REFERENCE 6
SITE NAME Alton Municipal Landfill
SITE ID IL D980412614

ILD336-06

APR 05 1985

California Analytical Laboratories, Inc.
8544 Industrial Boulevard • West Sacramento, CA 95691 • (916) 372-1393

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

SF 989

DATE REPORTED: 2/28/85
Date Received: 1/11/85

COVER PAGE
INORGANIC ANALYSES DATA PACKAGE

Lab Name: California Analytical Labs, Inc.

Case No.: 3569
Q.C. Report No.: 3569

Sample Numbers

EPA No.	Lab ID No.	EPA No.	Lab ID No.
MEB484	P2045	MEB485	P2046
MEB486	P2047	MEB487	P2048
MEB488	P2049	MEB489	P2050
MEB490	P2051		

Comments:

EPA Region 5 Records Ctr.
288696

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MAR 05 1985
US EPA REGIONAL LAB.
536 S. CLARK STREET
CHICAGO, ILLINOIS 60605

ICP Interelement and background corrections applied? Yes.

Footnotes:

NR - not required by contract at this time
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), F (for furnace), or CV (for cold vapor).
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

Mark Masing
Director of Inorganic Services

Anthony S. Wong, PhD
Vice President
Research and Analytical Services

1.

ecology and environment, inc.
223 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60606, TEL 312 663 9415
International Specialists in the Environmental Sciences

Date Received for Review: ~~4/5/85~~ 3/29/85 Date Review Completed: 4/17/85

To: Nick Longo

From: Cynthia Bachunas / Cynthia Pugh

Subject: Alton Landfill (Illinois)

(R5-8410-1)

Sample Description: CASE 3569- Low Water + Low Soil Organics; Low Water + Low Soil Metals + Cyanides

Project Data Status: Complete

FIT Data Review Findings:

Low Water + Low Soil Metal + Cyanide data acceptable with qualifications noted on attached review sheet.

The attached Low Water + Low Soil Organic data has been received unreviewed by CRL. Although it has passed the CLP QA requirements, it will not be further reviewed to assure accuracy per regional requirements unless otherwise requested. Please see Tom Clyne to evaluate whether a re-review is necessary.

Additional Comments:

Phenol was detected in the duplicate (EA 238) below detection limits, but it was not detected in the sample (EA 235).

Percent (RPD) differences were exceeded for benzoic acid, 4-methyl phenol, and di-n-butyl phthalate between the sample and duplicate, but these substances were found below the detection limits. Data for these substances may be unacceptable.

More QA. info. available in Rene Hix' file if needed.

recycled paper

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DATA QUALIFIERS

Contractor: CAL

Case 3569 SF-989

Below is a summary of the out of control audits and the possible effect on the data for this case:

Spike analysis of As, Ba, Pb, Ni, Se, Ag, Tl, Sn and Zn gave low recoveries of 0, 17, 40, 69, 0, 0, 46, 31 and 36% respectively in the low water spike. Data for Ni will be biased low because of the low recovery. The data for As, Ba, Pb, Se, Ag, Tl, Sn and Zn are not useable because the recoveries are too low. Spike analysis of Hg gave a high recovery of 146%; data for Hg can not be used.

Spike analysis of Sb, As, Se, Ag, Sn, & CN^- gave low recoveries of 21, 28, 0, 47, 23 and 42% respectively on the low soil spike. The data for these parameters can not be used because of unacceptable low recoveries. Spike analysis for Pb, Mn and Hg gave high recoveries of 165, 146 and 164% respectively. Because of the high recoveries data for these elements cannot be used. Duplicate analysis of the low soil sample for Cr + Fe gave RPD's of 78 & 52% respectively. The data for these two elements will be imprecise. The correlation coefficients for As are 0.984 & 0.990 which is less than 0.995.

No LCS data is being provided because the lab claims that they cannot get an aqueous LCS from Las Vegas.

Reviewed by: Aaron D. Fyetelb

Phone: 886-1973

Date: 3-29-85

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: 3-29-85

SUBJECT: Review of Region V CLP Data
Received for Review on 3/1/85

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory Jay Thurston

TO: Data User: / /

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

SITE NAME: / / / / SMO Case No.

EPA Data Set No. / No. of Samples: D.U./Activity Numbers /

CRL No.

SMO Traffic No.

CLP Laboratory: / Hrs. Required for Review: 7 1/2

Following are our findings. This review covers 7 samples. Spike analysis of As, Ba, Pb, Ni, Se, Ag, Tl, Sn & Zn gave low recoveries of 0, 17, 40, 69, 0, 0, 46, 31 & 36% respectively on the low water spike. Data for Ni will be biased low because of low recovery. Data for As, Ba, Pb, Se, Ag, Tl, Sn & Zn are not usable because of low recoveries. Spike analysis of Hg gave a high recovery of 146%; the data for Hg is high biased. Spike analysis of Pb, As, Se, Ag, Sn & CN gave low recoveries of 21, 28, 0, 47, 23 & 47% respectively on the low soil spike. The data for these parameters are not biased. The soil spike gave high results of 165, 146 & 164% for Pb, Mn & Hg. The soil analysis data for these elements cannot be used. Data for Cr & Fe are imprecise, the RPD's are 78 & 52% respectively.

The lab is not providing LCS data because it claims that it can not get any aqueous LCS for analysis.

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications noted above. Cheryl Chystek 3-29-85
( ) 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

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EPA FORM 1320-6 (REV 3-76)

REGION V, U.S. ENVIRONMENTAL PROTECTION AGENCY
ESD/Central Regional Laboratory

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DATA TRACKING - FORM I

CRL Data Set No. [illegible] ERRIS No. _____

SMO Case No. [illegible] Site Name: [illegible]

Name of Laboratory: [illegible] Data User: [illegible]

No. of Samples: [illegible] Date Samples Received: [illegible]

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic reports been received? YES ___ NO ✓
3. If no, are Traffic report numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report numbers are missing?

5. Are basic data forms in? YES ✓ NO ___
6. Number of samples claimed: [illegible] Number of samples received: 7
7. Checked by: [illegible] Date: [illegible]
8. Received by Contract Project Management Section: JA Date: 3-7-85
9. Review Started: 3-22-85 Reviewer Signature: A. O. [illegible]
10. Total time spent on review: _____ Date review completed: _____
11. Copied (xeroxed) by: Willie [illegible] Date: 4/1/85
12. Mailed to Data User by: _____ Date: _____

TO DATA USERS:

Please fill in the blanks and return this form to:

Charles Elly, DPO, Region V, 5SCRL

13. Data received by: Cynthia [illegible] Date: 4-5-85
14. Q.A. review received by: Cynthia [illegible] Date: 4-5-85
15. Received by CRL - CPM Section for file by: _____

Data for ME B484-490 rec'd. Date: _____

Complete

5

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MEB484
DATE:2/28/85

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INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2045

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD	UG/L	
1. ALUMINIUM...P	556	
2. ANTIMONY....P	<14 U	
3. ARSENIC.....P	N/R	
3. ARSENIC.....F	<4.6 U	R
4. BARIUM.....P	[71]	R
5. BERYLLIUM...P	<0.60 U	
6. CADMIUM.....P	<4.0 U	
7. CALCIUM.....P	102200	
8. CHROMIUM....P	11	
9. COBALT.....P	<6.9 U	
10.COPPER.....P	[= 16]	
11.IRON.....P	475	
12.LEAD.....P	N/R	
12.LEAD.....F	<3.7 U	R
13.MAGNESIUM...P	42630	
14.MANGANESE...P	662	
15.MERCURY....CV	<0.2 U	R A-W
16.NICKEL.....P	<34 U	R
17.POTASSIUM...P	<503 U	*
18.SELENIUM....P	N/R	
18.SELENIUM....F	<4.2 U	R
19.SILVER.....P	<2.6 U	R
20.SODIUM.....P	23950	
21.THALLIUM....F	<4.1 U	R
22.TIN.....P	<36 U	R
23.VANADIUM....P	[7]	
24.ZINC.....P	526	R
25.CYANIDE.....C	25	

COMMENTS:

LAB MANAGER:

6.

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MEB485
DATE:2/28/85

6103

RECEIVED APR 0 5 1985

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2046

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD	UG/L	
1. ALUMINIUM...P	3582	
2. ANTIMONY....P	<14 U	
3. ARSENIC.....P	N/R	
3. ARSENIC.....F	<4.6 U	R
4. BARIUM.....P	<18 U	R
5. BERYLLIUM...P	[2.5]	
6. CADMIUM.....P	27	
7. CALCIUM.....P	251300	
8. CHROMIUM....P	22	
9. COBALT.....P	[30]	
10.COPPER.....P	33	
11.IRON.....P	25840	
12.LEAD.....P	N/R	
12.LEAD.....F	[4]	R
13.MAGNESIUM...P	80800	
14.MANGANESE...P	2129	
15.MERCURY....CV	<0.2 U	R A
16.NICKEL.....P	278	R
17.POTASSIUM...P	[4252]	*
18.SELENIUM....P	N/R	
18.SELENIUM....F	<4.2 U	R
19.SILVER.....P	<2.6 U	R
20.SODIUM.....P	42470	
21.THALLIUM....F	<4.1 U	R
22.TIN.....P	<36 U	R
23.VANADIUM....P	[13]	
24.ZINC.....P	775	R
25.CYANIDE.....C	<3.5 U	

COMMENTS:

LAB MANAGER:

7.

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MEB488
DATE:2/28/85

INORGANIC ANALYSIS SHEET

RECEIVED APR 0 5 1985

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2049

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD		UG/L		
1. ALUMINIUM...P		630		
2. ANTIMONY....P		<14 U		
3. ARSENIC.....P		N/R		
3. ARSENIC.....F		<4.6 US	+	R
4. BARIUM.....P	[	100		R
5. BERYLLIUM...P	[	0.7		
6. CADMIUM.....P		<4.0 U		
7. CALCIUM.....P		218200		
8. CHROMIUM....P		32		
9. COBALT.....P		<6.9 U		
10.COPPER.....P	[	10		
11.IRON.....P		6175		
12.LEAD.....P		N/R		
12.LEAD.....F		<3.7 US	+	R
13.MAGNESIUM...P		62530		
14.MANGANESE...P		2619		
15.MERCURY....CV		<0.2 U		R
16.NICKEL.....P		<34 U		R
17.POTASSIUM...P		57050		*
18.SELENIUM....P		40		
18.SELENIUM....F		<4.2 U		R
19.SILVER.....P	[	6		R
20.SODIUM.....P		124300		
21.THALLIUM....F		<4.1 US	+	R
22.TIN.....P		<36 U		R
23.VANADIUM....P	[	21		
24.ZINC.....P		196		R
25.CYANIDE.....C		<3.5 U		

COMMENTS:

LAB MANAGER:

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MEB489

DATE:

SW2

RECEIVED APR 0 5 1985

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2050

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD	UG/L	
1. ALUMINIUM...P	359	
2. ANTIMONY....P	<14 U	
3. ARSENIC.....P	N/R	
3. ARSENIC.....F	<4.6 U	R
4. BARIUM.....P	[69]	R
5. BERYLLIUM...P	[0.7]	
6. CADMIUM.....P	<4.0 U	
7. CALCIUM.....P	117500	
8. CHROMIUM....P	27 ←	
9. COBALT.....P	<6.9 U	
10.COPPER.....P	[12]	
11.IRON.....P	1382	
12.LEAD.....P	N/R	
12.LEAD.....F	<3.7 U	R
13.MAGNESIUM...P	41060	
14.MANGANESE...P	555 ←	
15.MERCURY....CV	<0.2 U	R
16.NICKEL.....P	<34 U	R
17.POTASSIUM...P	7190	*
18.SELENIUM....P	49 ←	
18.SELENIUM....F	<4.2 U	R
19.SILVER.....P	[7]	R
20.SODIUM.....P	41170	
21.THALLIUM....F	<4.1 U	R
22.TIN.....P	<36 U	R
23.VANADIUM....P	[18]	
24.ZINC.....P	49	R
25.CYANIDE.....C	<3.5 U	

COMMENTS:

LAB MANAGER:

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MEP486
DATE:2/28/85

INORGANIC ANALYSIS SHEET

RECEIVED APR 0 5 1985

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2047

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD		UG/L	
1. ALUMINIUM...P		388	
2. ANTIMONY....P		<14 U	
3. ARSENIC.....P		N/R	
3. ARSENIC.....F		<4.6 U	R
4. BARIUM.....P	[	67]	R
5. BERYLLIUM...P	[	0.8]	
6. CADMIUM.....P		<4.0 U	
7. CALCIUM.....P		114500	
8. CHROMIUM....P		27	
9. COBALT.....P		<6.9 U	
10.COPPER.....P	[	11]	
11.IRON.....P		1369	
12.LEAD.....P		79	
12.LEAD.....F		<3.7 U	R
13.MAGNESIUM...P		40370	
14.MANGANESE...P		548	
15.MERCURY....CV		<0.2 U	R
16.NICKEL.....P		<34 U	R
17.POTASSIUM...P		7559	*
18.SELENIUM....P		N/R	
18.SELENIUM....F		<4.2 U	R
19.SILVER.....P	[	7]	R
20.SODIUM.....P		40820	
21.THALLIUM....F		<4.1 U	R
22.TIN.....P		<36 U	R
23.VANADIUM....P	[	18]	
24.ZINC.....P		31	R
25.CYANIDE.....C	[	9]	

COMMENTS:

LAB MANAGER:

10

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MFB487
DATE:2/28/85

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INORGANIC ANALYSIS SHEET

RECEIVED APR 0 5

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2048

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: MEDIUM
MATRIX: WATER: XX

ELEMENTS..METHOD		UG/L	
1. ALUMINIUM...P		<161 U	
2. ANTIMONY....P		<14 U	
3. ARSENIC.....P		N/R	
3. ARSENIC.....F		<4.6 U	R
4. BARIUM.....P		<18 U	R
5. BERYLLIUM...P	[	0.7]	
6. CADMIUM.....P		<4.0 U	
7. CALCIUM.....P		<427 U	
8. CHROMIUM....P		20 ← ?	
9. COBALT.....P		<6.9 U	
10.COPPER.....P		68 ←	
11.IRON.....P		166	
12.LEAD.....P		N/R	
12.LEAD.....F		<3.7 U	R
13.MAGNESIUM...P		<368 U	
14.MANGANESE...P	[	5]	
15.MERCURY....CV		<0.2 U	R
16.NICKEL.....P		<34 U	R
17.POTASSIUM...P	[	3127]	*
18.SELENIUM....P		47 ←	
18.SELENIUM....F		<4.2 U	R
19.SILVER.....P	[	7]	R
20.SODIUM.....P		<585 U	
21.THALLIUM....F		<4.1 U	R
22.TIN.....P		<36 U	R
23.VANADIUM....P	[	16]	
24.ZINC.....P		21 ?	R
25.CYANIDE.....C		<3.5 U	

COMMENTS:

LAB MANAGER:

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RECEIVED APR 0 5 1985

U.S. EPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA,VA 22313
703/557-2490 FTS:8-557-2490

EPA SAMPLE NO:
MEB490
DATE:2/28/85

INORGANIC ANALYSIS SHEET

LAB NAME: CALIF.ANAL.LAB. CASE NO:3569
SOW NO.: 68-01-6810 QC RPT.#3569
LAB.SAMPLE NO.: P2051

ELEMENTS IDENTIFIED AND MEASURED

CONC.: LOW: XX MEDIUM:
MATRIX: SOIL: XX

ELEMENTS..METHOD		MG/KG		DRY WEIGHT
1. ALUMINIUM...P		10043.48		
2. ANTIMONY....P		<7 U		R
3. ARSENIC.....P		N/R		
3. ARSENIC.....F		13.04	S +	R
4. BARIUM.....P	[	91.74]		
5. BERYLLIUM...P	[	1.01]		
6. CADMIUM.....P		<2.0		
7. CALCIUM.....P		10528.99		
8. CHROMIUM....P		23.19		*
9. COBALT.....P	[	9.13]		
10.COPPER.....P	[	18.62]		
11.IRON.....P		50000		*
12.LEAD.....P		N/R		
12.LEAD.....F		6.38	S	R
13.MAGNESIUM...P		5289.13		
14.MANGANESE...P		747.1		R
15.MERCURY....CV		<0.1 U		R
16.NICKEL.....P	[	24.49]		
17.POTASSIUM...P	[	2881.88]		
18.SELENIUM....P		N/R		
18.SELENIUM....F		<2.1 U		R
19.SILVER.....P		<1.3 U		R
20.SODIUM.....P	[	1736.23]		
21.THALLIUM....F	[	4.13]		
22.TIN.....P		<18 U		R
23.VANADIUM....P	[	26.96]		*
24.ZINC.....P		74.28		
25.CYANIDE.....C		<0.36 U		R
% SOLID		69		

COMMENTS:

LAB MANAGER:

12

REVIEW OF CLP INORGANIC DATA

RECEIVED APR 0 5 1985

Contractor: CAL

Case SF-989 3569

The data package for this case was reviewed by Region V, Central Regional Laboratory personnel in accordance with the "Standard Operating Procedure for Contract Laboratory (CLP) Data Review; August 1984". The quality of the data was assessed based on laboratory compliance with the contract and the data quality objectives as defined by the user.

This review covers the following samples and parameters:

SMO#	CRL#	MATRIX	CONCENTRATION
MEB 484	85MLC6589	Water	Low
485	590		
486	591		
487	R11		
488	592		
489	D91		
490	593	Soil	Low