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ATTACHMENT CA750-B

Closure Certification Report Excerpts

Mill Pond Verification Data

Tail Race Verification Data

WILLIAM PRYM, INC.

Lagoon Closure Certification

Closure of the William Prym, Incorporated, electroplating sludge lagoons began during the week of May 8, 1989, with mobilization of equipment and site preparation.

The closure plan dated December 29, 1987, modified on February 29, 1988 and July 29, 1988, was conditionally approved by the Connecticut Department of Environmental Protection (CTDEP) and U.S. Environmental Protection Agency, Region I by letter dated August 19, 1988. Formal approval of the closure plan was received from the CTDEP on February 28, 1989 after receipt of all requested information discussed in their August 19, 1988 letter. These approval letters are provided as Attachment I.

The following is a chronological summary of closure activities that occurred and of those witnessed during my inspections and my designated representatives' inspections of William Prym's electroplating sludge lagoons. Geo-Con Incorporated performed the actual closure of the lagoons.

1.0 PRELIMINARY VERIFICATION TESTING

Following the conditional approval of the closure plan on August 19, 1988, Lancy Environmental Services Company conducted the verification testing program as specified in the closure plan.

The testing program was to involve two phases. The intent of this verification program was to determine the extent of berm side wall contamination and to statistically calculate the number of Phase II verification samples that would be collected and analyzed. Provided no samples exceeded the health based clean-up standards specified in Table 6-2 of the approved closure plan, excavation of the berm side walls would not be necessary, therefore, Phase II of verification testing would not be required.

Phase I of the verification testing involved collection of ten (10) soil samples at depths of 0 - 6 inches into the lagoon interior berms (side walls). One additional sample was also collected from the most heavily contaminated area of the lagoon for Appendix IX parameters. Samples were collected on September 27, 1988. Based on sample analyses, nine out of ten samples exceeded the soil ingestion limit for nickel. Because these sample results exceeded the health based criteria, berm side wall excavation was required.

The statistical procedure specified in the approved closure plan was applied to the ten soil samples collected in September, 1988. Using this procedure would have resulted in a Phase II verification sampling program with over 100 samples. An additional statistical method was employed and again 100 samples would be required. At the suggestion of USEPA Region I, Lancy Environmental Services Company collected a second series of berm soil

samples on April 11, 1989, which would reflect conditions following excavation of one foot of berm material.

Eight soil samples were collected at depths of 12 to 18 inches into the berms. Based on this data, only one sample (#7) greatly exceeded the health based criteria specified in the approved closure plan. The statistical formulas, however, again yielded an excessive number of Phase II verification samples. A letter was written to the CTDEP by Lancy Environmental Services Company On May 3, 1989, (included in Attachment I) explaining the problems with the statistical methods and proposed an alternative approach.

Lancy proposed that initial on-site closure activities involve excavation of at least one foot of soil from the sample #7 location. Four additional samples would then be collected from this area, representing more consistent data with the other seven sample locations. The SW-846 statistical procedure would then be applied to all eight data points and the number of Phase II verification samples determined.

2.0 STABILIZATION OF LAGOON FLOORS

On Monday, May 15, 1989, a CAT EL 240 excavator was utilized to initiate excavation of the berm side walls. The lagoon floors were wet, however, it was not expected to pose a problem for heavy equipment access. Excavation of the berm side walls was to occur from inside the lagoons. Test pits were excavated with the CAT EL 240. It was evident that 3 to 6 feet of wet bottom existed. It was not possible to use any equipment in the lagoon floor area until the bottom was stable. A gravel ramp was placed into the western lagoon on May 16, 1989 and was extended into the eastern lagoon on May 17, 1989. The ramp was placed in the lagoons to allow several drainage

sumps to be constructed in the wet base for dewatering. All accumulated water was pumped to William Prym's waste water treatment plant for treatment.

The CTDEP was contacted on May 17, 1989 regarding the use of cement kiln dust to physically stabilize the lagoon floors. Various mixtures of the wet base material from the lagoons and cement kiln dust, portland cement and lime were prepared on May 17, 18 and 19, 1989, in unconfined compressive strength cylinders and allowed to stand at least 72 hours prior to testing. The optimum mixture was determined to be 20 percent cement kiln dust. This was addressed in a May 23, 1989 letter to the CTDEP (included in Attachment I). Seven truck loads (174 tons) of cement kiln dust were added to the lagoon floors from May 22 through May 24, 1989. The lagoon floors were then sufficiently stabilized to support heavy equipment.

3.0 REMOVAL OF CONTAMINATED BERM MATERIALS

Approximately 12 yd^3 of soil were excavated from the western lagoon in the vicinity of the April 11, 1989 Sample #7 location. This excavation took place from outside the lagoon perimeter from May 11 through 18, 1989.

Four soil samples were then collected from this area on both May 16 and May 18, 1989. Of the four soil samples collected on May 18, 1989, the one with the highest total nickel value was selected for EP Toxicity Leachate analysis. The analytical results from this sample and the seven other samples collected on April 11, 1989 were subjected to the SW-846 statistical evaluation proposed in Lancy's May 3, 1989 letter to the CTDEP. A total of eight random berm soil samples would need to be collected during the Phase II verification testing program based on this statistical approach. A total of

ten random sample locations were, however, selected at my direction. Verification sampling is further discussed in Section 4.0.

On May 30, 1989, actual excavation of the one (1) foot of berm soils throughout the lagoons began. A staging area was prepared during the mobilization and site preparation phase of closure which included a 40 foot x 60 foot area bermed and lined with a 40 mil HDPE liner. The liner was held in place with a layer of 3/8 inch gravel. This staging area would serve as a contaminated soil storage area. A smaller bermed area, lined with 80 mil HDPE was also prepared west of the soil staging area for pressure washing of stones that would be screened out from the excavated contaminated soils. A Read Screen - All was used for screening.

Screening was necessitated as an indirect consequence of the land disposal restrictions for F006 wastes. Contaminated soil from William Prym's lagoons did not meet the treatment standards specified in 40 CFR 280 for F006 wastes, and required treatment prior to disposal in any hazardous waste landfill. Available treatment facilities could only accept the contaminated soil. Large rocks were pressure washed and placed back in the lagoons. The May 3, 1989 letter to the CTDEP from Lancy Environmental Services Company explains this issue.

From May 30, 1989 through June 14, 1989, a total of 528 tons or approximately 400 yd^3 of contaminated soil were excavated from the two hazardous waste electroplating sludge lagoons using the CAT EL 240 hydraulic excavator. Contaminated soils were placed in the lined soil staging area and subsequently into lined roll-off boxes to await disposal.

Sealand Environmental Services, a licensed hazardous waste transporter, ID #CTD058052180, shipped 23 truck loads of soil to Stablex of Canada Inc., ID #CND000000002, and 6 loads to Envirite Corporation in York, Pennsylvania, ID #PAD010154045, for treatment and disposal as a hazardous waste (F006). All hazardous waste manifests are included as Attachment II.

All contaminated soil was screened and placed in the lined soil staging area prior to transportation off-site. Rocks and stones were separated through the Read Screen - All and stockpiled in the lined washing area and pressure washed. During the pressure washing process, a total of four water samples were collected following decontamination of the stones. Laboratory analysis of the wash waters indicated all constituents were below the health based standards specified in the approved closure plan. Laboratory analysis reports from Eastern Scientific Associates are included as Attachment III.

4.0 PHASE II VERIFICATION TESTING

4.1 Verification Process

Required verification sampling and analysis was specified in the approved closure plan and Lancy Environmental Services Company, May 3, 1989 letter. A total of ten soil sampling locations were selected at random, based on the SW-846 statistical procedure to insure that the specified health based clean-up standards were met. A sample grid was established along the lagoon side wall perimeter. The grid was numbered from 1 to 53. A random number table was selected from the Handbook of Tables for Probability and Statistics, Chemical Rubber, 1968, W. H. Beyer. Numbers were obtained from column 6, taking the last two digits from left to right. The first ten numbers less than or equal to 53 were selected.

Two background soil samples were collected on May 17, 1989 from an area several hundred feet northwest of the impoundments. The purpose of the background samples was to show that arsenic is present at low levels in the background soil. The total arsenic health based clean-up criteria was 0.02 mg/Kg. The average of the two background samples was 12.7 mg/Kg as per the Eastern Scientific lab analysis report dated May 30, 1989 (included in Attachment III). Only the leachable arsenic health based criteria was considered appropriate as background soils exceeded the total arsenic criteria.

Twenty-two soil samples were collected from May 30 to June 14, 1989 from the ten locations selected at depths of 0 - 6 inches into the vertical side walls. See Attachment IV for sample locations. Samples were collected with a trowel and stainless steel spatulas. Upon completion of the initial laboratory analysis by Eastern Scientific Associates, only two of the ten samples met the health based clean-up criteria specified in the approved closure plan. Additional soil excavation was initiated between the mid-points of the closest sample locations adjacent to those of concern. At a minimum, a ten foot width of soil was excavated in the vicinity of the affected area. Subsequent soil sample analysis and additional excavation occurred in the berm area until the health based clean-up criteria were met for nine of the ten locations. Laboratory analysis reports from Eastern Scientific are included in Attachment III.

Several of the subsequent laboratory test reports indicate total and leachable nickel values only. This reduction in the health based clean-up criteria list was approved by the CTDEP on June 9, 1989 and documented in a letter of July 7, 1989 from William Prym, Inc. (included in Attachment I).

Verification sample location 10 did not meet the health based clean-up criteria specified for nickel. Excavation of this area encroached upon a portion of William Prym's manufacturing facility. Four concrete footers were located to the south of sample location 10, that supported a brick overhang portion of the building used for storage of old machinery. Excavation actually proceeded beneath the black top roadway between two of the concrete footers. Due to the concern over stability of the overhang and the roadway, excavation was discontinued. The July 7, 1989 letter to the CTDEP indicted the remaining levels of total and leachable nickel in this area. On July 6, 1989, a concrete cap was poured over the affected area to seal off rainwater infiltration from contact with these soils.

4.2 CONCLUSIONS

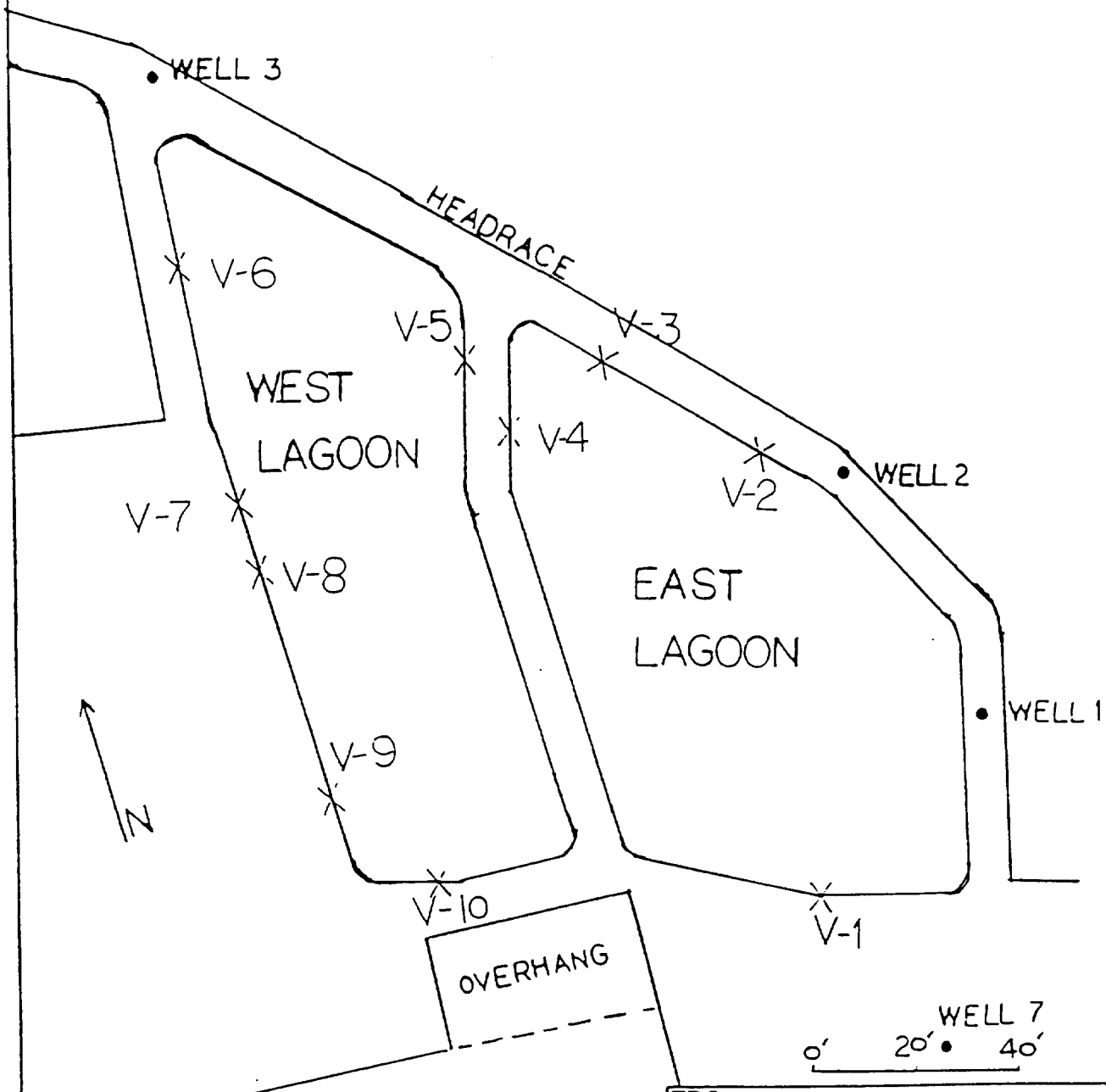
All contaminated berm soils within the two hazardous waste electroplating lagoons that exceeded the health based clean-up criteria specified in the approved closure plan have been removed, with the exception of those in the area of sample location 10. All Phase II verification sample analysis reports are included as Attachment III of this certification.

5.0 INITIAL BACKFILLING

A total of 3,044.73 tons of silty clay backfill material was placed in the electroplating lagoons from June 22 through June 29, 1989. A different source of backfill (the last 2 feet) was also utilized after placement of the silty clay. Placement and compaction of this material is discussed in Sections 7 and 8 of this certification.

A representative soil sample was obtained from the American Sand and Gravel yard on June 14, 1989 and sent to Goldberg-Zoino and Associates (GZA)

FIGURE I
VERIFICATION SAMPLE LOCATIONS



TITLE PHASE II VERIFICATION TESTING			
CLIENT WILLIAM PRYM, INC.			
DRAWN	DATE 9/89	PROJECT NO. 21029	DRAWING NO. FIG.-1

LANCY ENVIRONMENTAL SERVICES CO
DIVISION OF LANCY INTERNATIONAL,
AN ALCOA SEPARATIONS TECHNOLOGY COM
PITTSBURGH, PENNSYLVANIA

(203) 774-6814 CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: V-1 EAST LAGOON

SAMPLE #: LAN8940

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/30/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS		METHOD OF ANALYSIS
					SW 846
ARSENIC	12.9		0.10	MG/KG	70
BARIUM	6.14		0.11	MG/KG	708w
CADMIUM	ND		1.1	MG/KG	7130
HEXAVALENT CHROMIUM	ND		1.1	MG/KG	7190
MERCURY	0.046		0.038	MG/KG	7471
SELENIUM	2.51		0.10	MG/KG	7740
LEAD	19.1		1.1	MG/KG	7420
SILVER	0.55		0.45	MG/KG	7760
COPPER	19		2.3	MG/KG	7210
ZINC	25		2.3	MG/KG	7950
NICKEL	23		1.1	MG/KG	7520
CYANIDE	ND		0.4	MG/KG	9012
ACETONE	948		250	UG/KG	8015

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T. F. McCommas 6/07

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

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P.O. BOX 700
BROOKLYN, CT 06234

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ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: V-1 EAST LAGOON

SAMPLE #: LAN8940

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/30/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	0.005	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.140	--- 6/02/89 --	0.005	--- 100.0	7080
CADMIUM ---	ND	--- 6/01/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/01/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	ND	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.06	--- 6/01/89 --	0.05	--- 5.0	7420
SILVER ----	ND	--- 6/01/89 --	0.02	--- 5.0 ---	7760
COPPER ----	ND	--- 6/01/89 --	0.1	---	7210
NICKEL ----	ND	--- 6/01/89 --	0.1	--- ---	7520
ZINC ------	ND	--- 6/01/89 --	0.05	---	7950
CYANIDE ---	ND	--- 6/01/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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T.F. McCommas 6/07/89

T.F. MCCOMMAS, DIRECTOR DATE
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REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-2

SAMPLE #: LAN8944

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/23/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW846
ARSENIC	11.3		0.12 MG/KG	7060
BARIUM	467		0.12 MG/KG	7080
CADMIUM	2.8		1.2 MG/KG	7130
HEXAVALENT CHROMIUM	ND		1.2 MG/KG	7190
MERCURY	ND		0.046 MG/KG	7471
SELENIUM	2.53		0.12 MG/KG	7740
LEAD	10		1.2 MG/KG	7420
SILVER	ND		0.5 MG/KG	7760
COPPER	225		2.5 MG/KG	7210
ZINC	140		1.2 MG/KG	7950
NICKEL	990		2.5 MG/KG	7520
CYANIDE	ND		0.4 MG/KG	9012
ACETONE	440		250 µG/KG	8015

ND = NONE DETECTED

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T. F. McCommas 6/06/..

T.F. MCCOMMAS, DIRECTOR DATE
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REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-2

SAMPLE #: LAN8944

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005 ---	5.0 ---	7060
BARIUM ----	0.195	--- 6/02/89 --	0.005 ---	100.0 ---	7080
CADMIUM ---	ND	--- 6/01/89 --	0.01 ---	1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/01/89 --	0.05 ---	5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010 ---	0.20 ---	7471
SELENIUM --	0.020	--- 6/05/89 --	0.005 ---	1.0 ---	7740
LEAD ------	0.07	--- 6/01/89 --	0.05 ---	5.0 ---	7420
SILVER -----	ND	--- 6/01/89 --	0.02 ---	5.0 ---	7760
COPPER ----	2.9	--- 6/01/89 --	---	---	7210
ZINC ------	0.20	--- 6/01/89 --	---	---	7950
NICKEL ----	1.1	--- 6/01/89 --	---	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02 ---	---	9012

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6/06/89

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REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-3

SAMPLE #: LAN8945

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW846
ARSENIC	6.93	------	-- 0.12 MG/KG	----- 706[illegible]
BARIUM	4.03	------	-- 0.10 MG/KG	----- 708[illegible]
CADMIUM	3.5	------	-- 1.0 MG/KG	----- 7130
HEXAVALENT CHROMIUM	ND	------	-- 1.0 MG/KG	----- 7190
MERCURY	ND	------	-- 0.045 MG/KG	----- 7471
SELENIUM	2.72	------	-- 0.12 MG/KG	----- 7740
LEAD	19	------	-- 1.0 MG/KG	----- 7420
SILVER	1.2	------	-- 0.41 MG/KG	----- 7760
COPPER	300	------	-- 2.0 MG/KG	----- 7210
ZINC	187	------	-- 1.0 MG/KG	----- 7950
NICKEL	104	------	-- 1.0 MG/KG	----- 7520
CYANIDE	ND	------	-- 0.4 MG/KG	----- 9012
ACETONE	ND	------	-- 250 µG/KG	----- 8015

ND = NONE DETECTED

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181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-3

SAMPLE #: LAN8945

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.125	--- 6/02/89 --	0.005	--- 100.0	7080
CADMIUM ---	ND	--- 6/01/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/01/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	ND	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.05	--- 6/01/89 --	0.05	--- 5.0	7420
SILVER ----	ND	--- 6/01/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.5	--- 6/01/89 --		---	7210
ZINC ------	[illegible]	--- 6/01/89 --		--- ---	7950
NICKEL ----	[illegible]	--- 6/01/89 --		---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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6/07/89

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REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON ORIG #2

SAMPLE #: LAN8946

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW846 3RD
ARSENIC	7.16	--	0.12 MG/KG	7060
BARIUM	6.31	--	0.11 MG/KG	7080
CADMIUM	1.5	--	1.1 MG/KG	7130
HEXAVALENT	ND	--	1.1 MG/KG	7190
MERCURY	0.046	--	0.042 MG/KG	7471
SELENIUM	2.55	--	0.12 MG/KG	7740
LEAD	5.8	--	1.1 MG/KG	7420
SILVER	ND	--	0.43 MG/KG	7780
COPPER	461	--	2.2 MG/KG	7210
ZINC	42	--	1.1 MG/KG	7950
NICKEL	291	--	2.2 MG/KG	7520
CYANIDE	ND	--	0.4 MG/KG	9012
ACETONE	ND	--	250 UG/KG	8015

ND = NONE DETECTED

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VERIFIED BY:

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T.F. McCommas 6/06.

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

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EASTERN SCIENTIFIC ASSOCIATES
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BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROS SAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON ORIG #2

SAMPLE #: LAN8946

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005 ----	5.0 ---	7060
BARIUM ----	0.200	--- 6/02/89 --	0.005 ----	100.0 ---	7080
CADMIUM ---	ND	--- 6/01/89 --	0.01 ----	1.0 ---	7130
HEXAVALENT-CHROMIUM	ND	--- 6/01/89 --	0.05 ----	5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010 ----	0.20 ---	7471
SELENIUM --	0.006	--- 6/05/89 --	0.005 ----	1.0 ---	7740
LEAD-------	ND	--- 6/01/89 --	0.05 ----	5.0 ---	7420
SILVER ----	ND	--- 6/01/89 --	0.02 ----	5.0 ---	7760
COPPER ----	1.7	--- 6/01/89 --	----	---	7210
ZINC ------	0.11	--- 6/01/89 --	----	---	7950
NICKEL ----	0.7	--- 6/01/89 --	----	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02 ----	---	9012

ND=NONE DETECTED

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T.F. McCommas 6/06/89

T.F. MCCOMMAS, DIRECTOR DATE
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BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-4

SAMPLE #: LAN8947

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW 846
ARSENIC	17.1		0.12 MG/KG	7060
BARIUM	4.88		0.086 MG/KG	7080
CADMIUM	1.1		0.86 MG/KG	7130
HEXAVALENT CHROMIUM	ND		0.86 MG/KG	7190
MERCURY	0.061		0.035 MG/KG	7471
SELENIUM	4.5		0.12 MG/KG	7740
LEAD	21		0.86 MG/KG	7420
SILVER	0.63		0.34 MG/KG	7760
COPPER	26		1.7 MG/KG	7210
ZINC	32		0.86 MG/KG	7950
NICKEL	152		1.7 MG/KG	7520
CYANIDE	ND		0.4 MG/KG	9012
ACETONE	619		250 µG/KG	8015

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T. F. McCommas 6/06/

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

(203) 774-6814

CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-4

SAMPLE #: LAN8947

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005 ---	5.0 ---	7060
BARIUM ----	0.185	--- 6/02/89 --	0.005 ---	100.0 ---	7080
CADMIUM ---	ND	--- 6/01/89 --	0.01 ---	1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/01/89 --	0.05 ---	5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010 ---	0.20 ---	7471
SELENIUM --	0.015	--- 6/05/89 --	0.005 ---	1.0 ---	7740
LEAD ------	ND	--- 6/01/89 --	0.05 ---	5.0 ---	7420
SILVER ----	ND	--- 6/01/89 --	0.02 ---	5.0 ---	7760
COPPER ----	0.1	--- 6/01/89 --	---	---	7210
ZINC ------	0.06	--- 6/01/89 --	---	---	7950
NICKEL ----	1.8	--- 6/01/89 --	---	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02 ---	---	9012

ND=NONE DETECTED

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VERIFIED BY:

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T.F. McCommas 6/06/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

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CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #5 WEST LAGOON

SAMPLE #: LAN8948

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89
1410

ANALYSIS PERFORMED	TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
					SW-846
ARSENIC		14.3		0.071 MG/KG	7060
BARIUM		14.5		0.063 MG/KG	7080
CADMIUM		1.26		0.13 MG/KG	7130
HEXAVALENT CHROMIUM		ND		0.63 MG/KG	7190
MERCURY		0.051		0.024 MG/KG	7471
SELENIUM		0.215		0.071 MG/KG	7740
LEAD		17.3		1.3 MG/KG	7420
SILVER		0.31		0.25 MG/KG	7760
COPPER		53.4		1.3 MG/KG	7210
ZINC		64.4		0.63 MG/KG	7950
NICKEL		864		1.3 MG/KG	7520
CYANIDE		ND		0.4 MG/KG	9012
ACETONE		ND		250 µG/KG	8015

ND = NONE DETECTED

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VERIFIED BY:

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T.F. McCommas 6/07/8

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

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CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #5 WEST LAGOON

SAMPLE #: LAN8948

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/31/89
1410

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.130	--- 6/06/89 --	0.005	--- 100.0	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/05/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	ND	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD -------	ND	--- 6/06/89 --	0.05	--- 5.0	7420
SILVER -----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
COPPER ----	ND	--- 6/06/89 --	0.1	---	7210
ZINC -------	0.05	--- 6/06/89 --	0.05	--- ---	7950
NICKEL ---	3.3	--- 6/06/89 --	0.1	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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VERIFIED BY:

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T.F. McCormas 6/07/89

T.F. MCCORMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814 CT LABORATORY PH 04

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #6 WEST LAGOON

SAMPLE #: LAN8949

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
0945

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW846
ARSENIC	12.2		0.069 MG/KG	7060
BARIUM	27.45		0.060 MG/KG	7080
CADMIUM	1.02		0.12 MG/KG	7130
HEXAVALENT CHROMIUM	0.73		0.60 MG/KG	7190
MERCURY	0.118		0.031 MG/KG	7471
SELENIUM	0.849		0.069 MG/KG	7740
LEAD	46.2		1.2 MG/KG	7420
SILVER	0.29		0.24 MG/KG	7760
COPPER	190		1.2 MG/KG	7210
ZINC	102		0.60 MG/KG	7950
NICKEL	365		1.2 MG/KG	7520
CYANIDE	ND		0.4 MG/KG	9012
ACETONE	ND		250 MG/KG	8015

ND = NONE DETECTED

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T.F. McCommas 6/07/

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

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CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #6 WEST LAGOON

SAMPLE #: LAN8949

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
0945

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.130	--- 6/06/89 --	0.005	--- 100.0	7080
CADMIUM ---	0.04	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/05/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	0.008	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.06	--- 6/06/89 --	0.05	--- 5.0	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.2	--- 6/06/89 --	0.1	---	7210
ZINC ------	0.19	--- 6/06/89 --	0.05	--- ---	7950
NICKEL ----	3.5	--- 6/06/89 --	0.1	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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VERIFIED BY:

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T.F. McCommas 6/07/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814 CT LABORATORY PH 046

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #7 WEST LAGOON

SAMPLE #: LAN8950

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
0953

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SWA 846
ARSENIC	14.6	------	--- 0.066 MG/KG	7060
BARIUM	8.21	------	--- 0.085 MG/KG	7080
CADMIUM	ND	------	--- 0.17 MG/KG	7130
HEXAVALENT CHROMIUM	ND	------	--- 0.85 MG/KG	7190
MERCURY	0.104	------	--- 0.017 MG/KG	7471
SELENIUM	0.160	------	--- 0.066 MG/KG	7740
LEAD	22.6	------	--- 1.7 MG/KG	7420
SILVER	0.41	------	--- 0.34 MG/KG	7760
COPPER	82	------	--- 1.7 MG/KG	7210
ZINC	45.1	------	--- 0.85 MG/KG	7950
NICKEL	205	------	--- 1.7 MG/KG	7520
CYANIDE	ND	------	--- 0.4 MG/KG	9012
ACETONE	ND	------	--- 250 MG/KG	8015

ND = NONE DETECTED

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T.F. McCommas 6/07/

T.F. MCCOMMAS, DIRECTOR DATE
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P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #7 WEST LAGOON

SAMPLE #: LAN8950

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.180	--- 6/06/89 --	0.005	--- 100.0	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/05/89 --	0.05	-- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	ND	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/06/89 --	0.05	--- 5.0	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.1	--- 6/06/89 --	0.1	---	7210
ZINC ------	0.21	--- 6/06/89 --	0.05	--- ---	7950
NICKEL ----	1.4	--- 6/06/89 --	0.1	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02	-- ---	9012

ND=NONE DETECTED

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T.F. McCommas 6/07/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814

CT LABORATORY PH 046

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #8 WEST LAGOON

SAMPLE #: LAN8951

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
1010

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SWA 846
ARSENIC	11.9	------	--- 0.049 MG/KG -----	7060
BARIUM	33.6	------	--- 0.074 MG/KG -----	7080
CADMIUM	ND	------	--- 0.15 MG/KG -----	7130
HEXAVALENT CHROMIUM	ND	------	--- 0.74 MG/KG -----	7190
MERCURY	0.209	------	--- 0.028 MG/KG -----	7471
SELENIUM	0.862	------	--- 0.049 MG/KG -----	7740
LEAD	25.6	------	--- 1.5 MG/KG -----	7420
SILVER	0.37	------	--- 0.30 MG/KG -----	7760
COPPER	12.8	------	--- 1.5 MG/KG -----	7210
ZINC	27.6	------	--- 0.74 MG/KG -----	7950
NICKEL	20.1	------	--- 1.5 MG/KG -----	7520
CYANIDE	ND	------	-- 0.4 MG/KG -----	9012
ACETONE	ND	------	-- 250 UG/KG -----	8015

ND = NONE DETECTED

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T.F. McCommas 6/07

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

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EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #8 WEST LAGOON

SAMPLE #: LAN8951

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
1010

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.075	--- 6/06/89 --	0.005	--- 100.0	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/05/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	ND	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/06/89 --	0.05	--- 5.0	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.1	--- 6/06/89 --	0.1	---	7210
ZINC ------	3.1[illegible]	--- 6/06/89 --	0.05	--- ---	7950
NICKEL ----	0.[illegible]	--- 6/06/89 --	0.1	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02	--- ---	9012

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T.F. McCommas 6/07/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

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EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #9 WEST LAGOON

SAMPLE #: LAN8952

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
1030

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW-A 846
ARSENIC	18.5	------	--- 0.068 MG/KG -----	7060
BARIUM	24.31	------	--- 0.058 MG/KG -----	7080
CADMIUM	ND	------	--- 0.12 MG/KG -----	7130
HEXAVALENT CHROMIUM	ND	------	--- 0.58 MG/KG -----	7190
MERCURY	0.176	------	--- 0.020 MG/KG -----	7471
SELENIUM	0.379	------	--- 0.068 MG/KG -----	7740
LEAD	74.2	------	--- 1.2 MG/KG -----	7420
SILVER	0.43	------	--- 0.23 MG/KG -----	7760
COPPER	14.6	------	--- 1.2 MG/KG -----	7210
ZINC	59.7	------	--- 0.58 MG/KG -----	7950
NICKEL	11.6	------	--- 1.2 MG/KG -----	7520
CYANIDE	ND	------	--- 0.4 MG/KG -----	9012
ACETONE	940	------	--- 250 µG/KG -----	8015

ND = NONE DETECTED

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T.F. McCommas 6/07/

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

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CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #9 WEST LAGOON

SAMPLE #: LAN8952

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89
1030

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	0.005	--- 6/05/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.240	--- 6/06/89 --	0.005	--- 100.0	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/05/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/05/89 --	0.0010	--- 0.20	7471
SELENIUM --	ND	--- 6/05/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.08	--- 6/06/89 --	0.05	--- 5.0	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
COPPER ----	ND	--- 6/06/89 --	0.1	---	7210
ZINC ------	0.02	--- 6/06/89 --	0.05	--- ---	7950
NICKEL ----	ND	--- 6/06/89 --	0.1	---	7520
CYANIDE ---	ND	--- 6/01/89 --	0.02	---	9012

ND=NONE DETECTED

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T.F. McCommas 6/07/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814 CT LABORATORY PH 046_

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #10 WEST LAGOON

SAMPLE #: LAN8954

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/02/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS		METHOD OF ANALYSIS
					SW846
ARSENIC	13.4		0.12	MG/KG	706
BARIUM	5.9		0.12	MG/KG	706
CADMIUM	ND		1.2	MG/KG	7130
HEXAVALENT CHROMIUM	ND		0.46	MG/KG	7190
MERCURY	0.154		0.041	MG/KG	7471
SELENIUM	2.30		0.12	MG/KG	7740
LEAD	5.1		2.3	MG/KG	7420
SILVER	0.51		0.46	MG/KG	7760
COPPER	26.2		2.3	MG/KG	7210
NICKEL	250		2.3	MG/KG	7950
ZINC	19.3		1.2	MG/KG	7520
CYANIDE	ND		0.4	MG/KG	9012
ACETONE	1,917		250	UG/KG	8015

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

VERIFIED BY:

REPORT ... AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

6/08/

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT L. FERRIERE, CHIEF CHEMIST

FM/RIBLK

(203) 774-6814

CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: #10 WEST LAGOON

SAMPLE #: LAN-8954

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/2/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/07/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.140	--- 6/08/89 --	0.005	--- 100.0 ---	7080
CADMIUM ---	ND	--- 6/07/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/07/89 --	0.05	- 5.0 ---	7190
MERCURY ---	ND	--- 6/07/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/07/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/07/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/07/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.1	--- 6/08/89 --	0.1	--- ---	7210
NICKEL ----	0.2	--- 6/08/89 --	0.1	- ---	7950
ZINC ------	0.13	--- 6/08/89 --	0.05	- ---	7520
CYANIDE ---	ND	--- 6/05/89 --	0.02	- - ---	9012

ND=NONE DETECTED

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VERIFIED BY:

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T.F. McCormas 6/08/89

T.F. MCCORMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814 CT LABORATORY PH 046

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

(RETEST)

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-1
P.O. #L30147

SAMPLE #: LAN8967

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 5/30/89

ANALYSIS PERFORMED	TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
E.P. TOX. LEAD	--------	ND ---------	6/10/89 ---	0.05 MG/L	STANDARD METHODS -- 16TH EDITION

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T. F. McCommas 6/12/

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

(203) 774-6814

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EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: ORIGINAL LOCATION 2-A

SAMPLE #: LAN8958

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/05/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SWA 846
ARSENIC	9.70	------	--- 0.12 MG/KG	7060
BARIUM	1.78	------	--- 0.037 MG/KG	7080
CADMIUM	ND	------	--- 0.37 MG/KG	7130
HEXAVALENT CHROMIUM	ND	------	--- 0.37 MG/KG	7190
MERCURY	0.072	------	--- 0.047 MG/KG	7471
SELENIUM	5.11	------	--- 0.12 MG/KG	7740
LEAD	1.62	------	--- 0.74 MG/KG	7420
SILVER	ND	------	--- 0.15 MG/KG	7760
COPPER	76.8	------	--- 0.74 MG/KG	7210
NICKEL	121	------	--- 0.74 MG/KG	7950
ZINC	9.7	------	--- 0.37 MG/KG	7320
CYANIDE	ND	------	--- 0.4 MG/KG	9012
ACETONE	ND	------	--- 35 µG/KG	8015

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

CERTIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T.F. MCCOMMAS, DIRECTOR — DATE 6/08/89
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

(203) 774-6814

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

CT LABORATORY PH 0465

EPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON 2-A ORIGINAL LOCATION

SAMPLE #: LAN-8958

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/5/89

E.P. TOXICITY

ALYSIS FORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ENIC ---	ND	--- 6/07/89 --	0.005	--- 5.0	--- 7060
IUM ----	0.088	--- 6/06/89 --	0.005	--- 100.0	--- 7080
MIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0	--- 7130
ENT					
ROMIUM -	ND	--- 6/07/89 --	0.05	--- 5.0	--- 7190
URY ---	ND	--- 6/07/89 --	0.0010	--- 0.20	--- 7471
NIUM --	0.005	--- 6/07/89 --	0.005	--- 1.0	--- 7740
------	ND	--- 6/06/89 --	0.05	--- 5.0	--- 7420
ER ----	ND	--- 6/06/89 --	0.02	--- 5.0	--- 7760
----	1.2	--- 6/06/89 --	0.1	---	--- 7210
ER ----	1.9	--- 6/06/89 --	0.1	---	--- 7950
------	0.16	--- 6/06/89 --	0.05	---	--- 7520
DE ---	ND	--- 6/05/89 --	0.02	---	--- 9012

ND=NONE DETECTED

IS A CERTIFIED SAMPLE TAKEN BY ERSONNEL IF NOTED BELOW.

ED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY.

T.F. McCommas 6/08/89

T.F. MCCOMMAS, DIRECTOR
ROBERT LAFERRIERE, CHIEF CHEMIST
DATE

203) 774-6814

CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

EPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-2A

SAMPLE #: LAN8957

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/05/89

NALYSIS ERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SWA 846
SENIC	23.1		0.11 MG/KG	7060
RIUM	1.82		0.035 MG/KG	7080
MIUM	ND		0.35 MG/KG	7130
ALENT CHROMIUM	ND		0.35 MG/KG	7190
Y	0.063		0.04 MG/KG	7471
LENIUM	3.58		0.11 MG/KG	7740
AD	1.5		0.70 MG/KG	7420
LVER	ND		0.14 MG/KG	7760
PPER	18.9		0.70 MG/KG	7210
KEL	98		0.70 MG/KG	7950
NC	29.5		0.35 MG/KG	7520
NIDE	ND		0.4 MG/KG	9012
TONE	ND		250 MG/KG	3015

ND = NONE DETECTED

S IS A CERTIFIED SAMPLE TAKEN LAB. PERSONNEL. IF NOTED BELOW.

IFIED BY:

RIBLK

REPORT IS AN AC RATE ANALYSIS OF SAMPLE RECEIVE N THIS LABORATORY

T.F. MCCOMMAS, DIRECTOR
ROBERT LAFERRIERE, CHIEF CHEMIST

DATE

(203) 774-6814

CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-2A

SAMPLE #: LAN-8957

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/5/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-84[illegible] 3RD)
ARSENIC ---	ND	--- 6/07/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.050	--- 6/06/89 --	0.005	--- 100.0 ---	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/07/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/07/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	0.005	--- 6/07/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/06/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
NICKEL ----	1.1	--- 6/06/89 --	0.1	--- ---	7210
COPPER ----	0.1	--- 6/06/89 --	0.1	--- ---	7950
ZINC ------	0.16	--- 6/06/89 --	0.05	--- ---	7520
CYANIDE ---	ND	--- 6/05/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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VERIFIED BY:

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T.F. McCommas 6/8/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

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DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-3A

SAMPLE #: LAN8956

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/05/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SWA 846
ARSENIC	21.6		0.10 MG/KG	7060
BARIUM	2.24		0.031 MG/KG	7080
CADMIUM	ND		0.31 MG/KG	7130
HEXAVALENT CHROMIUM	ND		0.31 MG/KG	7190
MERCURY	0.163		0.035 MG/KG	7471
SELENIUM	4.42		0.10 MG/KG	7740
LEAD	1.40		0.62 MG/KG	7420
SILVER	ND		0.12 MG/KG	7760
COPPER	5.15		0.62 MG/KG	7210
NICKEL	77		0.62 MG/KG	7950
ZINC	5.03		0.1 MG/KG	7520
CYANIDE	ND		[illegible] MG/KG	9012
ACETONE	ND		250 µg/KG	8015

ND = NONE DETECTED

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T.F. McCommas 6/08/89

T.F. MCCOMMAS, DIRECTOR DATE
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FM/RIBLK

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CT LABORATORY PH 0465

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DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-3A

SAMPLE #: LAN-8956

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/5/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/07/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.110	--- 6/06/89 --	0.005	--- 100.0 ---	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/07/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/07/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/07/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.05	--- 6/06/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
NICKEL ----	0.7	--- 6/06/89 --	0.1	--- ---	7210
COPPER ----	ND	--- 6/06/89 --	0.1	--- ---	7950
ZINC ------	ND	--- 6/06/89 --	0.05	--- ---	7520
CYANIDE ---	ND	--- 6/05/89 --	0.02	--- ---	9012

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6/08/89

T.F. MCCOMMAS, DIRECTOR — DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

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DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-4A

SAMPLE #: LAN8955

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/05/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW846
ARSENIC	24.8		0.10 MG/KG	7060
BARIUM	3.82		0.046 MG/KG	7080
CADMIUM	ND		0.46 MG/KG	7130
HEXAVALENT CHROMIUM	ND		0.46 MG/KG	7190
MERCURY	0.082		0.041 MG/KG	7471
SELENIUM	4.45		0.10 MG/KG	7740
LEAD	9.3		0.93 MG/KG	7420
SILVER	0.23		0.19 MG/KG	7760
COPPER	11.6		0.93 MG/KG	7210
NICKEL	58		0.93 MG/KG	7950
ZINC	14.1		0.46 MG/KG	7520
CYANIDE	ND		0.4 MG/KG	9012
ACETONE	1.466		250 UG/KG	8015

ND = NONE DETECTED

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T.F. McCommas 6/08/89

T.F. MCCOMMAS, DIRECTOR DATE
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P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: EAST LAGOON V-4A

SAMPLE #: LAN-8955

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/5/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/07/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.150	--- 6/06/89 --	0.005	--- 100.0 ---	7080
CADMIUM ---	ND	--- 6/06/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/07/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/07/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/07/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/06/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/06/89 --	0.02	--- 5.0 ---	7760
NICKEL ----	0.1	--- 6/06/89 --	0.1	--- ---	7210
COPPER ----	0.1	--- 6/06/89 --	0.1	-- ---	7950
ZINC ------	ND	--- 6/06/89 --	0.05	-- ---	7520
CYANIDE ---	ND	--- 6/05/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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VERIFIED BY:

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T. F. McCommas 6/08/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

PM/EPTOX

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EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON #4A
WILLIAM PRYM RETEST

SAMPLE #: LAN8963

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/07/89

ANALYSIS PERFORMED	TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS		METHOD OF ANALYSIS
						SW 846
ARSENIC		13.2		0.075	MG/KG	7060
BARIUM		7.34		0.063	MG/KG	7080
CADMIUM		ND		0.63	MG/KG	7130
HEXAVALENT CHROMIUM		ND		0.63	MG/KG	7190
MERCURY		0.027		0.026	MG/KG	7471
SELENIUM		2.07		0.075	MG/KG	7740
LEAD		5.3		1.3	MG/KG	7420
SILVER		ND		0.25	MG/KG	7760
COPPER		16		1.3	MG/KG	7210
ZINC		15		0.63	MG/KG	7950
NICKEL		133		1.3	MG/KG	7520
CYANIDE		ND		0.4	MG/KG	9012
ACETONE		ND		250	UG/KG	8015

ND = NONE DETECTED

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VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T.F. McCommas 6/12/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

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CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON 4-A
WILLIAM PRYM
RETEST

SAMPLE #: LAN-8963

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/7/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS 1310 (SWA-846 3RD)
ARSENIC ---	ND	--- 6/09/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.200	--- 6/08/89 --	0.005	--- 100.0 ---	7080
CADMIUM ---	ND	--- 6/08/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/09/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/09/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/09/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/08/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/08/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.1	--- 6/08/89 --	0.1	--- ---	7210
ZINC ------	0.08	--- 6/08/89 --	0.05	--- ---	7950
NICKEL ----	1.5	--- 6/08/89 --	0.1	--- ---	7520
CYANIDE ---	ND	--- 6/08/89 --	0.02	--- ---	9012

ND=NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY.

T.F. McCommas 6/12/89

T.F. MCCOMMAS, DIRECTOR DAT
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814

CT LABORATORY PH 0465

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-5A
WILLIAM PRYM

SAMPLE #: LAN8964

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/07/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW 846
ARSENIC ----------	13.7	------	--- 0.098 MG/KG -----	7060
BARIUM ----------	15.6	------	--- 0.074 MG/KG -----	7080
CADMIUM ----------	1.8	------	--- 0.74 MG/KG -----	7130
HEXAVALENT CHROMIUM -	ND	------	--- 0.74 MG/KG -----	7190
MERCURY ----------	0.059	------	--- 0.032 MG/KG -----	7471
SELENIUM ----------	2.22	------	--- 0.098 MG/KG -----	7740
LEAD ----------	19	------	--- 1.5 MG/KG -----	7420
SILVER ----------	0.32	------	--- 0.29 MG/KG -----	7760
COPPER ----------	399	------	--- 1.5 MG/KG -----	7210
ZINC ----------	120	------	--- 0.74 MG/KG -----	7950
NICKEL ----------	798	------	--- 1.5 MG/KG -----	7520
CYANIDE ----------	ND	------	--- 0.4 MG/KG -----	9012
ACETONE ----------	ND	------	--- 250 UG/KG -----	8015

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T.F. McCommas 6/12/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

(203) 774-6814 CT LABORATORY PH 04

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-5
WILLIAM PRYM

SAMPLE #: LAN-8964

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/7/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS (SWA-846 3RD
ARSENIC ---	ND	--- 6/09/89 --	0.005	--- 5.0 ---	70
BARIUM ----	0.135	--- 6/08/89 --	0.005	--- 100.0 ---	7[illegible]
CADMIUM ---	0.02	--- 6/08/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/09/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/09/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/09/89 --	0.005	--- 1.0 ---	7740
LEAD ------	ND	--- 6/08/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/08/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.9	--- 6/08/89 --	0.1	--- ---	7210
ZINC ------	0.64	--- 6/08/89 --	0.05	--- ---	7950
NICKEL ----	8.0	--- 6/08/89 --	0.1	--- ---	7520
CYANIDE ---	ND	--- 6/08/89 --	0.02	--- ---	9012

ND=NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY.

T.F. McCommas 6/12/8

T.F. MCCOMMAS, DIRECTOR
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

(203) 774-6814

CT LABORATORY PH 0465

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DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-6A
WILLIAM PRYM

SAMPLE #: LAN8965

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/07/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW 846
ARSENIC ----------	14.5	------	--- 0.066 MG/KG -----	7060
BARIUM ----------	7.68	------	--- 0.080 MG/KG -----	7080
CADMIUM ----------	ND	------	--- 0.80 MG/KG -----	7130
HEXAVALENT CHROMIUM -	ND	------	--- 0.80 MG/KG -----	7190
MERCURY ----------	0.122	------	--- 0.033 MG/KG -----	7471
SELENIUM ----------	1.35	------	--- 0.066 MG/KG -----	7740
LEAD ----------	52	------	--- 1.6 MG/KG -----	7420
SILVER ----------	ND	------	--- 0.32 MG/KG -----	7760
COPPER ----------	16	------	--- 1.6 MG/KG -----	7210
ZINC ----------	31	------	--- 0.80 MG/KG -----	7950
NICKEL ----------	12	------	--- 1.6 MG/KG -----	7520
CYANIDE ----------	ND	------	--- 0.4 MG/KG -----	9012
ACETONE ----------	ND	------	--- 250 UG/KG -----	8015

ND = NONE DETECTED

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T.F. McCommas 6/12/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

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P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-6
WILLIAM PRYM

SAMPLE #: LAN-8965

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/7/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS (SWA-846 3RD 131
ARSENIC ---	ND	--- 6/09/89 --	0.005	--- 5.0 ---	7060
BARIUM ----	0.175	--- 6/08/89 --	0.005	--- 100.0 ---	70
CADMIUM ---	ND	--- 6/08/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/09/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/09/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/09/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.05	--- 6/08/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/08/89 --	0.02	--- 5.0 ---	7760
COPPER ----	ND	--- 6/08/89 --	0.1	--- ---	7210
ZINC ------	0.05	--- 6/08/89 --	0.05	--- ---	7950
NICKEL ----	0.1	--- 6/08/89 --	0.1	--- ---	7520
CYANIDE ---	ND	--- 6/08/89 --	0.02	--- ---	9012

ND=NONE DETECTED

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T.F. McCommas 6/12/8

T.F. MCCOMMAS, DIRECTOR
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REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-7A
WILLIAM PRYM

SAMPLE #: LAN8966

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/07/89

ANALYSIS PERFORMED TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
				SW-846
ARSENIC	17.6		0.061 MG/KG	7060
BARIUM	6.07		0.065 MG/KG	7080
CADMIUM	ND		0.65 MG/KG	7130
HEXAVALENT CHROMIUM	ND		0.65 MG/KG	7190
MERCURY	0.055		0.024 MG/KG	7471
SELENIUM	1.58		0.061 MG/KG	7740
LEAD	23		1.3 MG/KG	7420
SILVER	0.28		0.26 MG/KG	7760
COPPER	110		1.3 MG/KG	7210
ZINC	33		0.65 MG/KG	7950
NICKEL	95		1.3 MG/KG	7520
CYANIDE	ND		0.4 MG/KG	9012
ACETONE	ND		250 UG/KG	8015

ND = NONE DETECTED

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VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T.F. McCommas 6/12/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

(203) 774-6814 CT LABORATORY PH

EASTERN SCIENTIFIC ASSOCIATES
DIV. OF LABORATORY RESOURCES, INC.
P.O. BOX 700
BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-7
WILLIAM PRYM

SAMPLE #: LAN-8966

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/7/89

E.P. TOXICITY

ANALYSIS PERFORMED	RESULTS (MG/L)	DATE OF ANALYSIS	DETECTION LIMITS (MG/L)	MAXIMUM PERMISSIBLE LIMITS(MG/L)	METHOD OF ANALYSIS (SWA-846 3RD
ARSENIC ---	0.005	--- 6/09/89 --	0.005	--- 5.0 ---	70
BARIUM ----	0.180	--- 6/08/89 --	0.005	--- 100.0 ---	70
CADMIUM ---	ND	--- 6/08/89 --	0.01	--- 1.0 ---	7130
HEXAVALENT CHROMIUM -	ND	--- 6/09/89 --	0.05	--- 5.0 ---	7190
MERCURY ---	ND	--- 6/09/89 --	0.0010	--- 0.20 ---	7471
SELENIUM --	ND	--- 6/09/89 --	0.005	--- 1.0 ---	7740
LEAD ------	0.05	--- 6/08/89 --	0.05	--- 5.0 ---	7420
SILVER ----	ND	--- 6/08/89 --	0.02	--- 5.0 ---	7760
COPPER ----	0.10	--- 6/08/89 --	0.1	--- ---	7210
ZINC ------	0.8	--- 6/08/89 --	0.05	--- ---	7950
NICKEL ----	ND	--- 6/08/89 --	0.1	--- ---	7520
CYANIDE ---	ND	--- 6/08/89 --	0.02	--- ---	9012

ND=NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL IF NOTED BELOW.

VERIFIED BY:

REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY.

6/12/8

T.F. MCCOMMAS, DIRECTOR D
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/EPTOX

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DIV. OF LABORATORY RESOURCES, INC.
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BROOKLYN, CT 06234

REPORT TO: LANCY INTERNATIONAL
ATTN: ROB BAER
181 THORN HILL ROAD
WARRENDALE, PA 15086

SOURCE OF SAMPLE: WEST LAGOON V-9 (RETEST)
P.O. #L30147

SAMPLE #: LAN8968

TYPE OF SUPPLY: SOIL

DATE/TIME COLLECTED: 6/01/89

ANALYSIS PERFORMED	TOTAL	RESULTS MG/KG	DATE OF ANALYSIS	DETECTION LIMITS	METHOD OF ANALYSIS
E.P. TOX. LEAD	--------	0.07 --------	6/10/89 ---	0.05 MG/L	STANDARD METHODS -- 16TH EDITION

ND = NONE DETECTED

THIS IS A CERTIFIED SAMPLE TAKEN BY LAB. PERSONNEL. IF NOTED BELOW.

VERIFIED BY:

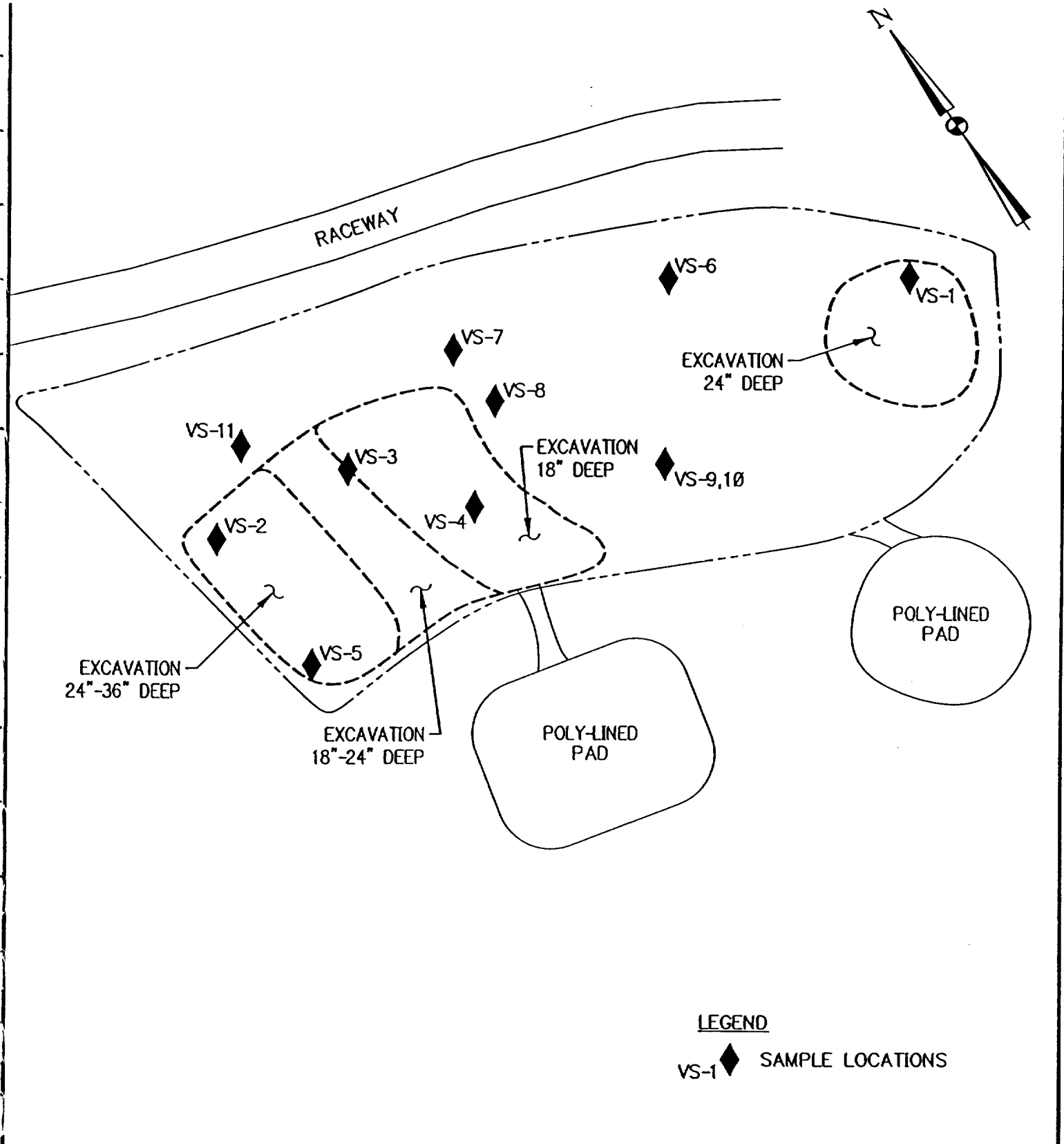
REPORT IS AN ACCURATE ANALYSIS OF SAMPLE RECEIVED IN THIS LABORATORY

T.F. McCommas 6/12/89

T.F. MCCOMMAS, DIRECTOR DATE
ROBERT LAFERRIERE, CHIEF CHEMIST

FM/RIBLK

ATTACHMENT IV



DRAWN BY: NLR	SE TECHNOLOGIES 96 Vanadium Road Bridgeville, PA 15017 (412) 221-1100	WILLIAM PRYM, INC. DAYVILLE, CONNECTICUT MILL POND ICM VERIFICATION SAMPLE LOCATION MAP
DATE		
CHECKED BY		
SET JOB NO. 970179		
SET DWG FILE 97179A02.DWG		
DRAWING SCALE 1"=20' APPROX.		FIGURE 4 — REV. 0

Plot: env023 02/16/1999 07:55 G:\Prym\970179\97179a02.dwg

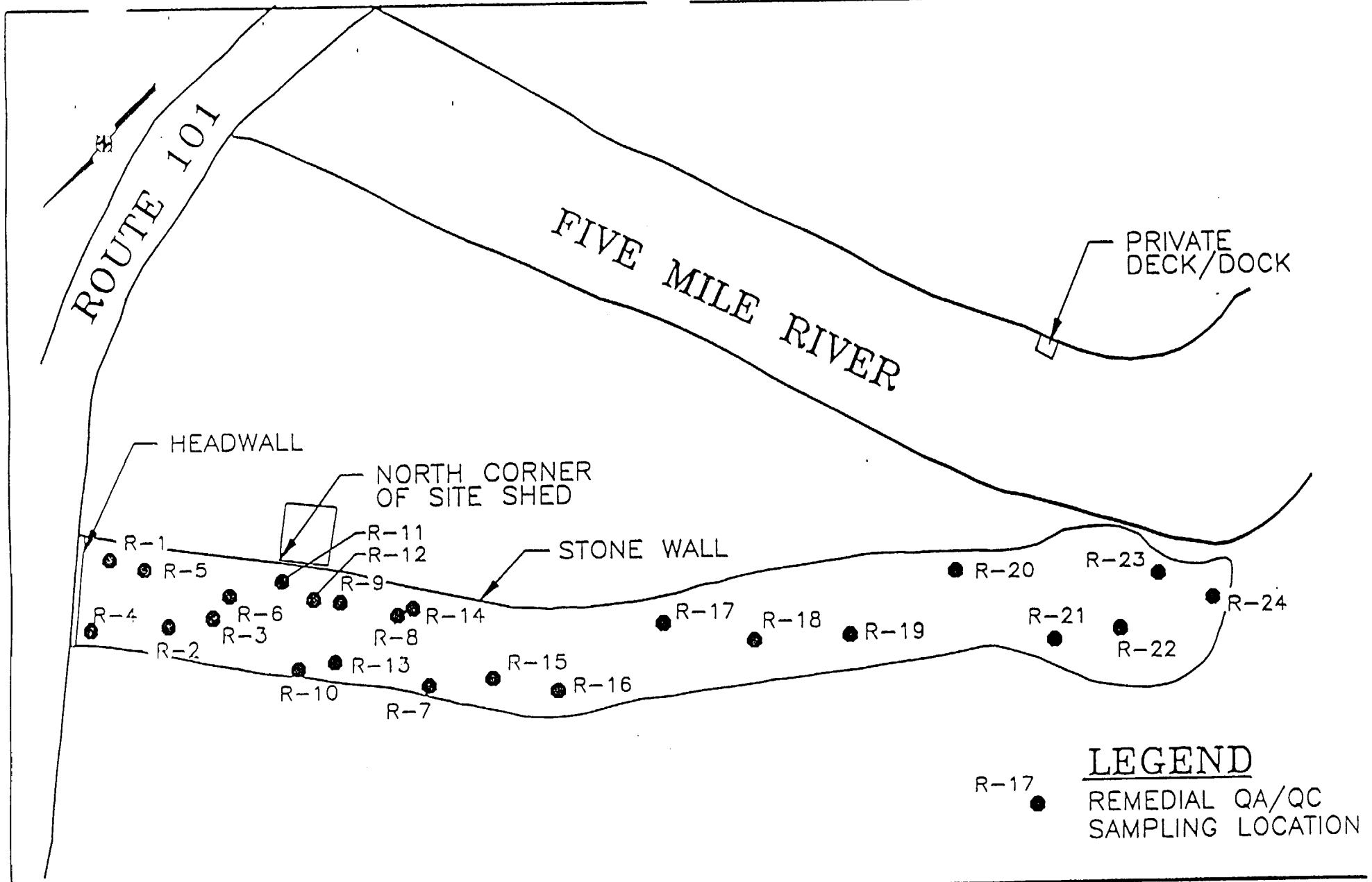
TABLE 2
VERIFICATION SEDIMENT SAMPLING RESULTS
PRYM FACILITY - MILL POND
DAYVILLE, CONNECTICUT
MAY 1997

Sample ID		Parameters					
		Total mg/kg		TCLP mg/l		mg/kg	
		Cu	Ni	Cu	Ni	Total Lead	Cyanide
VS-1		18	180	0.032	0.58	N/A	N/A
VS-2		42	150	0.17	0.96	N/A	N/A
VS-3		69	240	0.062	1.4	N/A	N/A
VS-4		86	260	0.27	0.96	14	N/D
VS-5		17	68	0.034	0.57	N/A	N/A
VS-6		18	54	0.035	0.13	N/A	N/A
VS-7		6.5	53	N/D	0.089	N/A	N/A
VS-8		34	110	0.38	0.14	N/A	N/A
VS-9		71	230	0.087	0.30	N/A	N/A
VS-10		28	130	0.13	0.35	N/A	N/A
VS-11		160	320	0.84	0.79	N/D	N/D
VS-12		N/D	N/D	N/D	N/D	N/A	N/A
Direct Exposure Criteria for Soil							
Residential	ppm	2,500	1,400	--	--	500	1,400
Industrial	ppm	76,000	7,500	--	--	1,000	41,000
Pollutant Mobility Criteria for GB Areas							
GB	TCLP-mg/l	--	--	13	1.0	0.15	2

Summary of Sediment/Soil Analytical Testing Results
William Prym, Inc. Tail Race Remediation
November, 1994

Sample ID	Reference ID	Date	Time	Location	Copper Cu (mg/kg) RPA 6010	Lead Pb (mg/kg) RPA 6010	Nickel Ni (mg/kg) RPA 6010	Cadmium Cd (mg/kg) RPA 6010	Zinc Zn (mg/kg) RPA 6010	Chromium Cr (mg/kg) RPA 6010	Iron Fe (mg/kg) RPA 6010
S105-1	R-1	10/17/94	15:35	13' sw of tail race headwall 3' nw of tail race sidewall	70	56					
S107-1	R-2	10/19/94	08:00	42' sw of tail race headwall 10' nw of tail race sidewall	180	89					
S108-1	R-3	10/20/94	08:07	66' sw of tail race headwall 10' nw of tail race sidewall	41	7.2					
S109-1	R-4	10/21/94	15:00	8' sw of tail race headwall 13' nw of tail race sidewall	28	32					
S109-2	R-5	10/21/94	15:05	30' sw of tail race headwall 4' nw of tail race sidewall	110	53					
S109-3	R-6	10/21/94	15:11	71' sw of tail race headwall 6' nw of tail race sidewall	100	24					
S109-4 *	R-7	10/21/94	15:24	85' sw of north corner of shed 14' nw of tail race sidewall	120	53					
S109-5 *	R-8	10/21/94	15:30	60' sw of north corner of shed 5' nw of tail race sidewall	36	20					
S109-6 *	R-9	10/21/94	15:35	33' sw of north corner of shed 6' nw of tail race sidewall	19	10					
S109-7 *	R-10	10/21/94	15:40	15' sw of north corner of shed 14' nw of tail race sidewall	99	140					
S113-1	R-11	10/27/94	11:45	1' sw of north corner of shed 3' nw of tail race sidewall	66	58					
S113-2	R-12	10/27/94	11:48	19' sw of north corner of shed 5' nw of taile race sidewall	140	60					
S113-3	R-13	10/27/94	11:52	32' sw of north corner of shed 12' nw of tail race sidewall	49	28	20				
S113-4	R-14	10/27/94	11:58	64' sw of north corner of shed 3' nw of tail race sidewall	62	49					
S113-5	R-15	10/27/94	12:03	101' sw of north corner of shed 10' nw of tail race sidewall	79	46					
S113-6	R-16	10/27/94	15:03	8' sw of tail race bend 11' nw of tail race sidewall	180	110	43				
S113-7	R-17	10/27/94	15:15	58' sw of tail race bend 6' nw of tail race sidewall	260	130					
S113-8	R-18	10/27/94	15:26	97' sw of tail race bend 9' nw of tail race sidewall	92	37					
S113-9	R-19	10/27/94	15:39	139' sw of tail race bend 10' nw of tail race sidewall	130	85	31				
S113-10	R-20	10/27/94	15:45	189' sw of tail race bend 4' nw of tail race sidewall	86	43					
S117-1	R-21	11/02/94	11:33	238' sw of tail race bend 8' se of tail race sidewall	4.4	ND					
S117-2	R-22	11/02/94	11:42	275' sw of tail race bend 15' se of tail race sidewall	5.2	ND	ND				
S117-3	R-23	11/02/94	11:50	286' sw of tail race bend 2' nw of tail race sidewall	9.6	ND					
S117-4	R-24	11/02/94	11:54	312' sw of tail race bend 4' se of tail race sidewall	7.1	7.4					

Note: * indicates program sample only. Area of sample reworked and resampled.



APPROXIMATE
HORIZONTAL
SCALE: 1" = 60'
VERTICAL
SCALE: 1" = 15'
EXAGERATION=3x

RUST ENVIRONMENT & INFRASTRUCTURE

PROJ. NO.: 89906.100 DATE: 11/94

RUST DWG. NUMBER: FIGURE 3

SAMPLE LOCATIONS MAP

TAIL RACE REMEDIATION CONSTRUCTION
WILLIAM PRYM, INC.

DAYVILLE CONNECTICI