# ENGINEERS AND ENVIRONMENTAL SCIENTISTS

FINAL REMEDIATION SUMMARY REPORT LUDLOW SAND AND GRAVEL SITE Paris, New York Work Assignment No. D002237-7

Submitted to: New York Department of Environmental Conservation

June 1, 1993

# RIZZO ASSOCIATES, INC.

# ENGINEERS, SURVEYORS AND ENVIRONMENTAL SCIENTISTS

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June 1, 1993

Mr. James Drumm, Project Manager New York State Department of Environmental Conservation 50 Wolf Road Albany, NY 12233-7010



RE: PRP Oversight Contract, Ludlow Sand and Gravel Site

W.A. No. D002237-7, Final Remediation Summary Report

Dear Mr. Drumm:

Rizzo Associates Engineering, P.C. is pleased to submit this *Final Remediation Summary Report* for Ludlow Sand and Gravel in Paris, New York (the Site). The report summarizes the remediation controls implemented at the Site by the Potentially Responsible Party (Special Metals Corporation), their Engineer (O'Brien & Gere), and their Contractor (Yolam Construction, Inc.) during the period that oversight was provided by Rizzo Associates.

It has been a pleasure providing these services to you. Please contact us if you have any questions concerning the report.

Very truly yours,

RIZZO ASSOCIATES, INC.

James L. Pfeifer Geologist

1. 1/1//

Richard J. Hughto, Ph.D., P.E.

FCM

Vice President

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# TABLE OF CONTENTS

			<u>Page</u>
1.0	INTR	RODUCTION	. 1
2.0	REMA 2.1 2.2 2.3 2.4	EDIATION ACTIVITIES  PROJECT EXECUTION PLAN  WETLAND REMEDIATION  ON-SITE WATER TREATMENT SYSTEMS  PROJECT VARIATIONS  2.4.1 The North Gravel Pit  2.4.2 Water Treatment  2.4.3 Weather	. 4 . 5 . 7 . 7 . 9
3.0	SUMI	MARY	12
4.0	LIMI	TATIONS	12
		LIST OF TABLES	
TABI TABI		LABORATORY SAMPLES COLLECTED BY RIZZO ASSOCIATES PERSONNEL LUDLOW LANDFILL PROJECT PROPOSED COMPLETION SCHEDULE	10 11
		LIST OF FIGURES	
FIGU FIGU FIGU	RE 2	LOCUS MAP  LUDLOW SANITARY LANDFILL SITE PLAN  LUDLOW SANITARY LANDFILL APPROVED REMEDIAL PLAN  SCHEDULE	. 3
		LIST OF APPENDICES	

APPENDIX A RESULTS OF LABORATORY ANALYSIS

# 1.0 INTRODUCTION

Rizzo Associates Engineering, P.C. (Rizzo Associates) was contracted by the New York State Department of Environmental Conservation (NYSDEC) under Work Assignment Number D002237-7 to oversee the remediation activities being conducted by the Potentially Responsible Party (PRP), Special Metals Corporation, at the Ludlow Sand and Gravel site in Paris, New York (the Site). The key project oversight staff from Rizzo Associates included the following.

#### Site Management and NYSDEC Coordination

James Pfeifer
Mark Negrotti
Dave Beecy
Matt Dentch
Christopher Mariano
Kevin King

### Project Management/Activity Control

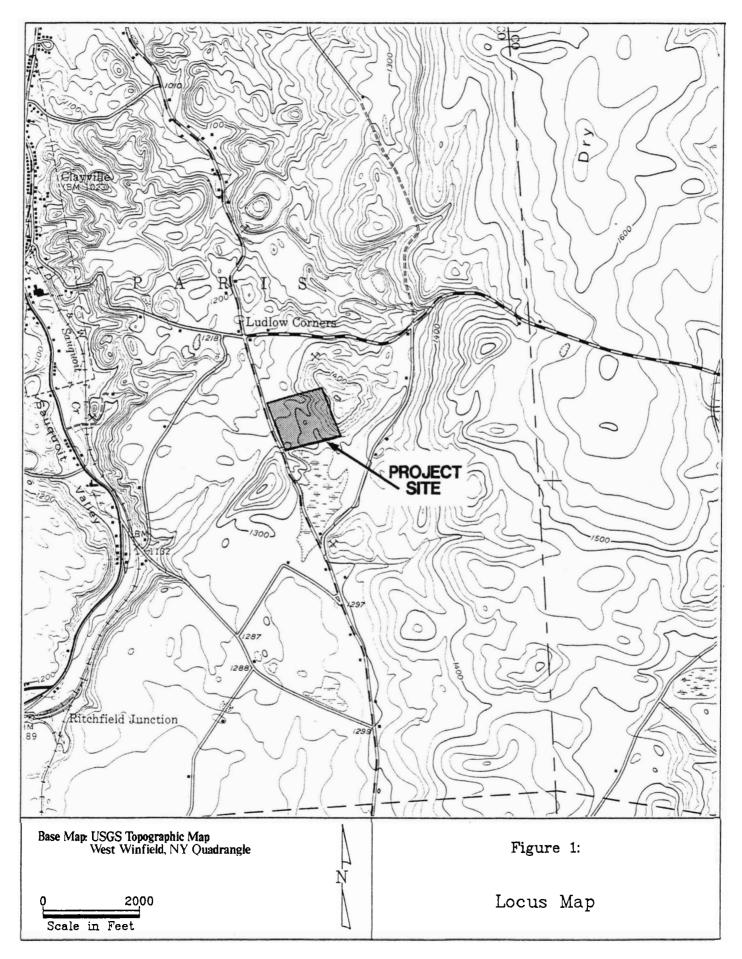
Michael Hudson Richard Hughto, Ph.D., P.E.

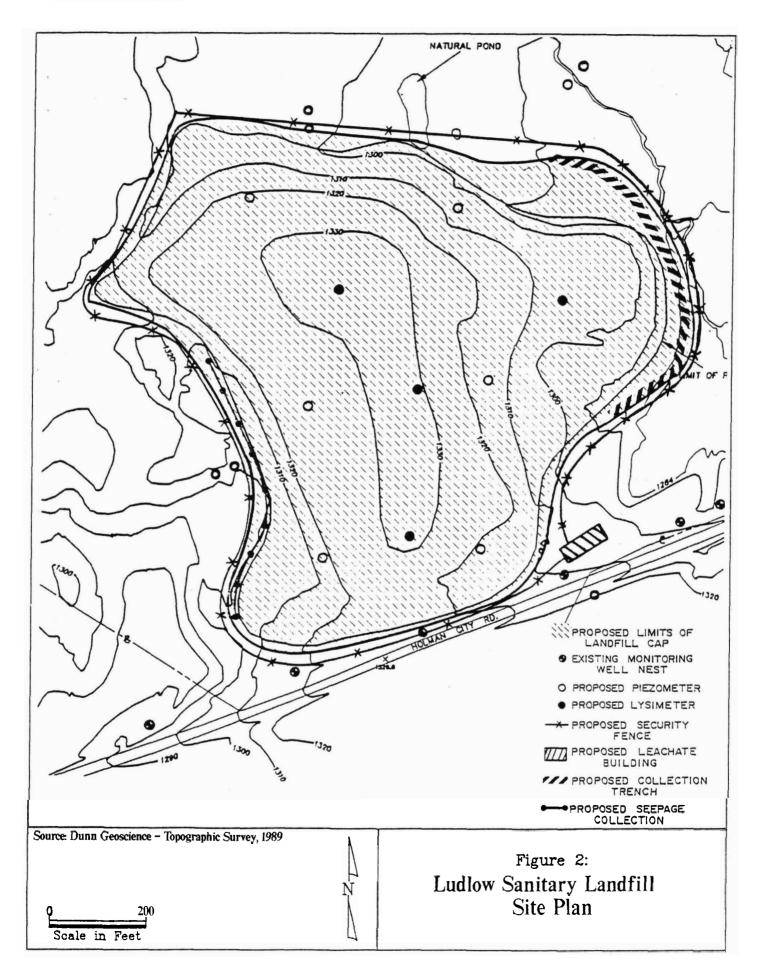
This report generally summarizes the remediation controls implemented at the Site and the problems encountered by the PRP and his Contractor during those activities while Rizzo Associates' staff were present on-site.

The Site is located in a rural farming area in the Clayville section of Paris, New York, six miles south of Utica, in Oneida County. The Site is bounded to the west by Holman City Road, to the east by Mohawk Road, and to the north and south by privately owned, semi-developed forest and farmland. The Ludlow Landfill property encompasses approximately 60 acres; the disposal area covers approximately 18 acres of this total. Wetland areas are located east and south of the on-site fill area. A locus map of the area can be found on Figure 1. A general Site plan is shown on Figure 2.

The land that makes up the landfill and the surrounding countryside, with the exception of the wetlands, is presently zoned as rural/residential (1962 Zoning Ordinance; amended in 1985). The wetlands are classified as a Land Conservation Area.

The fill area is fenced on the western boundary along Holman City Road. The south and east sides of the landfill area are bounded by the wetlands. The gravel pit operated by Ludlow Sand and Gravel borders the Site to the north.





The landfill began fill activities in the 1960s. These activities continued until February 1988. The fill area comprises municipal trash from several surrounding communities. The landfill also accepted bulk liquids, including septic tank pumpage, waste oils, coolants, and some metal sludges.

A Consent Order to bring the landfill into compliance with the Environmental Conservation Law was signed in 1982 by NYSDEC and James Ludlow, the owner/operator. A Remedial Action Master Plan (RAMP) was developed by NUS for the U.S. Environmental Protection Agency (USEPA) in 1983 in response to Subpart F of the National Contingency Plan. The information in the RAMP was based on data from the state and local government agencies regarding Site history. The Ludlow Landfill was added to the *National Priorities List*, also known as the Federal Superfund List in 1983.

Special Metals, Inc. agreed to have a Remedial Investigation/Feasibility Study (RI/FS) performed at the Site. A Work Plan was negotiated with the state of New York and the USEPA, and an Administrative Consent Order naming Special Metals, Inc. as a third-party defendant was executed on September 10, 1984 requiring the completion of the Work Plan. O'Brien & Gere Engineers, Inc. (O&G) was retained by Special Metals, Inc. to implement the negotiated Work Plan. The completed RI/FS was submitted to NYSDEC in June 1986. A smaller area located in the north gravel pit was also used as a fill area for oils and other various wastes and was identified as a potentially-contaminated area subsequent to the submission of the RI/FS in 1986.

The approved remedial action for the Ludlow Landfill consists of a series of operable units that, together, will effectively close the landfill and address the impacts of the landfill on the surrounding environment. The first operable unit, completed within Work Assignment D002237-7, dealt with the initial closure of the main fill area. It consisted of control of the landfill materials, leachate seeps, sediment, and soils around the landfill to mitigate the landfill affects on the local groundwater and soils.

#### 2.0 REMEDIATION ACTIVITIES

#### 2.1 PROJECT EXECUTION PLAN

The original plans and schedule for remediation activities at the Site were revised as the project progressed. Due to the extensive contamination discovered in the north gravel pit, poor planning, and other various problems, the dates for project completion, staff scheduling, landfill closure requirements, and overall budget were changed. The remedial portion of the project, including completion of the landfill closure, was originally scheduled to be completed at the end of 1990. Figure 3 shows the original schedule for completion of the project. As of November 17, 1991, the construction phase of Operable Unit One was still not complete, placing the project one year behind schedule.

Specifically, the following tasks were initially listed and approved by NYSDEC in the Declaration Statement, Record of Decision submitted by NYSDEC to Special Metals, Inc. on September 20, 1988.

- 1. Consolidation of soils and sediments from Areas A and C adjacent to the landfill into the landfill. A sampling program will be implemented to define the extent of contaminated soils that need to be consolidated.
- 2. An impermeable cover will be installed over the landfill to control runoff and to minimize infiltration of surface water. The design of this cover was in compliance with RCRA closure requirements (Subtitle C 40 CFR Section 264.310).
- 3. All leachate from the landfill will be collected and treated on-site using carbon and sand filters.
- 4. Dewatering of the landfill by using either a passive drain system or an active extraction well system.
- 5. The installation of perimeter fencing on the landfill.
- 6. In accordance with New York State Law, deed restrictions governing future use of the property will be duly filed.
- 7. A long-term water quality monitoring program will be implemented.

#### 2.2 WETLAND REMEDIATION

The designated wetland area was initially evaluated by NYSDEC personnel during May 1989. It was determined at that time that the total wetland area equals 21 acres. This included a shallow pond of approximately 3.5 acres, an unnamed intermittent stream, and other areas surrounding the landfill.

Three main wetland areas are of concern: the pond and two areas south of the landfill designated as areas A and C. Laboratory testing results of soil samples from these three areas identified polychlorinated biphenyls (PCBs) at varying concentrations. Contaminated sediments encountered in these areas were excavated until concentrations of PCBs were observed to be within acceptable levels. Sediments from these areas found to contain PCB concentrations greater than the acceptable levels were brought up to the spoils area, designated as area B, prior to placement of the final cap. Confirmatory samples were collected on grids of one sample per 2,500 square feet in these wetland areas. The stream relocation effort required samples to be taken at a frequency of one sample per 100 feet of stream excavated. Excavated peat known to be uncontaminated was left in the wetland area to encourage re-vegetation of native plant species.

Temporary access roads were built along and partially into the wetland areas so that machinery and Site personnel could access the areas of the wetlands, including the pond, that were to be excavated and sampled. These roads were installed to minimize physical disruption to the wetland by the heavy equipment. In order to install these access roads, portions of the wetland areas, including sections south of the main landfill adjacent to the south pond, were excavated and brought up to grade with common sand and gravel fill. These areas were excavated up to three feet, the depth depending on the moisture content and type of soils encountered. A top layer of one-inch, angular gravel was installed as a final top layer. A layer of stabilization fabric was used in this process to add more support to the roads. Where possible and/or feasible, equipment with extended booms was utilized from existing roadways. Once the wetland sediment sampling was completed, the road was removed and the contaminated road materials were brought to the spoils area.

Area A was first characterized in the RI/FS (O'Brien & Gere, 1986) by several soil samples and by additional samples collected in 1986 and 1989. The area is considered to be entirely within the NYSDEC designated wetland. Data collected from fifty-two samples tested during 1984 and 1989 support the conclusion that the PCB contamination is confined to the surficial peat-like sediments in the wetland. The sample analysis results indicated that the PCB contamination was restricted to the first six inches of the stratum. This layer of contaminated sediment was excavated, and the soils were placed in the spoils area. This excavated area encompassed 14,500 square feet. Immediately after excavation, verification samples were collected on a grid of one sample per 2,500 square feet.

Area C was also characterized in the RI/FS (O'Brien and Gere, 1986). This vegetated area included approximately 16,000 square feet of designated wetland defined by the NYSDEC in 1989. The depth of the excavation was for the most part less than one-foot; however, a few areas were dug deeper due to elevated PCB concentrations detected as deep as eighteen inches. All contaminated soils were placed in the spoils area. Confirmatory samples were taken immediately after the excavation was completed.

The pond, which was located south of the landfill, also contained some sediments that contained varying levels of PCBs that were discovered as a result of sampling. Several possible methods for removal of the peat-like sediments from the pond were discussed with the NYSDEC. It was decided that the water level would be lowered in the pond by pumping water through the filter treatment system to the drainage channel located across Holman City Road, and the peat-like sediments were then excavated to a depth of six inches.

Another main concern regarding the wetland areas was the potential for deposition of eroded soils coming off the landfill. A series of rip-rap lined channels were installed to help direct the runoff and lessen the amount of erosion that could affect the wetland areas. Hay bails were also installed at intervals along all water channels to lessen the

amount of eroded sediment affecting the wetland areas. Once the landfill cap is complete and the southern portion of the landfill if covered with vegetation, the erosion problem will likely be mitigated.

#### 2.3 ON-SITE WATER TREATMENT SYSTEMS

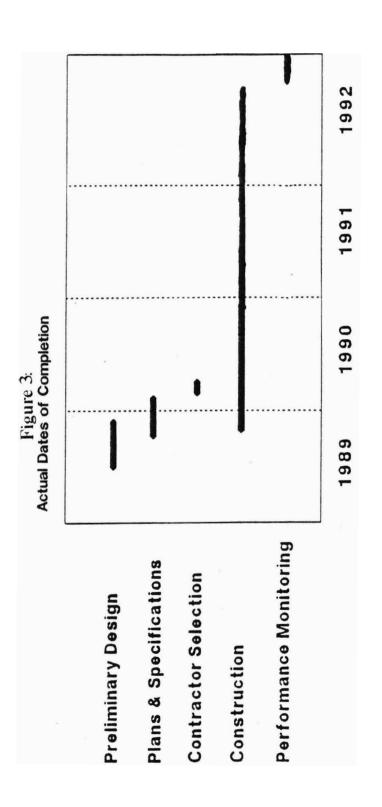
Many of the closure activities involved dealing with both groundwater and standing or ponded water. Much of this water needed to be treated before it could be discharged off-site. This required an on-site treatment system and an influent and effluent sampling program to monitor the effectiveness of the system.

The system consisted of two granular activated carbon units installed in series. Also in series, before the carbon canisters, were sand filter units employed to remove particulates that did not settle out in the sedimentation basins. Sampling ports were installed after the first and second carbon canisters to monitor this performance. All water sent to the units from any area of the landfill or the north gravel pit was first collected in sedimentation basins installed adjacent to the south pond. From these basins, water was then pumped to the treatment system.

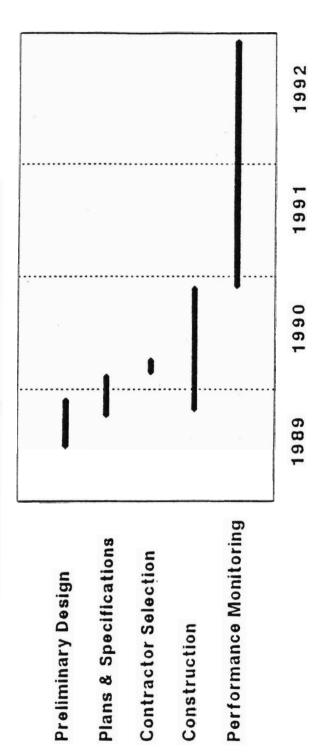
Later in the project, a diatomaceous earth filter was installed to aid in the treatment of the water, the volume of which, as discussed in Section 2.4.2, sometimes overwhelmed the system.

#### 2.4 PROJECT VARIATIONS

The schedule of activities for completion of Operable Unit One at the Site was revised on many occasions. Generally, the schedule revisions were caused by poor planning; the addition of new closure activities; expansion of the contaminated areas discovered during construction, requiring more time to complete the tasks; availability of equipment needed; and revisions to the remedial action program needed as a result of experience gained during construction and operation. Many of the landfill closure activities conducted on-site took much longer than anticipated. Poor weather, wetland issues, inadequacy of the on-site water treatment system, the unexpected magnitude of the PCB contamination discovered in the north gravel pit, and other unforseen issues all contributed to the project completion schedule being repeatedly extended and modified. Many of the project variations required the permission of NYSDEC before they could be implemented on-site. The process of getting these changes formally documented, reviewed, and approved by the state often required shutting down the job until the PRP and the NYSDEC could come to a decision acceptable to both parties, again affecting the schedule for project completion.



Ludlow Sanitary Landfill Approved Remedial Plan Schedule



#### 2.4.1 The North Gravel Pit

The North Gravel Pit (NGP) was the single largest contributing factor in delaying the completion of Operable Unit One. Not only was the amount of time and money spent in this area far beyond what was foreseen, it also indirectly affected the execution of many of the other tasks included in Operable Unit One. Initially, the amount of soil anticipated to be taken from the pit area was on the order of 1,500 cubic yards, extending vertically only two feet. Post-excavation soil samples were to be taken on a grid with one sample collected every 2,500 square feet, and standing water from the pit area was to be sampled for PCBs for surface discharge purposes. A list of samples collected by Rizzo Associates is included in Table 1, the results are included in Appendix A.

By April of 1990, fairly extensive contamination in the pit was evident, as confirmatory post-excavation samples showed 800 parts per million (ppm) of PCBs in the soils after approximately 10,000 cubic yards of soil had been excavated. At this point, Dick Thurston of Special Metals, Inc. decided to search for the extent of the contaminated soils and began extensive excavation and confirmatory sampling. The excavation continued on and off throughout the next year in conjunction with closure activities, with Dick Thurston continually revising the plans for remediation as the pit got deeper and more areas of contamination were discovered. Once groundwater was encountered in the pit, it had to be pumped and treated, further burdening the already taxed water treatment system on-site. The spoils area, originally designed to accommodate 1,500 cubic yards of soil from the NGP and some soils from Areas A and C, had to be expanded to four times its originally planned dimensions to accommodate the volume of contaminated soils and debris taken from the NGP, much of which was of a sludgy consistency requiring more cement for solidification of the materials in the spoils area so that proper grades could be attained on the slopes of the landfill.

On October 9, 1991, Jim Drumm, NYSDEC Project Manager, was told by Dick Thurston that the only area of contamination remained in the center of the pit and that the NGP excavation would conclude on the weekend of October 12, 1991. This information was not accurate, as oil was observed seeping into the pit from the northeast wall during a Site visit by Mr. Drumm on October 16, 1991. Mr. Drumm recommended temporary termination of the excavation because the extent of contamination in the pit was such that excavation may no longer be feasible and that completion of the landfill cap could no longer be delayed.

#### 2.4.2 Water Treatment

The inadequacy of the water treatment system on-site was responsible for many delays. The increase in volume of contaminated groundwater, produced when the excavation in the NGP extended below the water table, coupled with the leachate from the landfill, put

LABORAT	TAB ORY SAMPLES COLLECTED	LE 1 ) BY RIZZO ASSOCIATES	PERSONNEL
Date Collected	Date Received	Collected by	Sample I.D.
10-3-90 10-3-90	10-10-90 10-10-90	Rizzo Rizzo	WP-SS-A9 WP-SS-A10
10-17-90 10-17-90 10-17-90	10-19-90 10-19-90 10-19-90	Rizzo Rizzo Rizzo	LSG-WS-CARB-301 LSG-WS-EFF-302 LSG-WS-B1-303
1-28-91	2-2-91	Rizzo	LSG-WS-A30-501
1-29-91 1-29-91 1-29-91	2-1-91 2-1-91 2-1-91	C. Mariano C. Mariano C. Mariano	E-5 A-16 A-18
2-19-91	2-23-91	D. Beecy	LSG-SS-A38-904
2-22-91	2-23-91	D. Beecy	LSG-SS-E30-903
2-26-91	3-3-91	D. Beecy	LSG-SS-A47-905
2-27-91	3-3-91	D. Beecy	LSG-SS-A56-906
2-28-91	3-3-91	D. Beecy	LSG-SS-A65-907
3-13-91 3-13-91	3-18-91 3-18-91	M. Hudson M. Hudson	LSG-SS-A71-908 LSG-SS-A85-909
3-15-91 3-15-91	3-18-91 3-18-91	C. Mariano C. Mariano	A75 A93
3-21-91 *	3-27-92	C. Mariano	LSG-SS-A89-910
4-5-91	4-6-91	C. Mariano	LSG-SS-A102-601
4-18-91 4-18-91	4-20-91 4-20-91	C. Mariano C. Mariano	B-16/17-W SS-5
4-30-91 4-30-91	5-2-91 5-2-91	C. Mariano C. Mariano	A-86 A-99
5-6-91 5-6-91	5-8-91 5-8-91	C. Mariano C. Mariano	A-102 A-106
5-10-91 5-10-91	5-18-91 5-18-91	C. Mariano C. Mariano	A-100 SS-5
6-12-91	6-18-91	C. Mariano	B-21
6-19-91	6-25-91	J. Pfeifer	B-24
6-20-91	6-25-91	J. Pfeifer	LSG-SS-PFE-JLP1
7-8-91	7-12-91	M. Negrotti	SB-1391
7-9-91	7-12-91	M. Negrotti	E-33
10-24-91 10-24-91	10-25-91 10-25-91	J. Pfeifer J. Pfeifer	VGP-SS-RZ012-001 VGP-SS-RZ018-002
11-1-9	11-1-91	J. Pfeifer	LL-SS-SB1-001

a tremendous burden on the system. The system could not treat enough water to be able to keep the NGP dry, making confirmatory post excavation sampling difficult and further delaying the project.

#### 2.4.3 Weather

Throughout the course of the project, weather was a contributing factor in delaying completion of many of the proposed tasks. During periods of rain, much emphasis was put on erosion control. During the summer months, the rain events tended to be intense downpours associated with thunderstorms, creating very heavy runoff conditions. The high silt content of the sediments on-site allowed a great deal of sediment to be carried in the runoff water, much of which ended up in the south pond. The erosion control devices on-site had to be constantly monitored and repaired.

Very little work could be performed for much of the late fall, winter, and early spring due to the severe winters in the area. This limited the working season, contributing somewhat to the inability to complete the job on schedule.

At the end of October 1991, the Ludlow Landfill Project Proposed Completion Schedule was submitted by Special Metals and approved by the NYSDEC (see Table 2). Twelve tasks were listed, all pertaining to final confirmatory sampling, final grading and cover installation on the spoils area, and overall Site equipment and office breakdown. These tasks were completed relatively close to the indicated schedule up to November 17, 1991, Rizzo Associates last day of on-site oversight activities.

LUDLOW LANI	LE 2 DFILL PROJECT LETION SCHEDULE
Remove Haul Road	10/23 - 10/25/91
Remove Pipe	10/23 - 10/25/91
Confirmation Sampling	10/23 - 10/25/91
Pump and Clean Sedimentation Basin	10/28 - 10/30/91
Decon. Equipment	10/31 - 11/5/91
Remove Decon. Pad	11/6/91
Decon. Equipment in Sedimentation Basin	11/07 - 11/08/91
Pump Basin	11/11 - 11/12/91
Remove Basin Liner	11/13/91
Remove Water System	11/14 - 11/15/91
Grade Spoil Area and Install 12-inch Cover	11/18 - 11/22/91
Install Leach Field	11/25 - 11/26/91

# 3.0 SUMMARY

Rizzo Associates' role in providing oversight of the remediation at the Ludlow Sanitary Landfill site in Paris, New York by Special Metals is complete. Aside from changes in the schedule regarding completion of the overall project, the landfill closure was executed, during our observation, according to specifications and plans approved by NYSDEC.

Problems relating to adverse weather conditions, inadequate water treatment capabilities, and, most importantly, the unforseen magnitude of the contamination found in the NGP, delayed the completion of Operable Unit One during 1991.

Presently, it is our understanding that Special Metals is currently working toward bringing the NGP into compliance with federal and state regulations. Also, the final grading of the top of the landfill, formerly known as the spoils area, has since been completed.

#### 4.0 LIMITATIONS

This report is subject to the limitations outlined in Appendix A. This study and report have been prepared on behalf of, and for the exclusive use of, New York Department of Environmental Conservation, solely for use in an e-vironmental evaluation of the Facility. This report and the findings contained herein shall not, in whole or in part, be disseminated or conveyed to any other party, nor used by any other party in whole or in part, without the prior written consent of Rizzo Associates. However, Rizzo Associates acknowledges and agrees that the report may be conveyed to the client's attorney, and regulatory agencies. Rizzo Associates would be pleased to discuss the conditions of dissemination of the report to additional parties. The report has been prepared in accordance with the Terms and Conditions set forth in our contract dated October 21, 1992. No other warranty, express or implied, is made.



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

13 December 1990

Mr. Mike Hudson Rizzo Associates 235 West Central St. Natick, MA 01760

Reference: Data Reports for PCB Samples for

NYSDEC PRP Contract

Dear Mr. Hudson:

Enclosed are data reports for soil and water samples received October 10th and October 19, 1990. Please note that the samples received October 10th were collected October 3, 1990.

I apologize for the delay in delivering this report. Please do not hesitate to contact me if you have any questions or if we can be of further assistance.

Very truly yours,

ROY F. WESTON, INC.

Judy L. Stone Project Manager Analytics Division

JLS/lvd

CHAIN OF CUSTODY

	dy Transfer Record/Lab Work Request	
WESTON Analytics Use Only Custo	dy Transfer Record/Lab Work Request	KARTAN
G(V) (303)  Client   R1220 (1880C 1 TAC)  Work Order   R051-01-01	Refrigerator# 5 5 #/Type Container /94 /94 Volume 95x 500	WESTON Analytics Use Only Samples Were: 1 Shipped or Hand: Delivered
Date Rec'd. 11/10/90 Date Due 11/10/90 RFW Contact Client Contact/Phone	ANALYSES REQUESTED PLO NO	NOTES:  2 Ambient of Chilled NOTES:
Client ID/Description  CO LSG-US (a 22 - 30)  LSG-WS - EH - 302  SG-SS-BI-303  CHARLES - BI-303  CHARLES - CLP-dr. Q  CHARLES - CLP-dr. Q  CHARLES - CLP-dr. Q  CHARLES - CLP-dr. Q	augh!	3 Received Broken/ Leaking (Improped) Sealed) Y NOTES: 4 Properly Preserved N NOTES: 5 Received Within Holding Times Y NOTES: COC Tape Was: 1 Present on Outer Package Y Unbroken on Outer
Matrix: W - Water DS - Drum Solids X - Other S - Soil O - Oil DL - Drum Liquids SE - Sediment A - Air F - Fish SO - Solid WI - Wipe L - EP/TCLP Leachate	Special Instructions: $QC/Oa/=570$	Package Y N 3 Present on Sample Y N 4 Unbroken on Sample NOTES: Y N
REW 21-21-001/A-12/88  Received by  Received by	Date Time Item/Reason Relinquished by Received by Date Time	COC Record Was:  1 Present Upon Ricceipt of Samples Y N  Discrepancies Between Sample Labels and COC- Record? Y N  NOTES

DATA SUMMARY

# Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 10/10/90 RFW LOT # :9010L075

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
WP-SS-A9	001	S	90LE1147	10/03/90	10/19/90	11/10/90
WP-SS-A9	001 MS	S	90LE1147	10/03/90	10/19/90	11/10/90
WP-SS-A9	001 MSD	S	90LE1147	10/03/90	10/19/90	11/10/90
WP-SS-A10	002	S	90LE1147	10/03/90	10/19/90	11/10/90
WP-SS-A10	002 MS	S	90LE1147	10/03/90	10/19/90	11/10/90
WP-SS-A10	002 MSD	S	90LE1147	10/03/90	10/19/90	11/10/90
LAB QC:						
PBLK	MB1	S	90LE1147	N/A	10/19/90	11/10/90
PBLK	MB1 BS	S	90LE1147	N/A	10/19/90	11/10/90
PBLK	MB2 BS	s	90LE1147	N/A	10/19/90	11/10/90
PBLK	MB3 BS	S	90LE1147	N/A	10/19/90	11/10/90

Roy F. Weston, Inc. - Lionville Laboratory

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PCBs by GC Report Date: 12/07/90 12:27
Client: RIZZO ASSOCIATES Work Order: 6051-02-01-0000 Page: 1

				FCE	ט פנ	y GC				veborr par		12/0//90 1	2:21
RFW Batch Nu	mber: 9010L075	Client:	RIZ	ZO ASSOCIAT	res		Wor	k Order: 60	51-	-02-01-0000		Page:	1
	Cust ID:	WP-SS-AS	•	WP-8S-A9	•	WP-SS-A9	•	WP-SS-A10		WP-SS-A10	)	WP-SS-A1	.0
Sample	RFW#:	001	L	001 MS	3	001 MSI	)	002		002 MS	;	002 MS	SD.
Information	Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOII	
	D.F.:	1.0	00	2.5	50	2.5	50	0.50	0	0.50	0	0.5	00
	Units:	ug/I	ζg	ug/I	١g	ug/F	ζg	ug/K	_	ug/K	g	ug/	'Kg
-	Di-n-butylchlorendate	95	8	94	8	79	8	88	8	89	8	88	8
Aroclor-1016	*************	5000	== I )	20000	== I T	12000	== I I	190	U 11=	140		160	
Aroclor-1221		1400	U	3800	U	4000	U		U	140			) U
Aroclor-1232		1400	υ	3800	U	4000	U	190	U	140	U	160	) U
Aroclor-1242		1400	U	3800	U	4000	U	190	U	140	U	160	<b>U</b>
Aroclor-1248		1400	U	3800	U	4000	U	190	U	140	U	160	υ (
Aroclor-1254		4400		I	*	I	8	370	U	96	8	93	8
Aroclor-1260		2900	U	7700	U	7900	U	370	U	280	U	320	ט (
	Cust ID:	PBLK		PBLK BS		PBLK BS	-	PBLK BS					
Sample		90LE1147-N	1B1	90LE1147-N	1B1	90LE1147-N	1B2	90LE1147-M	В3				
Information	Matrix:	SOIL		SOIL		SOIL		SOIL	_				
	D.F.:	0.50		0.50		0.50		0.50					
	Units:	ug/I	(g	ug/I	(g	ug/I	ζg	ug/K	g				
-	Di-n-butylchlorendate	113	8	113	8	88	8	98	8				
	######################################									_=========	=f]	_======================================	===f]
Aroclor-1016		_ 120	U	120	U			120	U				
Aroclor-1221		_ 120	U	120		120		120	U				
Aroclor-1232		_ 120	U	120		120		120	U				
Aroclor-1242		_ 120	U	120	U	120		120	U				
Aroclor-1248		_ 120	U	120		120		120	U				
Aroclor-1254		_ 240	U	108	8	82	*	80	*				
Aroclor-1260		_ 240	U	240	U	240	U	240	U				

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

2 April 1991

Mr. Mike Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference: Data Report - RFW Batch 9102L390

Rizzo Samples E-5, A-16, A-18

Dear Mr. Hudson:

Enclosed is the data report for three soils received February 1, 1991. Please contact me if you have any questions or at anytime we may be of service.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:

Roy F. Weston, Inc. - Lionville Laboratory PC3 ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 02/	01/91		RFW LOT # :	91021390
CLIENT ID	PFW #	MTX PREP &	COLLECTION EXTR/PROP	AMALYSIS
E-5 E-5 E-5 A-16 A-18	001 001 MS 001 MSD 002 003	S 91LE0132 S 91LE0132 S 91LE0132 S 91LE0132	01/29/91 02/06/91 01/29/91 02/06/91 01/30/91 02/06/91	03/13/91 03/13/91 03/13/91 03/13/91 03/13/91
LAB QC:  PBLK PBLK	MB1 MB1 3S	S 91LE0132 S 91LE0132		03/13/91 03/13/91

CHAIN OF CUSTODY

WESTON Analytics Use Only	dy Transfer	Record/Lab	Work Requ	est	CXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
9/02/39/0  Ilient   K1220 ASSOC.  Vork Order   LaD 51-01 D    Pate Rec'd. 2-1-51   Date Due 3-3-91  FW Contact   Store  Ilient Contact/Phone (508) 651-3401	Refrigerator# #/Type Container Volume Preservative  ANALYSES REQUESTED	Co Jo FB oc			WESTON Analytics Use Only Samples Were: 1 Shipped or Hand Delivered NOTES: 2 Ambient or Chilled NOTES:
A Use Only Leb ID  Client ID/Description  20	Matrix Date Collected Soil 1-30-9/	open car	£1H0D 808	OCLP	3 Received Broken/ Leaking (Improperly Sealed) Y NOTES:
Additional Designation of the state of the s	Casial testeration				4 Properly Preserved (Y) N NOTES:  5 Received Within Holding Times (Y) N NOTES:  COC Tape Was: 1 Present on Outer Package Y 2 Unbroken on Outer Package Y 3 Present on Sample Y
trix: W - Weter DS - Drum Solids X - Other Soil O - Oil DL - Drum Liquids - Sediment A - Air F - Fish - Solid WI - Wipe L - EP/TCLP Leachete	Special Instructions  Id TIM 5 Diype		Jull-C	lp 	4 Unbroken on Sample NOTES: Y
all bear ones 1	Date Time Item/F 3//9/4:30 1-9/5/30	Reason Relinquished	by Received by	Date Time	COC Record Was:  1 Present Upon Receipt of Samples Y N  Discrepancies Between Sample Labels and COC Record? Y N  NOTES:

Jef# N/A

# TOC SOIL ANALYSIS LOG



CAL STD ID: Aldrid #032078 PREP BATCH: 9117242

ICV/CCV STD ID: Some

WORKSHEET: TOCOLLIS

		DIL: MG/K	G	WATER:	MG/L	
RFW # 49	MG of SOIL	\$ SOLIDS	UG	INST READING	MG/KG	DETECTION
1	3011	* SOLIDS	UG		MG/ KG	LIMIT
Blank _		<del> </del>	-	4-8	-	
50 2				51.2		
100 4				169.8		
				261.6		
250 (c 7.7 (l 7.70 40				417.1		
(120 40				990.9		
220 80				202		
3,00 120				2830		
200 50 300 120 Blank			.58	6.4	5.8	20
IN (IN- ppm)			40.3	1010.5	403	20 39
1/cu 390 - col	2.5	30	37.3	934.9	49733	1333
OOLR	4.9		11.9.0	2972	50952	680 \x-
COIR	2.3	1	23.6	595.2	34203	1449/ 115
71021 414-001	1.7	16	30.3	762.9	111397	2/2/
COIR	2.1		71.1	1776	211607	12976 > 17 A
	2.2	1	75.8	1894	215 341	2841/ 3
Blank			.13	4.4	1.3	20
_CCV			39.9	1001.6	399	1

ANALYST: Doubt

DATE: 2/21/910

VERIFIED:

DATE:

<sup>21-21-016/</sup>K-1/90

PPC16K.frm/sjd

DATA SUMMARY

)			T 1		40 U 40 U 40 U 40 U 40 U 90 %	Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-1254	Aroc Aroc Aroc Aroc Aroc Aroc
						Surrogate: Di-n-butylchlorendate	Surr
					911.E0132-MB1 SO1L 0.500 ug/Kg	REW#: Ation Matrix: D.F.: Units:	Sample
					DELK BO		
80 U	230 U	390 U	2600 U	2600 U	2600 U	Areclor-1260	Arec
80 U	230 U	87 J	177 * %	126 %	2700	Aroc]or-1254	λroc
40 U	110 U	200 U	1300 U			Aroclor-1248	λευσ
40 U	110 U	200 U	1300 U	1300 U	1.300 U	Aroclor-1242	λroc
40 U	110 U	200 U	1300 U	1300 U	1300 U	1	Aroc
40 U			1300 U			Aroclor-1221	Aroc
J 140 J 110 U 40 U	110 U	140 Ј	750	690 J	620 J 690 J		71.00
96 %	71 %	94 %	89	91 %	71 %	Surrogate: Di-n-butylchlorendate	Sura
ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	Units:	
0.500	0.500	0.500	5.00	5.00	5.00	D.F.:	
TIOS	TIOS	TIOS	TIOS	TIOS	SOIL	Information Matrix:	Info
911.KO132-MB1	003	002	001 MSD	001 MS	001	ple REW#:	Sample
PBLK	Λ-18	λ-16	F 5	E-5	E-5	Cust 1D:	
Page: 1	01-0000	Work Order: 6051-01-01-0000		ASSOCIATES	Client: RIZZO ASSOCIATES	Park Batch Bumbers: 91021.390	 W
Report Date: 03/20/91 16:12	port Date:		by GC		Roy F. Weston, Inc		
					:		

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked.
T= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

#### ROY F. WESTON INC.

#### INORGANICS DATA SUMMARY REPORT 02/25/91

CLIENT: RIZZO ASSOCIATES

WESTON BATCH #: 01021390

WORK ORDER: 6051-01-01-0000

					TEPOREING
SAMPLE	SITE ID	ANALYTE	RESUL .	UNITES	
======			=======	======	=======
-001	E-5	Total Organic Carbon	55000	MG/KG	1150

#### ROY F. WESTON INC.

#### INORGANICS METHOD BLANK DATA SUMMARY PAGE 02/25/91

CLIENT: RIZZO ASSOCIATES WESTON BATCH #: 9102L390

WORK ORDER: 6051-01-01-0000

SAMPLE	SITE ID	ANALYTE	RESULT	CNITS	FEPORTING
222222			=======	222:272	********
BLANK10	91LTZ002-MB1	Total Organic Carbon	20.0 س	MG/KG	20.0
BLANK20	91LTZ002-MB2	Total Organic Carbon	20.0 u	MG/KG	20.0

#### ROY F. WESTON INC.

#### INORGANICS ACCURACY REPORT 02/25/91

CLIENT: RIZZO ASSOCIATES

WESTON BATCH #: 9102L390

***	ABBEB.	COE1 .	A 1	0.1	0000
WORK	ORDER:	002T-	ОТ-	ОТ-	

WORK ORDE	R: 6051-01-01-0000					
			SPIKED	IMITIFIL	SPIKED	
SAMPLE	SITE ID	ANALYTE	SAMPLE	RUSULT	AYOU T	%RECOV →
======	*************	23422222222222	322223	1.23822	====:=	======
BLANK10	91LTZ002-MB1	Total Organic Carbon	403	20.0 u	400	101 🗖
BLANK20	91LTZ002-MB2	Total Organic Carbon	399	20.0 u	400	99.8

#### Roy F. Weston, Inc. - Lionville Laboratory INORGANIC ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 02/01/91				RFW LCT # :91021390			
CLIENT ID /ANALYS	IS RFW #	мтх — —	PREP #	COLLECTION	EXTR/PREP	ANALYSIS	
E-5							
TOTAL ORGANIC CAR	BON 001	s	91LTZ002	01/29/91	02/21/91	02/21/91	
LAB QC:							
**************************************							
TOTAL ORGANIC CAR	BON MB1	W	91LTZ002	N/A	02/21/91	02/21/91	
TOTAL ORGANIC CAR	BON MB1 BS	W	91LTZ002	N/A	02/21/91	02/21/91	
TOTAL ORGANIC CAR	BON MB2	W	91LTZ002	N/A	02/21/91	02/21/91	
TOTAL ORGANIC CAR	BON MB2 BS	W	91LTZ002	N/A	02/21/91	02/21/91	

I. CASE NARRATIVE



#### ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 02-01-91

**RFW** #: 9102L390, PCB **W.O.** #: 6051-01-01

#### NARRATIVE

The set of samples consisted of three (3) soil samples collected on 01-29,30,31-90.

The samples were extracted on 02-06-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 03-13-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- Linearity and breakdown criteria were met for the 1. primary column.
- Continuing calibration criteria were met for all 2. compounds on both columns in standards analyzed prior to sample extracts. High molecular weight compounds injected with extracts analyzed after sample extracts caused chromatography problems with the final pesticide standards. Since this occurred in standards analyzed after sample extracts, this should not affect the associated data.
- Retention time criteria were met for all compounds 3. on both the primary and confirmation columns.
- All surrogate recoveries were within EPA QC limits. 4.
- All blank spike recoveries were within EPA QC 5. limits.
- One (1) of two (2) matrix spike recoveries was 6. outside laboratory control chart warning limits. The matrix spike recovery of arochlor 1254 (177%) exceeded the laboratory control chart warning limit of 150%. This high recovery could be attributed to the Arochlor already present in the sample.
- Samples E-5, E-5 MS, and E-5 MSD required 10-fold 7. dilutions because it contained high level of both target and non-target compounds.

a Habut Jack R. Tuschall, Ph.D.

3.29 4/ Date

Laboratory Manager

Lionville Analytical Laboratory



#### ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 02-01-91

**RFW** #: 9102L390 **W.O.** #: 6051-01-01

#### INORGANIC NARRATIVE

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

- 1. All preparation blanks were analyzed below the required detection limit.
- 2. All calibration verification checks are within the required control limits of 85-115%. Calibration verification is performed using independent standards.
- 3. The analytical methods applied by the laboratory, unless otherwise requested, for all inorganic analyses are derived from the USEPA Method for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and Standard Methods for the Examination of Water and Wastewater 16 ed. Methods for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846).

Laboratory Manager

Lionville Analytical Laboratory

2-28-91



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE. PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

3 April 1991

Mr. Mike Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference: Data Report - RFW Batch 9102L414

Rizzo Samples LS6, SS-A30-501

Dear Mr. Hudson:

Enclosed is the data report for one soil sample received February 2, 1991. Please contact me if you have any questions or at anytime we may be of service.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone

Project Manager Analytics Division

JLS/lvd

Enclosure:



### ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 02-02-91

RFW #: 9102L414 W.O. #: 6051-01-01

### INORGANIC NARRATIVE

The following is a summary of the quality control results and a description of any problems encountered during the analysis of this batch of samples:

- 1. All preparation blanks were analyzed below the required detection limit.
- 2. All calibration verification checks are within the required control limits of 85-115%. Calibration verification is performed using independent standards.
- 3. The analytical methods applied by the laboratory, unless otherwise requested, for all inorganic analyses are derived from the USEPA Method for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and Standard Methods for the Examination of Water and Wastewater 16 ed. Methods for the analysis of solid samples are derived from Test Methods for Evaluating Solid Waste (USEPA SW846).

Jack R. Tuschall, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

7-28-91

Date

### ROY F. WESTON INC.

### INORGANICS DATA SUMMARY REPORT 02/25/91

CLIENT: RIZZO ASSOCIATES WESTON BATCH #: 9102L414

WORK ORDER: 6051-01-01-0000

					REPORTING
SAMPLE	SITE ID	ANALYTE	RESULT	UNITS	LIMIT
220222	22838888322222222 <u>2</u>	**********	22222222	322225	77222222
-001	LS6-SS-A30-501	Total Organic Carbon	179000	MG/KG	3160

### ROY F. WESTON INC.

### INORGANICS METHOD BLANK DATA SUMMARY PAGE 02/25/91

CLIENT: RIZZO ASSOCIATES WESTON BATCH #: 51021414

WORK ORDE	R: 6051-01-01-0000				DEPORTING	
SAMPLE	SITE ID	ANALYTE	RESULT	""." <b>"</b> S		
333322	*************	22×22222244422222222	======	=====	*********	600
BLANK10	91LTZ002-MB1	Total Organic Carbon	20.0 u	MG/KG	20.0	
BLANK20	91LTZ002-MB2	Total Organic Carbon	20.0 u	MG/KG	20.0	

### ROY F. WESTON INC.

### INORGANICS ACCURACY REPORT 02/25/91

CLIENT: RIZZO ASSOCIATES WESTON BATCH #: 9102L414

WORK ORDER: 6051-01-01-0000

				SPIKED	INITIAL	SPIKED	
1 =1	SAMPLE	SITE ID	ANALYTE	SAMPLE	FESULT	amou ii	% PECCV
			22277657767777665	*****	****	======	=======
JE.	BLANK10	91LTZ002-MB1	Total Organic Carbon	403	20.0 u	400	101
	BLANK20	91LTZ002-MB2	Total Organic Carbon	399	20.0 ს	400	99.8

# Roy F. Weston, Inc. - Lionville Laboratory INORGANIC ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 02/02															
CLIENT ID /ANALYSIS	RFW #	MTX	PREP #	COLLECTION	EXTR/PRIP	ANALHSIS									
		_				<del></del>									
LS6-SS-A30-501															
TOTAL ORGANIC CARBON	001	s	91LTZ002	01/28/91	02/21/91	02/21/91									
LAB QC:															
No distribution of the Control															
TOTAL ORGANIC CARBON	MB1	W	91LTZ002	N/A	02/21/91	02/21/91									
TOTAL ORGANIC CARBON	MB1 BS	W	91LTZ002	N/A	02/21/91										
TOTAL ORGANIC CARBON TOTAL ORGANIC CARBON	MB2 MB2 BS	W	91LTZ002 91LTZ002	N/A N/A	02/21/91 02/21/91	02/21/91 02/21/91									

### TOC SOIL ANALYSIS LOG



CAL STD ID: Aldrick #0320782 PREP BATCH: 91672602

ICV/CCV STD ID: Some

WORKSHEET: TOCOLLIS

		SOIL: MG/K	Ğ	WATER:	MG/L	
RFW	MG of	& COLIDG	UG	INST READING	MC /VC	DETECTION LIMIT
1 # ug	SOIL	% SOLIDS	100		MG/KG	LIMIT
Blank				4-8	-	
st 2				51.2		
<u> </u>				169.8		
250 10				261.6		
7.00 16				417.1		
1020 40				990.9		
2.20 80				2002		
300 120				2830		
Blank			.58	6.4	5.8	30
TOU (love ppm)			40.3	1010.5	403	20 5476
1/cu 390 -001	2.5	30	37.3	934.9	49733	1333
OO(R	4.9		11.9.0	2972	50952	680 X-
COIR	2.3	1	23.6	595.2	34203	1449/113
91021 414-001	1.7	16	30.3	762.9	111397	3476
co R	2.1		71.1	1776	211607	2976 > 17 9
001 B	2.2	1	75.8	1894	215 341	2841/ 310
Blank			.13	4.4	1.3	20
icv			39.9	1001.6	399	20
					,	1
			-			
MAIVET. A	1/2-			VEDIETED.		

ANALYST: Double

DATE: 2/21/910

VERIFIED:

DATE:

25 = 21-21-016/K-1/90

PPC16K.frm/sjd

DATA SUMMARY

Roy F. Weston, Inc. - Lionville Laboratory

PCBs by GC

Client: RIZZO ASSOCIATES RFW Batch Number: 9102L414

**( )** 0

Report Date: 03/22/91 16:27 Work Order: 6051-01-01-0000

Page: 1

	Cust ID:	LS6-SS-A30	-5	PBLK		PBLK BS		
Sample	RFW#:	001		91LE0132-M	1B1	91LE0132-M	В1	
Information	Matrix:	SOIL		SOIL		SOIL		
	D.F.:	2.5	0	0.50	00	0.50	0	
	Units:	ug/K	g	ug/K	ζg	ug/K	g	
Surrogate: Di-n-b	utylchlorendate	79	8	96	8	92	8	
			=11					l=====fl=====fl======fl
Aroclor-1016		_ 3400		40	U	40	U	
Aroclor-1221		1400	U	40	U	40	U	
Aroclor-1232		1400	U	40	U	40	U	
Aroclor-1242		1400	U	40	U	40	U	
Aroclor-1248		1400	U	40	U	40	U	
Aroclor-1254		2300	J	80	U	90	*	
Aroclor-1260		2700	U	80	U	80	U	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

Roy F. Weston, Inc. - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
RIZZO ASSOCIATES

DATE RECEIVED: 02/	02/91			RFW LOT # :	91021414
CLIENT ID	RFW #	MTX PRE	P # COLLECTION	N EXTR/PREP	ANALYSIS
Ls6-ss-A30-501	001	s 91LE	01/28/91	02/06/91	03/13/91
LAB QC:					
PBLK	MB1	S 9115	0132 N/A	02/06/91	03/13/91
PBLK	MB1 BS	s 9113	0132 N/A	02/06/91	03/13/91

CHAIN OF CUSTODY

and .	2122	o a	SEUC.			Ref	rigerator	#						6							Pag			Ė
. Final Pro	13073					#/Т	ype Conta	alner	Liquid											4: -				
rk Order #						-			Solld Liquid					161						· * * · ·				
ject Conta	ct/Phon	* - CA1	and the				ume		Solid					300						130	1. 1			H.
Project M	enager -	7-XII	one in			Pre	servalive	s	L	<u> </u>	ORG	ANIC		0		-		INC	RG	150				源
le Rec'd	2-≥;	-91 ZZV	TAT	3-6	hi		ALYSES QUESTED	, –	-	VOA	BNA	Pest/ PCB	Herb	6P	Toe			Metal	N O					
FRIX DES: Soil - Sediment - Solid	Lab ID		Client ID/Des		M: Ch	atrix QC osen	Matrix		Date lected					مصری	E Det								. 35	
Sludge Water Oil	201	L56	-55 -A30	0-50L			5	1-21	391					/	1									
Air Drum		*																						L
Solids Drum					_																			╀
Liquids EP/TCLP																							-11-41	1
Leachate Wipe																								
Other Fish																						-		
																						-		1
																						i,		
fu!																						*		(h)
ecial Instruc	ctions:	1	r	0 10.	L 0.0	D	ATE/REV	ISIONS	S:							- 1		WE	STON	Analy	tics U	se Or	ıly	
pa m	Thad	80	5dac 80	Tieria	. 11.1004	  		1 2 3 4 5 6									1) Ha Air 2) 3) Co	Shippe and De bill #_ Ambie Receivendition	were: ed / livered int or ()	filled Good or N	1) Po Pack 2) U Pack	Tape resent kage nbroke kage	on Opt Y or n on O Y or (	N N N
nquished by		ceived by	Date	Time	Relinquis	shed		eived by	D	ate	Tin	ne	Sam	epancio	bels ar				ved Wil	r N	Sam	nbroke ple : Reco		$\sim$

I. CASE NARRATIVE



### ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 02-02-91

**RFW #:** 9102L414, PCB **W.O. #:** 6051-01-01

#### NARRATIVE

One (1) soil sample was collected on 01-28-91.

The sample and its associated QC samples were extracted on 02-06-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 03-13-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- 1. Linearity and breakdown criteria were met for the primary column.
- 2. Continuing calibration criteria were met for all compounds on both columns in standards analyzed prior to sample extracts. molecular weight compounds injected with extracts analyzed after samples extracts associated with this case caused chromatography problems with the final pesticide standards. Since this occurred in standards analyzed after sample extracts, this should not have any affect on the associated data.
- 3. Retention time criteria were met for all compounds on both the primary and confirmation columns.
- 4. All surrogate recoveries were within EPA QC limits.
- 5. The blank spike recovery was within EPA QC limits.
- 6. Sample L56-SS-A30-501 required a five-fold dilution because it contained high level of both target and non-target compounds.

Jack R. Tuschall, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

2.29 91



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE. PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

2 May 1991

Mr. Mike Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference: Rizzo Project No. 1358-01, NYSDEC Ludlow Site

Data Report for RFW Batch 9102L682

Rizzo Samples LSG-SS-E30-903, LSG-SS-A38-904

Dear Mr. Hudson:

Enclosed is the data package for two soil samples received 23 February 1991.

Please contact me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

/clk

Enclosure:

# Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED:	02/23/91	RFW LOT #	:9102L682
----------------	----------	-----------	-----------

CLIENT ID	RFW	#	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LSG-SS-E30-903	001		S	91LE0258	02/22/91	02/26/91	04/05/91
LSG-SS-E30-903	001	MS	S	91LE0258	02/22/91	02/26/91	04/05/91
LSG-SS-E30-903	001	MSD	S	91LE0258	02/22/91	02/26/91	04/05/91
LSG-SS-A38-904	002		S	91LE0258	02/19/91	02/26/91	04/05/91
LAB QC:							
PBLK	MB1		S	91LE0258	N/A	02/26/91	04/05/91
PBLK	MB1	BS	s	91LE0258	N/A	02/26/91	04/05/91

## 0000743

CHAIN OF CUSTODY



PLEASE RETURN COOLER

CHAIN OF CUSTODY RECORD

LUDION 1358-61 2750EC-David Rizzo Project Number: Samplers (signatures): Rizzo Project Name:

> 235 West Central Street Rizzo Associates, Inc.

(508) 651-3401 (508) 651-1189 (FAX) Natick, MA 01760

Lab: Key F. Wessen

Turnaround Time: 35 DAYS Send report to: Hike Hudson

		Sample	Sample Collected		Container	Sample			Reque	Requested Analyses	\$5.5	
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DATA SUMMARY



Roy F. Weston, Inc. - Lionville Laboratory

Client: RIZZO ASSOCIATES

RFW Batch Number: 9102L682

0

PCBs by GC

Report Date: 04/10/91 16:44
Work Order: 6051-01-01-0000 Page: 1

	Cust ID:	LSG-SS-E30	)-9	L80-88-830	-9	LSG-SS-E30-9	LSG-SS-A3	8-9	PBLK		PBLK BS	
		03		03		03	04					
Sample RFW#:		001		001 MS		001 MSD	002		91LE0258-MB1		91LE0258-MB1	
Information	- Matrix:	SOIL		SOIL		SOIL	SOIL		SOIL		SOIL 0.500 ug/ <b>K</b> g	
	D.F.:	0.500 ug/Kg		0.500 ug/Kg		0.500	0.500 ug/Kg		0.500 ug/Kg			
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Surrogate: Di	-n-butylchlorendate	91	1	76	•	83 \$	55	•	103	•	99	
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U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

### I. CASE NARRATIVE



WESTEN!

### ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 02-23-91

RFW #: 9102L682, PCB W.O. #: 6051-01-01

### NARRATIVE

The set of samples consisted of two (2) soil samples collected on 02-19,22-91.

The samples were extracted on 02-26-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 04-05-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- Linearity and breakdown criteria were met for the primary (SP2100) column for all compounds except Aldrin.
- 2. Continuing calibration criteria were exceeded for several compounds, but this occurred in standards analyzed after the sample extracts so there was no re-analysis requirement.
- 3. Retention time criteria were exceeded for several compounds. This should not affecte the data, since PCB compounds are identified by multi-peak pattern recognition.
- 4. All surrogate recoveries were within EPA QC limits.
- 5. All matrix spike recoveries were within EPA QC limits.
- 6. The blank spike recovery was within EPA QC limits.
- 7. Due to an error this package is consecutively paginated beginning on page 743.

Fack R. Tuschall, Phy.D.

Laboratory Manager

Lionville Analytical Laboratory

426 91



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

17 May 1991

Mr. Mike Hudson Rizzo Associates 255 West Central Street Natick, MA 01760

Reference:

Data Report - RFW Batch 9103L781

Rizzo Samples LSG-SS-A47-905, A57-906, A65-907

Dear Mr. Hudson:

Enclosed please find the data report for 3 soil samples received March 3, 1991.

Please contact me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Judith J. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:

Roy F. Weston, Inc. - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
RIZZO ASSOCIATES

CLIENT ID	RFW	*	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LSG-SS-A47-905	001		S	91LE0311	02/26/91	03/06/91	04/15/91
LSG-SS-A56-906	002		s	91LE0311	02/27/91	03/06/91	04/15/91
LSG-SS-A65-907	003		S	91LE0311	02/28/91	03/06/91	04/15/91
LSG-SS-A65-907	003	MS	S	91LE0311	02/28/91	03/06/91	04/15/91
LSG-SS-A65-907	003	MSD	S	91LE0311	02/28/91	03/06/91	04/15/91
LAB QC:							
PBLK	MB1		S	91LE0311	N/A	03/06/91	04/15/91
PBLK	MB1	BS	S	91LE0311	N/A	03/06/91	04/15/91

CHAIN OF CUSTODY

2) Unbroken on Outer 3) Present on Sample Package Y or ( N : Package Y or /N COC Record Present 1) Present on Outer Sample Y or N Upon Sample Recit to 4) Unbroken on COC Tape was: **WESTON Analytics Use Only** Page 4) Properly Preserved Condition. Y or N N TO Y 2) Ambient or Chilled 3) Received in Good 5) Received Within Holding Times Samples were: ,.. 1) Shipped / or Hand Delivered CN INORG Airbill # Metal **Custody Transfer Record/Lab Work Request** COC Record? Y of 'N \ Discrepancies Between Samples Labels and read g Herb PCB Pest ORGANIC Time **AN8** Date AOV Liquid Liquid DATE/REVISIONS: Persived #/Type Container 9 2 Preservatives ANALYSES REQUESTED Refrigerator # Volume Relinquished harmy . N41 505 N510-506 A65-607 1.372 Time the property of the property of Je 35-141 TAT Date Received <del>\_</del> = <del>\_</del> = Special Instructions: H W 21 21 001 A 8:90 Relinquished 9- Soil 80-Soild 80-Soild SI Shalge W Water 0- Oil A- An Liquids FP/ICLP Leachate Date Rec'd Account # WI - Wipe X - Other F - Fish Solids DL - Drum DS - Drum MATRIX CODES:

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### IVIN OF CUSTODY RECORD

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Send report to: Auce

Rizzo Project Name: NYSDEZ - Lud low Rizzo Project Number: 1358-01 TASK 4

Samplers (signatures):

(	XV4) 6811-159 (805
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	Valick, MA 01760
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) 0808 Vd7				7105	746	7105	1	MY 216	16-92-2	506-144-55-557		
Other	(81)	PP13.8	579 TSH	Sample	Type		#	Time	Date	Rizzo Sample Number		
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## 000003

DATA SUMMARY

#### Roy F. Weston, Inc. - Lionville Laboratory

Report Date: 05/09/91 16:28

PCBs by GC

Work Order: 6051-01-01-0000 Page: 1 RFW Batch Number: 9103L781 Client: RIZZO ASSOCIATES PBLK LSG-SS-A65-9 LSG-SS-A65-9 Cust ID: LSG-SS-A47-9 LSG-SS-A56-9 LSG-SS-A65-9 07 05 06 07 07 003 MSD 91LE0311-MB1 RFW#: 001 002 003 003 MS Sample SOIL SOIL SOIL Information Matrix: SOIL SOIL SOIL 0.500 0.500 D.F.: 0.500 0.500 0.500 0.500 ug/Kg Units: ug/Kg uq/Kq uq/Kq ug/Kg ug/Kg Surrogate: Di-n-butylchlorendate 83 86 79 79 . 75 . 78 . 200 U 200 U 40 U U 60 U 200 U Aroclor-1016 50 Aroclor-1221 50 U 60 U 200 U 200 U 200 U 40 U 200 U Aroclor-1232 50 U 60 U 200 U 200 U 40 U Aroclor-1242 50 U U U 200 U 200 U 40 U 60 200 Aroclor-1248 50 U 13 J 54 J 1 Ι 40 U Aroclor-1254 82 78 8 U 100 U 16 J 51 J . 80 Aroclor-1260 100 U 120 U 390 U 390 U 390 U 80 U O O Cust ID: PBLK BS C Sample RFW#: 91LE0311-MB1 Information SOIL Matrix: D.F.: 0.500 Units: ug/Kg 70 8 Surrogate: Di-n-butylchlorendate Aroclor-1016 40 U Aroclor-1221 40 U Aroclor-1232 U 40 Aroclor-1242 40 U Aroclor-1248 40 U Aroclor-1254 67 8 Aroclor-1260 80 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

I. CASE NARRATIVE

MESTERN

### ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 03-02-91

**RFW** #: 9103L781, PCB **W.O.** #: 6051-01-01

### NARRATIVE

The set of samples consisted of three (3) soil samples collected on 02-26,27,28-91.

The samples were extracted on 03-06-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 04-15-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- 1. Linearity and breakdown criteria were met for the primary column for pesticide compounds. The relative standard deviation of the calibration factors obtained for the multilevel Arochlor 1254 standards was 6.2%, so quantitation of the Arochlor compounds were performed using single point calibration.
- 2. Continuing calibration criteria were exceeded for several compounds but this occurred in standards analyzed after the sample extracts, so there was no re-analysis requirements.
- 3. Retention time criteria were met for all target compounds on both the primary and confirmation columns in standards analyzed prior to sample extracts.
- 4. All surrogate recoveries were within EPA QC limits.
- 5. All matrix spike recoveries were within EPA QC limits.
- 6. The blank spike recovery was within EPA QC

## WESTERN

7. Arochlor 1248 could not be quantitated in the matrix spike and spike duplicate samples due to interference from the spiking solution (Arochlor 1254).

Jack R. Tuschall, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

5.13.9,

Date



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

22 May 1991

Mr. Mike Hudson Rizzo Associates 255 West Central Street Natick, MA 01760

Reference:

Data Report for RFW Batch 9103L958

Rizzo Samples A-75, A-93, LSG-SS-A71-908, 909

Dear Mr. Hudson:

Enclosed please find the data report for four (4) soil samples received March 18, 1991.

Please contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:

Roy F. Weston, Inc. - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
RIZZO ASSOCIATES

DATE RECEIVED: 03/18/91 RFW LOT # :9103L958

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
A-75	001		91LE0375	03/15/91	03/20/91	04/27/91
A-93	002	s	91LE0375	03/15/91	03/20/91	04/27/91
LSG-SS-A71-908	003	s	91LE0375	03/13/91	03/20/91	04/27/91
LSG-SS-A71-908	003 MS	s	91LE0375	03/13/91	03/20/91	04/27/91
LSG-SS-A71-908	003 MSD	s	91LE0375	03/13/91	03/20/91	04/27/91
LSG-SS-A85-909	004	s	91LE0375	03/13/91	03/20/91	04/27/91
LAB QC:						
PBLK	MB1	s	91LE0375	N/A	03/20/91	04/28/91
PBLK	MB1 BS	s	91LE0375	N/A	03/20/91	04/27/91

CHAIN OF CUSTODY

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Matrix: W - Water S - Soil O - Oil SE - Sediment A - Air SO - Soild Wi - Wipe  Item/Reason Reline	DL - Drum Liquid F - Fish L - EP/TCLP Lea	ds schate	Special Date	Ime Item/	Reason	Relinguish	ed by	Received	Iby	Date	Time	COC Tape Was: 1 Present on Outer Package Y 2 Unbroken on Outer Package Y 3 Present on Sample Y 4 Unbroken on Sample NOTES: 1 Present Upon Receipt of Samples Y N Discrepancies Between Sample Labels and COC Record? NOTES:

Rizzo Associates, Inc. 235 West Central Street Natick, MA 01760 (508) 651-3401 (508) 651-1189 (FAX)

# CHAIN OF CUSTODY RECORD

Rizzo Project Number: 358,01
Rizzo Project Name: NYSDEC - Ludlaw 544
Samplers (signatures):

Lab: Roy F. Waton
Lab ID #:
Send report to:

Turnaround Time:

						A-93	A-75	Rizzo Sample Number	
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Method of Shipment:

# CHAIN OF CUSTODY RECORD

Rizzo Associates, Inc. 235 West Central Street Natick, MA 01760 (508) 651-3401 (508) 651-1189 (FAX)

Rizzo Project Number: 1358-01 Teak 04
Rizzo Project Name: NYSDEC - Ladlow
Samplers (signatures):

Lab: Roy F. Weston
Lab ID #:
Send report to: Mike Haidson
Turnaround Time: 35 days

	M. J. Hudson	Relinquished by:
		Received by:
	3/15/91	Date:
	12:10 p.m.	Time:

Method of

DATA SUMMARY

. )

## Roy F. Weston, Inc. - Lionville Laboratory

Report Date: 05/13/91 10:48

PCBs by GC

RFW Batch Number: 9103L958 Client: RIZZO ASSOCIATES Work Order: 6051-01-01-0000 Page: 1 Cust ID: A-75 A-93 LSG-SS-A71-9 LSG-SS-A71-9 LSG-SS-A71-9 LSG-SS-A85-9 80 09 80 80 Sample RFW#: 001 002 003 003 MS 003 MSD 004 Information Matrix: SOIL SOIL SOIL SOIL SOIL SOIL D.F.: 0.500 0.500 5.00 5.00 5.00 0.500 Unite: ug/Kg ug/Kg ug/Kg ug/Kg uq/Kq ug/Kg Surrogate: Di-n-butylchlorendate 84 74 84 78 79 80 Aroclor-1016 72 U 150 U 580 580 U 600 U Aroclor-1221 72 U 150 U 580 U 600 U U 580 U 50 Aroclor-1232 72 U U 150 U 580 U 580 U 600 U 50 Aroclor-1242 72 62 J 600 U U 580 U 580 U 50 Aroclor-1248 72 150 580 580 600 U 50 U Aroclor-1254 91 J 300 U 690 J 88 48 \* % 65 J Aroclor-1260 140 U 300 U 1200 U 1200 U 1200 U 100 U

	Cust ID:	PBLK		PBLK BS		
Sample	RFW#:	91LE0375-1	4B1	91LE0375-1	MB1	
Information	Matrix:	SOIL		SOIL		
	D.F.:	0.50	00	0.50	00	
	Units:	ug/I	(g	ug/I	Kg	
Surrogate:	Di-n-butylchlorendate		•	21	•	
			==fl		==f]	.=======f1=======f1=====f1=====f1=====f1======
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Aroclor-1221		40	U	40	U	
Aroclor-1232		40	U	40	U	
Aroclor-1242		40	U	40	U	
Aroclor-1248		40	U	40	U	
Aroclor-1254		80	U	27 1		
Aroclor-1260		80	U	80	U	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. NS= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC I. CASE NARRATIVE

WESTERN

ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 03-17-91

**RFW** #: 9103L958, PCB **W.O.** #: 6051-01-01

## NARRATIVE

The set of samples consisted of four (4) water samples collected on 03-13,15-91.

The samples were extracted on 03-20-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 04-27-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

1. Linearity and breakdown criteria were met for the primary column for pesticide standards.

The relative standard deviation of the calibration factors obtained from the multi-level arochlor 1254 standards was 13% so quantitation of target compounds was performed by single point calibration.

- Continuing calibration criteria were met for all target compounds except arochlor 1254 on 04-27-91 at 22:07.
- 3. Retention time criteria were exceeded for several compounds; however, the data should not be affected since PCB compounds are identified using multi-peak pattern recognition.
- 4. All surrogate recoveries were within EPA QC limits.
- 5. The blank spike recovery was below EPA QC limits. Since all sample surrogate recoveries were well within EPA QC limits, corrective action was not taken for the low blank spike recovery.
- 6. One (1) of two (2) matrix spike recoveries was outside EPA QC limits. The matrix spike recovery for arochlor 1254 (48%) was below the limit of 50%.



7. Sample LSC-SS-A71-9 and its associated matrix spike samples required ten-fold dilutions due to high levels of target compounds.

Jack R. Tuschall, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

5.160

Date



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360

TELEX: 83-5348

15 May 1991

Mr. Mike Hudson Rizzo Associates 255 West Central Street Natick, MA 01760

Reference: Data Report - RFW Batch 9104L196, 078

Rizzo Samples LSG-SS-A102-601, A89-910

Dear Mr. Hudson:

Enclosed is the data package for two soil samples received March 27 and April 6, 1991.

Please contact me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Indith I. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:

## Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 04,	/06/91			1	RFW LOT # :9	104L196
CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LSG-SS-A102-601	001	s	91LE0461	04/05/91	04/08/91	05/06/91
LSG-SS-A102-601	001 MS	S	91LE0461	04/05/91	04/08/91	05/07/91
LSG-SS-A102-601	001 MSD	s	91LE0461	04/05/91	04/08/91	05/07/91
LAB QC:						
PBLK	MB1	S	91LE0461	N/A	04/08/91	05/07/91
PBLK	MB1 BS	s	91LE0461	N/A	04/08/91	05/07/91

CHAIN OF CUSTODY

Rizzo Associates, Inc. 235 West Central Street Natick, MA 01760 (508) 651-3401 (508) 651-1189 (FAX)

## CHAIN OF CUSTODY RECORD

Rizzo Project Number: 1358-01

Rizzo Project Name: W57Et - Ludow

Samplers (signatures): Mut Out

Lab: Roy F. Werfers

Lab ID #:
Send report to: A 4c Nedson

Turnaround Time: 5 kryderel 35 Mays

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Request	TPII (IR)								
	PP13 &								
	HSI. 624								
Cample	Matrix	1.04							
Container	Type	foil Jur			)-		38	-	
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ollected	Time	3115							
Sample Collected	Date	16-5-4							
	Rizzo Sample Number	V56-55-A102-601							

Date:	15/0/1	0/600
Received by:	1 Haydof	C148474047 24.1141
Relinguistical by	Kirk	Method of Shipment: $\int_{\mathbb{R}^{d}} \left( \int_{\mathbb{R}^{d}} \mathcal{L}_{t,n} \right)$

Time:

WESTON Analytics Use Only	Custody T	ransfer	Rec	ord/Lab W	ork Requ	est	CXXESTICAL Y
Client Contact/Phone	#/Typ Volume 5/6/9/ Prese	igerator# pe Container ime ervative  LYSES UESTED	1/6 571 -				WESTON Analytics Use Only Samples Were: 1 Shipped of Hand- Delivered NOTES: 2 Ambient or Chilled NOTES:
WA Use Only Lab ID  COLLEGE SS-HIDGE  COLLEGE SS		Date Collected	of the				3 Received Broken/ Leaking (Improperly Sealed) Y NOTES:  4 Properly Preserved Y NOTES:  5 Received Within Holding Times Y NOTES:  COC Tape Was: 1 Present on Outer Package Y N 2 Unbroken on Outer Package Y N
Matrix: W - Water DS - Drum Solid: S - Soil O - Oil DL - Drum Liquid: SE - Sediment A - Air F - Fish SO - Soild Wi - Wipe L - EP/TCLP Let  Item/Reason Relinquished by F	ds	Time Item/	e: Q	CLOel = C	Received by	Date Time	3 Present on Sample Y N 4 Unbroken on Sample NOTES: Y N  COC Record Was: 1 Present Upon Receipt of Sample Y N  Discrepancies Between Sample Labels and COG Record? Y N

Rizzo Associates, Inc. 235 West Central Street Natick, MA 01760 (508) 651-3401 (508) 651-1189 (FAX)

# CHAIN OF CUSTODY RECORD

Rizzo Project Number: 1358-01 Touk 4

Rizzo Project Name: Luellen Sand & Grand

Samplers (signatures):

Expr. (2550 088

Lab: Rosa & Wester

3-31-91 3:45 p.M, 1 644		Sample	Sample Collected		Container	Commit			Reques	ted Analys	cs
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Method of Shipment	67.200		

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DATA SUMMARY

Roy F. Weston, Inc. - Lionville Laboratory

PCBs by GC

Report Date: 05/08/91 23:42

RFW Batch Number: 9104L196 Client: RIZZO ASSOCIATES Work Order: 6051-01-01-0000 Page: 1 Cust ID: LSG-SS-A102- LSG-SS-A102- LSG-SS-A102-PBLK PBLK BS 601 601 601 Sample RFW#: 001 001 MS 001 MSD 91LE0461-MB1 911.E0461-MB1 Information Matrix: SOTT. SOIL SOTT. SOTT. SOIL D.F.: 2.50 2.50 2.50 0.500 0.500 Units: ua/Ka ua/Ka ua/Ka ua/Ka ua/Ka Surrogate: Di-n-butylchlorendate 74 9. 37 8 98 % 47 9. 63 \* Aroclor-1016 250 U 270 U 260 IJ 40 tr 40 U Aroclor-1221 250 U 270 11 260 U 40 11 40 U Aroclor-1232 250 U 270 U 260 U 40 U 40 Ħ Aroclor-1242 250 U 270 U 260 U 40 U 40 U Aroclor-1248 250 U-270 U 260 U 40 Ħ 40 U Aroclor-1254 J 80 U 9. 350 94 \* 61 9. 73 Aroclor-1260 500 U 530 U 520 U 80 U 80 U

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

0 O

C O I. CASE NARRATIVE

WESTERN

ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 04-06-91

**RFW #:** 9104L196, PCB **W.O. #:** 6051-01-01

NARRATIVE

One (1) soil sample was collected on 04-05-91.

The sample and its associated QC samples were extracted on 04-08-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 05-06,07-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- 1. Linearity and breakdown criteria were met for the primary column for pesticide compounds. The relative standard deviation of the calibration factors obtained for the multilevel Arochlor 1254 standards was 10.6%, so quantitation of the Arochlor compounds were performed using single point calibration.
- 2. Continuing calibration criteria were met on both the primary and confirmation columns for compounds requiring quantitation and confirmation analyses.
- 3. Retention time criteria were met for all compounds on both the primary and confirmation columns.
- 4. All surrogate recoveries were within EPA QC limits.
- 5. All matrix spike recoveries were within EPA QC limits.
- 6. All blank spike recoveries were within EPA QC limits.
- 7. Sample LSG-SS-A102-601 and its associated matrix spike samples required five-fold dilutions because they contained high levels of both target and non-target compounds.

Jack R. Tuschall, Ph.D.

Date

Laboratory Manager

Lionville Analytical Laboratory



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360

TELEX: 83-5348

17 May 1991

Mr. Mike Hudson Rizzo Associates 255 West Central Street Natick, MA 01760

Reference:

Data Report - RFW Batch 9104L348

Rizzo Samples B-16/17, SS-5

Dear Mr. Hudson:

Enclosed please find the data report for one water and one soil sample received April 20, 1991. Two additional samples, B-16/17 (soil) and A-100, were received broken and could not be analyzed.

Please contact me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

/Judith L. Stone Project Manager Analytics Division

Analytics Div

JLS/lvd

Enclosure:

Roy F. Weston, Inc. - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
RIZZO ASSOCIATES

DATE RECEIVED: 04/20/91 RFW LOT # :9104L348

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B-16/17-W	001	W	91LE0521	04/18/91	04/22/91	05/06/91
SS-5	002	s	91LE0522	04/18/91	04/22/91	05/07/91
SS-5	002 MS	S	91LE0522	04/18/91	04/22/91	05/07/91
SS-5	002 MSD	s	91LE0522	04/18/91	04/22/91	05/07/91
LAB QC:						
DDI Z	MB1	W	91LE0521	N/A	04/22/91	05/07/91
PBLK		M M	91LE0521	N/A	04/22/91	05/07/91
PBLK	MB1 BS			•	• • • •	
PBLK	MB1 BSD	W	91LE0521	N/A	04/22/91	05/07/91
PBLK	MB1	S	91LE0522	N/A	04/22/91	05/07/91
PBLK	MB1 BS	s	91LE0522	N/A	04/22/91	05/07/91

CHAIN OF CUSTODY

COC Tape was:

1) Present on Outer
Package Y or (N) 2) Unbroken on Outer Package Y or (N 3) Present on Sample Y or N Hef# N/A Soler# V/A 381 Sample Y or N COC Record Present Upon Sample Rec't ō 4) Unbroken on **WESTON Analytics Use Only** Page Hand Delivered Airbill # 7904743023 3) Received in Goods Condition Y or (N) 4) Properly Preserved 2) Ambient or Chilled Z 5) Received Within Samples were:

1) Shipped X or Holding Times CN INORG Rosen Boken Metal Custody Transfer Record/Lab Work Request Samples Labels and COC Record? (\*) or N NOTES - Months Redict Ked 2 Discrepancies Between L378 5%6 87 Herb Pest/ ORGANIC 7761 Time **AN8** AOV Date 1375 Liquid Solid Liquid 1/8/1 Date Collected 11/8/1 15/8//1 4/18/1 DATE/REVISIONS: Received #/Type Container ANALYSES REQUESTED Preservatives Refrigerator # Matrix 272 30 Volume Relinquished by Matrix QC Chosen 1372 Broken in cocker. Les rolum? 16/0E/ TAT 30 day Time Client ID/Description 930 Date Due 5/ ASSOCIA RS Stone 3 1400/2 Est. Final Proj. Sampling Date Date 001 - B Project Contact/Phone # Judy Bran May WESTON Analytics Use Only Received R:220 1613e AD Project Manager — OC CLD Del 131 W . 1 21 001 A 8 90 91841 348 000 8 E B Special Instructions: Relinquished S - Soil
SE - Sediment
SO - Soild
SL - Sludge
W - Water
A - Air
DS - Drum Sopre. Liquids EP/TCLP Leachate Date Rec'd [a] - [x] Solids **DL** - Drum Account # WI - Wipe X - Other F - Fish Other Fish MATRIX CODES: Cllent

CHAIN OF CUSTODY RECORD

AND S+G Rizzo Project Number: Samplers (signatures): Rizzo Project Name:

Rizzo Associates, Inc. 235 West Central Street

Natick, MA 01760

(508) 651-3401

(508) 651-1189 (FAX)

Send report to: MIKE Hudson late Roy F. Weston Turnaround Time:

Other Requested Analyses
TPH O PCB PP13 & Cr +6 HSI. 624 Sample Matrix Nata Soi Sol Type Container Amber 3:50 3:20 2:15 Sample Collected Rizzo Sample Number 8-16/17-5 A-100

Time:	4:30	And the second s
Date:	4/20/71	

Relinquished by:

Received by:

61.

Method of Shipment, 18 Ex

DATA SUMMARY

Roy F. Weston, Inc. - Lionville Laboratory

PCBs by GC

Report Date: 05/08/91 23:37

Work Order: 6051-01-01-0000 Client: RIZZO ASSOCIATES Page: 1 RFW Batch Number: 9104L348 Cust ID: B-16/17-W SS-5 SS-5 SS-5 PBLK PBLK BS 001 002 002 MS 002 MSD 91LE0521-MB1 91LE0521-MB1 RFW#: Sample SOIL SOIL WATER Matrix: WATER SOIL WATER Information D.F.: 2000 5.00 5.00 5.00 1.00 1.00 ug/L ug/Kg ug/Kg ug/Kg ug/L ug/L Units: 53 8 62 \* 53 8 93 8 D ¥ 98 \* Surrogate: Di-n-butylchlorendate 1500 U 1400 U 2000 U 1500 U 0.50 U 0.50 U Aroclor-1016 2000 1500 1500 U 1400 U 0.50 U 0.50 U Aroclor-1221 U U 2000 1500 1500 U 1400 U 0.50 U Aroclor-1232 U U 0.50 U Aroclor-1242 2000 U 1500 U 1500 U 1400 U 0.50 U 0.50 U Aroclor-1248 2000 U 7500 7500 6800 0.50 U 0.50 U OAroclor-1254 2900 J 90 97 8500 8 8 1.0 U 76 8 Aroclor-1260 4000 U 3100 U 3000 U 2900 U 1.0 U 1.0 U O O PBLK BS C PBLK BSD PBLK Cust ID: 91LE0522-MB1 91LE0522-MB1 RFW#: 91LE0521-MB1 Sample Information Matrix: WATER SOIL SOIL D.F.: 1.00 0.500 0.500 ug/Kg ug/Kg Units: ug/L

Surrogate: Di-n-butylchlorendate	85	8.	73	*	71	*	
		=fl=		=f1		=f1	l=====fl=====fl=====fl
Arcclor-1016	0.50	U	40	U	40	U	
Aroclor-1221	0.50	U	40	U	40	U	
Aroclor-1232	0.50	U	40	U	40	U	
Aroclor-1242	0.50	U	40	U	40	U	
Aroclor-1248	0.50	U	40	U	40	U	
Aroclor-1254	79	8	. 80	U	89	8	
Aroclor-1260	1.0	U	80	U	80	U	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

I. CASE NARRATIVE

MESTER

ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 04-20-91

**RFW #:** 9104L348, PCB **W.O. #:** 6051-01-01

### NARRATIVE

The set of samples consisted of one (1) soil sample and one (1) water sample collected on 04-18-91.

The samples were extracted on 04-22-91 and analyzed according to criteria set forth in the Contract Laboratory Program for PCB target compounds on 05-06,07-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- 1. Linearity and breakdown criteria were met for the primary column for pesticide compounds. The relative standard deviation of the calibration factors obtained for the multilevel Arochlor 1254 standards was 10.6%, so quantitation of the Arochlor compounds were performed using single point calibration.
- Continuing calibration criteria were met on both the primary and confirmation columns for compounds requiring quantitation and confirmation analyses.
- 3. Retention time criteria were met for all compounds on both the primary and confirmation columns.
- 4. All obtainable surrogate recoveries were within EPA QC limits.
- 5. All matrix spike recoveries were within EPA QC limits.
- 6. All blank spike recoveries were within EPA QC limits.

## WESTEN

7. Sample SS-5 and its associated matrix spike samples required ten-fold dilutions and sample B-16/17-W required a 2000-fold dilution because they contained high levels of both target and non-target compounds.

Jack R. Tuschall, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

5.13.9.

Date



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

24 June 1991

Mr. Michael Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference:

Data Report for RFW Batch 9105L461 Rizzo Project - NYSDEC Ludlow S&G

Dear Mr. Hudson:

Enclosed please find the data packages for two soil samples received May 2, 1991.

Please do not hesitate to contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:



CHAIN OF CUSTODY

WESTON Ana			Cı	usto	ody <sup>*</sup>	Tra	nsfe	r Re	СО	rd	l/L	ab	W	ork	R	equ	ıes	it			Page		01	
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# CHAIN OF CUSTODY RECORD

1358,01 NYSDEC - LUDION S&G Rizzo Project Number: Samplers (signalures) Rizzo Project Name:

235 West Central Street Natick, MA 01760 (508) 651-3401 (508) 651-1189 (FAX)

Rizzo Associates, Inc.

Lab ID 4 F. Westo Send report to: Mike Hu Turnaround Time:

024 Cr +66 Cr +6		Sample	Sample Collected		Container	Samole	1		Reques	Requested Analyses
4/30/91 1:25 pm 1 Glass Jar Soil 4/30/91 1:25 pm 1 Glass Jar Soil	Rizzo Sample Number	Date	Time	*	Турс	Matrix	11SI. 624	PP13 & Cr +6	E E	Other
4/30/91 1:25pm 1 Glass Jar Soil	4 - 86	4/30/9/		-	Glass Jar	50,1				PCB
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DATA SUMMARY

Roy F. Weston, Inc. - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
RIZZO ASSOCIATES

DATE RECEIVED: 05/02/91 RFW LOT # :9105L461

CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
A-86	001	S	91LE0578	04/30/91	05/03/91	06/10/91
A-86	001 MS	S	91LE0578	04/30/91	05/03/91	06/10/91
A-86	001 MSD	s	91LE0578	04/30/91	05/03/91	06/10/91
A-99	002	S	91LE0578	04/30/91	05/03/91	06/10/91
LAB QC:						
PBLK	MB1	S	91LE0578	N/A	05/03/91	06/10/91
PBLK	MB1 BS	S	91LE0578	N/A	05/03/91	06/11/91

Roy F. Weston, Inc. - Lionville Laboratory

PCBs by GC

Report Date: 06/13/91 18:32 Work Order: 6051-01-01-0000 Client: RIZZO ASSOCIATES Page: 1 RFW Batch Number: 9105L461 A-86 A-86 A-86 A-99 PRLK PBLK BS Cust ID: 001 MSD 91LE0578-MB1 Sample RFW#: 001 001 MS 002 91LE0578-881 Information Matrix: SOIL SOIL SOIL SOIL SOIL SOIL 5.00 5.00 5.00 5.00 0.500 0.500 D.F.: Units: ug/Kg ug/Kg ug/Kg uq/Kq ug/Kg ug/Kg 45 % 43 38 38 56 43 Surrogate: Di-n-butylchlorendate Aroclor-1016 1300 1200 U 1200 U 1300 40 40 U Aroclor-1221 1300 U 1200 U 1200 U 1300 U 40 U 40 U Aroclor-1232 1300 U 1200 U 1200 U 1300 40 U 40 U Aroclor-1242 2500 1800 2000 1300 U 40 U 40 U Caroclor-1248 1300 U 1200 U 1200 U 1300 U 40 U 40 U Caroclor-1254 1900 Ι I 2200 80 U 70 CAroclor-1260 2400 U 2400 U 2700 U 80 U 80 U 2500 U 0

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. % = Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

I. CASE NARRATIVE



## ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 05-02-91

RFW #: 9105L461, PCB W.O. #: 6051-01-01

### NARRATIVE

The set of samples consisted of two (2) soil samples collected on 4-30-91.

The samples were extracted on 5-3-91 and analyzed according to criteria set forth in the Method 8080 for PCB target compounds on 6-10,11-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- 1. Linearity and breakdown criteria were met for all compounds on the primary column with the exception of Aldrin, a non-target compound.
- 2. Continuing calibration criteria were exceeded for several compounds but this occurred in standards analyzed after the sample extracts, so there was no re-analysis requirements.
- 3. Retention time criteria were exceeded for several compounds; but this occurred in standards analyzed after the sample extracts, so there was no reanalysis requirement.
- 4. The following samples required dilutions because they contained high levels of both target and non-target compounds.

SAMPLE ID	DILUTION FACTOR
A-86, MS, MSD	10
A-49	10

- 5. Matrix spike recoveries could not be obtained due to interference in the sample.
- 6. The blank spike recovery was within EPA QC limits.

## Page 2

7. All surrogate recoveries were within EPA QC limits.

Jack R. Tuschall, Ph.D. Laboratory Manager Lionville Analytical Laboratory

Date



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

30 July 1991

Mr. Mike Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference: Rizzo Project Ludlow Landfill 1358-01

RFW Batch 9105L522

Dear Mr. Hudson:

Enclosed is the data report for two soil samples received May 8, 1991.

Please do not hesitate to contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

pucies IXIV

/tme

Enclosure

Roy F. Weston, Inc. - Lionville Laboratory
PCB ANALYTICAL DATA PACKAGE FOR
RIZZO ASSOCIATES

DATE RECEIVED:	05/08/91			1	RFW LOT # :9	105L522
CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
A-102	001	s	91LE0603	05/06/91	05/09/91	06/11/91
A-102	001 MS	S	91LE0603 91LE0603	05/06/91 05/06/91	05/09/91 05/09/91	06/11/91 06/11/91
A-102 A-106	001 MSD 002	s s	91LE0603	05/06/91	05/09/91	06/11/91
LAB QC:						
+ and the control of						
PBLK	MB1	S	91LE0603	N/A	05/09/91	06/11/91
PBLK	MB1 BS	s	91LE0603	N/A	05/09/91	06/11/91



CHAIN OF CUSTODY

WESTON Ana				Cust	ody	Tra	nsfe	er Re	ece	orc	i/L	ab	W	ork	R	equ	ıes	st			Page	(3)		
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MATRIX CODES: S - Soil SE - Sediment SO - Solid SL - Sludge	Lab ID		Client ID/D			Matrix QC Chosen (√)		Date Collecte	ed					ORB	1					181				
W - Water	001	A-	- 103		2.30		Soil	5/6/9						X										
O - Oil A - Air	$\omega_3$	A.	- 106	כ	3:45		Soil	5/6/9	1					X										
DS - Drum Solids																								
DL - Drum Liquids						*1																		
L - EP/TCLP Leachate																								
WI - Wipe X - Other																								
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RFW 21 21 001 /	8 90				<b>IL</b> 1372		1373		- <b>1</b> -375		1	3/7	270	<u>(Ac) (</u>	78	Refi	MILI	lol.	Cor	oler#	NA		381	596.1

# CHAIN OF CUSTODY RECORD

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1000

Rizzo Project Number: 358,01
Rizzo Project Name: N YS DEC - Lud | 0 W S & G
Samplers (signatures):

Mutha Malliant

lizzo Associates, Inc. 235 West Central Street

Vatick, MA 01760 508) 651-3401 508) 651-1189 (FAX)

1 ab III 4:
Send report to: Mike Huden

										A-102	Rizzo Sample Number	
				The second control of					5/6/91	5/6/91	Date	Sample
									3:45	2:30	Time	Sample Collected
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Time:

## WESTERN .

DATA SUMMARY

Cust ID:	A-102	A-102	A-102	A-106	PBLK	PBLK BS
RFW#:	SOIL SOIL	SOIL SOIL	OO1 MSD	002 SOIL	91LE0603-MB1	91LE0603-MB1
D.F.:	1.00	1.00	1.00	5.00	0.500	0.500
Units:	ug/Kg	ug/kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
lchlorendate	40 %	46 %	47 %	64 %	33 &	
	=======f]==:	=======f]==	=f1	========f]	11	
	110 U	120 U	120 U	440 U	40 U	
	110 U	120 U	120 U	440 U	40 U	
	110 U	120 U	120 U	440 U	40 U	
	110 U	120 U	120 U	440 U	40 U	
	110 U	120 U	120 U	440 U	40 U	
	150 J	31 * %	56 %	520 J	80 U	57
	220 U	340	11 05.0	11 000		
	Cust ID:  RFW#:  Matrix:  D.F.:  Units:  Di-n-butylchlorendate	Cust ID: A-102  RFW#: 001  Matrix: SOIL  D.F.: 1.00  Units: ug/Kg  Ichlorendate 40 %  ===================================	Cust ID: A-102 A-102  RFW#: 001 001 MS  Matrix: SOIL SOIL  D.F.: 1.00 1.00 Units: ug/Kg ug/Kg  Ichlorendate 40 % 46 %  ===================================	A-102 A-102 A-102  001 001 MS 001 MSD  SOIL SOIL SOIL  1.00 1.00 1.00  ug/Kg ug/Kg ug/Kg ug/Kg  40 % 46 % 47 %  ======fl=====fl=====fl  110 U 120 U 120 U   a a a a a a a	A-106  002  SOIL  0 5.00  g ug/Kg  % 64 %  =fl========fl=  U 440 U	

RFW Batch Number: 9105L522

Client: RIZZO ASSOCIATES

Rc\_

We n,

PCBs by GC

l\_\_\_vil\_\_abo\_\_\_ry

Work Order: 6051-01-01-0000

Report Date: 06/28/91 18:18

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC NS= Not spiked.



I. CASE NARRATIVE

WESTERN

ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES SAMPLES RECEIVED: 05-08-91

**RFW #:** 9105L522, PCB **W.O. #:** 6051-01-01

### NARRATIVE

The set of samples consisted of two (2) soil samples collected on 05-06-91.

The samples were extracted on 05-09-91 and analyzed according to criteria set forth in the Contract Laboratory Program for Pesticide and PCB target compounds on 06-11-91.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

 Linearity and breakdown criteria were met for all compounds on the primary column except aldrin (RSD of calibration factors exceeded 10%).

The relative standard deviation of the response factors for the multi-level aroclor 1254 was less than 20%.

- 2. Continuing calibration criteria were met for all compounds on the primary column for standards analyzed prior to sample extracts. Continuing calibration criteria were exceeded for all compounds on the confirmation column. The calibration data indicated an increase in instrument sensitivity, so the ability to identify or confirm target compounds was not impaired.
- 3. Retention time criteria were met for all compounds on the primary column. Retention time criteria were exceeded for several pesticide compounds preceding sample extracts on the confirmation column. The data should not be impacted as PCB's are identified by pattern recognition rather than a single component retention time.
- 4. One (1) of six (6) surrogate recoveries was outside EPA QC limits. The DBC surrogate recovery for PBLK-BS (15%) was outside the EPA QC limit of 20%.
- 5. One (1) of one (1) matrix spike recovery was outside laboratory control chart warning limits. The matrix spike recovery for aroclor-1254 (31%) was outside the laboratory control chart warning limit of 50%.

-2-

- 6. The blank spike recovery was within the laboratory control limits.
- 7. The following samples required dilutions because they contained high levels of non-target compounds:

Sample ID		Dilution	F	actor
A102, MS, A106	MSD	2, 10	2,	2

Jack R. Tuschall, Ph.D.

Laboratory Manager

Lionville Analytical Laboratory

7.15.91,

Date



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360

TELEX: 83-5348

5 June 1991

Mr. Michael Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference:

Data Report for RFW Batch 9105L596

Rizzo Samples A-100, SS-5 Ludlow S&C Site

Dear Mr. Hudson:

Enclosed please find the data report for two soil samples received May 14, 1991. A third sample, B-13, was received broken.

These samples were analyzed in our Dedicated Laboratory for PCB's as we discussed.

Please do not hesitate to contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:

## Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED:	05/14/91					RFW LOT #	:9105L596
CLIENT ID	RFW	#	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
A-100 A-100 A-100 SS-5	001 001 001 002	MS MSD	S S	91DL0780 91DL0780 91DL0780 91DL0780	05/10/91 05/10/91 05/10/91 05/10/91	05/17/91 05/17/91 05/17/91 05/17/91	05/20/91 05/20/91 05/20/91 05/20/91
LAB QC:							
PBLK PBLK	MB1 MB1	BS		91DL0780 91DL0780	N/A N/A	05/17/91 05/17/91	05/20/91 05/20/91

## 000001

CHAIN OF CUSTODY

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Cooler# Z	Or N		or That or Chilled	ON Analyt			1,28 60				511						
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or N	Sample Y or N	3) Present on Sample	Package Y or N	nly was:				3400	1/101/1				-		<del> </del>	ا اح	
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## CHAIN OF CUSTODY RECORD

220 Associates, Inc. 5 West Central Street rtick, MA 01760 08) 651-3401 08) 651-1189 (FAX)

Rizzo Project Number: 1358.01
Rizzo Project Name: NYSDEC-Lud low S&G
Samplers (signatures):

Lab: Loy F. Weston
Lab ID #:
Send report to: Mike Huds on
Turnaround Time:

*	Sample Collected	ollected		Container	Sample			Reques	ted Analyses
Rizzo Sample Number	Date	Time	*	Турс	Matrix	HSI. 624	PP13 &	(R)	(IR) Other
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## 000003

DATA SUMMARY

Roy F. Weston, Inc. - Lionville Laboratory
PCBs by GC
Client: RIZZO ASSOCIATES

		NOY L. MES	111 111. 110. Orbe by	DIVILLE LABORAL	or.y	Donout Dato.	76.701 14.97
RFW Batch Number: 9105L596	051596	Client: RIZZ	ASSOCIATES	RIZZO ASSOCIATES Work Orde	Order: 6051-	Neport Date: 01-01-0000	Work Order: 6051-01-01-0000 Page: 1
	Cust ID:	A-100	A-100	A-100	58-5	PBLK	PBLK BS
Sample Information	RFW#: Matrix:	001 SOIL	001 MS S01L	001 MSD S01L	002 S01L	91DL0780-MB1 S01L	91DL0780-MB1 S01L
	D.F.: Units:	0.500 ug/g	0.500 ug/g	0.500 ug/g	25.0 ug/g	0.500 ug/g	0.500 ug/g
	111111111111111111111111111111111111111			11			11 11 11 11 11 11 11 11 11 11 11 11 11
		0.18 U	0.18 U	0.18 U	25		
Aroclor-1221		0.18 U	0.18 U	0.18 U	25 U	0.12 U	0.12 U
Aroclor-1232		0.18 U	0.18 U	0.18 U	25 U	0.12 U	0.12 U
Aroclor-1242		0.40	0.40	0.34	46	0.12 U	0.12 U
Aroclor-1248		0.18 U	0.18 U	0.18 U	25 U	0.12 U	
Aroclor-1254		0.39	48 * %	27 %	32	0.24 U	101 %
Aroclor-1260		0.35 U	0.35 U	0.35 U	20 N	0.24 U	
0							
0							
0							
0							
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U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. R= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. R= Outside of EPA CLP QC

## 000005

CASE NARRATIVE



## ROY F. WESTON, GINC DO Lionville Laboratory

CLIENT: Rizzo Associates

SAMPLES RECEIVED: 05/14/91

RFW # : 9105L596

W.O. #: 6051-01-01-0000

### NARRATIVE

This set of samples consisted of two soil samples. The samples were collected on May 10, 1991.

Samples were extracted on May 17, 1991 and analyzed for PCB target compounds on May 20, 1991. Samples were extracted and analyzed following WESTON Analytics modified SW846 Method 8080 and reported according to WESTON Analytics modified Tier II Method.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered During their analysis:

- 1. Method Blanks were free of contamination.
- 2. Method Blank Spikes were within laboratory limits.
- 3. Initial calibration criteria was met for all runs.
- 4. Continuing calibration criteria was met for all runs.
- 5. Matrix spike recoveries were outside laboratory limits due the presence of Aroclor-1254 in the sample.

J. Michael Taylor

5-24-11

Date

Project Director

Lionville Analytical Laboratory

05/22/91

9105L596.RIZ



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE. PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

28 June 1991

RIZZO ASSOCIATES, INC

Mr. Michael Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference:

Data Report for RFW Batch 9106L895

Rizzo Project - Ludlow S&G, Sample B-21

Dear Mr. Hudson:

Enclosed please find the data packages for one soil sample received June 18, 1991. This sample was analyzed in our dedicated laboratory using method SW-8080 modified for PCB's only.

Please do not hesitate to contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

JLS/lvd

Enclosure:

Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 06/	18/91				RFW LOT # :	9106L895
CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
B-21 B-21 B-21 B QC:	001 001 MS 001 MSD	\$ \$ \$	91DL0823 91DL0823 91DL0823	06/12/91 06/12/91 06/12/91	06/18/91 06/18/91 06/18/91	06/21/91 06/21/91 06/21/91
PBLK PBLK	MB1 MB1 BS	S	91DL0823 91DL0823	N/A N/A	06/18/91 06/18/91	06/20/91 06/20/91



CHAIN OF CUSTODY

Uest VALENT				WESTON Analytics Use Only		4) Properly Preserved 4) Unbroken on Sample Y or (N) 5) Received Within COC Record Present Holding Times Upon Sample Rec't (Y) or N (Y) or N (Y) Cooler# Unit (G77-596a)
Custody Transfer Record/Lab Work Request	OBGANIC COMMISSION OF GRANIC C	5 Sp., X				Date Time Samples Labels and COC Record? Y or (N NOTES: NOTES: 1378 Rel#
ody Transfer Rec	Refrigerator # Liquid # Type Container Solid Volume Solid Preservatives Solid Preservatives REQUESTED	Matrix Date OC Chosen (v) 5 (e/12/9/		DATE/REVISIONS:	2 2 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Relinquished Received by by 1372 1.372
PICKL 895 Custo	Client Rayor MANDCLO TON  Est. Final Prof. Sampling Date  Work Order # 12051-01-01  Project Contact/Phone # 10 0 4 510 0  AD Project Manager 10 0 4 510 0  OC CLY Del CLN TAT 300 0  Date Rec'd C 10 1 0 0 1 2 200 19	CODES:  1 ab Chent ID Description (SE - Soil ID (SE - Soil Soil (SE - Soil (S	OB - Drum Solids Solids OB - Drum Liquids Liquids Leachale WI - Wipe X - Other F - Fish	Special Instructions:	PCB-128 hab 1345	Relinquished Received Date Time by

## CHAIN OF CUSTODY RECORD

Rizzo Project Number: 1358.01

Rizzo Project Nume: NYSDEC - Ludlow SAG
Samplers (signatures): M. (Malan)

dizzo Associates, Inc. 235 West Central Street

Sub (51-3401 508) (51-3401 508) (51-1189 (FAX)

Lab. Roy F. Weston

Lab ID #: Send report to: Turnaround Tinne:

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Requested Analyses (IR) Other	PCB (WE CLP Mcthod 806			the problems of the problems and the contents of the problems of the contents				
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DATA SUMMARY

				_ :
	6/21/91 13:02 Page: 1		v	
	Report Date: 0 11-01-0000	PBLK BS	91DL0823-MB1 S01L 0.500 ug/g	0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.24 U
atorv	Report Date: 06/21/91 13:02 Work Order: 6051-01-01-0000 Page: 1	PBLK	91DL0823-MB1 S01L 0.500 ug/g	0.12 U 0.12 U 0.12 U 0.12 U 0.12 U 0.24 U 0.24 U
nville Labor	GC Wor	B-21	001 MSD S01L 1.00 ug/g	0.30 U 0.30 U 0.30 U 0.30 U 0.30 U 0.30 U 0.00 U
on Toc. 1 io	RIZZO ASSOCIATES Work Order	B-21	001 MS S01L 1.00 ug/g	0.30 U 0.30 U 0.30 U 0.30 U 0.30 U 0.30 U 0.60 U
Rov F. West	Client: RIZZO	B-21	001 S01L 1.00 ug/g	0.30 U 0.30 U 0.30 U 0.30 U 0.30 U 0.62 U
	968190	Cust ID:	RFW#: Matrix: D.F.: Units:	1
	RFW Batch Number: 9106L895		Sample Information	Aroclor-1016       0.30         Aroclor-1221       0.30         Aroclor-1232       0.30         Aroclor-1242       0.30         Aroclor-1248       0.30         Aroclor-1254       0.62         Aroclor-1260       0.62

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC



CASE NARRATIVE



## ROY F. WESTON, INC. Lionville Laboratory

CLIENT: Rizzo Associates

SAMPLES RECEIVED: 06/18/91

RFW # : 9106L895

W.O. #: 6051-01-01-0000

### NARRATIVE

This set of samples consisted of one soil sample. The sample was collected on June 12, 1991.

Samples were extracted on June 18, 1991 and analyzed for PCB target compounds on June 20-21, 1991. Samples were extracted and analyzed following WESTON Analytics modified SW846 Method 8080 and reported according to WESTON Analytics modified Tier II Method.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered During their analysis:

- 1. Method Blanks were free of contamination.
- 2. Method Blank Spikes were within laboratory limits.
- Initial calibration criteria was met for all runs.
- 4. Continuing calibration criteria was met for all runs.
- 5. One matrix spike recovery was outside laboratory limits due the presence of Aroclor-1254 in the sample.

J. Michael Taylor Project Director

6-24-91

Lionville Analytical Laboratory

06/21/91 9106L895.RIZ



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

22 July 1991

Mr. Michael Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference:

Data Report for RFW Batch 9106L979
Ludlow Sand & Gravel Site Project #1358.01

Dear Mr. Hudson:

Enclosed please find the data report for one soil and one water sample received June 25, 1991.

Please do not hesitate to contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Judith J. Stone Project Manager Analytics Division

Analytics Division

JLS/lvd

Enclosure:

## Roy F. Weston, Inc. - Lionville Laboratory PCB - ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 06/25	/91			F	RFW LOT #	:9106L979
CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SAMPLE B-24(N.TRENCH SAMPLE B-24(N.TRENCH SAMPLE B-24(N.TRENCH POST FILTER EFF.	001 001 MS 001 MSD 002	SSW	91DL0835 91DL0835 91DL0835 91DL0837	06/19/91 06/19/91 06/19/91 06/20/91	06/25/91 06/25/91 06/25/91 06/26/91	07/02/91 07/02/91 07/02/91 07/02/91
LAB QC:						
PBLK PBLK PBLK PBLK PBLK	MB1 BS MB1 BS MB1 BS MB1 BSD	S W W	91DL0835 91DL0835 91DL0837 91DL0837 91DL0837	N/A N/A N/A N/A	06/25/91 06/25/91 06/26/91 06/26/91 06/26/91	06/27/91 06/27/91 07/01/91 07/01/91 07/01/91



CHAIN OF CUSTODY

381-596a Sample Y or N o N COC Record Present Upon Sapre Rec't 1) Present on Oute 3) Present on Sam 2) Unbroken on O jo Package Y or Package Y or 4) Unbroken on **WESTON Analytics Use Only** Page 4) Properly Preserved
(Y) or N Holding Tippes 3) Received in Good Condition Y or N ACooler# Ambien or Chilled 5) Received Within ŏ Hand Delivered Samples were: ) Shipped CN INORG Metal Custody Transfer Record/Lab Work Request Ref# Samples Labels and COC Record? Y or N NOTES: Discrepancies Between 1378 Неф PCB PCB PCB PCB 300 350 NO. ORGANIC 1377 Time AOV Date Liquid Liquid 1375 Date Collected 19 191 3 DATE/REVISIONS: Received #/Type Container 9 4 3 ANALYSES REQUESTED Refrigerator # Preservatives Matrix 3 1373 5 Volume Matrix QC Chosen (<) Relinquished L372 156-105-7FE-71-PI TAT 140 AL Time 1950 HSSCIATES Client ID/Description Date Due 16- ENBroad Est. Final Proj. Sampling Date 0271 WESTON Analytics Use Only Project Contact/Phone # \_ 62619016 20 435 AD Project Manager Lab O Special Instructions: DFW 21 21-001/A-8,90 Work Order # S- Soil
SE-Sediment
SO-Solid
SL-Sludge
W- Water
O- Oil
A- Air
DS- Drum Leachate
WI - Wipe
X - Other
F - Fish Relinquished Liquids EP/TCLP Date Rec'd Account # Solids DL - Drum MATRIX CODES: 00

10



DATA SUMMARY

	Report Date: 07/03/91 12:17	Page: 1	
	Report Date:	6051-01-01-0000	
ille Laboratory		Work Order:	
Roy F. Weston, Inc Lionvill	PCBs by GC	Client: RIZZO ASSOCIATES	

RFW Batch Number: 9106L979

			16 11 11 11 11 11 11 11								
PBLK BS	91DL0835-MB1 S01L	0.500 ug/g		0.12 U	72 %	0.24 U					
PBLK	91DL0835-MB1 S01L		10 16 16 16 16 16 16 16 16 16 16 16 17	0.12 U	0.24 U	0.24 U					
SAMPLE B-24(	001 MSD SOIL	1000 ug/g		730 U	~	1500 U					
SAMPLE B-24(	001 MS SOIL	1000 ug/g	***************************************	730 U	% O	1500 U					
SAMPLE B-24( N.TRENCH	RFW#: 001 Matrix: SOIL	1000 ug/g	H H H H H H H H H H H H H H H H H H H	730 U	2400	1500 U					
Cust ID:	RFW#: Matrix:	D.F.: Units:	16 16 18 19 10 14 16 16 16 16								
	Sample Information		# 10 10 10 10 10 10 10 10 10 10 10 10 10	Aroclor-1016	Aroclor-1221	Aroclor-1232	Aroclor-1242	Aroclor-1248	Aroclor-1254	Aroclor-1260	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC

		Roy F. W	Weston, Inc Lionville Laboratory	ionville Labor	atory	TO:01 10/00/10 10:01
RFW Batch Number: 9106L979	979	Client: RI	ZZO ASSOCIATES	y ac Wor	k Order: 6051-0	Work Order: 6051-01-01-0000 Page: 1
	Cust ID:	Cust ID: POST FILTER	PBLK	PBLK BS	PBLK BSD	
Sample Information	RFW#: Matrix: D.F.:	002 WATER 0.100	91DL0837-MB1 WATER 1.00	91DL0837-MB1 WATER 1.00	91DL0837-MB1 WATER 1.00	
	Units:	ng/L	3	T/6n	1/6n	
法性持续处理 计线线 医线性骨骨 医甲基氏征 计多数 医甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲基苯甲	***************************************	***************************************	***********			
Aroclor-1016		0.050 U	0.50 U	0.50	0.50	
Aroclor-1221		0.050 U	0.50 U	0.50 U	0.50	
Aroclor-1232		0.050 U	0.50 U	0.50	0.50 U	
Aroclor-1242		0.050 U	0.50	0.50	0.50	
Aroclor-1248		0.050 U	0.50	0.50 U	0.50 U	
Aroclor-1254		0.10 U	1.0 U	71 %	74 %	
Aroclor-1260		0.10	1.0 ∪	1.0 U	1.0 C	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC



CASE NARRATIVE



ROY F. WESTON, INC. Lionville Laboratory

CLIENT: Rizzo Associates

SAMPLES RECEIVED: 06/25/91

RFW # : 9106L979

W.O. #: 6051-01-01-0000

## NARRATIVE

This set of samples consisted of one soil and one water sample. The soil sample was collected on June 19, 1999 and the water sample was collected on June 20, 1991.

Samples were extracted on June 25 and 26, 1991 and analyzed for PCB target compounds on June 27, July 01 and 02, 1991. Samples were extracted and analyzed following WESTON Analytics modified SW846 Method 8080 and reported according to WESTON Analytics modified Tier II Method.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered During their analysis:

- 1. Method Blanks were free of contamination.
- 2. Method Blank Spikes were within laboratory limits.
- 3. Initial calibration criteria was met for all runs.
- 4. Continuing calibration criteria was met for all runs, with the exception of the second AR-1248 on 06/28/91 due to interference from the previous sample.
- 5. The matrix spike recoveries were outside laboratory limits due to high concentrations of Aroclor-1254 in the sample.

J. Michael Taylor

Project Director
Lionville Analytical Laboratory

06/21/91 9106L895.RIZ



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

30 July 1991

Mr. Mike Hudson Rizzo Associates 235 West Central Street Natick, MA 01760

Reference:

Rizzo Project Ludlow Landfill 1358-01

RFW Batch 9107L138

Dear Mr. Hudson:

Enclosed is the data report for two soil samples received July 12, 1991.

Please do not hesitate to contact me with any questions you may have.

Very truly yours,

ROY F. WESTON, INC.

Júdith L. Stone Project Manager

Analytics Division

/tme

Enclosure

# Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 07/	/12/91		R	FW LOT # :	9107L138
CLIENT ID	RFW #	MTX PREP #	COLLECTION	EXTR/PREP	ANALYSIS
SB-1391 SPLIT SB-1391 SPLIT SB-1391 SPLIT E-33 SPLIT	001 001 MS 001 MSD 002	S 91DL0871 S 91DL0871 S 91DL0871 S 91DL0871	07/08/91 07/08/91 07/08/91 07/09/91	07/12/91 07/12/91 07/12/91 07/12/91	07/18/91 07/18/91 07/18/91 07/18/91
LAB QC:					
PBLK PBLK	MB1 MB1 BS	S 91DL0871 S 91DL0871	N/A N/A	07/12/91 07/12/91	07/18/91 07/18/91



CHAIN OF CUSTODY

RFW 21-21-001/A-12/88

# CHAIN OF CUSTODY RECORD

Rizzo Associates, Inc. 235 West Central Street Vatick, MA 01760 (508) 651-3401 (508) 651-1189 (FAX)

Rizzo Project Number: 1358, 01

Rizzo Project Name: Lublow LANDFILL DEO 2237-7

Samplers (signature):

May

May

May

Page 15

Lab: WESTON LAFS LIONVILLE PA
Lab ID #:
Send report to:

Turnaround Time:

					0	0 0	10-33 SPCIT	3	5B - 139/ SPLIT	Rizzo Sample Number	
							7-9-91		7-8-71	Date	Sample Collected
				-			14:30	140	15:15	Time	ollected
								-		•	
							1602 645		BOL GLASS	Туре	Container
										Matrix	Sample
	*1		Ą							HSL 624	
			1.		3					Cr 18	
-	i	À I	*							(IR)	Reques
					2		PCB / CLP PROTOCOL		PCB / CLP PROPOSOL	Other	Requested Analyses

Method of Shipment: UIA FED EX. OVERNITE	Rylinghujohogyby: H HA FED EX.
EX. OVERNITE. 7-11-9/	Received by:
-9/	1891
	11me:



DATA SUMMARY

200	Aroclor-1260	Aroclor-1248	Aroclor-1242	Aroclor-1221	1016		THIOTHERITON	Sample Information		RFW Batch Number: 9107L138	
						Units:	D.F.:	RFW#:	Cust ID:	07L138	
	26 U	13 U	133	:::::::::::::::::::::::::::::::::::::::	=====f]	ug/g	50.0	001	Cust ID: SB-1391 SPLI	Client: RIZZO ASSOCIATES	Roy F. Wes
	້ 26 ບິ	13 U	13 0	13.0		ug/g	50.0	001 MS	SB-1391 SPLI	O ASSOCIATES	Roy F. Weston, Inc Lionville Laboratory
	26 Ű	13 U	13	:33	51 	ug/g	50.0	001 MSD	SB-1391 SPLI	E	onville Labor
	1.8 0	0.92 U	0.92 U	0.92	.========f]	ng/g	0.500	002	E-33 SPLIT	k Order: 6051-	atory
	0.24 0	0.12 U	0.12 0.12 U	0.12	=======f] 0 12 II	ug/g	0.500	91DL0871-MB1	PBLK	01-01-0000	
	0.24 Ű	0.12 U	0.12 0.12 U	0.12 0.12	0 12 11	ug/g	0.500	91DL0871-MB1	PBLK BS	ork Order: 6051-01-01-0000 Page: 1	07/10/01 11.10
											-

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC



CASE NARRATIVE



# ROY F. WESTON, INC. Lionville Laboratory

CLIENT: RIZZO ASSOCIATES

SAMPLES RECEIVED: 07/12/91

RFW #: 9107L138

W.O. #: 6051-01-01-0000

### NARRATIVE

This set of samples consisted of two soil samples. The samples were collected on July 08, 1991.

Samples were extracted on July 12, 1991 and analyzed for PCB target compounds on July 18, 1991 following WESTON analytics modified SW846 Method 8080. Results were reported according to WESTON Analytics modified Tier II Method.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered During their analysis:

- 1. Method Blank was free of contamination.
- 2. Method Blank Spikes was within laboratory limits.
- 3. Matrix Spikes could not be obtained due to matrix interference.
- 4. Initial calibration criteria was met for all runs.
- 5. Continuing calibration criteria was met for all runs.

J. Michael Taylor

7-19-9.

Project Director

Lionville Analytical Laboratory

07/18/91 9107L138.riz



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

14 November 1991

Mr. Rick Hughto Rizzo Associates, Inc. 235 West Central Street Natick, MA 01760

Reference:

Rizzo Project No. 1358.01

RFW Batch # 9110L139

Dear Mr. Hughto:

Enclosed please find the data report for two soil samples received October 25, 1991.

Please contact me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

/clk

Enclosure:

# Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 10/25	/91			F	RFW LOT # :	9110	)L139
CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	:	ANALYSIS
NGP-SS-R2012-001 NGP-SS-R2012-001 NGP-SS-R2012-001 NGP-SS-R2018-002	001 001 MS 001 MSD 002	S S S	91DL1007 91DL1007 91DL1007 91DL1007	10/24/91 10/24/91 10/24/91 10/24/91	10/25/91 10/25/91 10/25/91 10/25/91		11/02/91 11/02/91 11/02/91 11/02/91
LAB QC:							
PBLK PBLK	MB1 MB1 BS	S S	91DL1007 91DL1007	N/A N/A	10/25/91 10/25/91		10/31/91 10/31/91



CHAIN OF CUSTODY

# CHAIN OF CUSTODY RECORD

Rizzo Associates, Inc. 235 West Central Street Vatick, MA 01760 508) 651-3401 508) 651-1189 (FAX)

Rizzo Project Number: 1358.01
Rizzo Project Name: 144100 Land fill (NYS DEC)
Samplers (signatures):

Lab: Rey E. Weston
Lab ID #:
Send report to: Rick Theoph 10
Turnaround Time: 2 , cock 5

	Sample	Sample Collected		Container			-	Reques	ted Analyses
Rizzo Sample Number	Date	Time	*	Type	Matrix	11SI. 624	PP15 &	EE	(IR) Other
V6P-55- R2012-001	10-24-01	1.00		Glass (Chur)	7.105				PCB
16P-55- R2018 -002	10-24-91 3.00	3.00	_	4				1	u
				-					
								7, 20, 20, 20, 20, 20, 20, 20, 20, 20, 20	e commune communicates are on the communicates and the communicates and the communicates and the communicates are communicated as a communicate and the communicate are communicated as a communicate and the communicated are communicated as a communicate and the communicated are communicated as a communicate
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James L. Phiki

Sention

Received by:

16/56/01

Time:

Date:

3.43

tethod of shipment: Feeleral Express

Page of	ISTAL OB INC.	ics Use Only		WESTON Analytics Use Only	Samples were:  1) Shipped of the following of the following I present on Outer Hand Delivered  Airbill # CHO202 29 CPTO, Unbroken on Outer  2) Ambient or Chilled Package Y or (N)  3) Received in Good 3) Present on Sample Condition (Y or N)  4) Labels Indicate A) Unbroken on Property Preserved Sample Y or (N)  5) Received Within Upon Sample Rec't Holding Times  5) Received Within Upon Sample Rec't Y or N
ister Record/Lab Work Request	# Pype v. andalmet Solid Liquid Solid Soli	te Time Solo Solo Solo Solo Solo Solo Solo Sol		DATE/REVISIONS:	5 6. COC Record Time Samples Labels and COC Record? Y or NOTES:
GHOUSS Custody Trans	18/9/	Lab Client ID/Description Chosen ID MS SS R7CA3-UC) MS MS MSD CO III MS MS MSD CO III MS MS MSD CO III MS CO III MS MSD CO III MSD	Solids D. Drum Liquids L. FP/ICLP Leachade WI Whyte X. Others F. Fish  Thr 10 d 200	FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS DAT Special Instructions:	Relinquished Received Date Time Belinquished by HEDEX Stehlin 107591 9:30

# WESTERN

DATA SUMMARY

Report Date: 11/04/91 08:56 Work Order: 6051-01-01-0000 Page: 1 91DL1007-MB1 SO1L 0.500 MG/KG PBLK BS 91DL1007-MB1 SO1L 0.500 MG/KG PBLK 002 SOIL 500 MG/KG Roy F. Weston, Inc. - Lionville Laboratory
PCBs by GC
Client: RIZZO ASSOCIATES
Work Orde 001 MS SOIL 5000 MG/KG RFW Batch Number: 9110L139

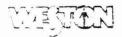
Sample Information

1.4		>	>	>	>	%	>	
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1.3	n	_	_	_	_	_	<b>-</b>	
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1	! ! ! !							
		Aroclor-1221	r-1232	r-1242	r-1248	r-1254	r-1260	
	Aroclo	Arocle	Aroclo	Aroclo	Aroclo	Aroclo	Aroclo	

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC



CASE NARRATIVE



## ROY F. WESTON, INC. Lionville Laboratory

CLIENT: Rizzo Associates

SAMPLES RECEIVED: 10/25/91

RFW #: 9110L139

W.O. #: 6051-01-01-0000

# NARRATIVE

This set of samples consisted of two soil samples. The samples were collected October 24, 1991.

Samples were extracted on October 25, 1991 and analyzed for PCB target compounds on October 31 and November 02, 1991 following WESTON analytics modified sw 846 Method 8080. Results were reported according to WESTON Analytics modified Tier II Method.

The following is a summary of the QC results accompanying these sample results and a description of any problems encountered during their analysis:

- 1. Method Blank was free of contamination.
- 2. Method Blank Spike was within laboratory limits.
- 3. Initial calibration criteria was met for all runs.
- 4. Continuing calibration criteria was met for all runs.

. Michael Taylor

Project Director

Lionville Analytical Laboratory

11/04/91 9110L139.riz WESTON Analytics - Dedicated Lab

CLIENT: RIZZO ASSOCIATES

RFW # : 9110L139

W.O.# : 6051-01-01-0000

### DATA QUALIFIER

- 1. The following qualifiers are used on the data summary:
  - U Indicates that the compound was analyzed for but not detected. The minimum detection limit for the sample (not the method detection limit) is reported with the U  $(e.g.,\ 10U)$ .
  - J Indicates an estimated value. This flag is used in cases where a target analyte is detected at a level less than the lower quantification level. If the limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, it is reported as 3J.
  - BS Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps in the method. Spike recoveries are reported.
  - BSD Indicates blank spike duplicate.
  - MS Indicates matrix spike.
  - MSD Indicates matrix spike duplicate.
  - DL Indicates that surrogate recoveries were not obtained because the extract had to be diluted for analysis.
  - NA Not applicable.
  - DF Dilution factor.
  - NR Not required.
  - I Interference.



208 WELSH POOL ROAD PICKERING CREEK INDUSTRIAL PARK LIONVILLE, PA 19341-1313 PHONE: (215) 524-7360 TELEX: 83-5348

14 November 1991

Mr. Rick Hughto Rizzo Associates, Inc. 235 West Central Street Natick, MA 01760

Reference:

Rizzo Project No. 1358.01

RFW Batch # 9111L241

Dear Mr. Hughto:

Enclosed is the data report for one soil sample received November 1, 1991.

Please contact me if you have any questions.

Very truly yours,

ROY F. WESTON, INC.

Judith L. Stone Project Manager Analytics Division

/clk

Enclosure:

Roy F. Weston, Inc. - Lionville Laboratory PCB ANALYTICAL DATA PACKAGE FOR RIZZO ASSOCIATES

DATE RECEIVED: 1	1/01/91			I	RFW LOT # :	9111L241
CLIENT ID	RFW #	MTX	PREP #	COLLECTION	EXTR/PREP	ANALYSIS
LL-SS-SB1-001 LL-SS-SB1-001 LL-SS-SB1-001	001 001 MS 001 MSD	S S S	91DL1021 91DL1021 91DL1021	10/30/91 10/30/91 10/30/91	11/01/91 11/01/91 11/01/91	11/05/91 11/05/91 11/05/91
	MD1	c	01011001	N/A	11/01/01	11 /05 /01
PBLK PBLK	MB1 MB1 BS	S	91DL1021 91DL1021	N/A N/A	11/01/91 11/01/91	11/05/91 11/05/91



CHAIN OF CUSTODY

CHAIN OF CUSTODY RECORD

Rizzo Project Number: 

Rizzo Associates, Inc. 235 West Central Street

985787596

ON 19A

(508) 651-3401 (508) 651-1189 (FAX) Natick, MA 01760

ames

Roy F. Weston Send report to: ALK Turnaround Time: \_ Lab ID #: し

J.	Sample	Sample Collected		Container	Cassala			Reques	ted Analyses
	Date	Time	*	Туре	Matrix	11SL 624	PP13 &		TPH Other
77-55-581-001	10-30-91 14:35	14:35	1	Glass (Clear)	Soil				PCB
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			××						
			F						
			ě						
									d

Relinquished by:

Received by:

85.7

Time:

Date:

0430

Page 1 of 1																WESTON Analytics Use Only	3	Packer outer	7	Package Y or (N)	3) Present on Samels	ken on	COC Record Present	Upon Sampte Rec't		381-5962
					INORG	Metal	tics Use Only								,	WESTON Ana	Samples were:	1) Shipped Y or Hand Delivered	Airbill # Of	2) Ambiento Chilled	3) Received in Good Condition (Y or N	4) Labels Indicate		Holding Times	)	Cooler#
ork Reques	2	19/1		2000		<del>дэн</del>	WESTON Analytics Use Only	<del>४२</del> ०	×														Discrepancies Between	COC Record? Y qr (NN NOTES:		L378 Ref# - P-
d/Lab W					ORGANIC	VOA Pest PCB		B															Date Time			L377
ransfer Record/Lab Work Request	Refrigerator #	#/Type Container Solid	Volume	Solid		ANALYSES. REQUESTED		Matrix Collected Collected	S 10/30/11 14:35						v	DATE/REVISIONS:			· ·	4.	5.	. 9	Received	11/11/11		L373 L375
<b>Custody Tran</b>	Assectates	( ) - ( ) -		Stone	141 30day	1000 10/1/91		Client ID/Description Chosen (*/)  MS MSD	18			V V					375	)	1				Date Time Relinquished	11/11/11 0930		L372 L
WESTON Analytics Use Only	Client Rizzo HSSCX	Est. Final Proj. Sampling Date	Work Order #	Project Contact/Phone #	AD Project Manager	Date Rec'd 11 1 191 Rizzo / CLP	>i0F4	Lab	N. Water (20) 11-55-581	A - Air DS - Drum	Solids DL - Drum		X Other F. Fish			FIELD PERSONNEL: COMPLETE ONLY SHADED AREAS	ora Dalish 1375						Relinquished Received by	Ex buen Wate	368 41164	HFW 21 21 001 A 7 91



DATA SUMMARY

Report Date: 11/06/91 09:55 Work Order: 6051-01-01-0000 Page: 1 Roy F. Weston, Inc. - Lionville Laboratory
PCBs by GC
Client: RIZZO ASSOCIATES
Work Orde

RFW Batch Number: 9111L241

		<b>\</b>	
PBLK BS	91DL1021-MB1 S01L 0.500 MG/KG	0.10 U 0.	
PBLK	91DL1021-MB1 S01L 0.500 MG/KG	0.10 0 0.10 0 0.10 0 0.10 0 0.10 0 0.10 0	
LL-SS-SB1-00	001 MSD S01L 0.500 MG/KG	0.11 U 0 0.1	
LL-SS-SB1-00	001 MS S01L 0.500 MG/KG	0.11 U 0.	
Cust ID: LL-SS-SB1-00	1 001 SOIL 0.500 MG/KG	0.11 U 0 0.11 U U U 0 0.11 U U U U U U U U U U U U U U U U U U	
Cust ID:	RFW#: Matrix: D.F.: Units:		
	Sample Information	Aroclor-1016 Aroclor-1221 Aroclor-1232 Aroclor-1242 Aroclor-1248 Aroclor-1254 Aroclor-12560	Ç

U= Analyzed, not detected. J= Present below detection limit. B= Present in blank. NR= Not requested. NS= Not spiked. %= Percent recovery. D= Diluted out. I= Interference. NA= Not Applicable. \*= Outside of EPA CLP QC