

"Preliminary Site Assessment:

Johnson Property"

Niagara Falls Boulevard

and 75th Street

Niagara Falls, NY 14304

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N.Y.S. DEPT. OF
ENVIRONMENTAL CONSERVATION
REGION 9

"Preliminary Site Assessment:

Johnson Property"
Niagara Falls Boulevard
and 75th Street
Niagara Falls, NY 14304

submitted to:

New York State Department
of Environmental Conservation
270 Michigan Avenue
Buffalo, NY 14203-2999

submitted by:

Johnson and Johnson
6638 Mooradian Drive
Niagara Falls, NY 14304

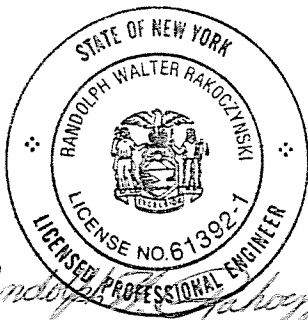
prepared by:

Waste Resource Associates, Inc.
2576 Seneca Avenue
Niagara Falls, NY 14305

September 1, 1992

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Randolph W. Rakoczynski
8-31-92

Randolph W. Rakoczynski
Randolph W. Rakoczynski, P.E.
NYS P.E. License No. 61392

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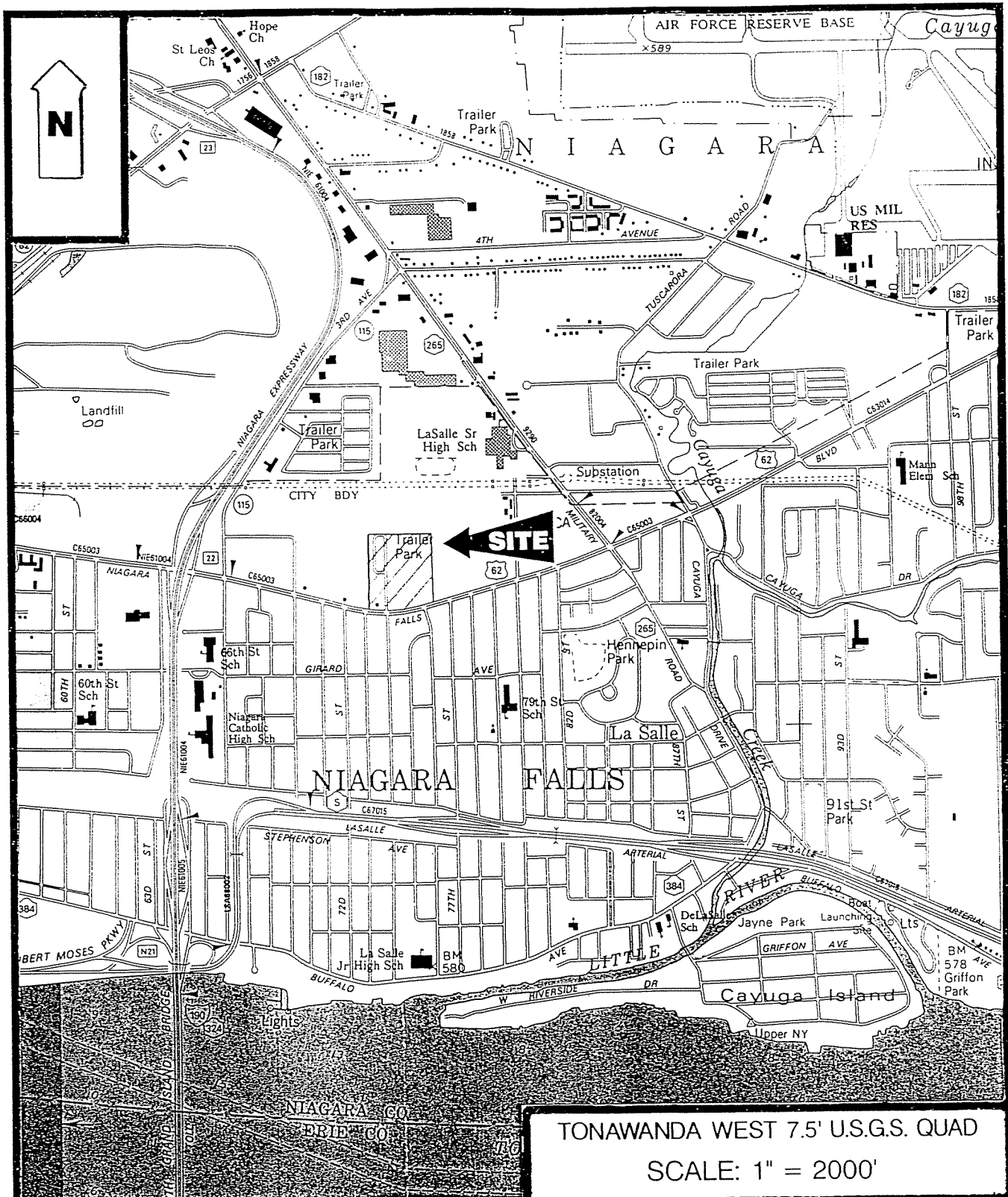
Introduction

Johnson and Johnson is the current owner of an approximately 15.7 acre parcel of land (the subject property) located north of Niagara Falls Boulevard between 73rd Street and 76th Street in the City of Niagara Falls, NY (see Figure 1 - Site Location Map). A retail facility has been proposed to occupy the site and preliminary development planning is presently underway.

The subject property is located immediately east of land which was previously suspected to be part of an inactive hazardous waste disposal site (64th Street North - Site No. 932085A). The adjacent parcel (currently under development by Tops Markets, Inc.) was subjected to extensive soil sampling and analytical testing and was subsequently "delisted" from any association with the 64th Street North inactive hazardous waste disposal site.

Despite the "delisting" of the adjacent Tops Markets parcel, the New York State Department of Environmental Conservation (NYSDEC) considers the subject property to have the potential of being contaminated. Consequently, NYSDEC has required that soil sampling and analysis be conducted on the subject property in order to provide a basis for issuance of any required environmental permits identified as a result of conforming with the State Environmental Quality Review Act.

This report summarizes the findings of soil sampling and analytical testing that was conducted on the subject property in order to satisfy the requirements set forth by NYSDEC.



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FIGURE 1 - SITE MAP
JOHNSON PROPERTY
NIAGARA FALLS BOULEVARD & 75th STREET

Background

Site investigation work performed at the Tops Markets, Inc. property by Waste Resource Associates, Inc. revealed that although no hazardous waste was detected, the site contained "fill" material that was contaminated with lead and mercury at concentrations that exceeded normal background levels for these metals. The presence of these constituents at the Tops Markets site has lead to the suspicion by NYSDEC that similar contamination may exist on the subject property.

As part of the development of the Tops Markets parcel, considerable excavation of previously placed "fill" material was required in order to achieve a suitably stable base upon which the building foundation could be constructed. During excavation work, Waste Resource Associates, Inc. performed field screening of excavated material for the presence of lead and mercury. A field-portable x-ray fluorescence (XRF) unit (Outokumpu X-Met 880) was used in making field determinations relative to the presence and concentration of these two metallic constituents. The use of x-ray fluorescence technology for the detection of inorganic metals has been endorsed as a field screening technique by the USEPA.

Hazardous Waste Site Determination

A request was made of NYSDEC to make a determination as to whether any portion of the subject property was associated with, or considered to be part of, the 64th Street North Inactive Hazardous Waste Disposal Site (Site No. 932085A). The response from NYSDEC (see Exhibit I) indicated that the subject property was not considered part of the 64th Street North Site. However, in making this determination, NYSDEC acknowledged that the subject property had the potential to be contaminated based on its location adjacent to the Tops Markets, Inc. parcel. Therefore, soil sampling and analysis would be required to be performed on the Johnson property in order to allow for any necessary environmental permits required to be issued as a result of conformance with to the State Environmental Quality Review Act (SEQR).

Sampling Program

A sampling program was developed in order to characterize the subject property with respect to the presence (or absence) of lead and/or mercury which were identified as the constituents of concern.

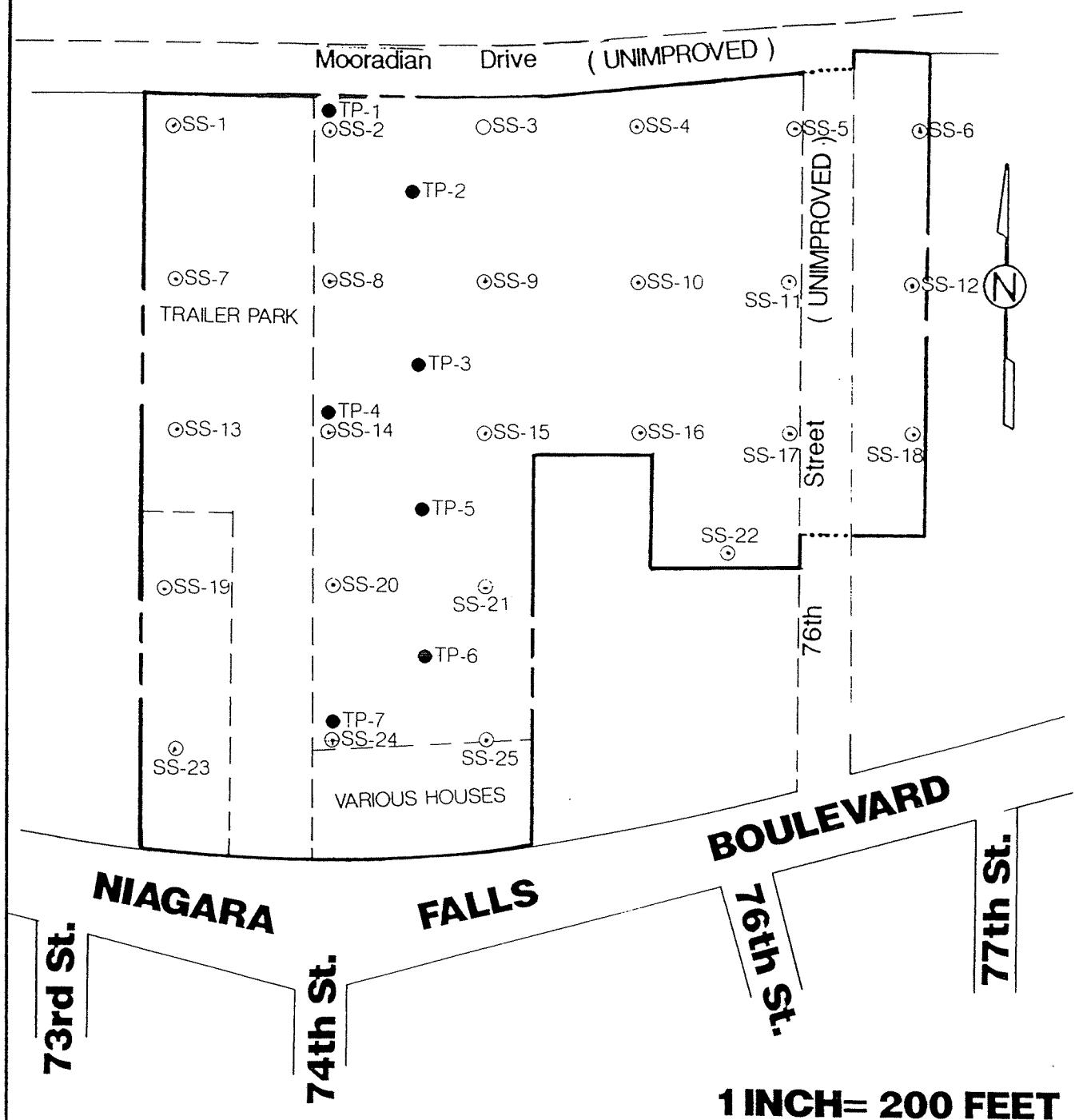
A total of twenty-five (25) surface soil sample locations were established on the property by marking a 200-foot grid pattern across the site (see Figure 2). The sample positions were measured in the field by using hand taping techniques referenced to established property corners. Each surface soil sample was collected from a depth of approximately eight (8) to twelve (12) inches below grade.

Seven (7) test pits were located in the central portion of the subject property (see Figure 2). The test pits were dug by using a small backhoe and were terminated at a depth of approximately three (3) feet below grade. Upon completion of each test pit, an examination of the trench walls was made and the soil profile observed was recorded in the field by a geologist (see Exhibit II). A soil sample was collected from the undisturbed walls of each test pit that was representative of the existing soil profile from the surface grade to the base of the trench.

FIGURE 2

⊙SS-1 - SURFACE SOIL SAMPLES

●TP-1 - TEST PITS



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Sample Analysis

All samples collected in the field were subjected to analysis for lead and mercury content through use of an Outokumpu X-Met 880 x-ray fluorescence unit.

Each sample was prepared and analyzed according to EPA recommended protocol for discrete sample x-ray fluorescence analysis*. The procedure involved the following sequence of steps:

- air dry samples,
- remove non-representative organic debris,
- sieve through a 20-mesh stainless steel sieve,
- homogenize sample by thoroughly mixing,
- prepare a 31 mm x-ray fluorescence sample cup with an aliquot of the homogenized sample,
- analyze on X-Met unit for 60 seconds,
- record concentration values,
- agitate material in sample cup and reanalyze,
- repeat procedure for a total of three (3) readings on each sample.

The results of sample analysis by x-ray fluorescence techniques are presented on Figure 3 of this report. Figure 4 is a site map which shows the test points where detectable levels of mercury were encountered. Figure 5 is a site map which shows the test points where detectable concentrations of lead were recorded.

(Note: The results of the initial screening by XRF detected elevated levels of mercury and/or lead in SS-24, SS-25, and the test pit composite. These three (3) samples, along with SS-16, were subsequently selected for

* Ref: "Field-Portable X-ray Fluorescence" EPA/ERT Quality Assurance Technical Information Bulletin, Vol. 1, No. 4, May 1991.

confirmatory lab analysis. Additional soil material from each of these samples was prepared (as described by steps 1-4 above) in order to meet volume requirements specified by the lab. An aliquot of the additional material from SS-24, SS-25 and the test pit composite was prepared in a second sample cup and analyzed by XRF. SS-16 was not reanalyzed based on initial readings of zero for both constituents).

X-Met 880 X-ray Fluorescence Analyzer

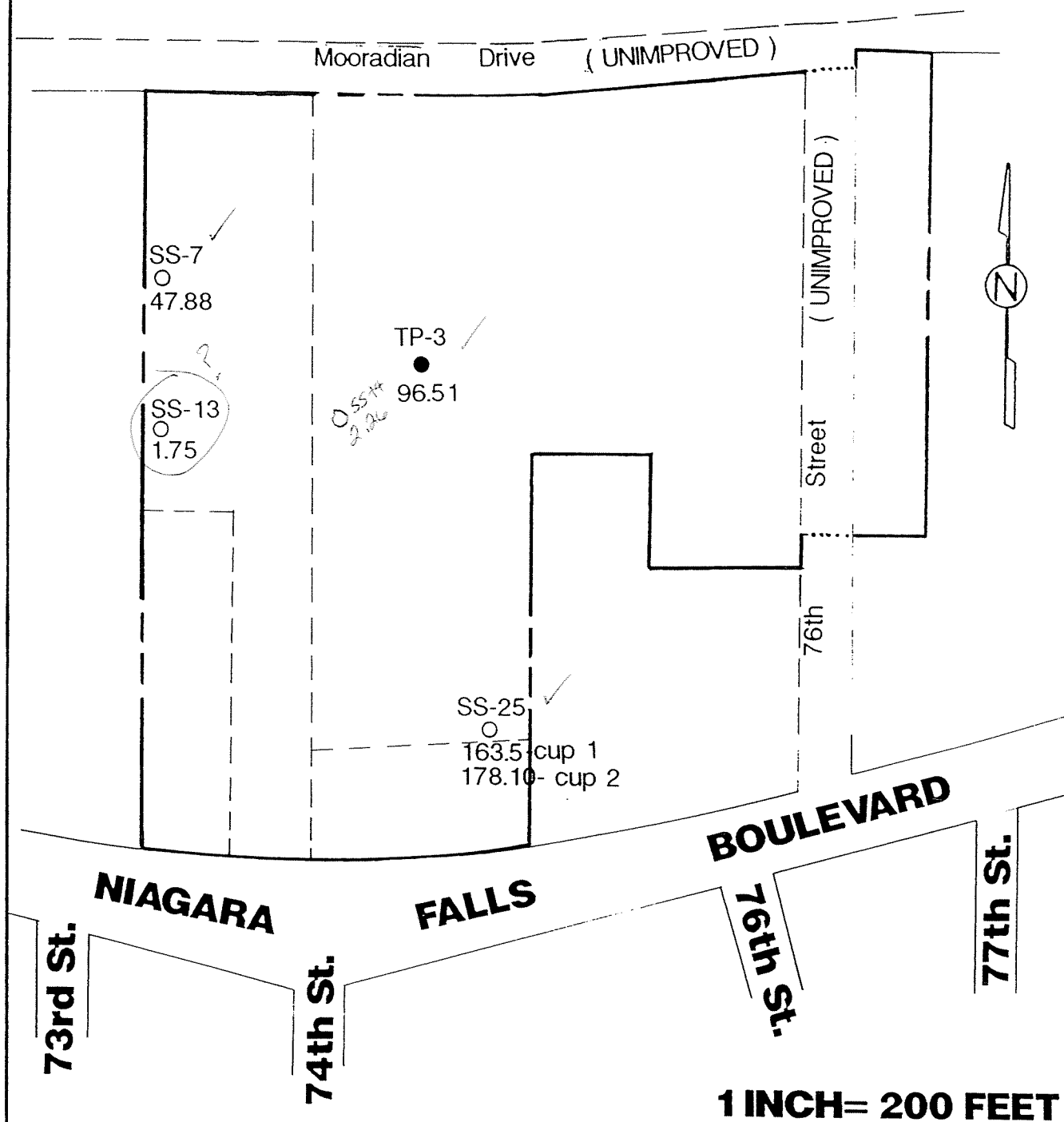
Final Testing Results (all concentrations are in parts per million-ppm)

	Run 1		Run 2		Run 3		Average	
Sample I.D.	Hg	Pb	Hg	Pb	Hg	Pb	Hg	Pb
SS-1	0	0	0	0	0	0	0	0
SS-2	0	0	0	0	0	0	0	0
SS-3	0	0	0	0	0	0	0	0
SS-4	0	0	0	0	0	0	0	0
SS-5	0	0	0	0	0	0	0	0
SS-6	0	0	0	0	0	0	0	0
SS-7	58.17	0	41.51	0	43.96	0	47.88	0
SS-8	0	0	0	0	0	0	0	0
SS-9	0	23.91	0	113.20	0	129.40	0	88.83
SS-10	0	0	0	0	0	0	0	0
SS-11	0	0	0	0	0	0	0	0
SS-12	0	0	0	0	0	0	0	0
SS-13	0	0	0	5.25	0	1.75	0	2.33
SS-14	0	0	0	0	6.80	0	2.26	0
SS-15	0	0	0	0	0	0	0	0
SS-16	0	0	0	0	0	0	0	0
SS-17	0	0	0	0	0	0	0	0
SS-18	0	0	0	0	0	0	0	0
SS-19	0	0	0	0	0	0	0	0
SS-20	0	0	0	0	0	0	0	0
SS-21	0	0	0	0	0	0	0	0
SS-22	0	0	0	0	0	0	0	0
SS-23	0	0	0	0	0	0	0	0
SS-24 (cup 1)	0	478.10	0	495.90	0	502.50	0	492.90
SS-24 (cup 2)	0	397.40	0	328.60	0	341.30	0	355.80
SS-25 (cup 1)	120.90	2999.00	202.70	3110.00	166.90	3002.00	163.50	3037.00
SS-25 (cup 2)	225.20	2825.00	127.70	2934.00	181.40	2949.00	178.10	2902.00
TP-1	0	0	0	19.72	0	0	0	6.57
TP-2	0	0	0	0	0	0	0	0
TP-3	74.41	1591.00	141.30	1424.00	73.82	1624.00	96.51	1546.33
TP-4	0	0	0	0	0	0	0	0
TP-5	0	0	0	0	0	0	0	0
TP-6	0	0	0	0	0	0	0	0
TP-7	0	267.50	0	303.40	0	337.30	0	302.73
TP-COMPOSITE (cup 1)	49.94	1540.00	70.08	1855.00	82.22	2348.00	67.42	1915.00
TP-COMPOSITE (cup 2)	0	563.20	0	581.40	0	613.60	0	586.00

FIGURE 3

XRF ANALYSIS AVERAGE MERCURY CONCENTRATION (PPM)

FIGURE 4

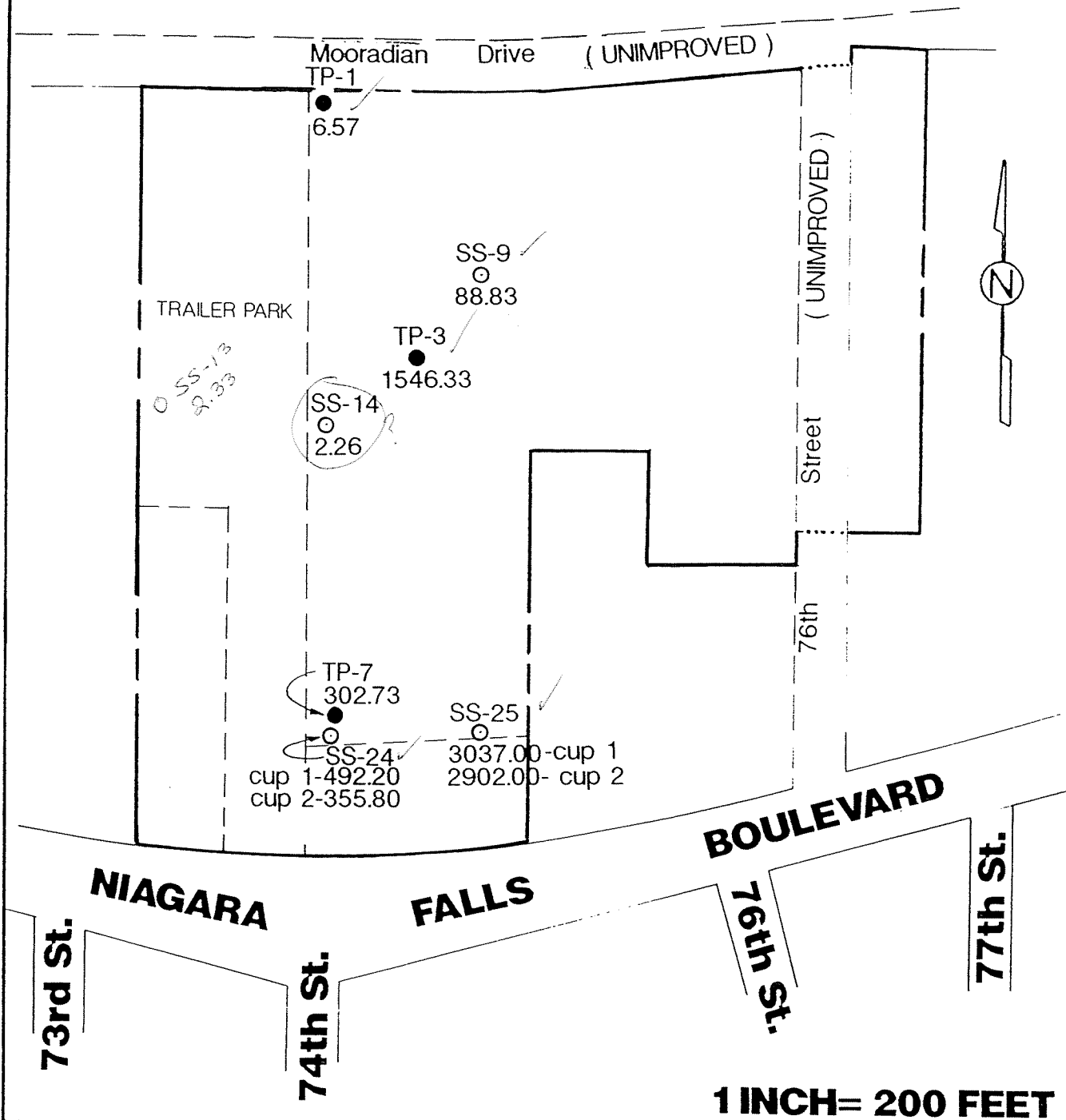


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XRF ANALYSIS AVERAGE LEAD CONCENTRATION (PPM)

FIGURE 5



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Confirmatory Sample Analysis

A total of four (4) samples were submitted to a NYSDOH certified laboratory for confirmatory analytical testing. Each of these samples had been previously homogenized and an aliquot of material removed for analysis by XRF. The remaining portions served as confirmatory samples and were subjected to analysis for total concentration of lead and mercury by EPA Method 7000 and for Extraction Procedure Toxicity (EP Tox) for lead and mercury. The results of this testing (along with the corresponding XRF readings) are presented below and also are included as Exhibit III of this report. Exhibit IV contains the Chain-of-Custody Record for the confirmatory samples. The test pit composite sample was labeled as TP-1 for laboratory identification purposes.

<u>Sample Identification</u>	<u>Totals</u>		<u>XFR Data Ave. of cups 1 and 2</u>		<u>EP Tox</u>		<u>Reg. Limit EP Tox</u>	
	<u>Hg</u>	<u>Pb</u>	<u>Hg</u>	<u>Pb</u>	<u>Hg</u>	<u>Pb</u>	<u>Hg</u>	<u>Pb</u>
Test Pit Composite	3.13	700.00	33.71	1250.50	*BQL	BQL	0.20	5.00
SS-16	0.00	190.00	0.00	0.00	BQL	BQL	0.20	5.00
SS-24	17.27	280.00	0.00	424.00	BQL	BQL	0.20	5.00
SS-25	0.52	2500.00	170.80	2969.50	BQL	BQL	0.20	5.00
(all concentrations shown are in parts per million-ppm) *BQL - Below Quantifiable Limit								

Conclusions

A total of thirty-three (33) soil samples collected at the subject property were screened for the presence of lead and/or mercury by using an X-MET 880 x-ray fluorescence analyzer. The samples consisted of:

- twenty-five (25) surface soil samples,
- seven (7) samples collected from test pits, and,
- a composite sample generated from the seven (7) test pits.

Detectable levels of mercury were reported by XRF analysis in a total of five (5) samples ranging in concentration from 2.26 ppm to 178.10 ppm (based on the average concentration of three (3) runs). Confirmatory lab analysis was performed on three (3) of these samples and resulted in reported mercury concentrations ranging from 0.52 ppm to 17.27 ppm.

Detectable levels of lead were reported by XRF analysis in a total of seven (7) samples ranging in concentration from 6.57 ppm to 3037 ppm (based on the average concentration of three (3) runs). Confirmatory lab analysis was performed on three (3) of these samples and resulted in reported lead concentrations ranging from 280 ppm to 2500 ppm.

A total of four (4) samples were analyzed for Extraction Procedure Toxicity (EP Tox) for lead and mercury. The samples selected were representative of the full range of concentrations detected on a "totals" basis for both metallic constituents. The results of this testing indicated that the concentrations of lead and mercury were below the quantifiable limit (BQL) of the analytical procedure for all four (4) samples.

The results of confirmatory analysis for total lead concentration indicated that elevated levels of this constituent are present

over limited areas of the subject property (primarily in the vicinity of SS-24 and SS-25 and at TP-3).

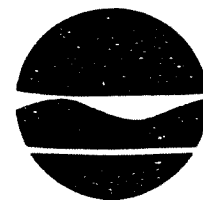
Confirmatory results for total mercury concentration indicates that the levels of this constituent are probably slightly lower than the levels reported by XRF analysis. The minimal discrepancies in reported values is likely due to inference caused by interelement effects. Such interference can occur during XRF measurements when two or more elements are present in the same sample at widely varying concentrations. In this case, low mercury levels may have been inflated by the presence of elevated lead concentrations.

Extraction Procedure Toxicity testing results indicate that the lead and mercury detected on-site exists in an insoluble matrix form and therefore would be highly unlikely to contribute to groundwater contamination through normal leaching processes due to weather conditions (i.e. rainfall) which would occur at the site.

Exhibit I

159-0010

New York State Department of Environmental Conservation



Thomas C. Jorling
Commissioner

May 8, 1992

Mr. Randolph Rakoczynski
Waste Resources Associates, Inc.
2576 Seneca Street
Niagara Falls, NY 14305

Dear Mr. Rakoczynski:

In response to your letter of May 1, 1992 we have determined that the Walter S. Johnson properties as identified on the map (attached) are not considered as part of the 64th Street North inactive hazardous waste site (Site No. 932085A).

Although the subject property is not listed in the New York State Inactive Hazardous Waste Disposal Sites Registry, it has the potential of being contaminated. This is likely since the Tops parcel, directly adjacent, is known to be contaminated with mercury, even though wastes at that location are now defined as "non-hazardous". Therefore, before the subject parcel is developed, and issuance of any required Department Freshwater Wetland Permit can take place, additional soil testing is necessary in order to provide a basis for issuance pursuant to the State Environmental Quality Review Act.

These requirements were discussed at an April 18th meeting with the Mayor of the City of Niagara Falls. During the May 6, 1992 telephone conference, Mr. Steven Doleski of our Regional Regulatory Affairs Unit again highlighted the same requirements to you. Please be sure to have all sampling protocols reviewed in advance by this office and the New York State Health Department.

Should you have any questions on this matter, please call Mr. Doleski at 716-851-7165.

Yours truly,

Yavuz Erk, P.E.
Environmental Engineer II

YE/ad

cc: Mr. Steven Doleski
Mr. Joseph Sciascia
Niagara County Health Dept.

Exhibit II

JOHNSON PROPERTY

TEST PIT SOIL PROFILE DESCRIPTION

TEST PIT NO. 1 (Depth - 3'4")	Surface to 8.0" - Top soil 8.0" to 3'4" - Light brown silt clay, moist
TEST PIT NO. 2 (Depth - 3'3")	Surface to 6.0" - Top soil, dark gray to black, humus-like 6.0" to 2.0' - Light brown to gray silty clay 2.0' to 3'3" - Gray and brown clayey silt, some sand
TEST PIT NO. 3 (Depth - 3'6")	Surface to 6.0" - Top soil 6.0" to 1'3" - Brown silty clay 1'3" to 2'6" - Debris, abundant brick, glass, concrete and wood fragments 2'6" to 3'6" - Brown silty clay, wet
TEST PIT NO. 4 (Depth - 3'2")	Surface to 6.0" - Top soil 6.0" to 2'0" - Light brown silty clay, trace gravel 2'0" to 3'2" - Brown and gray silty to sandy clay, very wet
TEST PIT NO. 5 (Depth - 3'0")	Surface to 8.0" - Top soil, dark brown, humus-like 8.0" to 3'0" - Light brown silty clay, very wet at base
TEST PIT NO. 6 (Depth - 3'2")	Surface to 6.0" - Top soil 6.0" to 2'2" - Light brown silty clay 2'2" to 3'2" - Gray/green clay, dense, stiff
TEST PIT NO. 7 (Depth - 3'6")	Surface to 1.0' - Primarily limestone gravel with some intermixed clay 1.0' to 3'6" - Light brown clay, slightly silty

Exhibit III

159-0010

WASTE RESOURCE ASSOCIATES, INC.

JOHNSON PROPERTY

Prepared By:




"A Company Dedicated to Honesty, Quality and Service"

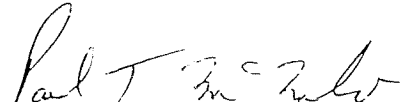
QA/QC Verification

The following report, as well as the supporting data, have been carefully reviewed for accuracy, adherence to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.

Denise R. Tuhovak
Organics Supervisor



Linda A. Ratka
Inorganic Senior Technician



Paul T. McMahon
Quality Control Officer



Joseph J. Curtis
Project Manager

All "Total" results on soil matrices are calculated on a dry weight basis, unless otherwise noted.

The following are standard abbreviations:

BQL - Below Quantifiable Limits
ND - None Detected
NG - No Growth of Colonies
NR - Not Requested

Client Name: Waste Resource Associates, Inc.

A.E.S. Job Code: FLF

Analytical Parameter(s)	Method No.	Method Detection Limit	Practical Quantifiable Limit	Units	A.E.S. Lab Number. Customer ID.			
					1	2	3	4
					TP-1	SS-16	SS-24	SS-25
					08/19/92	08/19/92	08/19/92	08/19/92
					Composite	Grab	Grab	Grab
Total Lead	SW 846 6010	5.0	---	mg/kg	700	190	280	2,500
Total Mercury	SW 846 7471	0.25	---	mg/kg	3.79	ND	18.5	0.52
Total Mercury	SW 846 7471	0.25	---	mg/kg	2.80	ND	17.9	0.52
Total Mercury	SW 846 7471	0.25	---	mg/kg	2.80	ND	15.4	0.52

Client Name: Waste Resource Associates, Inc.

A.E.S. Job Code: FLF

Analytical Parameter(s)	Method No.	Method Detection Limit	Practical Quantifiable Limit	Units	A.E.S. Lab Number. Customer ID.	METHOD BLANK			
Total Lead	SW 846 6010	5.0	---	mg/kg		ND			
Total Mercury	SW 846 7471	0.25	---	mg/kg		ND			

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT
EXTRACTION PROCEDURE TOXICITY (EP TOX)

Customer Sample Identification: TP-1	A.E.S. Job Code: FLF
Sample Collection Date: 08/19/92	A.E.S. Sample Number: 1
Method of Collection: Composite	
Sample Type: Soil	
The MATRIX SPIKE was conducted on Sample Number: NR	

Analytical Parameters	Observed Concentration	Matrix Spike Percent Recovery	Adjusted Concentration	Maximum Allowable Concentration (mg/l)	Quantifiable Limit	Analysis Date	Method No.	Reference No.
Lead	BQL	---	---	5.00	0.25	08/21/92	SW 846 6010	---
Mercury	BQL	---	---	0.2	0.001	08/26/92	SW 846 7470	---

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT
EXTRACTION PROCEDURE TOXICITY (EP TOX)Customer Sample Identification: SS-16
Sample Collection Date: 08/19/92A.E.S. Job Code:
A.E.S. Sample Number: 2Method of Collection: Grab
Sample Type: Soil
The MATRIX SPIKE was conducted on Sample Number: NR

Analytical Parameters	Observed Concentration	Matrix Spike Percent Recovery	Adjusted Concentration	Maximum Allowable Concentration (mg/l)	Quantifiable Limit	Analysis Date	Method No.	Reference No.
Lead	BOL	---	---	5.0	0.25	08/21/92	SW 846 6010	---
Mercury	BOL	---	---	0.2	0.001	08/26/92	SW 846 7470	---

Customer Sample Identification: SS-24

Sample Collection Date: 08/19/92

A.E.S. Job Code: FLF

A.E.S. Sample Number: 3

Method of Collection: Grab

Sample Type: Soil

The MATRIX SPIKE was conducted on Sample Number: NR

Analytical Parameters	Observed Concentration	Matrix Spike Percent Recovery	Adjusted Concentration	Maximum Allowable Concentration (mg/l)	Quantifiable Limit	Analysis Date	Method No.	Reference No.
Lead	BQL	---	---	5.0	0.25	08/21/92	SW 846 6010	---
Mercury	BQL	---	---	0.2	0.001	08/26/92	SW 846 7470	---

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT
EXTRACTION PROCEDURE TOXICITY (EP TOX)Customer Sample Identification: SS-25
Sample Collection Date: 08/19/92Method of Collection: Grab
Sample Type: Soil
The MATRIX SPIKE was conducted on Sample Number: NRA.E.S. Job Code: FLF
A.E.S. Sample Number: 4

Analytical Parameters	Observed Concentration	Matrix Spike Percent Recovery	Adjusted Concentration	Maximum Allowable Concentration (mg/l)	Quantifiable Limit	Analysis Date	Method No.	Reference No.
Lead	BQL	---	---	5.0	0.25	08/21/92	SW 846 6010	---
Mercury	BQL	---	---	0.2	0.001	08/26/92	SW 846 7470	---

ADVANCED ENVIRONMENTAL SERVICES, INC.
LABORATORY REPORT
EXTRACTION PROCEDURE TOXICITY (EP TOX)

Customer Sample Identification: METHOD BLANK	A.E.S. Job Code:	5
Sample Collection Date:	A.E.S. Sample Number:	
Method of Collection:		
Sample Type:		
The MATRIX SPIKE was conducted on Sample Number: NR		

Analytical Parameters	Observed Concentration	Matrix Spike Percent Recovery	Adjusted Concentration	Maximum Allowable Concentration (mg/l)	Quantifiable Limit	Analysis Date	Method No.	Reference No.
Lead	BQL	---	---	5.0	0.25	08/21/92	SW 846 6010	---
Mercury	BQL	---	---	0.2	0.001	08/26/92	SW 846 7470	---

AES Job Code FLF

AES Job No. 206H

[illegible]

Exhibit IV

