



**Environmental**  
PRODUCTS & SERVICES, INC.

P.O. Box 369, Liverpool, NY 13088 (315) 451-6666, FAX (315) 457-6652

- Emergency Response
- Remediation
- Waste Mgmt. and Disposal
- EPA Training
- Industrial Maintenance
- Geoscience
- Products
- Analytical Services

October 28, 1996

COPY

Mr. Russ Gower  
C/O Elman Recycling Company  
920 Spencer Street  
Syracuse, New York 13202

**RE: SUBSURFACE INVESTIGATION REPORT  
920 SPENCER STREET  
SYRACUSE, NEW YORK**

Dear Mr. Gower:

On October 1, 1996, Environmental Products & Services, Inc. was contracted by CNY Resource Recovery to conduct a subsurface investigation at the above referenced site. The investigation was performed in conformance with Environmental Products & Services, Inc.'s Work Plan dated September 30, 1996.

Background

A Phase I Site Assessment was performed for the site by Environmental Products & Services, Inc. (EPS) in September 1996 (report dated September 23, 1996). As a result of the site assessment, EPS recommended performing a limited subsurface investigation to evaluate subsurface soil quality at the site. Due to the past storage of recycled goods on site, the past use of the property as a truck terminal in the 1950's, and the presence of a gasoline underground storage tank (removed in 1990), subsurface soils and groundwater may have been impacted at the site. The subsurface investigation was performed to evaluate the existence or absence of subsurface soil and groundwater contamination at the site and to recommend possible options for further work, if necessary.

The scope of work consisted of the advancement of soil borings in an approximate grid pattern across the site and additional borings concentrated in the vicinity of the former UST area to depths which represented the groundwater interface. The scope of work also included the field screening of soil samples using a calibrated HNu photoionization detector (PID) and laboratory analysis of selected soil samples. All field work was performed under the direct supervision of an on-site Environmental Products & Services, Inc. Geologist.

## Field Procedures

On October 7, 1996, Environmental Products & Services, Inc. advanced a total of 12 borings (B-1 through B-12) using a truck-mounted Concord direct push drill rig equipped with Geoprobe tooling. Soil boring locations are shown on Figure 1. Soil boring locations were selected based on the field screening results of the soil samples and the location of the former UST. Continuous soil samples were collected using a four-foot sampling tube and dedicated acetate sleeves. Each sample was stored in sealed plastic bags and allowed to sit for approximately five minutes before PID headspace readings were taken. Soil sampling equipment was decontaminated (washed with Liquinox soap and potable water, followed by a de-ionized water rinse) between soil sampling locations and at the conclusion of each boring.

Based on field PID readings, soil samples from borings B-4, B-8, B-11, and B-12, were selected for laboratory analysis in accordance with the Work Plan. The soil samples were stored in appropriately sized and preserved containers, placed on ice in a cooler, and delivered to a New York State certified laboratory for analysis in accordance with US EPA Method 8021 (Volatile Organic Compounds) and US EPA Method 6010 (Lead). All standard sample handling and Chain of Custody protocols were followed. At the conclusion of sampling activities, each boring was filled with silica sand and capped just below grade with a bentonite seal to minimize the possibility of surface contamination entering the boring.

## Results

Examination of soil samples collected from the 12 soil borings revealed the subsurface soils in the vicinity of the above referenced site to consist predominantly of fine to coarse sand. Groundwater was encountered at approximately seven feet below grade.

HNu PID field analysis of soil headspace samples indicated the presence of volatile organic compounds at the groundwater interface in four of the 12 soil borings. Soil borings B-4, B-8, B-11, and B-12 (Figure 1) contained detectable amounts (above the background of 0 parts per million) of volatile organic compounds. Results of soil sample field analysis are presented in Table 1. Indications of hydrocarbon contamination above five parts per million (ppm) were not evident in any soil boring. No separate-phase hydrocarbons were detected during the advancement of all soil borings.

Laboratory analytical results indicate the presence of volatile organic compounds in the soil sample collected from boring B-11 at total concentrations of 10.456 mg/kg. Levels of 10 compounds exceed NYSDEC STARS Memorandum #1 guidance values. Laboratory analytical results of soil samples collected from borings B-4, B-8, and B-12 report no detectable concentrations of volatile organic compounds above the method detection limit of 0.080 mg/kg.

Laboratory analytical results indicate the presence of lead in soil samples collected from borings B-4, B-8, B-11, and B-12 at total concentrations of 852 mg/kg, 502 mg/kg, 714 mg/kg, and 355



mg/kg, respectively. A summary of soil analytical results is presented in Table 2. Complete results are included in Appendix A.

### Conclusions

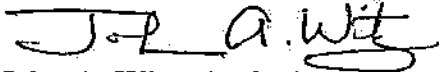
Based on the above-described work performed by Environmental Products & Services, Inc. at the above referenced site in Syracuse, New York on October 7, 1996, the following conclusions have been reached:

- Subsurface hydrocarbon contamination is present predominantly in the vicinity of the former UST area.
- Although the extent of hydrocarbon contamination in the subsurface has not been defined and the impact to resources (groundwater and/or soil) has not been established, petroleum contamination is likely limited to the immediate UST area.
- Elevated concentrations of lead exist in the subsurface at the site. However, due to the fact that water is municipally supplied throughout the area and the majority of the site is paved, exposure routes to the lead in conjunction with the site present usage may be limited.

Since petroleum compounds were detected in subsurface soils at the site above NYSDEC guidance values, the NYSDEC Region 7 Spills Division should be immediately notified.

If you have any questions or require additional information, please contact me or David Dake at (315) 451-6666.

Very truly yours,  
ENVIRONMENTAL PRODUCTS & SERVICES, INC.



John A. Witz, Geologist  
*Syracuse Branch*

JAW/nam  
7313.3260.404

Enclosures:           Figure 1 - Boring Locations  
                              Table 1 - Summary of Field PID Readings  
                              Table 2 - Summary of Soil Laboratory Analytical Results  
                              Appendix A - Laboratory Analytical Results

cc:     David Dake, *Environmental Products & Services, Inc.*



**Subsurface Investigation Report  
920 Spencer Street  
October 28, 1996**

**Recommendations**

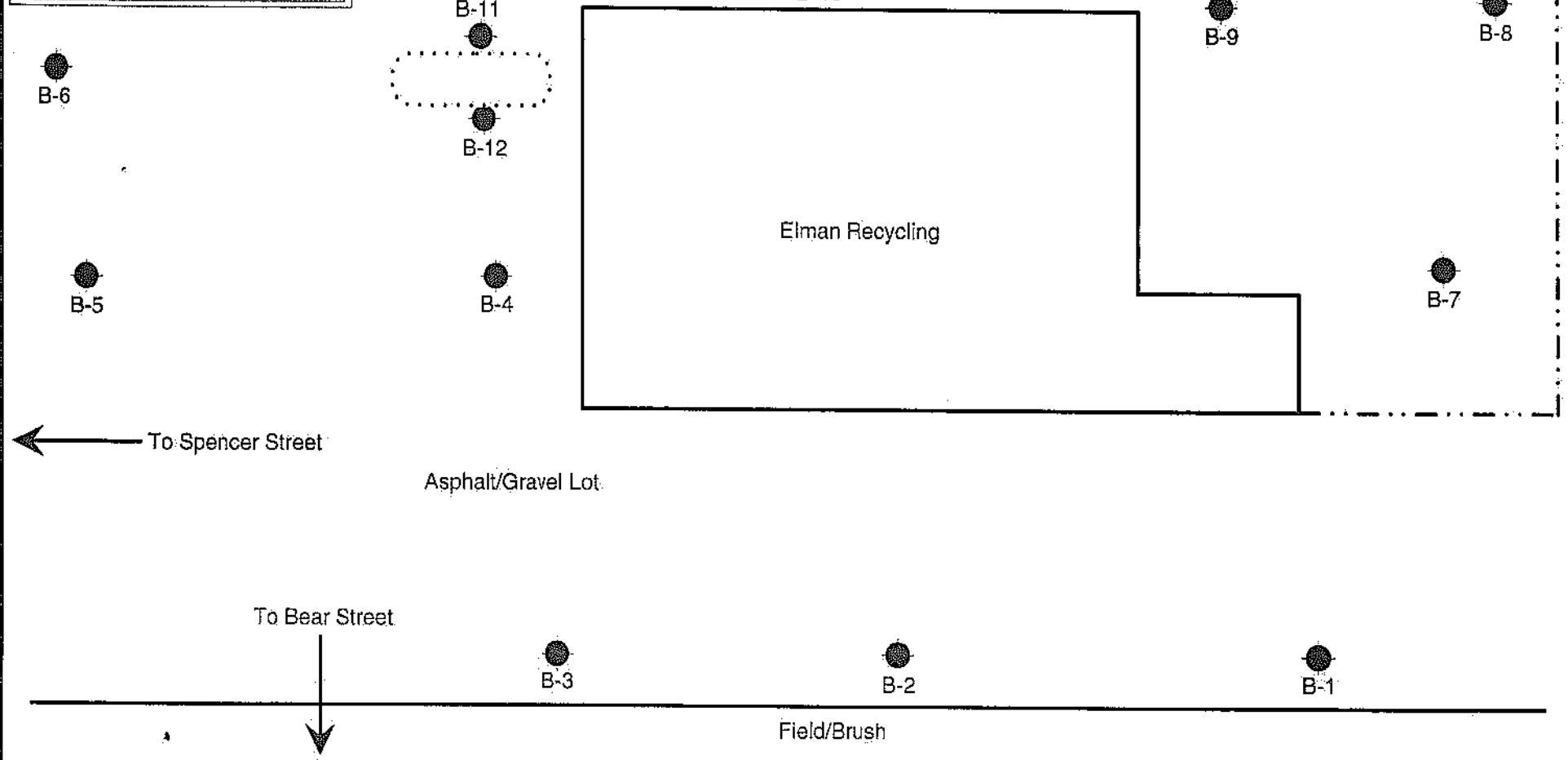
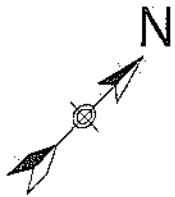
- Steps recommended by Environmental Products & Services, Inc. to further investigate the subsurface are as follows:
  - 1) Install three groundwater monitoring micro-wells across the site in borings advanced with direct push drilling technology. The wells will facilitate the calculation of groundwater flow direction beneath the site and collection of groundwater samples to aid in determining the resources impacted by hydrocarbon and lead contamination.
  - 2) Collect soil sampled during the advancement of the above mentioned borings and submit them to a certified laboratory for analysis in accordance with the Toxicity Characteristic Leaching Procedure (TCLP) for lead. This analysis will report concentrations that can be directly compared to regulatory levels governing whether or not the lead exists in hazardous concentrations.

The implementation of additional work should be made after the NYSDEC has been contacted and they have reviewed the project. Additional investigatory/site characterization may be required by the NYSDEC.



# LEGEND

- Boring Location
- ⋯ Former UST Area
- - - Fence



<b>ENVIRONMENTAL PRODUCTS &amp; SERVICES, INC.</b>		DATE: October 1996	PROJECT NO.: S3260
Site Map with Boring Locations	Elman Recycling Syracuse, New York	SCALE: 1" = Approx. 20 Feet	FIGURE NO.: 1
		DRAWN BY: Geo./JAW	LOCATION: Syracuse, NY

Table 1 - Summary of Field Photoionization Detector Readings:  
Elman Recycling - Syracuse, New York  
7-Oct-96.

Depth (ft.)	B-1	B-2	B-3	B-4	B-5	B-6	B-7	B-8	B-9	B-10	B-11	B-12
0-4	0	0	0	0	0	0	0	0	0	0	0	0
4-8	0	0	0	1	0	0	0	1	0	0	3	1

- Notes: 1) Measurements are recorded in parts per million (ppm).  
2) Measurements taken with calibrated HNu Model 101 PID equipped with a 10.2 eV lamp.

**Table 2 - Summary of Soil Laboratory Analytical Results  
 Elman Recycling - Syracuse, New York  
 7-Oct-96**

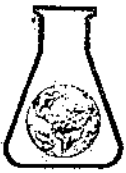
<b>Analytical Method</b>	<b>B-4</b>	<b>B-8</b>	<b>B-11</b>	<b>B-12</b>
<b>US EPA Method 8021 (Volatiles)</b>	<0.08	<0.08	10.456	<0.08
<b>US EPA Method 6010 (Lead)</b>	852	503	714	355

**Notes:** 1) All measurements are sum totals of reported values in mg/kg.

APPENDIX A

Laboratory Analytical Results





**Environmental**  
LABORATORY SERVICES

5043  
Elman Recycling  
Job # S3260

7280 Caswell Street, Hancock Air Park, North Syracuse, NY 13212  
(315) 458-8033, FAX (315) 458-0249, (800) 842-4667

Certified in:  
• Connecticut  
• Delaware  
• Maryland  
• Massachusetts  
• New Hampshire  
• New Jersey  
• New York  
• Pennsylvania  
• Rhode Island

E.P.S. SYRACUSE  
7635 EDGEComb DR.

PROJECT #: 964806  
RECEIVED: 10/08/96

LIVERPOOL NY 13088  
ATTN: ENVIRONMENTAL COORDINATOR

SITE ADDRESS: ELMAN RECYCLING  
SYRACUSE, NY

P.O. # 29267  
CLIENT JOB NUMBER: S3260

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
<b>SAMPLE #: 108858 CLIENT SAMPLE ID: S5043 B-4</b>			<b>DATE SAMPLED: 10/07/96</b>		
SOLIDS, TOTAL	61	PERCENT	10/09/96	EPA 160.3	WU
VOL. ORGANICS - EPA 8021 STARS LIST		MG/KG DRY WT.	10/11/96	EPA 8021	SKW
BENZENE	<0.014				
N-BUTYLBENZENE	<0.080				
SEC-BUTYLBENZENE	<0.080				
TERT-BUTYLBENZENE	<0.080				
CUMENE (ISOPROPYLBENZENE)	<0.080				
CYMENE (4-ISOPROPYLTOLUENE)	<0.080				
ETHYLBENZENE	<0.080				
NAPHTHALENE	<0.080				
N-PROPYLBENZENE	<0.080				
TOLUENE	<0.080				
1,2,4-TRIMETHYLBENZENE	<0.080				
1,3,5-TRIMETHYLBENZENE	<0.080				
TOTAL XYLENES	<0.080				
MTBE	<0.080				
<b>SAMPLE #: 108859 CLIENT SAMPLE ID: S5043 B-4 PB</b>			<b>DATE SAMPLED: 10/07/96</b>		
LEAD	852	MG/KG DRY WT.	10/14/96	EPA 6010	JL
METALS DIGESTION - SOLID	YES		10/10/96	EPA 3050	MB
<b>SAMPLE #: 108860 CLIENT SAMPLE ID: S5043 B-8</b>			<b>DATE SAMPLED: 10/07/96</b>		
SOLIDS, TOTAL	82	PERCENT	10/09/96	EPA 160.3	WU
VOL. ORGANICS - EPA 8021 STARS LIST		MG/KG DRY WT.	10/11/96	EPA 8021	SKW
BENZENE	<0.014				
N-BUTYLBENZENE	<0.080				
SEC-BUTYLBENZENE	<0.080				

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SYRACUSE, NY

P.O. # 29267  
CLIENT JOB NUMBER: S3260

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 108860 CLIENT SAMPLE ID: S5043 B-8			DATE SAMPLED: 10/07/96		
VOL. ORGANICS - EPA 8021 STARS LIST		MG/KG DRY WT.	10/11/96	EPA 8021	SKW
TERT-BUTYLBENZENE	<0.080				
CUMENE (ISOPROPYLBENZENE)	<0.080				
CYMENE (4-ISOPROPYLTOLUENE)	<0.080				
ETHYLBENZENE	<0.080				
NAPHTHALENE	<0.080				
N-PROPYLBENZENE	<0.080				
TOLUENE	<0.080				
1,2,4-TRIMETHYLBENZENE	<0.080				
1,3,5-TRIMETHYLBENZENE	<0.080				
TOTAL XYLENES	<0.080				
MTBE	<0.080				
SAMPLE #: 108861 CLIENT SAMPLE ID: S5043 B-8 PB			DATE SAMPLED: 10/07/96		
LEAD	503	MG/KG DRY WT.	10/14/96	EPA 6010	JL
METALS DIGESTION - SOLID	YES		10/10/96	EPA 3050	MB
SAMPLE #: 108862 CLIENT SAMPLE ID: S5043 B-11			DATE SAMPLED: 10/07/96		
SOLIDS, TOTAL	70	PERCENT	10/09/96	EPA 160.3	WU
VOL. ORGANICS - EPA 8021 STARS LIST		MG/KG DRY WT.	10/11/96	EPA 8021	SKW
BENZENE	<0.014				
N-BUTYLBENZENE	1.91				
SEC-BUTYLBENZENE	0.465				
TERT-BUTYLBENZENE	<0.080				
CUMENE (ISOPROPYLBENZENE)	0.249				
CYMENE (4-ISOPROPYLTOLUENE)	<0.080				
ETHYLBENZENE	1.24				
NAPHTHALENE	0.304				



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SYRACUSE, NY

P.O. # 29267  
CLIENT JOB NUMBER: S3260

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
SAMPLE #: 108862 CLIENT SAMPLE ID: S5043 B-11			DATE SAMPLED: 10/07/96		
VOL. ORGANICS - EPA 8021 STARS LIST		MG/KG DRY WT.	10/11/96	EPA 8021	SKW
N-PROPYLBENZENE	1.91				
TOLUENE	0.128				
1,2,4-TRIMETHYLBENZENE	1.86				
1,3,5-TRIMETHYLBENZENE	2.05				
TOTAL XYLENES	0.340				
MTBE	<0.080				
SAMPLE #: 108863 CLIENT SAMPLE ID: S5043 B-11 PB			DATE SAMPLED: 10/07/96		
LEAD	714	MG/KG DRY WT.	10/14/96	EPA 6010	JL
METALS DIGESTION - SOLID	YES		10/10/96	EPA 3050	MB
SAMPLE #: 108864 CLIENT SAMPLE ID: S5043 B-12			DATE SAMPLED: 10/07/96		
SOLIDS, TOTAL	85	PERCENT	10/09/96	EPA 160.3	WU
VOL. ORGANICS - EPA 8021 STARS LIST		MG/KG DRY WT.	10/11/96	EPA 8021	SKW
BENZENE	<0.014				
N-BUTYLBENZENE	<0.080				
SEC-BUTYLBENZENE	<0.080				
TERT-BUTYLBENZENE	<0.080				
CUMENE (ISOPROPYLBENZENE)	<0.080				
CYMENE (4-ISOPROPYLTOLUENE)	<0.080				
ETHYLBENZENE	<0.080				
NAPHTHALENE	<0.080				
N-PROPYLBENZENE	<0.080				
TOLUENE	<0.080				
1,2,4-TRIMETHYLBENZENE	<0.080				
1,3,5-TRIMETHYLBENZENE	<0.080				
TOTAL XYLENES	<0.080				



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PROJECT #: 964806  
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LIVERPOOL NY 13088  
ATTN: ENVIRONMENTAL COORDINATOR

SITE ADDRESS: ELMAN RECYCLING  
SYRACUSE, NY

P.O. # 29267  
CLIENT JOB NUMBER: S3260

TEST PERFORMED	RESULTS	UNITS	DATE PERFORMED	METHOD NUMBER	PERFORMED BY
<b>SAMPLE #: 108864</b>	<b>CLIENT SAMPLE ID: S5043 B-12</b>		<b>DATE SAMPLED: 10/07/96</b>		
VOL. ORGANICS - EPA 8021 STARS LIST MTBE	<0.080	MG/KG DRY WT.	10/11/96	EPA 8021	SKW
<b>SAMPLE #: 108865</b>	<b>CLIENT SAMPLE ID: S5043 B-12 PB</b>		<b>DATE SAMPLED: 10/07/96</b>		
LEAD	355	MG/KG DRY WT.	10/14/96	EPA 6010	JL
METALS DIGESTION - SOLID	YES		10/10/96	EPA 3050	MB

  
Douglas W. Mendrala  
Laboratory Director

10/18/96  
Date

All tests performed under NYS ELAP Laboratory Certification # 11375 unless otherwise stated.



