OH-0293-07

146360

ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415

International Specialists in the Environment

Date Received for Review: 3-24-86 Date Review Completed: 4-2-86

TO: Pat Petrella

FROM: Suzanne Kozlowski

SUBJECT: Chemical Recovery Systems Ohio R05-8512-06

Sample Description: Case # 5558 five (5) low water metals

Project Data Status: waiting for organics

FIT Data Review Findings:

Thallium and silver data is unuseable
Blank, MEG 196, had Al, Fe, Pb and Zn detected in it.
Duplicate MEG 195 and sample MEG 198 were okay.

Additional Comments:

Book No. 5
Page No. 108

recycled paper

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 3-21-86

SUBJECT: Review of Region V CLP Data
Received for Review on 3/4/86

RECEIVED MAR 24 1986

FROM: Curtis Ross, Director (SSCRL)
Central Regional Laboratory
Jay Thepker

TO: Data Users: Fit

We have reviewed the data for the following case(s).

SITE NAME: Chemical Recovery Systems SMO Case No. 5588

EPA Data Set No. SF 3031 No. of Samples: 5 D.U./Activity Numbers Y005C48500

CRL No. 86FP04578 - 86FP04580

SMO Traffic No. WEG195 - WEG198 ; WEE311

CLP Laboratory: Chemtech Hrs. Required for Review: 1

Following are our findings.

This review covers five low concentration water samples analyzed for metals.

The spike recovery for Tl (50%) was biased low; the Tl results are estimated.

The Ag data is unuseable due to a low LCS (52%) and a low spike recovery (42%).

(The lab did not take corrective action as a result of having a a low Ag LCS %R.)

Jan Pels
3/20/86

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above.
( ) Data are preliminary - pending verification by Contractor Laboratory.
( ) Data are unacceptable.

cc: Dr. Alfred Haeberer/Joan Fisk/Gary Ward, EPA Support Services
Ross K. Robeson, EMSL-Las Vegas
Don Trees, CLP/Sample Management Office

EPA FORM 1320-6 (REV 3-76)

U.S. EPA Contract Laboratory Program
Sample Management Office
P.O. Box 818 - Alexandria, VA 22313
703/557-2490 FTS: 8-557-2490

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Date 2-26-86 CH

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name CHEMTECH CONSULTING GROUP

Case No. 5558

SOW No. 784

Q.C. Report No. 615

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEG 195	G2-615-01		
196	-02		
197	-03		
198	-04		
MEE 311	-05		

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CHICAGO, ILLINOIS 60605

Comments:

ICP Interelement and background corrections applied? Yes X No ____.

If yes, corrections applied before X or after ____ generation of raw data.

Footnotes:

NR - not required by contract at this time

Form I:

Value - If the result is a value greater than or equal to the instrument detection limit but less than the contract required detection limit, report the value in brackets (i.e., [10]). Indicate the analytical method used with P (for ICP/Flame AA) or F (for furnace).

U - Indicates element was analyzed for but not detected. Report with the detection limit value (e.g., 10U).

E - Indicates a value estimated or not reported due to the presence of interference. Explanatory note included on cover page.

s - Indicates value determined by Method of Standard Addition.

R - Indicates spike sample recovery is not within control limits.

* - Indicates duplicate analysis is not within control limits.

+ - Indicates the correlation coefficient for method of standard addition is less than 0.995

Form I

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86FP04R18

U.S. EPA Contract Laboratory Program
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EPA Sample No. MEG 196

Date 2-26-86

INORGANIC ANALYSIS DATA SHEET

LAB NAME CHEMTECH CONSULTING GROUP CASE NO. 5558

SOW NO. 784

LAB SAMPLE ID. NO. 62-615-02 QC REPORT NO. 615

BLANK

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other BK.

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	[95] P	13.	Magnesium	238 U P
2.	Antimony	50 U P	14.	Manganese	14 U P
3.	Arsenic	8 U F	15.	Mercury	0.19 U
4.	Barium	67 U P	16.	Nickel	20 U P
5.	Beryllium	3 U P	17.	Potassium	500 U P
6.	Cadmium	4 U P	18.	Selenium	4 U F
7.	Calcium	598 U P	19.	Silver	7 U PR
8.	Chromium	8 U P	20.	Sodium	2700 U P
9.	Cobalt	20 U P	21.	Thallium	6 U FR
10.	Copper	16 U P	22.	Tin	27 U F
11.	Iron	[61] P	23.	Vanadium	30 U P
12.	Lead	[3] F	24.	Zinc	26 P

Cyanide NR Percent Solids (%)

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager E Hedvall

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Form I

86EP04578

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EPA Sample No. MEG 198

Date 2-26-86

INORGANIC ANALYSIS DATA SHEET

LAB NAME CHEMTECH CONSULTING GROUP CASE NO. 5558

SOW NO. 784

LAB SAMPLE ID. NO. 62-615-04 QC REPORT NO. 615

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	8290 P	13.	Magnesium	9380 P
2.	Antimony	50u P	14.	Manganese	201 P
3.	Arsenic	8u F	15.	Mercury	0.19u
4.	Barium	[79] P	16.	Nickel	[22] P
5.	Beryllium	3u P	17.	Potassium	[4810] P
6.	Cadmium	4u P	18.	Selenium	4u F
7.	Calcium	29300 P	19.	Silver	7u PR
8.	Chromium	12 P	20.	Sodium	15700 P
9.	Cobalt	20u P	21.	Thallium	6u FR
10.	Copper	16u P	22.	Tin	27u F
11.	Iron	12000 P	23.	Vanadium	30u P
12.	Lead	9.2 F	24.	Zinc	54 P

Cyanide NR Percent Solids (%)

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments:

Lab Manager E Hedvat

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86FP04078

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EPA Sample No. MEG 195

Date 2-26-86

INORGANIC ANALYSIS DATA SHEET

LAB NAME CHEMTECH CONSULTING GROUP CASE NO. 5558

SOW NO. 784

LAB SAMPLE ID. NO. 62-615-01 QC REPORT NO. 615

Elements Identified and Measured Duplicate of MEG 198

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	8380	P	13.	Magnesium	9010	P
2.	Antimony	50 u	P	14.	Manganese	195	P
3.	Arsenic	8 u	F	15.	Mercury	0.19 u	
4.	Barium	[86]	P	16.	Nickel	20 u	P
5.	Beryllium	3 u	P	17.	Potassium	5320	P
6.	Cadmium	4 u	P	18.	Selenium	4 u	F
7.	Calcium	28100	P	19.	Silver	7 u	PR
8.	Chromium	13	P	20.	Sodium	15000	P
9.	Cobalt	20 u	P	21.	Thallium	6 u	FR
10.	Copper	16 u	P	22.	Tin	27 u	F
11.	Iron	11800	P	23.	Vanadium	30 u	P
12.	Lead	11	FS	24.	Zinc	57	P

Cyanide NR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager E Hedva

Form I

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86FP04580

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EPA Sample No. MEG 197

Date 2-26-86

INORGANIC ANALYSIS DATA SHEET

LAB NAME CHEMTECH CONSULTING GROUP CASE NO. 5558

SOW NO. 784

LAB SAMPLE ID. NO. 62-615-03 QC REPORT NO. 615

Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	8520	P	13.	Magnesium	8960	P
2.	Antimony	50u	P	14.	Manganese	196	P
3.	Arsenic	8u	F	15.	Mercury	0.19u.	
4.	Barium	67u	P	16.	Nickel	20u	P
5.	Beryllium	3u	P	17.	Potassium	5290	P
6.	Cadmium	4u	P	18.	Selenium	4u	F
7.	Calcium	27500	P	19.	Silver	7u	PR
8.	Chromium	19.4	P	20.	Sodium	14600	P
9.	Cobalt	20u	P	21.	Thallium	6u	FR
10.	Copper	16u	P	22.	Tin	27u	F
11.	Iron	12300	P	23.	Vanadium	30u	P
12.	Lead	9.6	F	24.	Zinc	56	P

Cyanide NR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager E Hedrick

Form I

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EPA Sample No. MEE 311

Date 2-26-86

INORGANIC ANALYSIS DATA SHEET

LAB NAME CHEMTECH CONSULTING GROUP CASE NO. 5558

SOW NO. 784

LAB SAMPLE ID. NO. 62-615-05 QC REPORT NO. 615

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Elements Identified and Measured

Concentration: Low ✓ Medium ____

Matrix: Water ✓ Soil ____ Sludge ____ Other ____

ug/L or mg/kg dry weight (Circle One)

1.	Aluminum	8170 P	13.	Magnesium	9060 P
2.	Antimony	50u P	14.	Manganese	191 P
3.	Arsenic	8u F	15.	Mercury	0.19u.
4.	Barium	67u P	16.	Nickel	20u P
5.	Beryllium	3u P	17.	Potassium	5420 P
6.	Cadmium	4u P	18.	Selenium	4u F
7.	Calcium	28700 P	19.	Silver	7u PR
8.	Chromium	[9.6] P	20.	Sodium	15400 P
9.	Cobalt	20u P	21.	Thallium	6u FR
10.	Copper	16u P	22.	Tin	27u F
11.	Iron	12200 P	23.	Vanadium	30u P
12.	Lead	15 FS	24.	Zinc	62 P

Cyanide NR Percent Solids (%) ____

Footnotes: For reporting results to EPA, standard result qualifiers are used as defined on Cover Page. Additional flags or footnotes explaining results are encouraged. Definition of such flags must be explicit and contained on Cover Page, however.

Comments: ____

Lab Manager E Hedrick

DATA REVIEW SHEET

CASE # 5558
DATA SET # SF3031
LAB Q.C.# 615
DATE: 3/20/86

SITE Chemical Recovery Systems
LAB Chemtech
REVIEWED BY J.F. Pels

MATRIX: 5(W)
CONC. : 5(L)

WATER SAMPLE SPK. MEG198
WATER SAMPLE DUP. MEG195
SOIL SAMPLE SPK.
SOIL SAMPLE DUP.

Metals:	CALIBRATION ICV	CCV	CCV	CCV	BLANKS ICB	PREP	PREP	ICP INTER. INT	FINAL	SPIKE WATER	SOIL	DUPLICATE WATER	SOIL	LCS WATER	SOIL		
1. Aluminum																	
2. Antimony																	
3. Arsenic																	
4. Barium																	
5. Beryllium																	
6. Cadmium																	
7. Calcium																	
8. Chromium																	
9. Cobalt																	
10. Copper																	
11. Iron																	
12. Lead																	
13. Magnesium																	
14. Manganese																	
15. Mercury																	
16. Nickel																	
17. Potassium																	
18. Selenium																	
19. Silver										42%				52%			
20. Sodium																	
21. Thallium										50%							
22. Vanadium																	
23. Zinc																	
24. Cyanide																	
Other:																	

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Form III

Q. C. Report No. 615

BLANKS

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LAB NAME CHEMTECH CONSULTING GROUP

CASE NO. 5558

DATE 2-26-86

UNITS ug/L

Matrix Low Water

Preparation Compound	Initial Calibration Blank Value	Continuing Calibration Blank Value 1	2	3	4	Preparation Blank 1	2
Metals:							
1. Aluminum	87 U	87u				87u	
2. Antimony	50 U	50u				50u	
3. Arsenic	8 U	8u				8u	
4. Barium	67 U	67u				67u	
5. Beryllium	3 U	3u				3u	
6. Cadmium	4 U	4u				4u	
7. Calcium	598 U	598u				598u	
8. Chromium	8 U	8u				8u	
9. Cobalt	20 U	20u				20u	
10. Copper	16 U	16u				16u	
11. Iron	29 U	29u				29u	
12. Lead	2 U	2u				2u	
13. Magnesium	238 U	238u				238u	
14. Manganese	14 U	14u				14u	
15. Mercury	0.19 U	0.19u.				0.19u.	
16. Nickel	20 U	20u				20u	
17. Potassium	500 U	500u				500u	
18. Selenium	4 U	4u				4u	
19. Silver	7 U	7u				7u	
20. Sodium	2700 U	2700u				2700u	
21. Thallium	6 U	6u				6u	
22. Tin	27 U	27u				27u	
23. Vanadium	30 U	30u				30u	
24. Zinc	17 U	17u				17u	
Other:							
Cyanide NR							

Form VI

Q. C. Report No. 615 RECEIVED MAR 2 4 1986

DUPLICATES

LAB NAME CHEMTECH CONSULTING GROUP

DATE 2-26-86 EH

CASE NO. 5558
EPA Sample No. MEG-195
Lab Sample ID No. G2-615-01
Units ug/L

Matrix Low Water

Compound	Control Limit[1]	Sample(S)	Duplicate(D)	RPD[2]
Metals:				
1. Aluminum		8380	8970	6.8
2. Antimony		50u	50u.	NC.
3. Arsenic		8u	8u	NC.
4. Barium		[86]	67u:	NC.
5. Beryllium		3u	3u	NC.
6. Cadmium		4u	4u	NC.
7. Calcium		28100	27700	1.4
8. Chromium		13	[9.1]	NC.
9. Cobalt		20u	20u	NC.
10. Copper		16u	16u	NC.
11. Iron		11800	12800	8.1
12. Lead		11	10	9.5
13. Magnesium		9010	9070	0.7
14. Manganese		195	206	5.5
15. Mercury		0.19u	0.19u.	NC.
16. Nickel		20u.	20u	NC.
17. Potassium		5320	5420	1.9
18. Selenium		4u	4u	NC.
19. Silver		7u.	7u	NC
20. Sodium		15000	15000	0
21. Thallium		6u	6u	NC.
22. Tin		27u	520	NC.
23. Vanadium		30u.	30u	NC.
24. Zinc		57	53.	7.3
Other:				
Cyanide NR				

* Out of Control

[1] To be added at a later date.

[2] RPD = [|S - D|/((S + D)/2)] x 100

NC - Non calculable RPD due to value(s) less than CRDL

Form V

Q. C. Report No. 615 RECEIVED MAR 2 4 1986

SPIKE SAMPLE RECOVERY

LAB NAME CHEMTECH CONSULTING GROUP

DATE 2-26-86 EH

CASE NO. 5558

EPA Sample No. MEG-197

Lab Sample ID No. G2-615-03

Units ug/L

Matrix Low Water

Compound	Control Limit %R	Spiked Sample Result (SSR)	Sample Result (SR)	Spiked Added (SA)	%R[1]
Metals:					
1. Aluminum	75-125	8990	8520	2000	24
2. Antimony	-	455	50u	500	91
3. Arsenic	-	15	8u	20	75
4. Barium	-	1770	67u	2000	89
5. Beryllium	-	43	3u	50	86
6. Cadmium	-	42	4u	50	84
7. Calcium	-	117000	27500	100000	90
8. Chromium	-	175	[9.4]	200	83
9. Cobalt	-	426	20u	500	85
10. Copper	-	210	16u	250	84
11. Iron	-	12300	12300	1000	0
12. Lead	-	29	9.6	20	97
13. Magnesium	-	52700	8960	50000	87
14. Manganese	-	363	196	200	84
15. Mercury	-	0.8	0.19u	1.0	80
16. Nickel	-	342	20u	400	86
17. Potassium	-	48300	5290	50000	86
18. Selenium	-	8	4u	10	80
19. Silver	-	21	7u	50	42 R.
20. Sodium	-	98400	14600	100000	84
21. Thallium	-	25	6u	50	50R.
22. Tin	-	185	27u	200	93
23. Vanadium	-	453	~~20~~ 30u	500	91
24. Zinc	-	229	56	200	87
Other:					
Cyanide NR	-			100	

[1] %R = [(SSR - SR)/SA] x 100

"R" - out of control

Comments: