ROSENMAN & COLIN

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RICHARD G. LELAND
(212) 940-8700

September 17, 1991

BY HAND

Dorothy Allen
Project Manager
United States Environmental Protection Agency
Region II
26 Federal Plaza
New York, N.Y. 10278

Re: Anchor Chemical Superfund Site, Hicksville, N.Y.
Administrative Order, Index No. II CERCLA-90208

Dear Ms. Allen:

As per the above-referenced Administrative Order, enclosed please find a "Tank Closure Report," dated August 23, 1991.

Sincerely,

Richard G. Leland (K.C.B.)

Richard G. Leland

Encl.

cc: Spiegel Associates (w/out encl.)

TANK CLOSURE REPORT

Anchor Chemical Site
500 W. John Street
Hicksville, New York

August 23, 1991

Prepared for:

Spiegel Associates
375 North Broadway
Jericho, New York 11753

Prepared by:

ROUX ASSOCIATES, INC.
775 Park Avenue
Huntington, New York 11743

The underground tank inspection (Task 2) at the Anchor Chemical Site was performed in accordance with the Anchor Chemical Remedial Investigation Work Plan. This task consisted of inspecting and sampling (if applicable) 12 underground tanks of unknown status located beneath the concrete floor of the 500 West John Street building.

The underground tank inspection and closure was conducted from June 8 through June 14, 1991 by Enro-Serve, a subsidiary of Stout Environmental. Enro-Serve was contracted to Spiegel Associates to perform the underground tank inspection in accordance with the April 10, 1991 RI Work Plan and Project Operations Plan for the Site. Roux Associates, Inc., observed the underground tank inspection as consultant to Spiegel Associates, while Alliance Technology observed the operation as consultant to the United States Environmental Protection Agency (USEPA).

Prior to initiation of the work, Spiegel Associates hired a construction contractor to install plastic dust barriers within the building to contain any dust or debris created by the work. The building, which is currently occupied by a furniture company, was evacuated for the duration of the underground tank inspection as specified in the Site Health and Safety Plan.

On June 8, 1991 Enro-Serve cut through the building's concrete floor (approximately 4-inches thick) to expose the manways of eight of the underground tanks. All concrete debris was removed from the building and carted away the same day. The following week (June 10-14, 1991), Enro-Serve exposed the remaining four tanks to be inspected and opened the 12 tanks. The Enro-Serve worker who open the tanks wore a full-face respirator on an air line connected to bottled air, and took explosimeter and percent oxygen measurements within each tank immediately after opening the manways.

In the north room (the Combustible Mixing Room [CMR]), Enro-Serve exposed and opened the manways of Tanks 1 through 4. Tanks 1, 2, and 3 were found completely filled with concrete, while Tank 4 was found half filled with concrete (Figure 1). Tank 1 was slightly overfilled with concrete and the manway cover was bulging. All soil that had been removed from above the tanks was piled along the north wall inside the CMR. The soil appeared clean, and all Hnu readings (taken by Alliance) were reportedly zero.

In the south room (the Flammable Mixing Room [FMR]), the concrete slab was removed in about six locations, and the seven tanks to be investigated (Tanks 7, 9, 10, 12, 13, 14, and 17) had been located. Each tank had a manway with the exception of Tank 17. Enro-Serve opened the manways of these tanks and used a Sawsall saw to cut open Tank 17. Four of these tanks (Tanks 9, 12, 13, and 14) were found filled with concrete, and Tanks 7, 10, and 17 were empty and, based on our visual inspection and Hnu readings, appeared clean (Figure 1).

In the warehouse, Tank 16 was located and a manway exposed (Figure 1). When the manway was opened, Enro-Serve's initial explosimeter reading was within the explosive range, but this quickly dropped to background levels. The tank contained about 550 gallons of water. OVM and Hnu readings were zero above and inside the tank prior to sampling the water. Enro-Serve bailed water from the tank using a "sludge judge" (similar to a bailer) and collected samples. The samples collected by Enro-Serve were turned over to Roux Associates, Inc. to label, complete chain-of-custody documentation, pack on ice, and ship to CEIMIC Corporation's laboratory for TCLP analysis. Alliance collected a split sample to be analyzed by the USEPA's laboratory.

After sampling the water, Enro-Serve pumped the water from Tank 16 into eleven 55-gallon drums. All 55-gallon drums were sealed and placed just outside the building on pallets. Each drum lid was labeled as "Hazardous Waste Liquid". The 55-gallon drums were later moved to the northwest corner of the Site and properly stored on pallets on pavement and within a bermed area constructed of sand.

The four empty tanks (Tanks 7, 10, 16, and 17) were cleaned on July 12, 1991. Enro-Serve lowered a man into each tank to clean it. The worker within the confined space cleaning the inside of the tanks was in full Level B attire, in a full-face respirator on an airline (supplied bottled air), and attached to safety ropes. One Enro-Serve worker was outside the tank holding the safety ropes, and another was lowering equipment to the man in the tank. If liquid remained in the bottom of the tank, it was removed with a diaphragm pump. Each of the four tanks was scraped, and the scrapings removed either with a pump or manually (bucket). Oil-Dri absorbent was lowered into the tanks that had moisture in them, and

spread around with a shovel. All the used Oil-Dri was removed from the tanks and drummed.

After scrapping Tank 10, the total vapor readings measured on the OVM and Hnu were approximately 234 ppm and 55 ppm, respectively. CO_2 gas (fire extinguisher), added to the tank to decrease the vapor concentration, brought the OVM reading down to 33 ppm. Enro-Serve then tried to remove all remaining vapors by pumping air into Tank 10 while all workers left the building. The OVM reading then increased to 201 ppm. This prompted Enro-Serve to power-wash Tank 10 with cold water to remove vapors trapped in the tank walls. Rinse water was vacuumed from the tank, Oil-Dri was used to absorb the remaining moisture, and the used Oil-Dri removed from the tank and drummed.

According to the federal underground storage tank (UST) regulations, a tank should be clean and "vapor-free" prior to abandonment. To accomplish this, Enro-Serve used dry ice and CO_2 gas (fire extinguisher) to evacuate the vapors which remained in Tanks 4, 7, 10, and 17. The final OVM and Hnu readings for each empty (and partially empty) tank are given in Table 1.

With the USEPA's approval, Enro-Serve and a concrete contractor filled Tanks 7, 10, 16, and 17, and the remainder of Tank 4 with concrete. The results of the tank inspections are summarized in Table 2.

After the tanks had been filled with concrete, Malcolm Barkan of MIB Consulting (affiliated with Enro-Serve) marked out the locations of six soil borings to be drilled within the building, and prepared a map of these locations.

The sample collected from Tank 16, along with additional sample volume collected from the drums stored at the Site, was shipped to CEIMIC Corp. (laboratory) by Roux Associates. The sample was analyzed for the toxicity characteristic leaching procedure (TCLP) parameters, plus ignitability, reactivity, and corrosivity according to USEPA Methods. Two metals were detected in the sample as follows: arsenic (0.3 ppm), and barium (0.02 ppm). All other analytes were below the applicable detection limit. CEIMIC Corporation's analytical report is given in Appendix A.

Respectfully submitted,

ROUX ASSOCIATES, INC.

Joanne Yeary
Senior Hydrogeologist

Paul Roux
President

301662

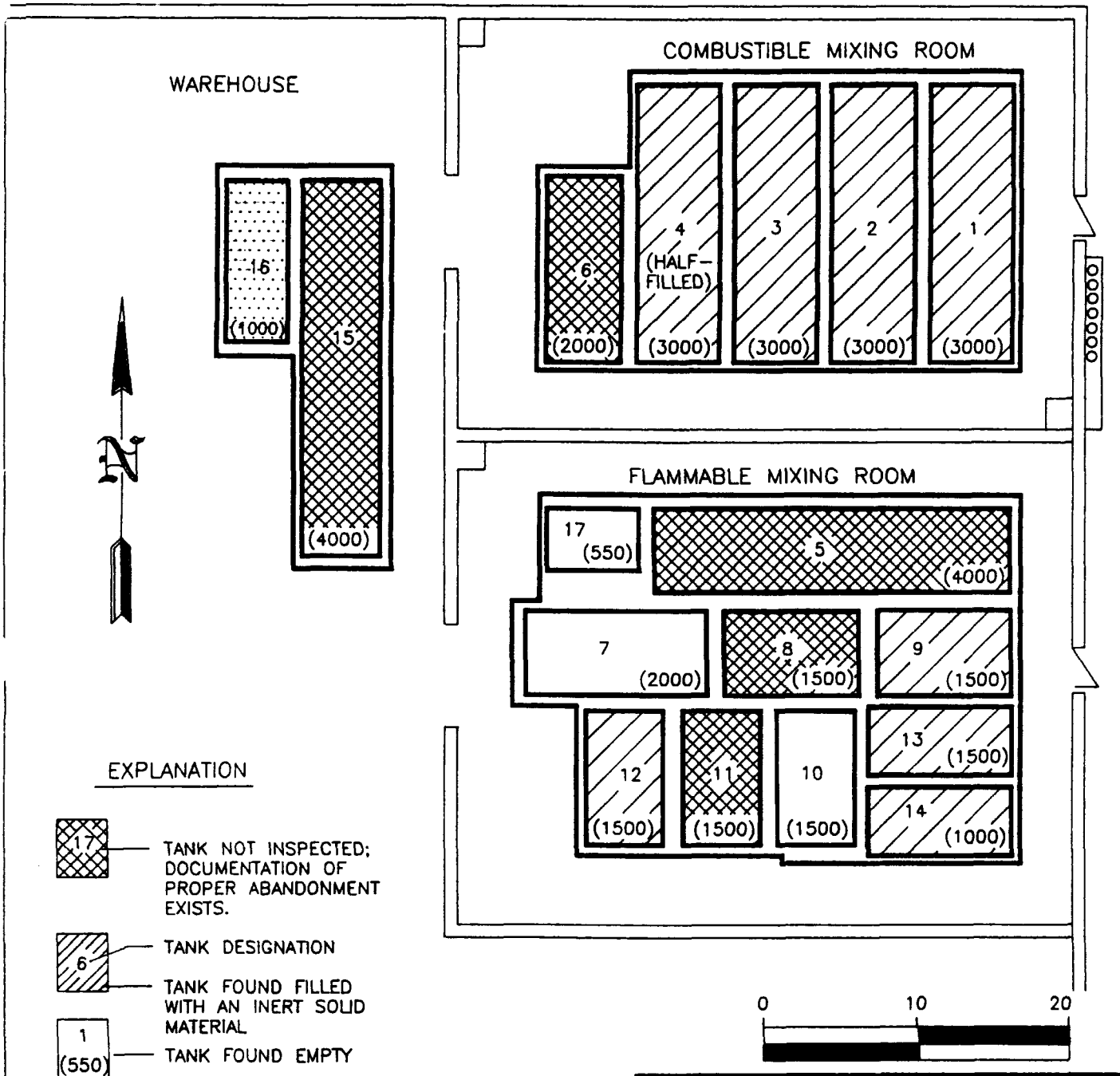
Table 1. Final Photoionization Meter Readings Taken Within the Underground Tanks on June 12, 1991, Anchor Chemical Site, Hicksville, New York.

Tank Designation	OVM Reading (ppm)	Hnu Reading (ppm)
Tank 4	0 to 1.3	6 to 7
Tank 7	0	19
Tank 10	9	5
Tank 16	0	0
Tank 17	4	3.8

Table 2. Summary of Underground Tank Inspections Performed from June 8 Through June 12, 1991, Anchor Chemical Site, Hicksville, New York.

Tank Designation	Tank Contents	Work Performed by Enro-Serve
Tank 1	Concrete	None
Tank 2	Concrete	None
Tank 3	Concrete	None
Tank 4	1/2 Concrete 1/2 Empty	Vapors removed, tank filled with concrete
Tank 7	Empty	Tank scrapped, dried, vapors removed, tank filled with concrete
Tank 9	Concrete	None
Tank 10	Empty	Tank scrapped, power-washed, dried, vapors removed and tank filled with concrete
Tank 12	Concrete	None
Tank 13	Concrete	None
Tank 14	Concrete	None
Tank 16	550 gallons of water	Water sampled and removed, tank scrapped, dried and filled with concrete
Tank 17	Empty	Tank scrapped, dried, vapors removed and tank filled with concrete

FIGURES



EXPLANATION

17 — TANK NOT INSPECTED; DOCUMENTATION OF PROPER ABANDONMENT EXISTS.

6 — TANK DESIGNATION

TANK FOUND FILLED WITH AN INERT SOLID MATERIAL

1 (550) — TANK FOUND EMPTY

TANK CAPACITY, IN GALLONS

16 — TANK FOUND TO CONTAIN WATER; WATER SAMPLED

NOTE: STATUS OF TANKS DURING TASK 2 OF REMEDIAL INVESTIGATION, JUNE 8–14, 1991

Title:

STATUS OF UNDERGROUND STORAGE TANKS AT THE ANCHOR CHEMICAL SITE

HICKSVILLE, NEW YORK

Prepared For: SPIEGEL ASSOCIATES

ROUX ASSOCIATES INC
Consulting Ground-Water Geologists & Engineers

Compiled by: J.Y.	Date: 7/91	FIGURE
Prepared by: S.W.	Scale: SHOWN	1
Project Mgr: J.Y.	Revision:	
File No: SP603A02		

301667

APPENDIX A

CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

July 17, 1991

Mr. Fred Werfel
Spiegel Associates
375 North Broadway
Jericho, NY 11753

Dear Mr. Werfel:

Enclosed is the data report of results for the analyses of samples which were received at CEIMIC Corporation on June 12, 1991.

Due to difficulty with the herbicide analyses, the samples had to be reextracted out of holding time.

Please call if you have any questions.

Sincerely,

Kin S. Chiu
Organic Laboratory
Manager

KSC/ll

enc.

301670

10 Dean Knauss Drive, Narragansett, R.I. 02882 • (401) 782-8900 • FAX (401) 782-8905

VOLATILE ORGANIC ANALYSES

CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

SURROGATE RECOVERY SUMMARY

Volatile Organics Analysis

Client: Roux Associates

Date Samples Received: 6/12/91

Project No.: 910312

Matrix: Leachate

Surrogate Compound	TCLP Extraction Blank	Samples -01	QC Limits
1,2-Dichloroethane-d4	97 %	96 %	76 - 114
Toluene-d8	99	102	88 - 110
Bromofluorobenzene	97	104	86 - 115

Reported by: KC

301672

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

VOLATILE ORGANICS TARGET ANALYTES

Client: Roux Associates

Client Sample ID: TCLP Extraction Blank Date Sampled: NA

Laboratory ID: VTCLP0618-B1 Date TCLP performed: 6/18/91

Concentration in: ug/L (ppb) Date Leachate Analyzed: 6/24/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
Benzene	ND	5	--	--
Carbon tetrachloride	ND	5	--	--
Chlorobenzene	ND	5	--	--
Chloroform	ND	5	--	--
1,2-Dichloroethane	ND	5	--	--
1,1-Dichloroethylene	ND	5	--	--
Methylethylketone	ND	10	--	--
Tetrachloroethylene	ND	5	--	--
Trichloroethylene	ND	5	--	--
Vinyl chloride	ND	10	--	--
Pyridine	ND	1,000	--	--

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

NA = Not applicable
ND = Not detected

Reported by: AJK Approved by: KC

301673

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

VOLATILE ORGANICS TARGET ANALYTES

Client: Roux Associates

Client Sample ID: Tank 16 — Date Sampled: 6/11/91

Laboratory ID: 910312-01 — Date TCLP performed: 6/18/91

Concentration in: ug/L (ppb) — Date Leachate Analyzed: 6/20/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
Benzene	ND	5	ND	7
Carbon tetrachloride	ND	5	ND	6
Chlorobenzene	ND	5	ND	7
Chloroform	ND	5	ND	6
1,2-Dichloroethane	ND	5	ND	6
1,1-Dichloroethylene	ND	5	ND	5
Methylethylketone	ND	10	ND	12
Tetrachloroethylene	ND	5	ND	6
Trichloroethylene	ND	5	ND	6
Vinyl chloride	ND	10	ND	11
Pyridine	ND	1,000	ND	2,300

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Library Search:

Compound	Retention Time	Estimated Concentration
Unknown	3.92 min.	8
Acetone	4.47	310
Methylene Choride	5.23	200

ND = Not detected

Reported by: AJK — Approved by: KC

301674

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

VOLATILE ORGANICS TARGET ANALYTES

MATRIX SPIKE ANALYSIS SUMMARY

EPA METHOD 8240

Client: Roux Associates

Client Sample ID: Tank 16 Laboratory ID: 910312-01

Date Analyzed: 6/26/91 Concentration in: ug/L (ppb)

Target Analyte	Sample Result	Spike Added	Spiked Sample Result	Percent Recovery
Benzene	ND	50	37	75%
Carbon tetrachloride	ND	50	44	88
Chlorobenzene	ND	50	37	74
Chloroform	ND	50	43	86
1,2-Dichloroethane	ND	50	40	79
1,1-Dichloroethylene	ND	50	49	98
Methylethylketone	ND	50	41	82
Tetrachloroethylene	ND	50	40	80
Trichloroethylene	ND	50	44	88
Vinyl chloride	ND	50	47	94
Pyridine	ND	2000	870	44

This matrix spike analysis summary applies to the following samples:
Tank 16

ND = Not detected

Reported by: AJK Approved by: KC

301675

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TCLP SEMIVOLATILE ORGANIC ANALYSES

CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

SURROGATE RECOVERY SUMMARY

Semivolatile Organics

Client: Roux Associates

Project No.: 910312

Date Samples Received: 6/20/91

Matrix: TCLP Leachate

Surrogate Compound	TCLP Extraction Blank	Samples -01	-01MS	QC Limits
2-Fluorophenol	69 %	71 %	70 %	21-100
Phenol-d5	54	54	51	10 -94
2,4,6-Tribromophenol	72	65	72	10-123
Nitrobenzene-d5	82	87	87	35-114
2-Fluorobiphenyl	79	90	84	43-116
Terphenyl-d14	105	109	93	33-141

Reported by: GMD.

301677

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CEIMIC
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TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

SEMIVOLATILE ORGANIC ANALYSIS

EPA METHOD 8270

Client: Roux Associates — Date Sampled: NA

Client Sample ID: TCLP Extraction Blank — Date TCLP Performed: 6/17/91

Laboratory ID: STCLP0617-B1 — Date Leachate Prepared: 6/18/91

Concentration in: ug/L (ppb) — Date Extract Analyzed: 6/20/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
2,4-Dinitrotoluene	ND	33	--	--
Hexachlorobenzene	ND	33	--	--
Hexachloro-1,3-butadiene	ND	33	--	--
Hexachloroethane	ND	33	--	--
Nitrobenzene	ND	33	--	--
1,4-Dichlorobenzene	ND	33	--	--
Methylphenols (total)	ND	33	--	--
Pentachlorophenol	ND	160	--	--
2,4,5-Trichlorophenol	ND	160	--	--
2,4,6-Trichlorophenol	ND	33	--	--

ND = Not detected

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: BM — Approved by: KC

301678

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

SEMIVOLATILE ORGANIC ANALYSIS

EPA METHOD 8270

Client: Roux Associates
Client Sample ID: Tank 16
Laboratory ID: 910312-01
Concentration in: ug/L (ppb)

Date Sampled: 6/11/91
Date TCLP Performed: 6/17/91
Date Leachate Prepared: 6/18/91
Date Extract Analyzed: 6/20/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
2,4-Dinitrotoluene	ND	33	ND	52
Hexachlorobenzene	ND	33	ND	46
Hexachloro-1,3-butadiene	ND	33	ND	46
Hexachloroethane	ND	33	ND	59
Nitrobenzene	ND	33	ND	38
1,4-Dichlorobenzene	ND	33	ND	52
Methylphenols (total)	ND	33	ND	52
Pentachlorophenol	ND	160	ND	260
2,4,5-Trichlorophenol	ND	160	ND	270
2,4,6-Trichlorophenol	ND	33	ND	53

ND = Not detected

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: GM. Approved by: KC

301679

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

SEMIVOLATILE ORGANIC ANALYSIS

MATRIX SPIKE ANALYSIS SUMMARY

EPA METHOD 8270

Client: Roux Associates

Client Sample ID: Tank 16MS

Laboratory ID: 910312-01MS

Date Analyzed: 6/20/91

Concentration in: ug/L (ppb)

Target Analyte	Sample Result	Spike Added	Spiked Sample Result	Percent Recovery
2,4-Dinitrotoluene	ND	125	79	63 %
Hexachlorobenzene	ND	125	89	71
Hexachloro-1,3-butadiene	ND	125	90	72
Hexachloroethane	ND	125	70	56
Nitrobenzene	ND	125	109	87
1,4-Dichlorobenzene	ND	125	80	64
Methylphenols (total)	ND	500	319	64
Pentachlorophenol	ND	250	155	62
2,4,5-Trichlorophenol	ND	250	151	60
2,4,6-Trichlorophenol	ND	250	155	62

This matrix spike analysis summary applies to the following samples:

Tank 16

Reported by: _____ Approved by: _____

301680

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TCLP PESTICIDES ANALYSES

CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

SURROGATE RECOVERY SUMMARY

Organochlorine Pesticides Analysis

Client: Roux Associates

Date Samples Received: 6/12/91

Project No.: 910312

Client ID	Laboratory ID	Dibutylchlorendate Recovery
Tank 16	910312-01	91 %
QA/QC		
TCLP Extraction Blank	PTCLP-0617-B1	99
Tank 16MS	910312-01MS	86

Reported by: K. Martel

301682

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CEIMIC
CORPORATION

"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

ORGANOCHLORINE PESTICIDES

EPA Method 8080

Client: Roux Associates

Client Sample ID: TCLP Extraction Blank

Laboratory ID: TCLP617-B1

Concentration in: ug/L (ppb)

Date Sampled: 6/21/91

Date TCLP Performed: 6/21/91

Date Leachate Prepared: 6/18/91

Date Extract Analyzed: 6/21/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
gamma-BHC (Lindane)	ND	0.16	ND	0.21
Heptachlor	ND	0.16	ND	0.17
Heptachlor Epoxide	ND	0.16	ND	0.17
Endrin	ND	0.33	ND	0.33
Methoxychlor	ND	0.16	ND	0.19
Toxaphene	ND	3.3	ND	---
Chlordane	ND	0.16	ND	---

ND = Not detected

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: _____ Approved by: _____

301683

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

ORGANICHLORINE PESTICIDES

MATRIX SPIKE ANALYSIS SUMMARY

EPA METHOD 8080

Client: Roux Associates

Client Sample ID: Tank 16MS

Laboratory ID: 910312-01

Date Analyzed: 6/21/91

Concentration in: ug/L (ppb)

Target Analyte	Sample Result	Spike Added	Spiked Sample Result	Percent Recovery
gamma-BHC (Lindane)	ND	0.2	0.5	77 %
Heptachlor	ND	0.2	0.6	93
Heptachlor Epoxide	ND	0.2	0.6	93
Endrin	ND	0.5	2.2	133
Methoxychlor	ND	1.0	2.7	82
Toxaphene	ND	NA	---	---
Chlordane	ND	NA	---	---

This matrix spike analysis summary applies to the following samples:

Tank 16

Reported by: _____ Approved by: _____

301684

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CEIMIC
CORPORATION

"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

ORGANOCHLORINE PESTICIDES

EPA Method 8080

Client: Roux Associates

Client Sample ID: Tank 16

Laboratory ID: 910312-01

Concentration in: ug/L (ppb)

Date Sampled: 6/21/91

Date TCLP Performed: 6/21/91

Date Leachate Prepared: 6/18/91

Date Extract Analyzed: 6/21/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
gamma-BHC (Lindane)	ND	0.16	ND	0.21
Heptachlor	ND	0.16	ND	0.17
Heptachlor Epoxide	ND	0.16	ND	0.17
Endrin	ND	0.33	ND	0.33
Methoxychlor	ND	0.16	ND	0.19
Toxaphene	ND	3.3	ND	---
Chlordane	ND	0.16	ND	---

ND = Not detected

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: _____ Approved by: _____

301685

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TCLP HERBICIDES ANALYSES

CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

SURROGATE RECOVERY SUMMARY

Organochlorine Herbicides Analysis

Client: Roux Associates

Date Samples Received: 6/12/91

Project No.: 910312

Client ID	Laboratory ID	DCPAA* Recovery
Tank 16	910312-01	84%
QA/QC		
TCLP Extraction Blank	HTCLP0628-B2	89%
Matrix Spike	910312-01MS	86%
Laboratory Control Spike	H910702-LCS1	86%

DCPAA = Dichlorophenylacetic acid

Reported by: HL

301687

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

ORGANOCHLORINE HERBICIDES

EPA Method 8150

Client: Roux Associates — Date Sampled: NA

Client Sample ID: TCLP Extraction Blank — Date TCLP Performed: 6/28/91

Laboratory ID: HTCLP0628-B1 — Date Leachate Prepared: 7/02/91

Concentration in: ug/L (ppb) — Date Extract Analyzed: 7/09/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
2,4-D	ND	100	--	--
2,4,5-TP (Silvex)	ND	33	--	--

ND = Not detected

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: HL

Approved by: KC

301688

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CEIMIC
CORPORATION
"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

ORGANOCHLORINE HERBICIDES

EPA Method 8150

Client: Roux Associates

Client Sample ID: Tank 16

Laboratory ID: 910312-01

Concentration in: ug/L (ppb)

Date Sampled: 6/11/91

Date TCLP Performed: 6/28/91

Date Leachate Prepared: 7/02/91

Date Extract Analyzed: 7/09/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
2,4-D	ND	100	ND	140
2,4,5-TP (Silvex)	ND	33	ND	50

ND = Not detected

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: HL

Approved by: KC

301689

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CEIMIC
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"Analytical Chemistry for Environmental Management"

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

ORGANOCHLORINE HERBICIDES

MATRIX SPIKE ANALYSIS SUMMARY

EPA Method 8150

Client: Roux Associates

Client Sample ID: Tank 16 Laboratory ID: 910312-01

Date Analyzed: 7/09/91 Concentration in: ug/L (ppb)

Target Analyte	Sample Result	Spike Added	Spiked Sample Result	Percent Recovery
2,4-D	ND	5.0	3.4	69%
2,4,5-TP (Silvex)	ND	1.0	0.7	68

ND = Not detected
This matrix spike analysis summary applies to the following samples:

Reported by: HL Approved by: KC

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ORGANOCHLORINE HERBICIDES

LABORATORY CONTROL SPIKE

EPA Method 8150

Client: Roux Associates

Client Sample ID: Laboratory Control Spike

Laboratory ID: H910702-LCS1

Date Sample Received: NA

Date Sample Prepared: 7/02/91

Date Sample Analyzed: 7/09/91

Matrix: Water

Target Analyte	% Recovery
2,4-D	70 %
Silvex	64

NA = Not applicable

Reported by: HL

Approved by: KC

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TCLP METALS ANALYSES

CEIMIC
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TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

METALS

EPA METHOD 1311

Client: Roux Associates

Client Sample ID: Tank 16 — Date Sampled: 6/11/91

Laboratory ID: 910312-01 — Date TCLP performed: 6/17/91

Concentration in: mg/L (ppm) — Date Leachate Analyzed: 6/19/91

	Actual		Adjusted*	
Target Analyte	Sample Result	Method Reporting Limit	Sample Result	Method Reporting Limit
Arsenic	0.3	0.2	0.3	0.2
Barium	0.02	0.01	0.02	0.01
Cadmium	ND	0.01	ND	0.01
Chromium	ND	0.01	ND	0.01
Lead	ND	0.1	ND	0.1
Mercury	ND	0.0008	ND	0.008
Selenium	ND	0.3	ND	0.3
Silver	ND	0.02	ND	0.02

* Actual sample result adjusted for matrix bias. Refer to matrix spike analysis summary form.

Reported by: _____ Approved by: _____

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CEIMIC
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TOXICITY CHARACTERISTICS LEACHING PROCEDURE (TCLP)

METALS

MATRIX SPIKE ANALYSIS SUMMARY

EPA METHOD 1311

Client: Roux Associates

Client Sample ID: 6/11/91 Laboratory ID: 910312-01S

Date Analyzed: 6/19/91 Concentration in: mg/L (ppm)

Target Analyte	Sample Result	Spike Added	Spiked Sample Result	Percent Recovery
Arsenic	0.263	0.500	0.771	102 %
Barium	0.023	0.500	0.546	105
Cadmium	ND	0.500	0.647	129
Chromium	ND	0.500	0.529	106
Lead	ND	0.500	0.552	110
Mercury	ND	0.00100	0.00107	107
Selenium	ND	0.500	0.586	117
Silver	ND	0.500	0.475	95

This matrix spike analysis summary applies to the following samples:

Tank 16

Reported by: _____ Approved by: _____

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QUALITY CONTROL

METHOD BLANK

Client: Roux Associates

Client Sample ID: Method Blank

Date Sample Received: 910312 Laboratory ID: 0618PBW

Date Analysis Completed: 6/19/91 Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Method Reporting Limits
Toxicity Characteristics Leaching Procedure (TCLP)		
Arsenic	ND	0.2
Barium	ND	0.01
Cadmium	0.01	0.01
Chromium	ND	0.01
Lead	ND	0.1
Mercury	ND	0.0008
Selenium	ND	0.3
Silver	ND	0.02

ND = Not detected

Reported by: _____ Approved by: _____

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CEIMIC
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"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

METHOD BLANK

Client: Roux Associates

Client Sample ID: Filtration Blank

Date Sample Received: 910312 Laboratory ID: 0617FB

Date Analysis Completed: 6/19/91 Concentration in: mg/L (ppm)

Target Analyte	Sample Concentration	Method Reporting Limits
Toxicity Characteristics Leaching Procedure (TCLP)		
Arsenic	ND	0.2
Barium	0.03	0.01
Cadmium	ND	0.01
Chromium	ND	0.01
Lead	ND	0.1
Mercury	ND	0.0008
Selenium	ND	0.3
Silver	ND	0.02

ND = Not detected

Reported by: _____ Approved by: _____

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QUALITY CONTROL

LABORATORY CONTROL SAMPLE

Client: Roux Associates

Client Sample ID: Laboratory Control Sample

Project No.: 910312 Laboratory ID: 0618LCSW

Date Analysis Completed: 6/19/91 Matrix: Aqueous

Target Analyte	% Recovery	Control Limits
Toxicity Characteristic Leaching Procedure (TCLP)		
Arsenic	140 %	75-125 %
Barium	104	75-125
Cadmium	127	75-125
Chromium	106	75-125
Lead	104	75-125
Mercury	106	75-125
Selenium	112	75-125
Silver	93	75-125

Reported by: _____ Approved by: _____

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INORGANIC ANALYTES

CEIMIC
CORPORATION

"Analytical Chemistry for Environmental Management"

INORGANIC ANALYTES

Client: Roux Associates

Client ID: Tank 16

Date Sample Received: 6/12/91

Laboratory ID: 910312-01

Date Analysis Completed: 6/19/91

Target Analyte	Result	Units	Method Reporting Limit
Flashpoint	No flash	°F	200 °F
pH	7.02	S.U.	--
Reactive Cyanide	ND	mg/L (ppm)	0.5
Reactive Sulfide	ND	mg/L (ppm)	2

ND = Not detected

Reported by: _____ Approved by: _____

301699

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CEIMIC
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"Analytical Chemistry for Environmental Management"

QUALITY CONTROL

METHOD BLANK

Client: Roux Associates

Client ID: Method Blank

Project No.: 910312

Laboratory ID: PBW

Date Analysis Completed: 6/19/91

Target Analyte	Result	Units	Method Reporting Limit
Reactive Cyanide	ND	mg/L (ppm)	0.5
Reactive Sulfide	ND	mg/L (ppm)	2

ND = Not detected

Reported by: _____ Approved by: _____

301700

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