ENTER AND SAMPLE RESULT CORRECTED.
FA	DEFECT CODE 790:
G	DEFECT CODES 990 & 991:
	BY THE TIME WE REALIZED THAT A DUPLICATE
	AND SPIKE WAS NOT RAN FOR WATER
	SAMPLES, HOLDING TIME FOR Hg & CN- HAD
	PAST. WE REALIZE WE ARE NON COMPLIANT
	AND ACCEPT THESE PENALTIES.
MD3	RAW DATA ICP PAGE 211 FOR ANALYTE As,
	PB, SE, & TL IS RESUBMITTED WITH SAMPLE
	ID MEWW12 CORRELTED.
	SAMPLE ID MEWW08 IS CORRECTED AND
	RESUBMITTED FOR ICP w. Cu. RAW DATA
	PAGE 452.
	Teresa A. Baker
	1-12-94

Analysis Report 4 Run 11-14-93 11:35:58 PM page 1

Method: ANGIE Sample Name: ~~MEWW12~~ MEWW12 LeB 1/12/94 Operator: AZ
Run Time: 11/14/93 23:30:34 211
Comment:
Mode: CONC Corr. Factor: 1

Elem	As	Pb	Se	Tl	Pb1	Se1	Tl1
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB
Avge	L-461.29	.61055	3.2877	35.103	.84361	.98360	35.134
SDev	1.69	1.1136	3.2560	6.501	2.3020	6.6759	7.311
%RSD	.36597	182.38	99.037	18.519	272.68	678.72	20.808
#1	L-460.53	-.52794	6.2797	27.688	-1.5777	-3.6048	26.977
#2	L-463.22	.66219	-.18001	37.796	1.1044	-2.0867	37.331
#3	L-460.11	1.6974	3.7634	39.824	3.0042	8.6423	41.094
Errors	LC Low	LC Pass	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK
High	10000.	10000.	10000.	50000.			
Low	-10.000	-3.0000	-5.0000	-10.000			

Elem	Pb2	Se2	Tl2	Al	Ca	Fe	Mg
Units	PPB	PPB	PPB	PPB	PPB	PPB	PPB
Avge	.49419	4.4380	35.073	113.76	101930.	144.17	50811.
SDev	.52640	5.8752	5.780	.76	170.	1.59	74.
%RSD	106.52	132.38	16.481	.66854	.16689	1.1018	.14553
#1	-.00385	11.215	28.400	113.21	102090.	144.17	50880.
#2	.44143	.77191	38.265	114.63	101940.	142.58	50821.
#3	1.0450	1.3276	38.553	113.43	101750.	145.76	50733.
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Mn	V
Units	PPB	PPB
Avge	-7.0684	-216.73
SDev	.0313	.33
%RSD	.44303	.15366
#1	-7.0865	-216.69
#2	-7.0865	-216.42
#3	-7.0323	-217.09
Errors	NOCHECK	NOCHECK
High		
Low		

Analysis Report Fri 11-19-93 03:36:54 PM page 1

Method: BRENT Sample Name: ~~MEWK08 1~~:9 Operator:
Run Time: 11/19/93 15:33:13 MEWW08 1:9
Comment:
Mode: CONC Corr. Factor: 1

452

Elem	Ag	Al	Ba	Be	Ca	Cd	Co
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Avge	1.5731	3984.5	62.936	-.10971	9858.9	.06430	4.0931
SDev	1.4466	19.0	.371	.01010	60.1	1.4033	3.2220
%RSD	91.962	.47612	.59017	9.2075	.60923	2182.2	78.719
#1	1.7204	3995.4	62.508	-.11557	9919.7	1.4327	2.2284
#2	2.9405	3995.5	63.149	-.11552	9857.5	.13149	7.8135
#3	.05844	3962.6	63.153	-.09805	9799.6	-1.3713	2.2373
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50000.	900000.	100000.	20000.	650000.	100000.	50000.
Low	-10.000	-200.00	-200.00	-5.0000	-5000.0	-5.0000	-50.000

Elem	Cr	Cu	Fe	K	Mg	Mn	Na
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Avge	10.585	13991.	9251.2	1500.1	5468.0	177.12	1946.1
SDev	1.540	60.	47.0	165.5	32.6	1.31	129.2
%RSD	14.546	.42606	.50838	11.030	.59573	.73858	6.6402
#1	12.322	14055.	9302.3	1656.2	5503.1	178.33	1853.3
#2	10.047	13981.	9241.7	1517.4	5462.3	177.30	1891.4
#3	9.3868	13937.	9209.7	1326.6	5438.7	175.73	2093.7
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	50000.	50000.	400000.	1000000.	900000.	20000.	800000.
Low	-10.000	-25.000	-100.00	-5000.0	-5000.0	-15.000	-5000.0

Elem	Ni	Pb	Sb	Ti	V	Zn	As
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Avge	14.573	88.303	19.039	88.346	9.4160	1551.0	29.632
SDev	1.756	5.434	4.104	1.823	2.1105	9.3	7.753
%RSD	12.050	6.1534	21.554	2.0633	22.413	.59891	26.165
#1	15.366	82.395	14.301	88.743	10.646	1560.8	32.057
#2	12.561	93.086	21.418	89.938	10.623	1549.7	20.956
#3	15.793	89.429	21.399	86.358	6.9791	1542.4	35.883
Errors	LC Pass	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	NOCHECK
High	50000.	65000.	50000.		50000.	50000.	
Low	-40.000	-18.000	-60.000		-50.000	-20.000	

Elem	Tl	Se	B	Sn	Mo	Si	Os
Units	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L	UG/L
Avge	-10.291	-89.992	63.704	29.980	11.017	321.67	27.946
SDev	30.498	7.227	5.311	1.017	2.633	7.43	1.532
%RSD	296.35	8.0307	8.3373	3.3929	23.902	2.3092	5.4836
#1	1.9548	-97.650	64.834	31.153	12.528	320.64	29.672
#2	-45.008	-83.292	68.359	29.351	12.547	329.57	27.423
#3	12.180	-89.033	57.918	29.435	7.9765	314.82	26.744
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							

O'Hara Property

RESUBMITTED DATA RECEIVED AFTER 10 DAYS
RESOLUTION PERIOD. CCS WILL RETAIN THIS
DATA ON FILE, HOWEVER IT WILL NOT BE
SCREENED AS IT WILL NOT AFFECT PAYMENT.

REGION: 5
LAB : SWOK
CASE: 21170
SDG : MEWN02

10 DAY RESOLUTION PERIOD END: 01/09/94
RESUBMISSION RECEIVED: 11/30/93
RESUBMITTED DATA WAS 4 DAYS LATE

JAN 1 5 1994

Land & Lakes #2 L.F.

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM

REGION 5 COPY

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**** S C R E E N I N G P A C K A G E ****
**** S U M M A R Y I N F O R M A T I O N ****

ILM02.1 VER. 4

SDG: MEWY33
RESUBMITTED

CASE: 21110

LAB: WADSPA

CONTRACT: 68D20049

REGION: 5

DRD: 12/01/93

FORMAT: AGENCY STD

SCREEN DATE: 11/19/93

MAIL DATE 1: 11/23/93

MAIL DATE 2: 12/09/93

SCREENER: AM

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****
****

INORGANIC CONTRACT COMPLIANCE SCREENING SUMMARY
DEFECT COUNT BY SAMPLE AND CRITERION

EXPLANATORY NOTES

THIS REPORT SUMMARIZES BY SAMPLE THE TECHNICAL DEFECTS NOTED ON THE DISKETTE AND HARDCOPY DATA PACKAGE. THE "CYN" (CYANIDE) AND "METAL" (METALS) COLUMNS SHOW WHETHER THE SAMPLE WAS (Y) OR WAS NOT (NA) ANALYZED. NUMBERS UNDER COLUMNS "A" THROUGH "MAN. DEF." SHOW THE NUMBER OF NON-COMPLIANCE DEFECTS NOTED FOR A SAMPLE WITH REFERENCE TO A SPECIFIC CRITERION.

R E S U B M I T T E D

:ASE: 21110 SAMPLES: 9 QC DONE BY: JY DATE RECEIVED: 12/01/93

.AB CODE: WADSPA CONTRACT: 68D20049 SAS NO: SCREENER: AM DATE SCREENED: 11/19/93

;DG NUMBER: MEWY33 REGION: 5 DATE MAILED: 12/09/93

SAMPLE NO.	CYN	METAL	A COVER	B DATA SHEET 1	CA ICV/CCV 2A	CB CRDL 2B	D BLANK 3	E ICS 4	FA SPIKE 5A	FB PD SPIKE 5B	G DUPS 6	H LCS 7	I MSA 8	J SER. DIL. 9	L IDL 10	M CORR FACT. 11	N LIN. RANGE 12	R PREP. LOG 13	RA RUN LOG 14	MAN. DEF.
LCSW	NA	Y																		
MEWY11	Y	Y																		
MEWY16	Y	Y																		
MEWY33	Y	Y												1						
MEWY33S	Y	Y																		
MEWY33D	Y	Y																		
MEWY38	Y	Y																		
MEWY39	Y	Y																		
MEWY43	Y	Y																		

U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM
TECHNICAL DEFECT FREQUENCY REPORT

| THIS REPORT PROVIDES A STATISTICAL SUMMARY OF THE TECHNICAL DEFECTS PRESENT IN THIS SDG. |

LAB: WADSPA SDG: MEWY33

DEFECT CODE	NUMBER OF DEFECTS	PERCENT OF TOTAL DEFECTS	DEFECT MESSAGE
1290	1	100.00	INITIAL SAMPLE RESULT IS MISSING
	1	100.00	

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SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
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| THIS REPORT DISPLAYS ALL DISKETTE RECORDS WITH STRUCTURAL PROBLEMS. |

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*****                                                 *****
*****                                                 *****
*****     NO DEFECTS FOUND FOR STRUCTURAL REPORT      *****
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U.S.E.P.A. CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP VIAR
INORGANIC CONTRACT COMPLIANCE SCREENING SYSTEM

TEXTUAL DEFECT REPORT

EXPLANATORY NOTES

THIS REPORT SUMMARIZES DEFECT MESSAGES. INFORMATION IN PARENTHESES AT THE END OF A DEFECT REFERENCES THE SOW PAGE NUMBER WHERE THE REQUIREMENTS ORIGINATED. FOLLOWING THE DEFECT MESSAGE IS A LIST OF ALL AFFECTED SAMPLES. FOR EACH SAMPLE, ADDITIONAL DETAIL REGARDING THE ELEMENT, METHOD AND VALUES ARE REPORTED.

LAB: WADSPA SDG: MEWY33

TECHNICAL DEFECTS

CRITERION J. - SERIAL DILUTIONS

Initial Sample Result is missing. (E21)

SAMPLES AFFECTED	ELEMENT	METHOD	MATRIX	REPORTED VALUE	COMPARED VALUE
MEWY33	NA	P	WATER		

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******                                           *******
******                                           *******
******    NO DEFECTS FOUND FOR MANUAL REPORT     *******
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U.S.E.P.A. - C.L.P.

SAMPLE MANAGEMENT OFFICE - OPERATED BY DYNCORP.VIAR

INORGANICS
RESOLUTION OF CONTRACT COMPLIANCE SCREENING (CCS) RESULTS

LABORATORY CODE : WADSPA CASE : 21110 SDG_NO.: MEWY33

RECONCILED BY : AM RECONCILIATION DATE : 12395

CRITERION	COMMENTS
I	THANK YOU FOR YOUR RESPONSE.
	DEFECT CODES 1107,1111,1115,1119
J	ACTION REMAINS NONCOMPLIANT.
	DEFECT CODE 1290-1 LDO FOR NA,2 LDF

P.O. BOX 818, ALEXANDRIA, VIRGINIA 22313. PHONE : (703) 519-1200/FTS-8-557-2490