

	A	D	C	D	E	F	G
LOCATION ↓	DEPTH TO TANK	TANK DIAMETER	TANK PAD THICKNESS CONTRACTOR'S RESPONSIBILITY	TOTAL DEPTH INCLUDING 5 FT. BELOW TANK/PAD.	EXCAVATION DEPTH FIELD DETERMINED BY DRILLER	EXCAVATION RESPONSIBILITY (COL. D - COL. E)	REMARKS
BLDG. U-6 BOTTOM EAST & WEST SOUTH PUMP ISLAND LINE FROM SOUTH PUMP	2 FT.	8 FT.	3 FT.	18 FT.	West 18.0 East 15.0 Island 8.0 Line 7.0 33' x 35		PTD 0010-0100
BLDG. U-3 BOTTOM EAST & WEST SUPPLY LINES	2 FT.	8 FT.	3 FT.	18 FT.	East 13.6 West 13 S. side line 7.6 34' x 41		0-1000
BLDG. A-6 BOTTOM SIDE: NO. 17 19 WEST ISLAND & PRODUCT LINE	3'-3"	6 FT.	2 FT.	16'-3"	West 19 15.0 West 17 15.0 Island 7.0 Lines 7.0 30' x 29		0000
BLDG. A-1 PRODUCT LINE	2 FT.	8 FT.	2 FT.	17 FT.	Product } 7' Line } 18' x 25		4
CHARLESTOWN GATE (POST 24) BOTTOM: SOUTH-WEST	2 FT.	3'-8"	0	10'-8"	West 2.0 South 1.6 12' x 12		4 1
FREEDOM GATE BOTTOM: NORTH & SOUTH	2 FT.	3'-8"	0	10'-8"	North 12.0 South 12.0 10' x 8		4 1
ATLAS BOTTOM EAST WEST WALL	2 FT.	3'-8"	0	10'-8"	East Bottom 11.0 West wall 9.0		00

LOCATION ↓	A DEPTH TO TANK	D TANK DIAMETER	C TANK PAD THICKNESS CONTRACTORS RESPONSIBILITY	D TOTAL DEPTH INCLUDING 5 FT BELOW TANK/PAD.	E EXCAVATION DEPTH FIELD DETERMINED BY DRILLER	F EXCAVATION RESPONSIBILITY (COL D - COL E)	G REMARK PTD
BLDG. U-6 BOTTOM EAST & WEST SOUTH PUMP ISLAND LINE FROM SOUTH PUMP	2 FT.	8 FT.	3 FT.	18 FT.	West 18.0 East 15.0 Island 8.0 Line 7.0 33 x 35		0400
BLDG. U-3 BOTTOM EAST & WEST SUPPLY LINES	2 FT.	8 FT.	3 FT.	18 FT.	East 13.6 West 13 Supply Line 7.0 34 x 41		410
BLOG. A-6 BOTTOM/SIDE: NO. 17 19 WEST ISLAND & PRODUCT LINE	3'-3"	6 FT.	2 FT.	16'-3"	West 19 15.0 West 17 13.0 Island 7.0 Lines 7.0 30 x 39		0000
BLOG. A-1 PRODUCT LINE	2 FT.	8 FT.	2 FT.	17 FT.			
CHARLESTOWN GATE (POST 24) BOTTOM: SOUTH/WEST	2 FT.	3'-8"	0	10'-8"	West 12.0 South 11.6 17 x 12		41
FREEDOM GATE BOTTOM: NORTH & SOUTH	2 FT.	3'-8"	0	10'-8"	North 12.0 South 12.0 10 x 8		41
ATLAS BOTTOM EAST WEST WALL	2 FT.	3'-8"	0	10'-8"	East Bottom 11.0 west wall 9.0		00



Cardamone
CONSTRUCTION INC.

4865
Chaincraft Road
Garfield Heights
Ohio 44125
216•581•1133

REVIEW OF
UNDERGROUND STORAGE TANK CLOSURE

PROJECT

Ravenna Arsenal
8451 State Route 5
Ravenna, Ohio 44266

CLIENT

Ravenna Army Ammunition Plant
c/o Ravenna Arsenal Incorporated
8451 State Route 5
Ravenna, Ohio 44266

Revised: June 5, 1990



Cardamone
CONSTRUCTION INC.

4865
Chaincraft Road
Garfield Heights
Ohio 44125
216•581•1133

May 25, 1990

Ravenna Arsenal Incorporated
8451 State Route 5
Ravenna, Ohio 44266

Regarding: Report of Underground
Storage Tank Closure
Ravenna Arsenal
8451 State Route 5
Ravenna, Ohio

Gentlemen:

Enclosed you will find the report of our closure review for the above referenced property. We trust you will find our work in accordance with your requirements.

We would be pleased to provide any additional assistance as may be appropriate. Please do not hesitate to call us with any questions or for further information.

Sincerely,

CARDAMONE CONSTRUCTION COMPANY, INC.



John Cardamone

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I. INTRODUCTION

A. SCOPE OF WORK:

The objective of this report is to present the data regarding the tank closure activities managed by representatives of the owner at the site. Approval of tank closure activities and/or specifications for remediation are determined by the office of the State Fire Marshall and/or other public or private entities with the appropriate authority or workscope.

Visual Site Evaluation

A visual site evaluation, walk-over, was performed at each tank site location looking for obvious signs of past or present operational problems. No such problems were apparent at any of the tank locations.

II. PRE-CLOSURE

B. NAME OF OWNER:

Ravenna Army Ammunition Plant
C/O Ravenna Arsenal Incorporated
8451 State Route 5
Ravenna, Ohio 44266
Phone # (216) 297-3237
Contact Person: Wayne Carkido and/or Sue McCauslin

C. NOTIFICATION LETTER TO STATE FIRE MARSHALL:

See Appendix "A"

D. LOCAL JURISDICTION:

A Local Permit is not required.

E. STATE FIRE MARSHALL INSPECTOR:

Required:
Tank Removal Witnessed by State Fire Officials

Virginia Canankamp
Inspection Bureau (BUSTR)
8895 E. Main Street
Reynoldsburg, Ohio 43068
Office Phone No: (614) 752-8200
Home Phone No: (216) 654-2595

and

Homer Myers
Inspection Bureau (BUSTR)
8895 E. Main Street
Reynoldsburg, Ohio 43068
Office Phone No: (614) 864-5510
Home Phone No: (216) 325-1375

F. UST ABATEMENT & REMEDIATION CONTRACTOR:

Cardamone Construction Inc.
 4865 Chaincraft Road
 Garfield Heights, Ohio 44125
 Phone No.: (216) 581-1133
 Contact: John Cardamone

G. UNDERGROUND STORAGE TANKS (USTs):

Location: See Map Appendix "B"

Table 1. Tanks to be Permanently Closed

<u>#</u>	<u>Location</u>	<u>Size (Gal.)</u>	<u>Known Prior Contents</u>	<u>Construction Material</u>	<u>Removal Date (1990)</u>
13	Bldg U-6	12,000	Fuel Oil	Steel	Feb. 12
14	Bldg U-6	12,000	Fuel Oil	Steel	Feb. 12
15	Bldg U-3	12,000	Fuel Oil	Steel	Feb. 12
16	Bldg U-3	12,000	Fuel Oil	Steel	Feb. 12
17	Bldg A-6	3,900	Gas/Fuel Oil	Steel	Feb. 8
18	Bldg A-6	3,900	Gas/Fuel Oil	Steel	Feb. 8
19	Bldg A-6	3,900	Gas/Fuel Oil	Steel	Feb. 8
No#	Bldg A-6	550	Heating Oil	Steel	Feb. 7
37	Bldg A-1	5,000	Fuel Oil	Steel	Feb. 8
10	Gatehouse Post #24 Charleston	500	Fuel Oil	Steel	Feb. 7
47	Gatehouse Freedom	500	Fuel Oil	Steel	Feb. 6
No#	Old Atlas Boiler House	1,000	Fuel Oil	Steel	Feb. 6

III. CLOSURE

H. TANK ABATEMENT ACTIVITIES:

The tank's contents were tested, pumped and disposed of by:

Research Oil Company
2655 Transport Road2
Cleveland, Ohio
Phone # (216) 621-8656

According to the tank removal specifications liquid samples were taken on June 20, 1989 from each tank and analyzed by Research Oil, Inc. Samples were collected using a 5 foot long stainless steel bailer. Samples were then analyzed for oil 2and grease, total suspended solids, total and volatile chlorine, RCRA metals, flashpoint, ph, chemical oxygen demand (COD), viscosity and odor. Research Oil Data is summarized in Appendix C.

Sampling results indicate that the contents of all the tanks, with the exception of the Charleston Gate tank, exceed the characteristics of E.P. Tox chromium CFR 40 261.24 and was considered, for the purposes of this project, hazardous in nature. All manifesting and documentation was the responsibility of the Ravenna Army Ammunition Plant.

I. TANK VENTING

Tank venting/perging prior to removal of USTs from the ground was accomplished by the use of solid carbon dioxide (dry ice) at a quantity of 15 lbs per 1000 gallons of tank capacity. In addition, ventilation of USTs was done by employing an educator-type air mover driven by compressed air.

J. TANK CLEANING

Tanks were cleaned as appropriate for acceptance for off-site disposal as scrap. Tank cleaning was done by placing an appropriate hole in tank for human access. Sludge was manually removed with the help of an oil absorbent product (oil dry) then placed in 55 gallon drums. After this was accomplished a high pressure steam washer was used to abate any remaining residue.

K. TANK DISPOSAL

After cleaning, the tanks were rendered unusable by cutting a large hole in the top of each tank. They were then promptly removed from site and disposed of at the following facility:

A Shaw Company, Inc.
940 E. 67th Street
Cleveland, Ohio

See Appendix D for Release/Chain of Custody

L. SLUDGE SAMPLING AND DISPOSAL

Two (2) sludge samples were collected, one (1) sample from tanks known to have contained fuel oil and one (1) sample from tanks that contained gasoline. All sludge/still bottoms were disposed of at the following facility:

Erieway Industrial Waste Handling
4200 Rockside Road
Cleveland, Ohio 44131

See Cardamone Construction for characterization and chain of custody

IV. CONTAMINATION ASSESSMENT

M. SOIL SCREENING AND STOCKPILING:

All soils removed from the tank excavations were stockpiled on 4 mil plastic sheeting to prevent any contamination from impacting adjacent soils and groundwater. In addition, piles of contaminated soil were covered with plastic to minimize surface water impacts and volatilization of contamination into the atmosphere.

During excavation headspace screening data defined areas of contamination within the excavation. Excavation of soil continued away from the tank excavation removing soils displaying headspace readings greater than ten parts per million (10 ppm) as per project specifications.

Soil samples were selected for screening. Each sample was subjected to a field screening test with a photoionization detector for the presence of volatile organic compounds (VOC). These samples were placed in a clean, airtight jar. The mouth of the jar was covered with aluminum foil, then secured with a screw-on teflon-lined lid. After ten minutes holding time the headspace above each sample was scanned for VOCs with the detector by piercing the aluminum foil seal with the instrument probe, then recording the VOC reading observed. See Appendix "E" Photoionization Detector Manual Excerpts.

N. REMEDIATION TECHNIQUES:

The technique used is the most direct method; contaminated soil removal by excavating and transporting to an approved disposal facility with conventional construction equipment.

O. SOIL CLEARANCE SAMPLING:

Efforts were made to preserve the integrity of the clearance samples taken. Such precautions include:

1. Oakfield grab sampling
2. Disregarding upper soil zones of sample
3. Use of glass jars with Teflon seals
4. Immediate icing for VOC preservation
5. Chain-of Custody procedures
6. Prompt delivery to laboratory

Due to the potential for excavation collapse some samples were collected from the backhoe bucket. No sample was collected for analysis that was in contact with the backhoe bucket.

Each sample was subjected to a field screening test with a photoionization detector for the presence of volatile organic compounds (VOC). These samples were placed in a clean, airtight jar. The mouth of the jar was covered with aluminum foil, then secured with a screw-on teflon-lined lid. After ten minutes holding time the headspace above each sample was scanned for VOCs with the detector by piercing the aluminum foil seal with the instrument probe, then observing the VOC reading. See Appendix "E" Photoionization Detector Manual Excerpts.

Two to three samples from each excavation area with the "highest" reading on the field instrument was sent to the laboratory for analysis. The laboratory used throughout this project was:

Wadsworth/Alert Laboratories, Inc.
5405 E. Schaaf Road
Cleveland, Ohio 44131
Phone (216) 642-9151
Contact person: Dale L. Mori, Laboratory Manager

Each clearance sample was analyzed for a battery of chemical constituents to include:

1. TRPH Total Recoverable Petroleum Hydrocarbons (U.S. EPA Extraction procedure 9071 and analytical Method 418.1)
2. BTEX Benzene, Toluene, Ethylbenzene, Xylene (U.S. EPA Method 8020)
3. Total Lead (U.S. EPA Method 7420)
4. Total Chromium (U.S. EPA Method 7190)
5. Lead Leachate (Method 1310)
6. Chromium Leachate (Method 1310)

Laboratory quality control and chain of custody forms for all samples taken can be found in Appendix F. Each quality control section is related to the previous chain-of-custody prior to the particular section.

Sampling personel included:

<u>Affiliation</u>	<u>Personel</u>
Cardamone Construction	Jon Parker, Don Johnson
G.E.M. Testing	Don Lenk
Olin Ordnance	Wayne A. Carkido, Observer/Director

For specific locations see Appendix F for Chain-of-Custody Sampler Section.

The following is a summary of clearance sampling results:

EXCAVATION LOCATION BLDG. U-6

Table 2. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>Total</u>		<u>Leachable</u>	
			<u>LEAD</u>	<u>CHROMIUM</u>	<u>LEAD</u>	<u>CHROMIUM</u>
Bottom West	ND	ND	18	14	ND	ND
Bottom East	ND	ND	--	--	ND	ND
South Pump Island	110	ND	--	--	ND	ND
Line From S. Pump	55	ND	--	--	ND	ND

See Appendix G for site map, laboratory reports, detection limits

EXCAVATION LOCATION BLDG. U-3

Table 3. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>Total</u>		<u>Leachable</u>	
			<u>LEAD</u>	<u>CHROMIUM</u>	<u>LEAD</u>	<u>CHROMIUM</u>
Bottom West	ND	ND	--	--	ND	ND
Bottom East	ND	ND	11	17	ND	ND
Supply Lines	37	ND	--	--	ND	ND

See Appendix H

EXCAVATION LOCATION BLDG. A-6

Table 4. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>Total</u>		<u>Leachable</u>	
			<u>LEAD</u>	<u>CHROMIUM</u>	<u>LEAD</u>	<u>CHROMIUM</u>
Bot/Side #17 West	22	ND	ND	5.4	ND	ND
Bot/Side #19 West	ND	ND	ND	6.8	ND	ND
Island	16	ND	--	--	ND	ND
Product Line	ND	ND	--	--	ND	ND

See Appendix I

EXCAVATION LOCATION BLDG. A-6 500 gal

Table 5. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
Bottom South	ND	ND*	--	--	ND	ND
Bottom North	ND	ND*	--	--	ND	ND

*ug/kg
See Appendix J

EXCAVATION LOCATION BLDG. A-1

Table 6. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
Bottom West	16	ND*	--	--	ND	ND
Bottom East	ND	ND*	--	--		
Product Line	ND	ND	--	--	ND	ND

*ug/kg
See Appendix K

EXCAVATION LOCATION GATEHOUSE CHARLESTON POST 24

Table 7. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

SAMPLING ROUND I

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
Bottom South	1,200	ND	--	--	ND	ND
Bottom North	300	ND	--	--	ND	ND

SAMPLING ROUND #II

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
North Bottom	ND	3.2*	--	--	ND	ND
South Bottom	500	ND	--	--	ND	ND

SAMPLING ROUND #III

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
South East Bottom	ND	ND*	ND	5.4	ND	ND
South West Bottom	27	.2	ND	ND	ND	ND

*ug/kg
See Appendix L

EXCAVATION LOCATION GATEHOUSE FREEDOM

Table 8. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
Bottom South	ND	ND	--	--	ND	ND
Bottom North	ND	ND	23	11	ND	ND

See Appendix M

EXCAVATION LOCATION OLD ATLAS BOILER HOUSE

Table 9. Clearance Sample Analysis & Results
(mg/kg Soil Matrix)

<u>Sample Loc. Description</u>	<u>TRPH</u>	<u>BTEX</u>	<u>LEAD</u>	<u>Total CHROMIUM</u>	<u>LEAD</u>	<u>Leachable CHROMIUM</u>
East Bottom	16	ND	ND	13	ND	ND
West Wall	ND	ND	--	--	ND	ND

See Appendix N

P. BACKGROUND SAMPLING

In order to establish background levels of total lead, total petroleum hydrocarbons, and total chromium in the site soils, four (4) background soil samples were taken randomly throughout the Ravenna Facility adjacent to UST abatement activities. Samples were taken in what appeared to be pristine soils not disturbed by human activities. Each background sample was analyzed using the following EPA Methodology:

1. TRPH Total Recoverable Petroleum Hydrocarbons Analytical Method 418.1
2. Total Lead U.S. EPA Method 7420
3. Total Chromium U.S. EPA Method 7190

Table 10. A Summary of Background Results From Areas Selected Randomly Throughout Facility (mg/kg Soil Matrix)

<u>Sample Location</u>	<u>Depth (Feet)</u>	<u>TRPH</u>	<u>Lead</u>	<u>Total Chromium</u>
Freedom	1.0 - 2.0	1,600	18	7.7
A-6	1.0 - 2.0	ND	19	8.9
Atlas	1.0 - 2.0	120	20	9.6
Post #27	1.0 - 2.0	ND	14	11

See Appendix O Laboratory Reports, Detection Limits

Q. CONTAMINATED SOIL DESTINATION:

Approximately 500 cubic yards as calculated by the Ravenna Arsenal of contaminated soil was removed from The Ravenna Facility. Prior to removal from the site the soil was tested for hazardous concentrations of contaminants. The soil was analyzed for the following parameters:

1. TRPH Total Recoverable Petroleum Hydrocarbons Analytical Method 418.1
2. BTEX Benzene, Toluene, Ethylbenzene, Xylene (U.S. EPA Method 8020)
3. Lead Leachate (Method 1310)
4. Chromium Leachate (Method 1310)

See Appendix P for landfill sample laboratory results and detection limits.

The contaminated soil was disposed of at the following landfill:

Norton Construction Co.
6200 Rockside Woods Blvd.
Independence, Ohio 44131
(216) 447-0070
Landfill: 3401 E. Royalton Road
Broadview Hts., Ohio

See Cardamone Construction for Chain-of-Custody

The remaining uncontaminated soil was then placed back into the excavation. Decisions in regards to what remained and was to be removed was at the sole discretion of representatives of The Ravenna Arsenal Incorporated.

The schedule of soil fate can be found in Appendix Q.

PART V: CONCLUSION

R. SIGNATURE

This closure report represents all the pertinent available data for this project, and was completed in accordance with Ravenna Arsenal Inc., Tank Closure 3.15 Documentation Requirements.

I certify that I have personally examined and am familiar with the "Requirements for Underground Storage Tank Removal" as prepared for the Ravenna Arsenal, Inc. at the direction of and on the behalf of the U.S. Army. All removal, abatement, restoration and reporting activities were conducted in accordance with the "Requirements for Underground Storage Tank Removal" and applicable provisions of 40 CFR Part 280, "EPA Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks"; Articles 28, 35, and 36 of the Ohio Administrative Code; and American Petroleum Institute (API) Bulletin No. 1604 "Recommended Practice for Abandonment or Removal of Used Underground Service Station Tanks"

Sincerely,

Cardamone Construction, Inc.



John Cardamone

APPENDIX A

Notification Letter State Fire Marshall

HAVENS AND EMERSON INCORPORATED

CONSULTING ENGINEERS

ENVIRONMENTAL
ENGINEERING

GARY M. SIEGEL
ROBERT L. KAERCHER
LAWRENCE J. PAPES
JAMES L. BUTTLE
JAMES P. HARRIS
JOSEPH E. DIETERMAN
JOSEPH J. BASISTA
DAVID L. KLUNZINGER
JEFFREY D. SHARON
LARRY H. SOBEL
KENNETH L. ZACHARIAS

CLEVELAND OFFICE:
BOND COURT BUILDING
1300 EAST 9TH STREET
CLEVELAND, OHIO 44114
216/621-2407

WATER RESOURCES
POLLUTION CONTROL
SEWERAGE-DRAINAGE
WASTEWATER TREATMENT
INDUSTRIAL WASTES
SOLID WASTES DISPOSAL
AIR POLLUTION CONTROL
RATE INVESTIGATIONS
SANITARY LABORATORIES
AREAWIDE PLANNING

June 15, 1989

Division of State Fire Marshall
Inspection Bureau
3895 East Main Street
Reynoldsburg, OH 43068

Attention: Ms. Kate Greth

Dear Ms. Greth:

Havens and Emerson, Inc. (H&E) has been retained by Ravenna Arsenal, Inc. (RAI) to submit a tank removal permit application and produce specifications for the actual tank removal.

Enclosed please find a permit application and fee for the removal of twelve former fuel storage tanks at the Ravenna Arsenal in Ravenna, Ohio. Also included are engineering plans of eleven of the twelve tank configurations. Ravenna Arsenal personnel are currently searching for plans for the twelfth tank (No. 52). If available, a plan for this tank will be forwarded, or a sketch will be produced. A summary of the twelve tanks is provided below.

<u>Arsenal Tank No</u>	<u>Location</u>	<u>Capacity</u>	<u>Registered</u>
13	Building U-6 (North)	12,000	Yes
14	Building U-6 (South)	12,000	Yes
15	Building U-3 (South)	12,000	Yes
16	Building U-3 (North)	12,000	Yes
17	Building A-6 (North)	3,900	Yes
18	Building A-6 (Center)	3,900	Yes
19	Building A-6 (South)	3,900	Yes
--	Building A-6 (East)	550	No
37	Building A-1	5,000	Yes
47	Post 32 (Freedom Gate)	500	No
10	Post 24 (Charlestown)	500	No
52	Old Atlas - Boiler House	1,000	Yes



Ms. Kate Greth
June 15, 1989
Page 2

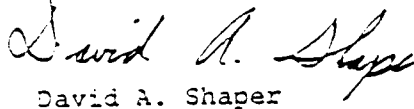
The plans provided illustrate the locations of tank piping and existing and former buildings. Tank Nos. 10 and 47 are located near former gatehouses and are approximately 70' and 120', respectively, from the Arsenal property line. The Arsenal property is relatively large (over 22,000 acres) and none of the other tank locations is within one half mile of the property border. Hence, for the remaining ten tanks, the distance to the property line is probably not applicable.

As discussed above, H&E is also preparing specifications for the actual tank removal. Using these specifications as a scope of work, RAI will award the tank removal contract through competitive bidding. At this time, it is not possible to complete Item No. 4 in the permit application, "Contractor Information."

I will provide a plan or sketch of the twelfth tank (No. 52) and will contact you in several weeks regarding the status of the permit application. Should you have any questions or comments, please do not hesitate to contact Havens and Emerson.

Very truly yours,

HAVENS AND EMERSON, INC.


David A. Shaper

DAS:il
Enclosures

UNDERGROUND TANK PERMIT APPLICATION

INSTRUCTIONS: TYPE OR NEATLY PRINT ALL REQUESTED INFORMATION. ENCLOSE \$50.00 APPLICATION FEE FOR EACH TANK LOCATION PERMIT. CHECK OR MONEY ORDER SHALL BE MADE PAYABLE TO: STATE FIRE MARSHAL. APPLICATION WILL NOT BE PROCESSED WITHOUT ACCOMPANYING FEE. SEND TO: STATE FIRE MARSHAL, INSPECTION BUREAU, 8895 EAST MAIN STREET, REYNOLDSBURG, OHIO 43068.

date: 6-26-89
mailed: 6-27-89

1. TANK LOCATION:

Company Name: RAVENNA ARMY AMMUNITION PLANT
Address: 8451 State Route 5
City: RAVENNA County PORTAGE
Phone (216) 297-3107
Contact Person: Mr. Bill Jenkins

2. OWNER INFORMATION:

Name: RAVENNA ARSENAL, INC., (RAI)
Address: 8451 State Route 5
City: RAVENNA County PORTAGE
Zip Code: 44266-9297
Phone: (216) 297-3107

3. LOCAL JURISDICTION:

Fire Department: RAVENNA ARMY AMMUNITION PLANT (RAI); Chief Watson
Address: 8451 State Route 5
City: Ravenna Zip: 44266
Phone: (216) 296-5232

4. CONTRACTOR INFORMATION:

Name: To be determined through competitive bidding; Information will be provided as available.
Address: _____
City: _____ State: _____ Zip: _____
Contact Person: _____ Phone: () _____

5. DESCRIPTION OF WORK TO BE COMPLETED: A total of twelve (12) former gasoline and fuel oil tanks will be removed from six separate locations on the property. All removal activities will be conducted in accordance with 40 CFR 280, API Bulletin No. 1604 and Articles 28,35 and 36 of the Ohio Administrative Code as applicable.

6. Sketch of facility showing all tanks and piping including existing tanks, piping, distance from lot lines, and distance from any buildings MUST be attached to application to be processed.

7. INSPECTION DATE WILL BE SET BY THE STATE FIRE MARSHAL UPON PROCESSING OF THE COMPLETED APPLICATION.

OFFICE USE ONLY

Date: June 19, 1989 Check Number: 18138 Fee: 50⁰⁰ Havens & Emerson

County: Portage #67 Inspection district: Canankamp #7

HAVENS AND EMERSON JUN 23 1989
INCORPORATED

CONSULTING ENGINEERS

GARY M. SIEGEL
ROBERT L. KAERCHER
LAWRENCE J. PAPES
JAMES L. BUTTLE
JAMES P. HARRIS
JOSEPH E. DIETERMAN
JOSEPH J. BASISTA
DAVID L. KLUNZINGER
JEFFREY O. SHARON
LARRY H. SOBEL
KENNETH L. ZACHARIAS

CLEVELAND OFFICE:
BOND COURT BUILDING
1300 EAST 9TH STREET
CLEVELAND, OHIO 44114
216/621-2407

ENVIRONMENTAL
ENGINEERING

WATER RESOURCES
POLLUTION CONTROL
SEWERAGE-DRAINAGE
WASTEWATER TREATMENT
INDUSTRIAL WASTES
SOLID WASTES DISPOSAL
AIR POLLUTION CONTROL
RATE INVESTIGATIONS
SANITARY LABORATORIES
AREAWIDE PLANNING

June 21, 1989

Division of State Fire Marshal
Inspection Bureau
8895 East Main Street
Reynoldsburg, OH 43068

Attn: Ms. Kate Greth

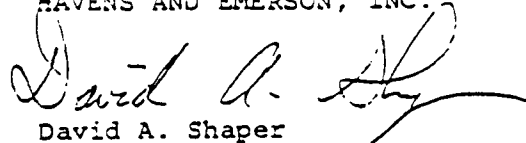
Dear Ms. Greth:

The enclosed sketch is intended to complete the tank removal permit application that Havens and Emerson (H&E) has prepared on behalf of the Ravenna Arsenal, Inc. This sketch is a schematic of Tank No. 52, the Old Atlas Boiler House tank. Arsenal personnel have no plans for this tank in their files; the sketch was produced from field observations. The tank is located by a former boiler house that was razed; the area is currently used for the storage of scrap metal.

Should you need any additional information to approve the permit application, please do not hesitate to contact Havens and Emerson.

Very truly yours,

HAVENS AND EMERSON, INC.

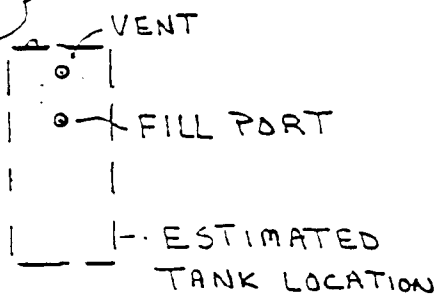

David A. Shaper

DAS/sb

Enclosure



SCRAP
METAL



GRAVEL ROAD



0 5 10
APPROXIMATE SCALE
IN FEET

SKETCH OF
OLD ATLAS
BOILER HOUSE TANK

APPENDIX B

Facility and Tank Location Map



WADSWORTH/ALERT
LABORATORIES, INC.

March 5, 1990

QUALITY CONTROL NARRATIVE

Wadsworth/ALERT Laboratories, Inc. received samples from Cardamone Construction, Inc. on February 19th which were sampled on February 13th and February 14th. One of the requested parameters was pH which has a recommended holding time of twenty-four hours from sampling to analysis. Due to the late arrival of the samples, the pH samples were analyzed past its recommended holding time.

Opal Davis-Johnson
Quality Control Coordinator
Cleveland Laboratory

APPENDIX C

Research Oil Sample & Analysis Data

July 6, 1989

Mr. David A. Shaper
Haven & Emerson
700 Bond Court Building
Cleveland, OH 44114

Subj: Pricing and Analysis

Dear David:

The analytical results of the preliminary samples you submitted on June 21, 1989 are:

Acceptance Number	%	%	%	pH	%	%	Flash Point	Aqueous Metals (ppm)					
								Oil	Solids	H2O	T.Cl	V.Cl	Cd
5901H (#13)	2	1	97	9	ND	ND	>200F	ND	190	6.0	3.2	0.2	0.7
5902H (#14)	8	2	90	9	.0005	ND	>200F	ND	150	4.2	1.8	0.2	0.3
5903H (#15)	2	-	98	8	ND	ND	>200F	ND	170	6.0	0.2	0.1	0.3
5904H (#16)	3	-	97	8	ND	ND	>200F	ND	170	6.0	0.2	0.1	0.5
5905H (#17)	3	-	97	8	ND	ND	>200F	ND	190	4.9	0.2	0.1	1.4
5906H (#18)	3	-	97	9	ND	ND	>200F	ND	170	4.2	0.1	0.1	1.3
5907H (#19)	20	-	80	9	ND	ND	145F	ND	170	4.5	0.2	0.2	1.2
5908H (#37)	3	-	97	9	.0065	ND	>200F	ND	170	8.0	0.8	0.1	0.3
5809H (#52)	3	-	97	9	ND	ND	>200F	ND	150	7.0	0.1	0.1	0.4
5911H (#47)	3	-	97	8	ND	ND	>200F	ND	50	3.6	0.1	0.1	1.9
5910 (#10)	9	1	90	7	ND	ND	>200F	ND	ND	ND	0.1	ND	1.1

The first ten samples are hazardous due to the high chrome level. They should be manifested as Hazardous Waste Liquid, NCS, ORM-E NA9189. The EPA hazardous code is D007. The sample of wastewater and oil (5910) is nonhazardous.

The price for these waste streams is \$.47 per gallon. Our pricing includes up to 3% dry solids. If solids exceed 3%, we will increase our charge by \$.01 per gallon for each 1% solids over the 3% allowance.

We will charge \$185.00 for labor, pumping and transportation. This includes up to 1 and 1/2 hours free loading time, after which demurrage will be assessed at the rate of \$50.00 per hour.



Research Oil Company
Fuel Oil Oil Recycling Liquid Waste Disposal
2655 Transport Road, Cleveland, Ohio 44115 Telephone: (216) 621-8656

RECEIVED
JUL 10 1989

HAVENS & EMERSON, INC.
CLEVELAND

Havens & Emerson
Page 2
July 6, 1989

Our lab uses the following test procedures to determine the necessary information:

Test Procedures

oil, water, solids	ASTIM D96-73, D1796-68
lbs./gal.	ASTIM D-287
pH	SW-846 9040
chlorine	ASTIM D-808
flash point	ASTIM D-93
metals	SW-846

I have enclosed an original Chain of Custody Record.

I am pleased to be of assistance and look forward to serving your waste disposal needs.

Sincerely,



Gail Tullio
Sales Coordinator

GT/mah
Enclosure

APPENDIX D

UST Chain of Custody

RELEASE

KNOWN TO ALL MEN BY THESE PRESENTS that CARDAMONE CONSTRUCTION & GENERAL CONTRACTING INC. for a valuable consideration paid to it, the receipt of which is hereby acknowledged, hereby sells and conveys to A. SHAW COMPANY, hereinafter called PURCHASER, the following equipment located at RAVENNA ARSENAL INC 8451 STATE RT 5 RAVENNA OHIO.

- (4) 550 GALLON CUT UP STEEL TANKS
- (3) 4,000 GALLON CUT UP STEEL TANKS
- (1) 5,000 GALLON CUT UP STEEL TANK
- (4) 12,000 GALLON CUT UP STEEL TANKS

It is understood that the sale of this property is made without warranty of any kind, express or implied, as to the title and condition of the above described equipment.

It is further understood that the above described equipment was formerly used for the storage and/or handling of gasoline or other petroleum products and PURCHASER agrees that said equipment can not be reused because it was disassembled for scrap metal.

PURCHASER as part of the consideration for this sale, hereby fully releases and forever discharges CARDAMONE CONSTRUCTION & GENERAL CONTRACTING INC., its successors and assigns, from any and all actions, causes of action, liability, claims and demands whatsoever arising out of the ownership possession, use of installation of the above described property.

PURCHASER further agrees to indemnify and hold CARDAMONE CONSTRUCTION & GENERAL CONTRACTING INC. its successors and assigns, harmless from any and all liability for damages and losses of any kind, to person (s) or property, caused in any manner by the ownership, possession, use or installation of the above described property.

EXECUTED THIS 21 DAY OF FEB, 19 90.

Jon Parker
WITNESS

John Cardamone
CARDAMONE CONSTRUCTION &
GENERAL CONTRACTING INC.

J. George
WITNESS

M. J. A.
PURCHASER A. SHAW COMPANY

APPENDIX E

Photoionization Detector Manual Excerpts

APPENDIX F

Chain-of-Custody and Quality Control

WADSWORTH/ALERT LABORATORIES
 5405 EAST SCHAAF RD./CLEVELAND, OH 44131
 (216) 642-9151

1370

Chain-of Custody Record

PROJ. NO.		PROJECT NAME/LOCATION			NO. OF CONTAINERS	REMARKS																																									
90704		DALEENVA																																													
SAMPLERS: (Signature)		STATION LOCATION			PARAMETER																																										
CAPRANONE CONSTRUCTION		COMP	TIME	GRAB																																											
STA. NO.	DATE	TIME	GRAB	STATION LOCATION	REMARKS																																										
#1	2/7	PM	X	TRUCK #47 FREEDOM POL. SOUTH	TPPH X BTK/E X EP TOX LEAD X EP TOX CHROMIUM X FRESH POLY. PH																																										
#2	2/7	PM	X	TRUCK #47 FREEDOM POL. SOUTH	TPPH X BTK/E X EP TOX LEAD X EP TOX CHROMIUM X FRESH POLY. PH																																										
#3	2/7	PM	X	TRUCK #47 LAUREL	TPPH X BTK/E X EP TOX LEAD X EP TOX CHROMIUM X FRESH POLY. PH																																										
#4	2/9	AM	X	POST #24 BOT. SOUTH	TPPH X BTK/E X EP TOX LEAD X EP TOX CHROMIUM X FRESH POLY. PH																																										
#5	2/9	AM	X	POST #24 BOT. NORTH	TPPH X BTK/E X EP TOX LEAD X EP TOX CHROMIUM X FRESH POLY. PH																																										
#6	2/9	AM	X	POST #24 LAUREL	TPPH X BTK/E X EP TOX LEAD X EP TOX CHROMIUM X FRESH POLY. PH																																										
<table border="1"> <tr> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: (Signature)</td> <td>Date / Time</td> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: (Signature)</td> </tr> <tr> <td>CAPRANONE CONSTRUCTION</td> <td></td> <td>Donald Uhl</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: (Signature)</td> <td>Date / Time</td> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received by: (Signature)</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Relinquished by: (Signature)</td> <td>Date / Time</td> <td>Received for Laboratory by: (Signature)</td> <td>Date / Time</td> <td>Date / Time</td> <td>Date / Time</td> <td>Remarks</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>TAUNOCE TRAIL/CARDANONE COAST RESULTS TO G.E.M</td> </tr> </table>						Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Received by: (Signature)	CAPRANONE CONSTRUCTION		Donald Uhl					Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Received by: (Signature)								Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Date / Time	Date / Time	Remarks							TAUNOCE TRAIL/CARDANONE COAST RESULTS TO G.E.M
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CAPRANONE CONSTRUCTION		Donald Uhl																																													
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time	Relinquished by: (Signature)	Date / Time	Received by: (Signature)																																									
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Date / Time	Date / Time	Remarks																																									
						TAUNOCE TRAIL/CARDANONE COAST RESULTS TO G.E.M																																									



WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY CONTROL SECTION



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
53538	Total Petroleum Hydrocarbons (S)	102	104	SOLID	(61-124)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
53536	Lead	94	100	WATER	(80-124)
	Chromium	100	98		(72-138)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
	SELECTED ORGANIC COMPOUNDS				
900216	Benzene	118	102	SOLID	(50-146)
	Toluene	84	74		(57-139)
	Xylene	83	73		(38-144)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB ID: 9290-92223
MATRIX : SOLID

DATE RECEIVED: 2/23/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/23/90

SAMPLE ID: INTRA-LAB BLANK , 2 /23/90

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BLANK REPORT

	RESULT	UNITS	LOWER DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	mg/kg	15

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92214
SAMPLE MATRIX : SOLID

RECEIVING DATE : 2/14/90

SAMPLE ID : INTRA-LAB BLANK , 2 /14/90

**METALS ANALYTICAL BLANK REPORT
SELECTED LIST**

Leachate testing in accordance with USEPA Manual SW846 Method 1310.

EP TOXICITY EXTRACTION DATE: 2/14/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/14- 2/15/90	ND	0.05 mg/l
Lead	2/14- 2/15/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9090-90219
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/19/90

SAMPLE ID : INTRA-LAB BLANK , 2 /19/90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92219
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: INTRA-LAB BLANK , 2 /19/90

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92220
MATRIX: SOLID

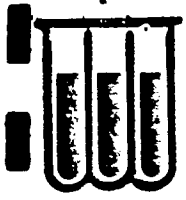
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DATE EXTRACTED: 2/20/90
DATE ANALYZED: 0/20/90

SAMPLE ID: INTRA-LAB BLANK , 2 /20/90

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

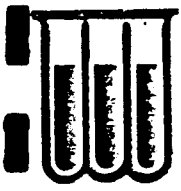
PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY CONTROL SECTION



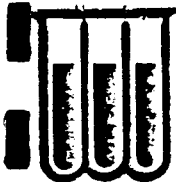
WADSWORTH/ALERT
LABORATORIES, INC.

February 28, 1990

QUALITY CONTROL NARRATIVE

Wadsworth/ALERT Laboratories, Inc. received samples from Cardamone Construction on February 13th which were sampled on February 6th. One of the requested parameters was pH which has a recommended holding time of twenty-four hours from sampling to analysis. Due to the late arrival of the samples, the pH was analyzed past its recommended holding time.

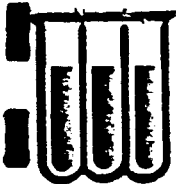
Opal Davis-Johnson
Quality Control Coordinator
Cleveland Laboratory



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

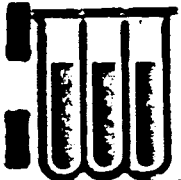
LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
53657	Lead	108	110	WATER	(80-124)
	Chromium	108	108		(72-138)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
	SELECTED ORGANIC COMPOUNDS				
900216	Benzene	118	102	SOLID	(50-146)
	Toluene	84	74		(57-139)
	Xylene	83	73		(38-144)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB ID: 9290-92223
MATRIX : SOLID

DATE RECEIVED: 2/23/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/23/90

SAMPLE ID: INTRA-LAB BLANK , 2 /23/90

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BLANK REPORT

	RESULT	UNITS	LOWER DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	mg/kg	15

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92214
SAMPLE MATRIX : SOLID

RECEIVING DATE : 2/14/90

SAMPLE ID : INTRA-LAB BLANK , 2 /14/90

**METALS ANALYTICAL BLANK REPORT
SELECTED LIST**

Leachate testing in accordance with USEPA Manual SW846 Method 1310.

EP TOXICITY EXTRACTION DATE: 2/14/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/14- 2/15/90	ND	0.05 mg/l
Lead	2/14- 2/15/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9090-90219
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/19/90

SAMPLE ID : INTRA-LAB BLANK , 2 /19/90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92216
MATRIX: SOLID

DATE RECEIVED: 2/16/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: INTRA-LAB BLANK , 2 /16/90

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)

Chedamone Construction

WADSWORTH/ALERT LABORATORIES
 5405 EAST SCHAAF RD./CLEVELAND, OH 44131
 (216) 642-9151

No 151

Chain-of Custody Record

PROJ. NO.	PROJECT NAME/LOCATION	STATION LOCATION	NO. OF CONTAINERS	PARAMETER				REMARKS			
				TOTAL CHROMIUM	TOTAL LEAD	BTEX	EP TOX LEAD				
0704	FADEUNA										
STA. NO.	DATE	TIME	COMP	GRAB	TPH	TOTAL CHROMIUM	TOTAL LEAD	BTEX	EP TOX LEAD	EP TOX CHROMIUM	TPH
#1	2/19	PM		X	X	X	X	X	X	X	X
#2	2/19	PM		X	X	X	X	X	X	X	X
#3	2/19	PM		X	X	X	X	X	X	X	X
#1	2/20	PM		X	X	X	X	X	X	X	X
#2	2/20	PM		X	X	X	X	X	X	X	X
#3	2/20	PM		X	X	X	X	X	X	X	X
#4	2/20	PM		X	X	X	X	X	X	X	X
#4	2/19	PM		X	X	X	X	X	X	X	X
#5	2/19	PM		X	X	X	X	X	X	X	X
#7	2/2	AM		X	X	X	X	X	X	X	X

Relinquished by: (Signature) <i>Ponobal</i>	Date / Time 2/21 11:35	Received by: (Signature) <i>M. Janga</i>	Date / Time
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Date / Time
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time

Remarks
Good



WADSWORTH/ALERT
LABORATORIES, INC.

QUALITY CONTROL SECTION

March 8, 1990

QUALITY CONTROL NARRATIVE

Wadsworth/ALERT Laboratories, Inc. received samples from Cardamone Construction on February 21st which were sampled on February 2nd, February 19, and February 20th. One of the requested parameters was GC volatiles which has a recommended holding time of fourteen days from sampling to analysis. Due to the late arrival of sample #54044, the GC volatile was analyzed past its recommended holding time.

Opal Davis-Johnson
Quality Control Coordinator
Cleveland Laboratory



MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
900226	Lead	90	89	WATER	(75-130)
900226	Chromium	105	106	WATER	(87-132)
					(0- 0)
					(0- 0)
900226	Lead	100	129	SOLID	(61-143)
900115	Chromium	110	124	SOLID	(76-143)

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
900305	Total Petroleum Hydrocarbons (S)	98	88	SOLID	(60-127)

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
	SELECTED ORGANIC COMPOUNDS				
900226	Benzene	82	86	SOLID	(52-132)
	Toluene	80	84		(59-133)
	Xylene	79	83		(50-131)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB ID: 9290-92306
MATRIX : SOLID

DATE RECEIVED: 3/ 6/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: INTRA-LAB BLANK , 3 /6 /90

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BLANK REPORT

	RESULT	UNITS	LOWER DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	mg/kg	10

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92223
SAMPLE MATRIX : SOLID

RECEIVING DATE : 2/23/90

SAMPLE ID : INTRA-LAB BLANK , 2 /23/90

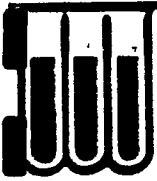
METALS ANALYTICAL BLANK REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310.

EP TOXICITY EXTRACTION DATE: XX/XX/XX

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/23- 2/28/90	ND	0.05 mg/l
Lead	2/23- 2/26/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9090-90226
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/26/90

SAMPLE ID : INTRA-LAB BLANK , 2 /26/90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/26- 2/28/90	ND	0.05 mg/l
Lead	2/26/90	ND	0.1 mg/l



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92227
SAMPLE MATRIX : SOLID

RECEIVING DATE : 2/27/90

SAMPLE ID : INTRA-LAB BLANK , 2 /27/90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/27- 2/28/90	ND	5 mg/kg
Lead	2/27- 2/28/90	ND	10 mg/kg

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92228
MATRIX: SOLID

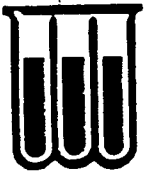
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DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: INTRA-LAB BLANK , 2 /28/90

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

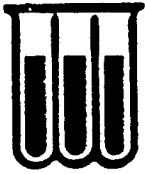
PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

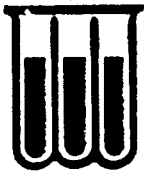
QUALITY CONTROL SECTION



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
900219	Lead	94	100	WATER	(75-130)
900219	Chromium	100	98	WATER	(87-132)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
	SELECTED ORGANIC COMPOUNDS				
53907	Benzene	82	86	SOLID	(52-132)
	Toluene	80	84		(59-133)
	Xylene	79	83		(50-131)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB ID: 9290-92301
MATRIX : SOLID

DATE RECEIVED: 3/ 1/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: INTRA-LAB BLANK , 3 /1 /90

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BLANK REPORT

	RESULT	UNITS	LOWER DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	mg/kg	15

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9090-90221
SAMPLE MATRIX : WATER

RECEIVING DATE : 2/21/90

SAMPLE ID : INTRA-LAB BLANK , 2 /21/90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92221
SAMPLE MATRIX : SOLID

RECEIVING DATE : 2/21/90

SAMPLE ID : INTRA-LAB BLANK , 2 /21/90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310.

EP TOXICITY EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/27/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92226
MATRIX: SOLID

DATE RECEIVED: 2/26/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: INTRA-LAB BLANK, 02/26/90

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
900406	Total Petroleum Hydrocarbons (S)	103	104	SOLID	(60-127)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
900403	Chromium	98	104	WATER	(87-132)
900327	Lead	103	104	WATER	(75-130)
900330	Chromium	107	107	SOLID	(76-143)
900330	Lead	102	102	SOLID	(61-143)



WADSWORTH/ALERT
LABORATORIES, INC.

MATRIX SPIKE DATA

LAB ID	PARAMETER	SPIKE PERCENT RECOVERY	SPK/DUP PERCENT RECOVERY	SPIKE MATRIX	QC CONTROL LIMITS
	SELECTED ORGANIC COMPOUNDS				
900403	Benzene	129	120	SOLID	(52-132)
	Toluene	106	110		(59-133)
	Xylene	111	98		(50-131)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB ID: 9290-92406
MATRIX : SOLID

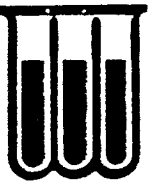
DATE RECEIVED: 4/ 6/90
DATE EXTRACTED: 4/ 6/90
DATE ANALYZED: 4/ 6/90

SAMPLE ID: INTRA-LAB BLANK

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BLANK REPORT

	RESULT	UNITS	LOWER DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	mg/kg	5

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92327
SAMPLE MATRIX : SOLID

RECEIVING DATE : 3/27/90

SAMPLE ID : INTRA-LAB BLANK , 3 /27/90

**METALS ANALYTICAL BLANK REPORT
SELECTED LIST**

Leachate testing in accordance with USEPA Manual SW846 Method 1310.

EP TOXICITY EXTRACTION DATE: 3/27/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	3/27- 3/28/90	ND	0.05 mg/l
Lead	3/27- 4/ 2/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9090-90406
SAMPLE MATRIX : WATER

RECEIVING DATE : 4/ 6/90

SAMPLE ID : INTRA-LAB BLANK , 4 /6 /90

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 6- 4/ 9/90	ND	0.05 mg/l
Lead	4/ 6- 4/ 9/90	ND	0.1 mg/l

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Wadsworth/Alert Laboratories, Inc.
LABORATORY ID : 9290-92409
SAMPLE MATRIX : SOLID

RECEIVING DATE : 4/ 9/90

SAMPLE ID : INTRA-LAB BLANK

METALS ANALYTICAL BLANK REPORT
SELECTED LIST

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 9- 4/10/90	ND	5 mg/kg
Lead	4/ 9- 4/10/90	ND	10 mg/kg

ND - NONE DETECTED



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92405
MATRIX: SOLID

DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 5/90
DATE ANALYZED: 4/ 5/90

SAMPLE ID: INTRA-LAB BLANK

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	2
Benzene	ND	2
Toluene	ND	2
Ethylbenzene	ND	2

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92406
MATRIX: SOLID

DATE RECEIVED: 4/ 6/90
DATE EXTRACTED: 4/ 6/90
DATE ANALYZED: 4/ 6/90

SAMPLE ID: INTRA-LAB BLANK

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Wadsworth/Alert Laboratories
LAB #: 9290-92407
MATRIX: SOLID

DATE RECEIVED: 4/ 7/90
DATE EXTRACTED: 4/ 7/90
DATE ANALYZED: 4/ 7/90

SAMPLE ID: INTRA-LAB BLANK

SELECTED ORGANIC COMPOUNDS ANALYTICAL BLANK REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	4
Benzene	ND	4
Toluene	ND	4
Ethylbenzene	ND	4

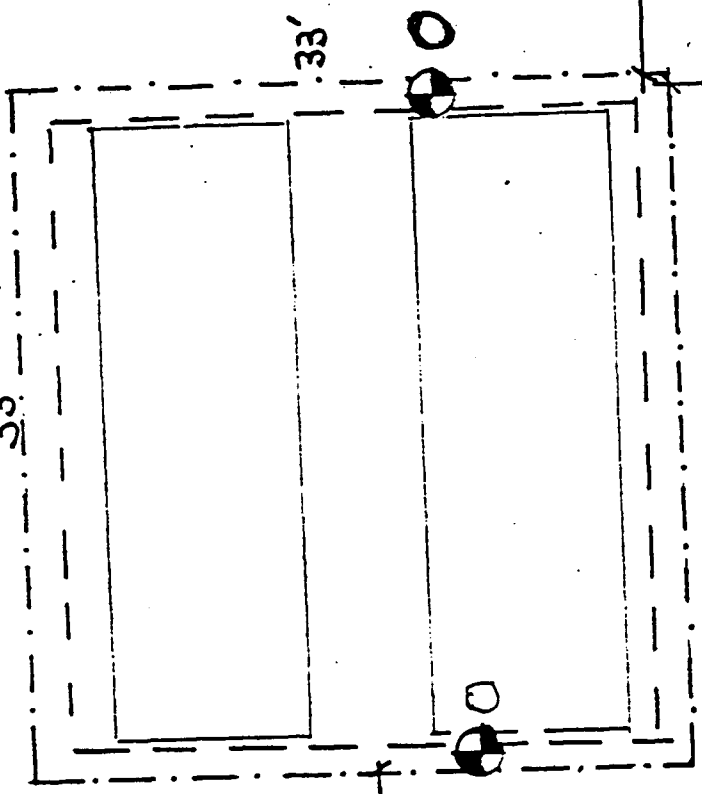
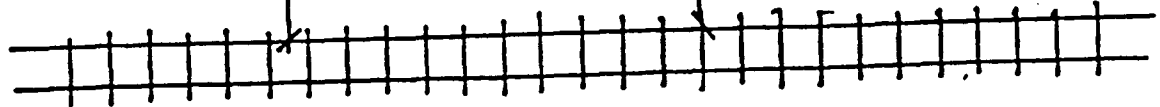
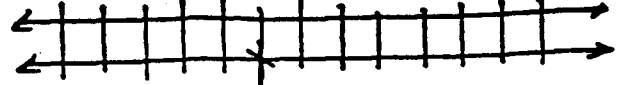
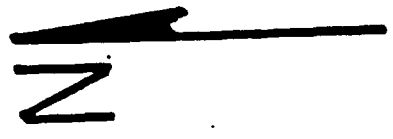
NOTE: ND (None Detected)

APPENDIX G

Laboratory Report U-6

P. D. ...

U-6 Location

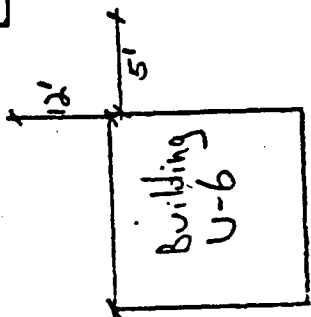


40'

33'

20'

7'



25'

15'

12'

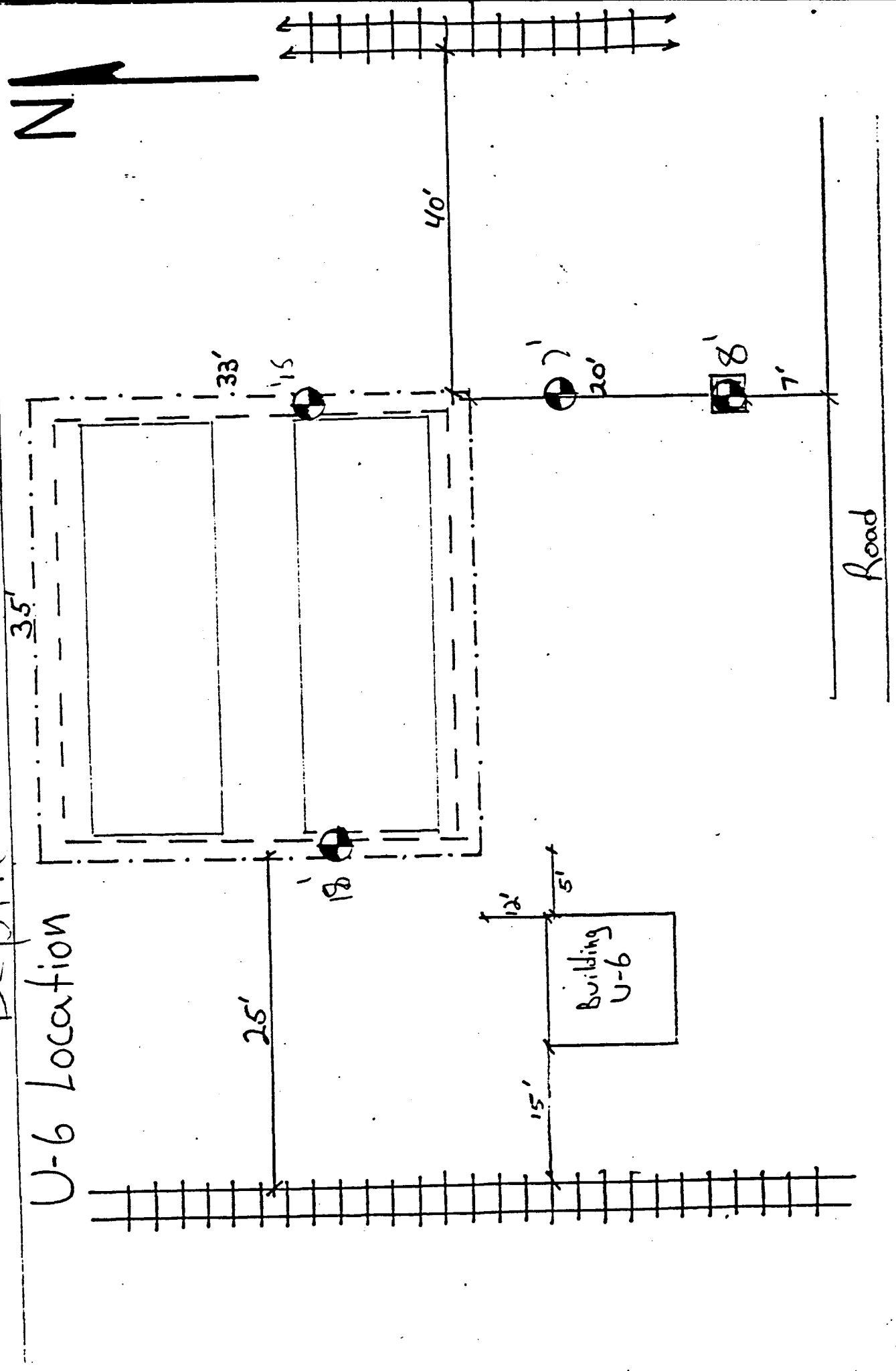
5'

Building
U-6

Road

Depth

U-6 Location



Road

Building
U-6

33'

15'

20'

8'

7'

40'

35'

25'

18'

12'

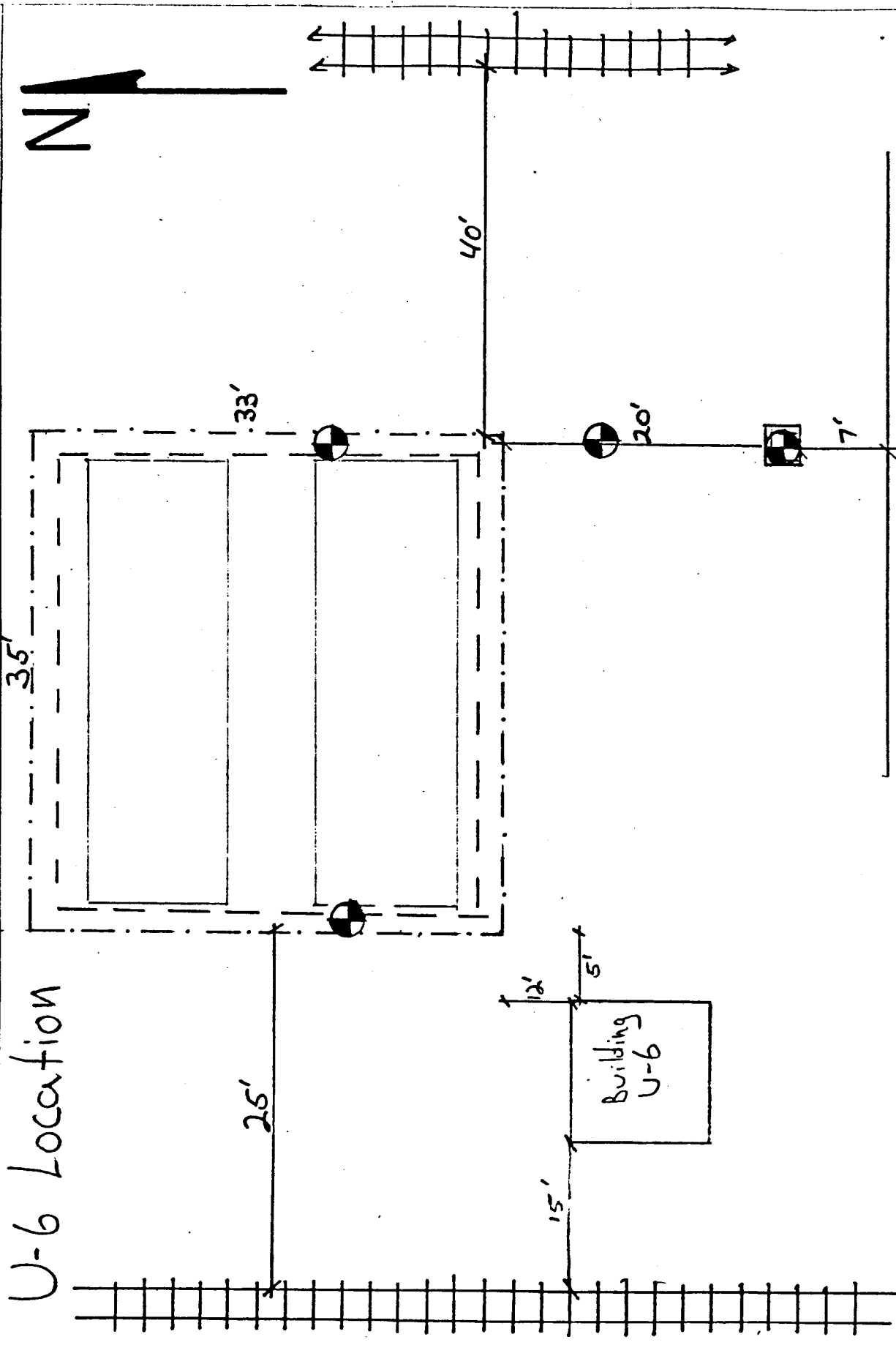
5'

15'

N

2.381 SHEETS 3 SQUARE
2.382 SHEETS 3 SQUARE
42.389 200 SHEETS 3 SQUARE
NATIONAL

U-6 Location



Road



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53902
MATRIX: SOLID

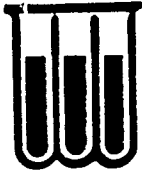
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-6 12,000 BOT WEST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53902
MATRIX: SOLID

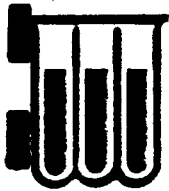
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-6 12,000 POT WEST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5255-57957
MATRIX : SOLID

DATE RECEIVED: 4/18/90

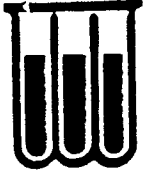
SAMPLE ID : U-6

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/19/90	14	5 mg/kg
Lead	4/19- 4/20/90	18	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53902
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-6 12,000 BOT WEST

METALS ANALYTICAL REPORT
SELECTED LIST

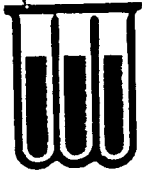
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/21- 2/23/90	ND	0.05	mg/l
Lead	2/21- 2/23/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	5.9	su
Final pH	5.0	su
Amount of acetic acid used per method	2.5	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53903
MATRIX: SOLID

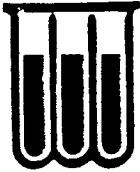
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-6 12,000 BOT EAST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53903
MATRIX: SOLID

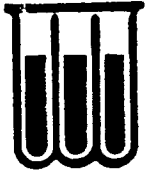
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-6 12,000 BOT EAST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53903
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-6 12,000 BOT EAST

METALS ANALYTICAL REPORT
SELECTED LIST

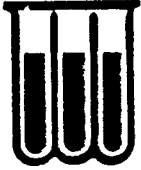
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.0	su
Final pH	4.9	su
Amount of acetic acid used per method	3.5	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53908
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-6 SOUTH PUMP ISLAND

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	110	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53908
MATRIX: SOLID

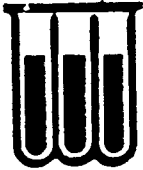
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-6 SOUTH PUMP ISLAND

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53908
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-6 SOUTH PUMP ISLAND

METALS ANALYTICAL REPORT
SELECTED LIST

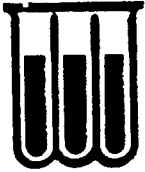
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	7.0	su
Final pH	5.1	su
Amount of acetic acid used per method	6.0	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53909
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-6 LINE FROM S. PUMP

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	55	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53909
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-6 LINE FROM S. PUMP

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53909
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-6 LINE FROM S. PUMP

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

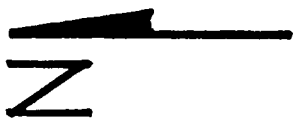
ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.9	su
Final pH	5.0	su
Amount of acetic acid used per method	40	ml

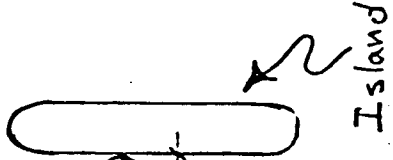
APPENDIX H

Laboratory Report U-3

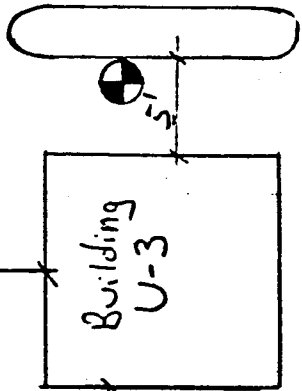


Drainage Creek

U-3
Location



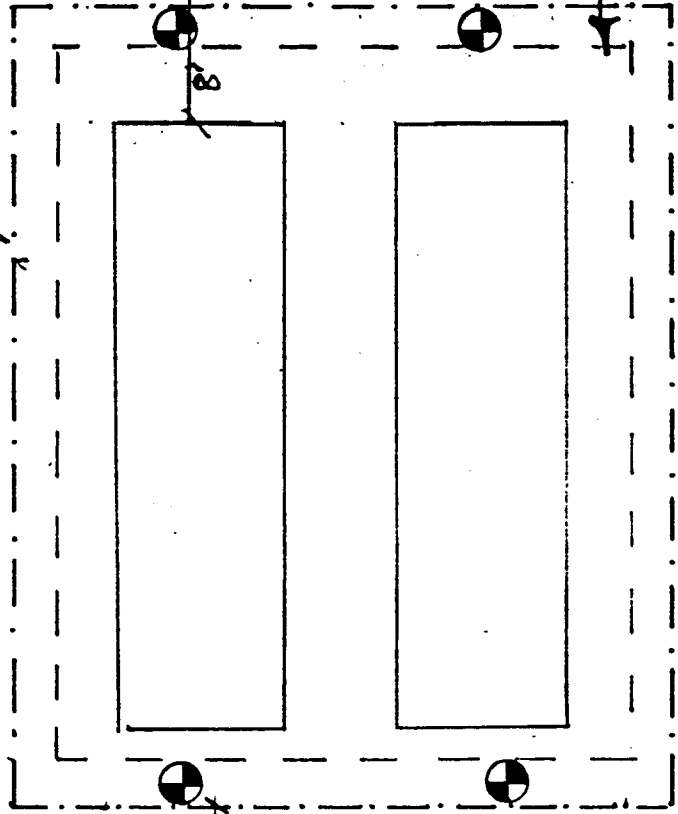
Island



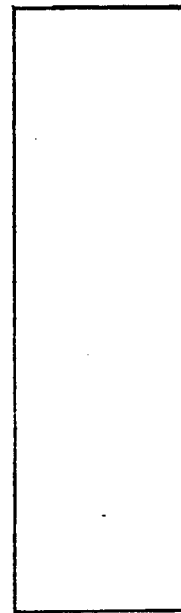
Building
U-3

35'

Excavation



41'



Concrete Pad

34'

19'

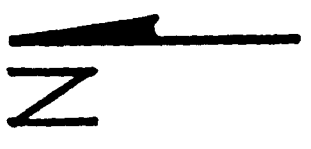
42.381 50 SHEETS 3 SQUARE
42.382 100 SHEETS 3 SQUARE
42.389 200 SHEETS 3 SQUARE
NATIONAL SURVEYING



Depth

U-3
Location

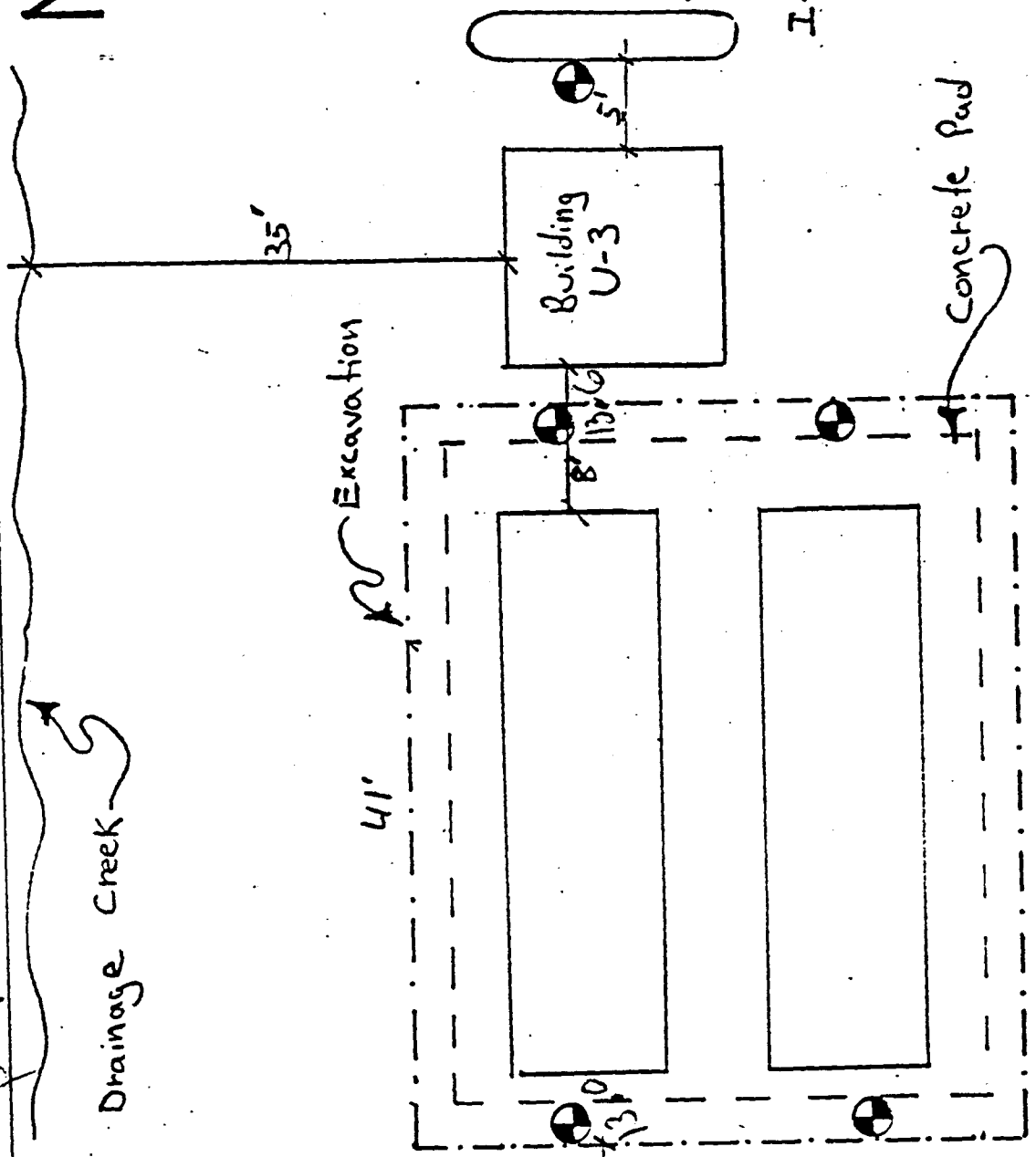
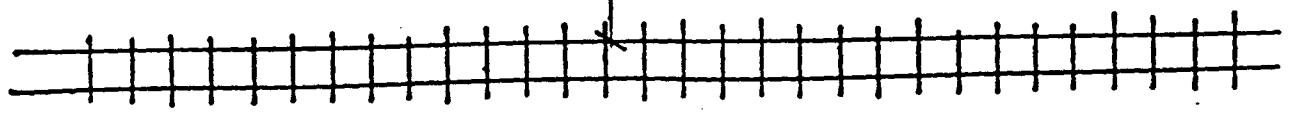
Drainage Creek



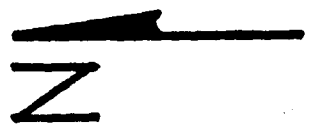
Excavation

Island

Concrete Pad



P.T. & D.



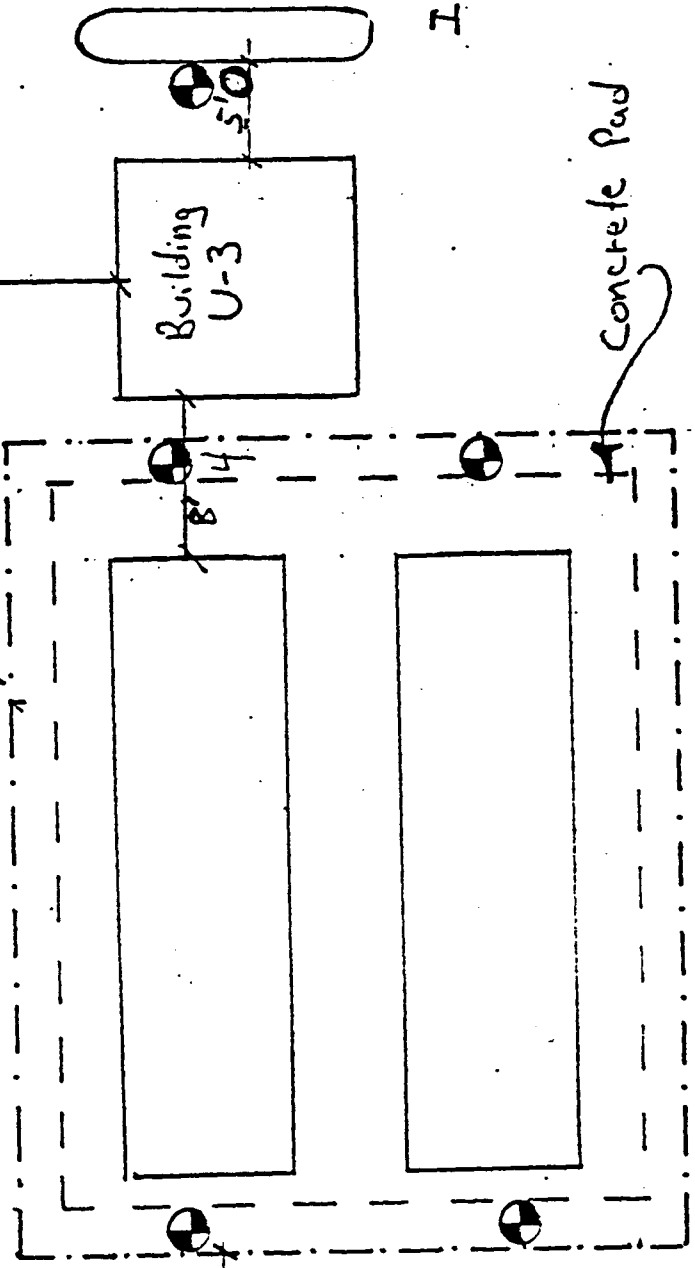
35'

Drainage Creek

U-3
Location

Excavation

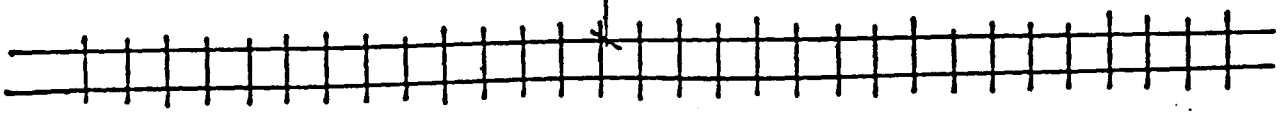
41'

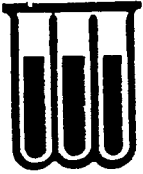


Building
U-3

Island

Concrete Pad





WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53906
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-3 12,000 BOT WEST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53906
MATRIX: SOLID

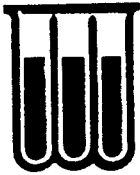
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-3 12,000 BOT WEST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53906
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-3 12,000 BOT WEST

METALS ANALYTICAL REPORT
SELECTED LIST

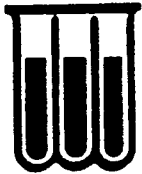
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.0	su
Final pH	5.0	su
Amount of acetic acid used per method	2.5	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53905
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-3 12,000 BOT EAST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons:	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53905
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-3 12,000 BOT EAST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5255-57956
MATRIX : SOLID

DATE RECEIVED: 4/18/90

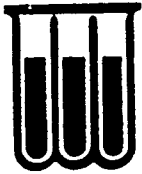
SAMPLE ID : U-3

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/19/90	17	5 mg/kg
Lead	4/19- 4/20/90	11	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53905
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-3 12,000 BOT EAST

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.0	su
Final pH	5.1	su
Amount of acetic acid used per method	2.5	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4425-54081
MATRIX: SOLID

DATE RECEIVED: 2/22/90
DATE EXTRACTED: 3/ 7/90
DATE ANALYZED: 3/ 7/90

SAMPLE ID: U-3 SUPPLY LINES

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	37	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4425-54081
MATRIX: SOLID

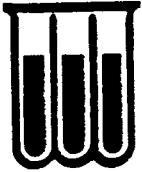
DATE RECEIVED: 2/22/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/27/90

SAMPLE ID: U-3 SUPPLY LINES

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4425-54081
MATRIX : SOLID

DATE RECEIVED: 2/22/90

SAMPLE ID : U-3 SUPPLY LINES

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/28/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	3/ 1- 3/ 6/90	ND	0.05 mg/l
Lead	3/ 1/90	ND	0.1 mg/l

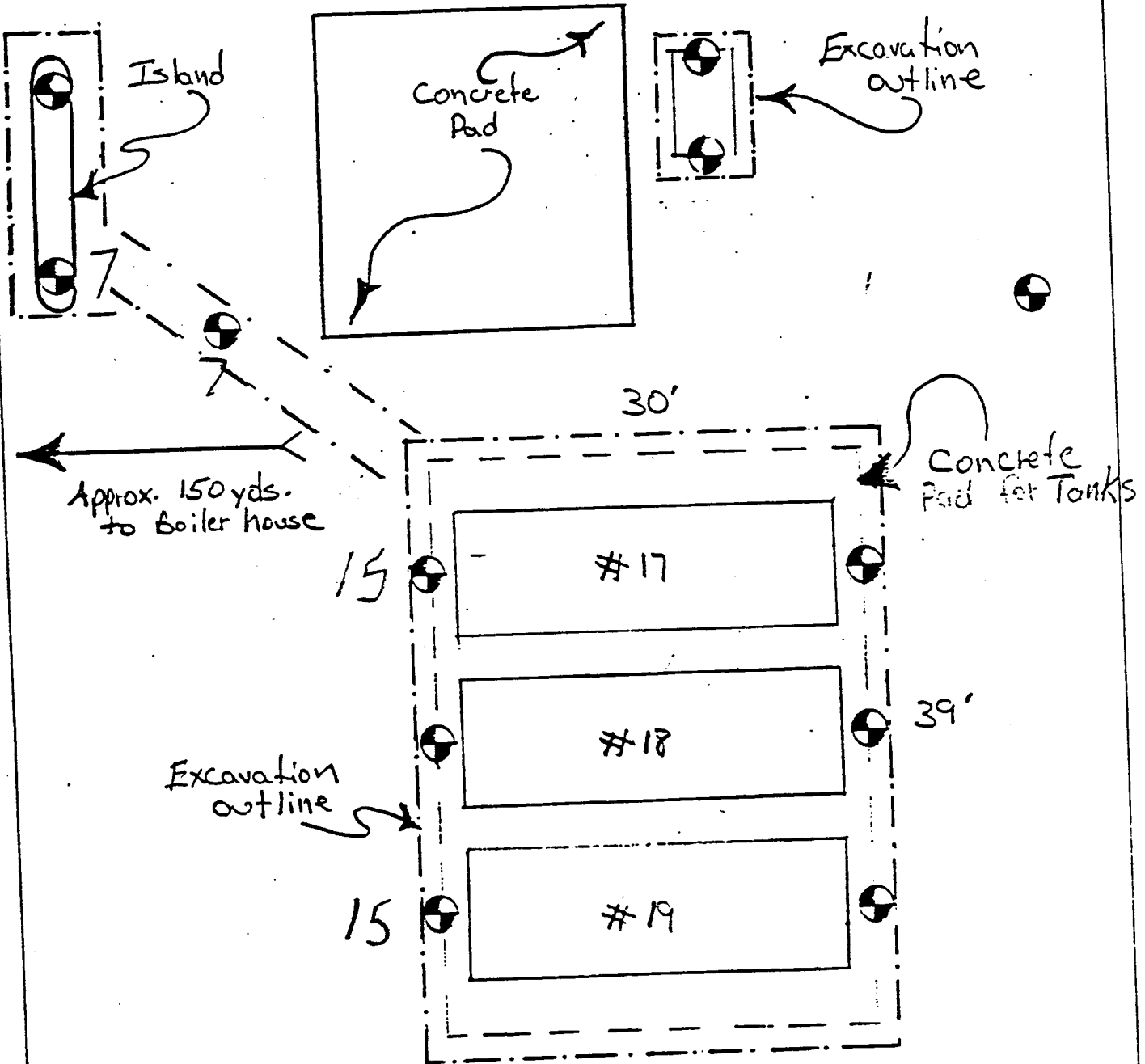
NOTE: ND (None Detected)

Initial pH	7.5	su
Final pH	5.1	su
Amount of acetic acid used per method	16	ml

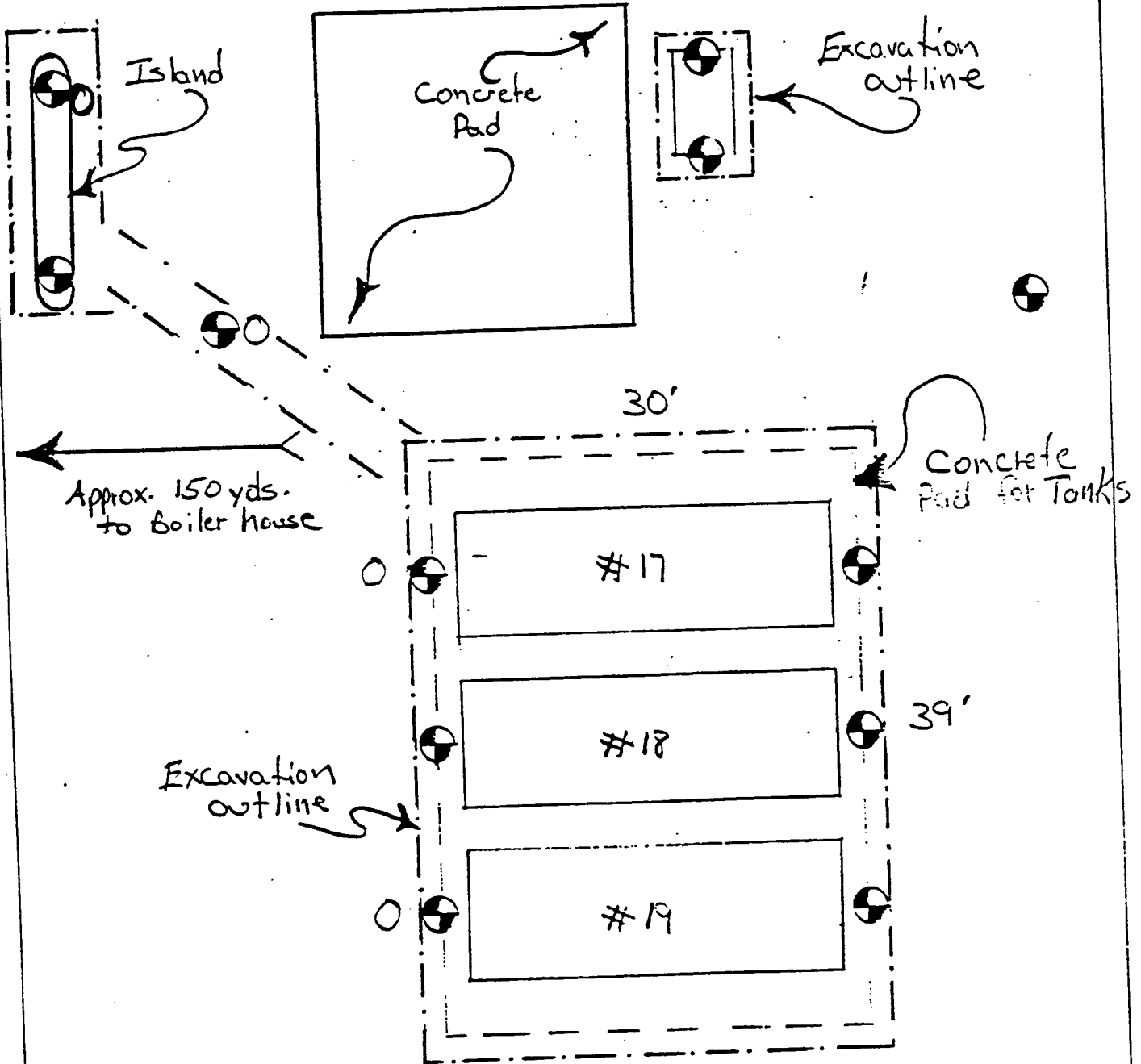
APPENDIX I

Laboratory Report A-6

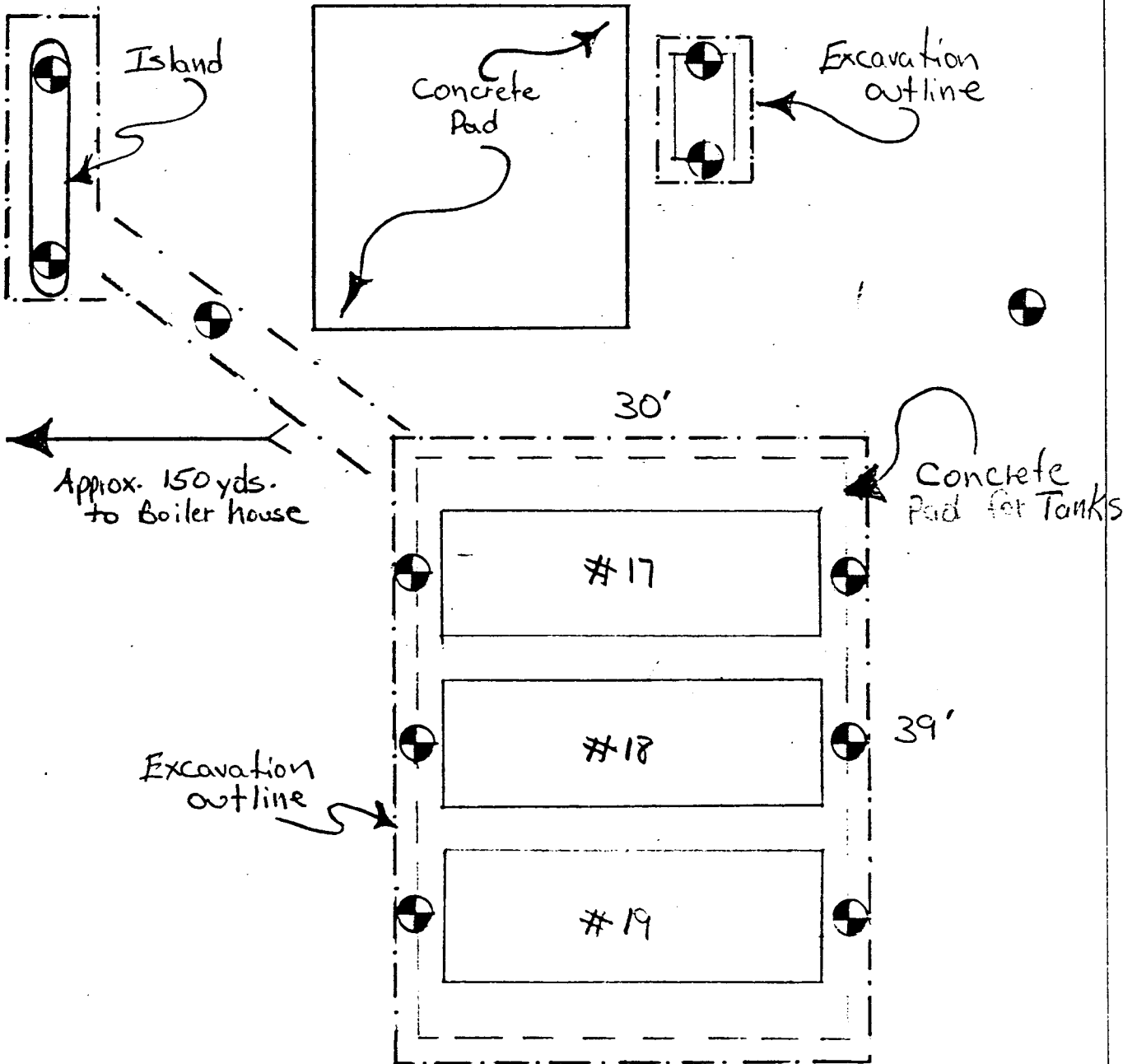
A-6 Location Depth



A-6 Location P.I.D. Readings



A-6 Location



50 SQUARE
500 SHEETS 3 SQUARE
43 389 200 SHEETS 3 SQUARE
NATIONAL



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54039
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: A-6 3900 BOT/SIDE #17 WEST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	22	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54039
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: A-6 3900 BOT/SIDE #17 WEST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5098-57241
MATRIX : SOLID

DATE RECEIVED: 4/ 9/90

SAMPLE ID : A-6 3900 BPT/SIDE #17 WEST

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 9- 4/10/90	5.4	5 mg/kg
Lead	4/ 9- 4/10/90	ND	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54039
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A-6 3900 BOT/SIDE #17 WEST

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/23/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/26- 2/28/90	ND	0.05 mg/l
Lead	2/26/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	8.6	su
Final pH	5.0	su
Amount of acetic acid used per method	100	ml

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54040
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: A-6 3900 BOT/SIDE #19 WEST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54040
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: A-6 3900 BOT/SIDE #19 WEST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5098-57242
MATRIX : SOLID

DATE RECEIVED: 4/ 9/90

SAMPLE ID : A-6 3900 BPT/SIDE #19 WEST

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 9- 4/10/90	6.8	5 mg/kg
Lead	4/ 9- 4/10/90	ND	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54040
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A-6 3900 BOT/SIDE #19 WEST

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/23/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/26- 2/28/90	ND	0.05	mg/l
Lead	2/26/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	8.4	su
Final pH	5.1	su
Amount of acetic acid used per method	37	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54042
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: A-6 3900 ISLAND

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	16	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54042
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: A-6 3900 ISLAND

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54042
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A-6 3900 ISLAND

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/23/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/26- 2/28/90	ND	0.05 mg/l
Lead	2/26/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	7.6	su
Final pH	5.1	su
Amount of acetic acid used per method	16	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54043
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: A-6 3900 PRODUCT LINE

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54043
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: A-6 3900 PRODUCT LINE

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54043
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A-6 3900 PRODUCT LINE

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/23/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/26- 2/28/90	ND	0.05	mg/l
Lead	2/26/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	8.3	su
Final pH	5.0	su
Amount of acetic acid used per method	45	ml

APPENDIX J

Laboratory Report A-6 500 gal



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53530
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: A-6 550 BOT SOUTH

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53530
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: A-6 550 BOT SOUTH

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	1
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53530
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-6 550 BOT SOUTH

METALS ANALYTICAL REPORT
SELECTED LIST

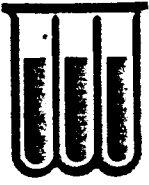
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/15/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	7.6	su
Final pH	5.0	su
Amount of acetic acid used per method	7	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53531
MATRIX: SOLID

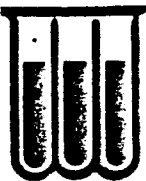
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: A-6 550 BOT NORTH

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53531
MATRIX: SOLID

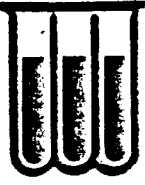
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: A-6 550 BOT NORTH

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	1
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53532
MATRIX: SOLID

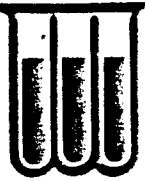
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: A-6 550 LANDFILL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53531
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-6 550 BOT NORTH

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/15/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	8.9	su
Final pH	5.0	su
Amount of acetic acid used per method	220	ml

APPENDIX K

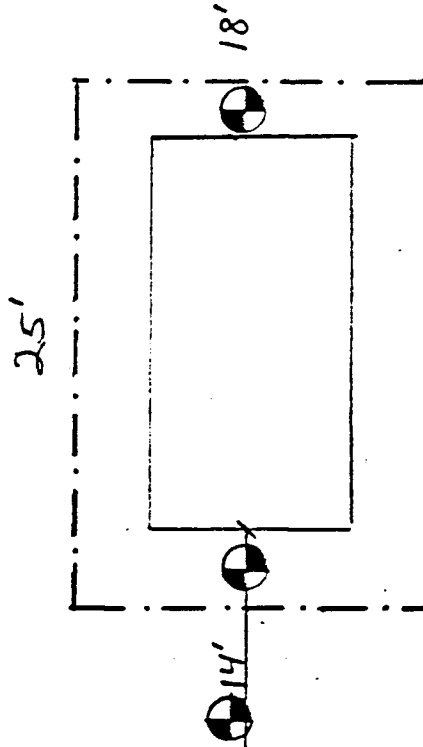
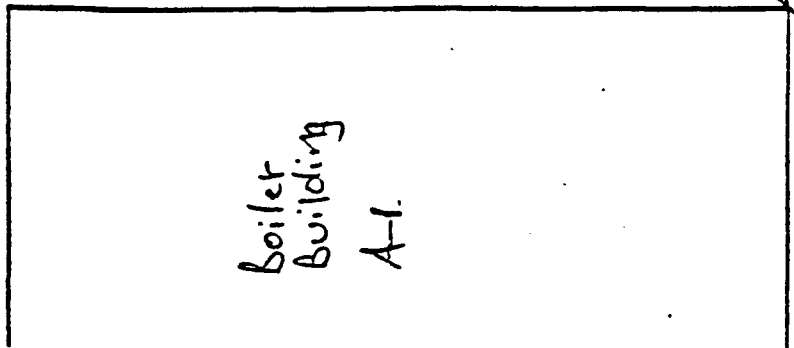
Laboratory Report A-1

42 381 10 SHEETS 1 SQUARE
42 382 100 SHEETS 2 SQUARE
42 383 200 SHEETS 3 SQUARE



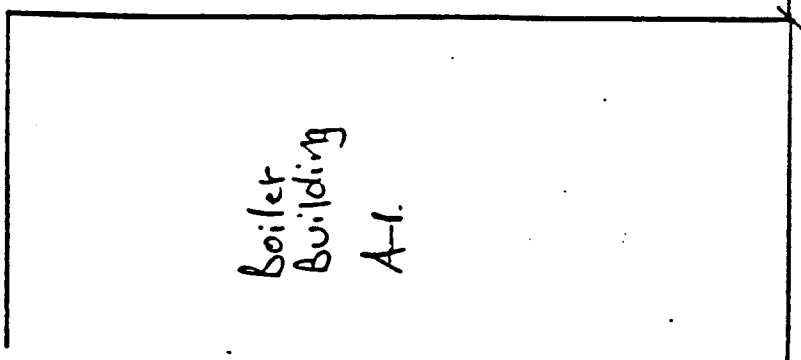
N

A-1 Location

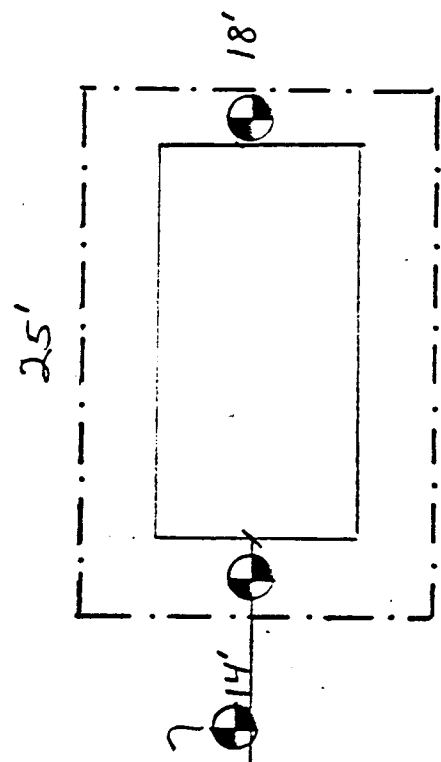


Depth

A-1 Location

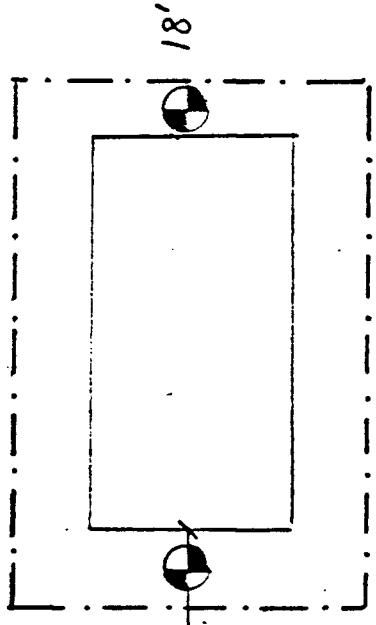
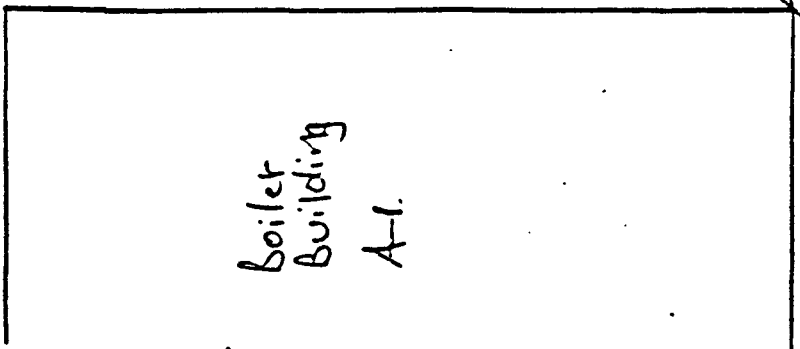


Boiler
Building
A-1.



P.T.D.

A-1 Location



Boiler
Building
A-1.

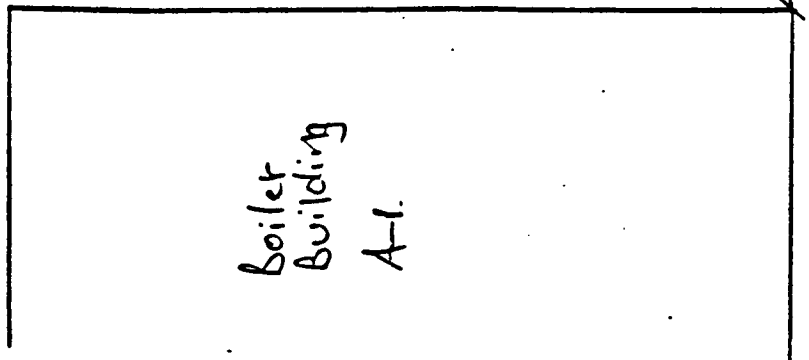
25'

18'

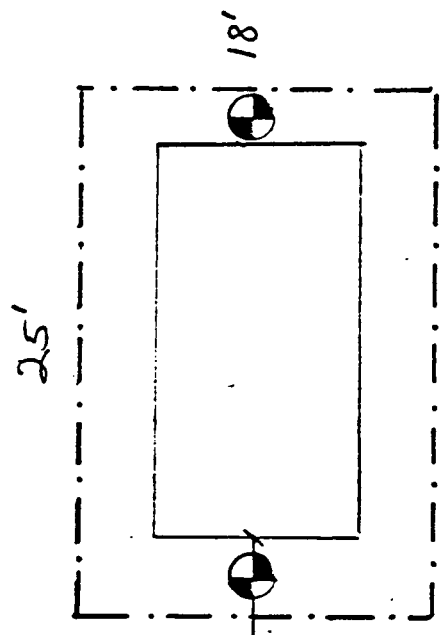
14'



A-1 Location



Boiler
Building
A-1.



14'



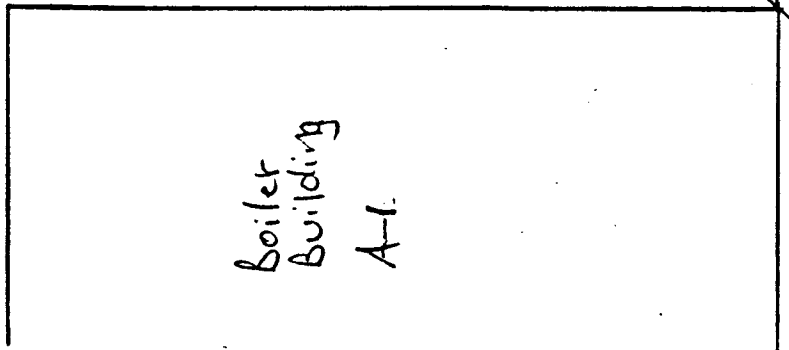
18'



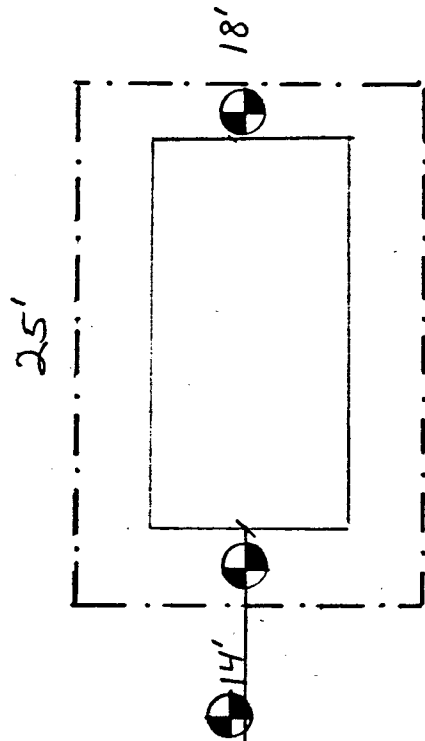
42,381 50 SHEETS 3 SQUARE
42,382 100 SHEETS 3 SQUARE
42,383 100 SHEETS 3 SQUARE
MADE IN U.S.A.



A-1 Location



Boiler
Building
A-1





WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53533
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: A-1 5000 BOT WEST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	16	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53533
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: A-1 5000 BOT WEST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	1
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53533
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-1 5000 BOT WEST

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/19- 2/20/90	ND	0.05	mg/l
Lead	2/19- 2/20/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	8.8	su
Final pH	5.0	su
Amount of acetic acid used per method	72	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53534
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: A-1 5000 BOT EAST

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53534
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: A-1 5000 BOT EAST

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	1
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53534
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-1 5000 BOT EAST

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	8.8	su
Final pH	4.9	su
Amount of acetic acid used per method	70	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54044
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: A1 5000 PRODUCT LINE

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54044
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: A1 5000 PRODUCT LINE

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54044
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A1 5000 PRODUCT LINE

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/23/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/26- 2/28/90	ND	0.05 mg/l
Lead	2/26/90	ND	0.1 mg/l

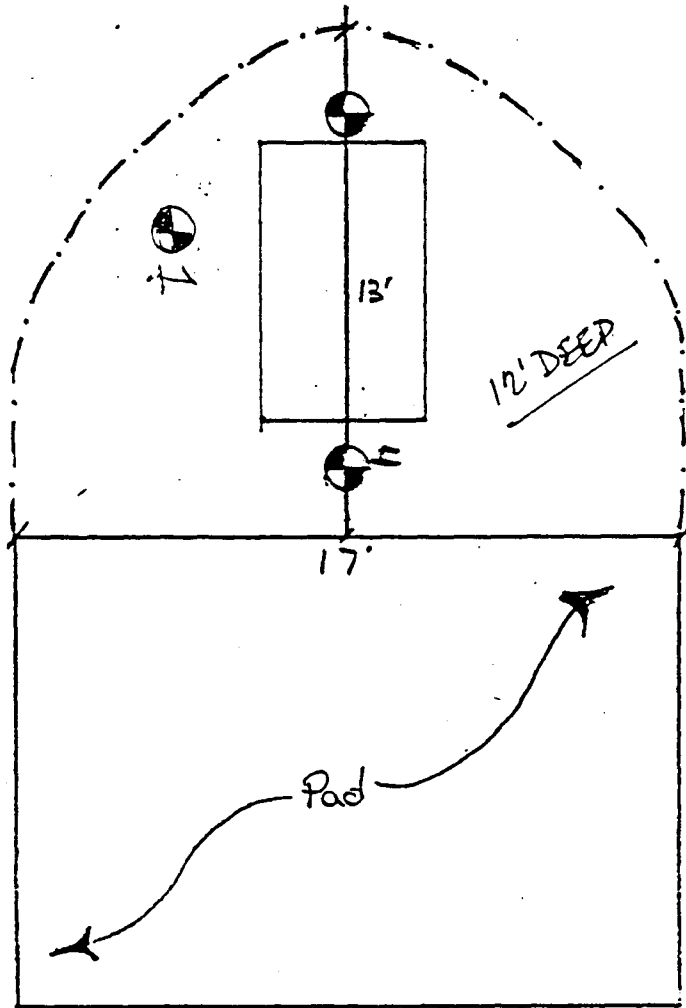
NOTE: ND (None Detected)

Initial pH	8.5	su
Final pH	4.9	su
Amount of acetic acid used per method	25	ml

APPENDIX L

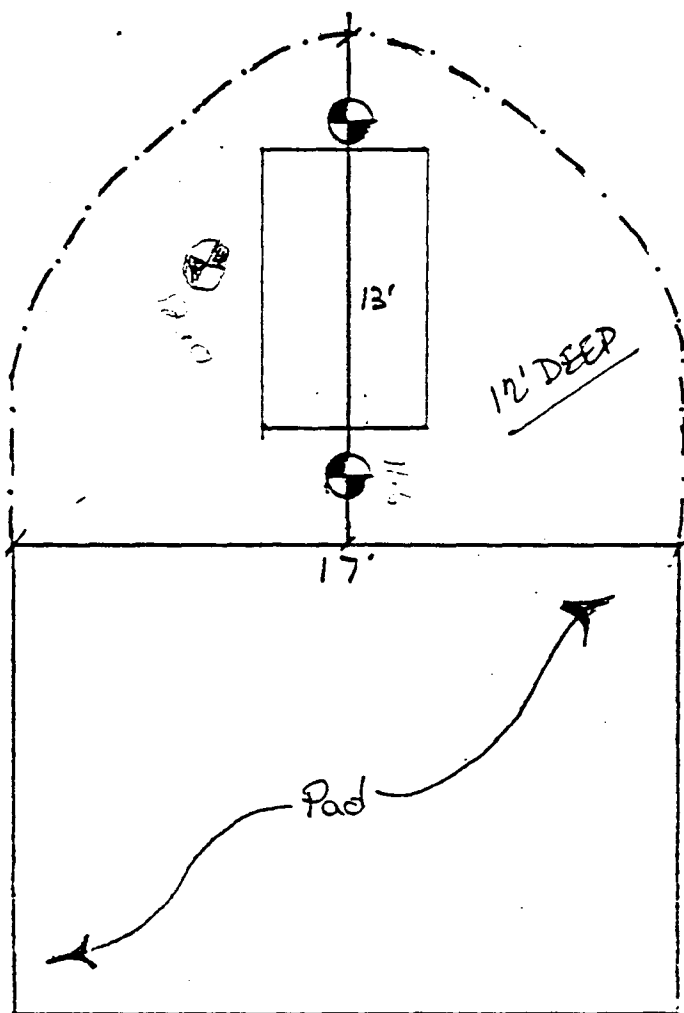
Laboratory Report Charleston

Post 24



PT 11 Readings

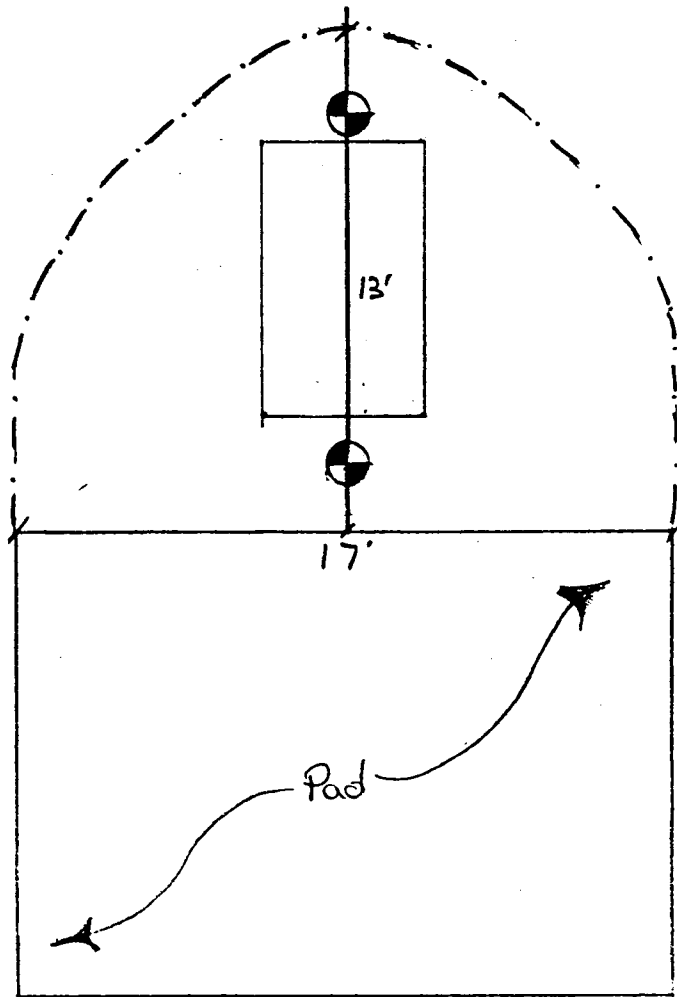
Post 24



Do 12/11

201 10 350
182 10 350
22 100 200 350
201 10 350
182 10 350
22 100 200 350

Post 24



31 50 SHEETS 3 SQUARE
42 82 100 SHEETS 3 SQUARE
43 89 200 SHEETS 3 SQUARE
NATIONAL



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53539
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: POST #24 BOT. SOUTH

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	1,200	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53539
MATRIX: SOLID

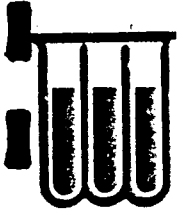
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: POST #24 BOT. SOUTH

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB # : 4286-53539
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : POST #24 BOT. SOUTH

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/19- 2/20/90	ND	0.05	mg/l
Lead	2/19- 2/20/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	6.1	su
Final pH	4.9	su
Amount of acetic acid used per method	1.5	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53540
MATRIX: SOLID

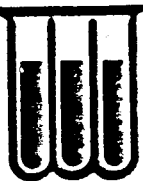
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: POST #24 BOT. NORTH

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (ng/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	300	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53540
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: POST #24 BOT. NORTH

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4286-53540
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : POST #24 BOT. NORTH

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/19- 2/20/90	ND	0.05	mg/l
Lead	2/19- 2/20/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	6.0	su
Final pH	4.8	su
Amount of acetic acid used per method	1	ml

SAMPLE ROUND # 2

CLEARANCE SAMPLES RESULTS
GATEHOUSE CHARLESTON
POST 24



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4871-56059
MATRIX: SOLID

DATE RECEIVED: 3/23/90
DATE EXTRACTED: 3/26/90
DATE ANALYZED: 3/26/90

SAMPLE ID: #1 NORTH BOTTOM

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	17

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4871-56059
MATRIX: SOLID

DATE RECEIVED: 3/23/90
DATE EXTRACTED: 3/23/90
DATE ANALYZED: 3/23/90

SAMPLE ID: #1 NORTH BOTTOM

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	3.2	2
Benzene	ND	2
Toluene	ND	2
Ethylbenzene	ND	2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4871-56059
MATRIX : SOLID

DATE RECEIVED: 3/23/90

SAMPLE ID : #1 NORTH BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 3/27/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	3/27- 3/28/90	ND	0.05	mg/l
Lead	3/27- 3/28/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	6.6	su
Final pH	5.1	su
Amount of acetic acid used per method	6	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4871-56060
MATRIX: SOLID

DATE RECEIVED: 3/23/90
DATE EXTRACTED: 3/26/90
DATE ANALYZED: 3/26/90

SAMPLE ID: #2 SOUTH BOTTOM

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	500	17

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4871-56060
MATRIX: SOLID

DATE RECEIVED: 3/23/90
DATE EXTRACTED: 3/23/90
DATE ANALYZED: 3/23/90

SAMPLE ID: #2 SOUTH BOTTOM

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.1
Benzene	ND	0.1
Toluene	ND	0.1
Ethylbenzene	ND	0.1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4871-56060
MATRIX : SOLID

DATE RECEIVED: 3/23/90

SAMPLE ID : #2 SOUTH BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 3/27/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	3/27- 3/28/90	ND	0.05	mg/l
Lead	3/27- 3/28/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	8.7	su
Final pH	5.0	su
Amount of acetic acid used per method	70	ml

SAMPLE ROUND #3

CLEARANCE SAMPLE RESULTS

GATE HOUSE CHARLESTON

POST 24



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 5048-57035
MATRIX: SOLID

DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 6/90
DATE ANALYZED: 4/ 6/90

SAMPLE ID: SOUTH EAST BOTTOM

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 5048-57035
MATRIX: SOLID

DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 7/90
DATE ANALYZED: 4/ 7/90

SAMPLE ID: SOUTH EAST BOTTOM

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	4
Benzene	ND	4
Toluene	ND	4
Ethylbenzene	ND	4

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.

DATE RECEIVED: 4/ 5/90

LAB #: 5048-57035

MATRIX : SOLID

SAMPLE ID : SOUTH EAST BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 9- 4/10/90	5.4	5 mg/kg
Lead	4/ 9- 4/10/90	ND	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5048-57035
MATRIX : SOLID

DATE RECEIVED: 4/ 5/90

SAMPLE ID : SOUTH EAST BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

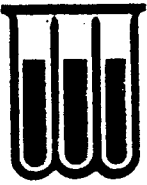
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 4/ 6/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 6/90	ND	0.05 mg/l
Lead	4/ 6/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.9	su
Final pH	5.1	su
Amount of acetic acid used per method	2	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 5048-57037
MATRIX: SOLID

DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 6/90
DATE ANALYZED: 4/ 6/90

SAMPLE ID: SOUTH WEST BOTTOM

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	27	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 5048-57037
MATRIX: SOLID

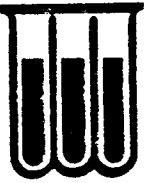
DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 6/90
DATE ANALYZED: 4/ 6/90

SAMPLE ID: SOUTH WEST BOTTOM

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	0.2	0.2
Benzene	0.2	0.2
Toluene	ND	0.2
Ethylbenzene	0.2	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5048-57037
MATRIX : SOLID

DATE RECEIVED: 4/ 5/90

SAMPLE ID : SOUTH WEST BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 9- 4/10/90	ND	5 mg/kg
Lead	4/ 9- 4/10/90	ND	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5048-57037
MATRIX : SOLID

DATE RECEIVED: 4/ 5/90

SAMPLE ID : SOUTH WEST BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 4/ 6/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 6/90	ND	0.05 mg/l
Lead	4/ 6/90	ND	0.1 mg/l

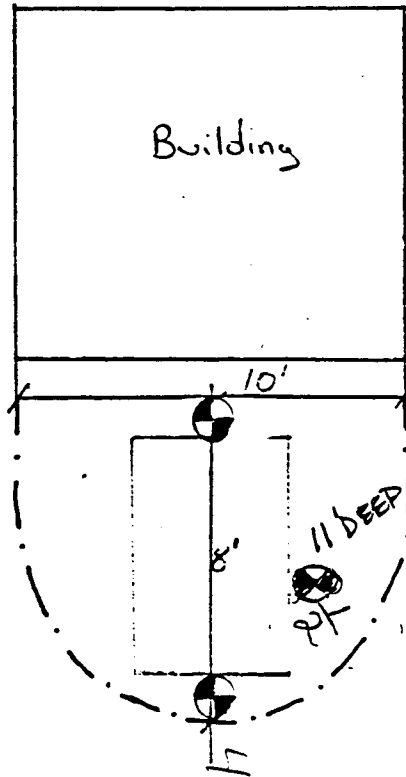
NOTE: ND (None Detected)

Initial pH	8.4	su
Final pH	5.0	su
Amount of acetic acid used per method	40	ml

APPENDIX M

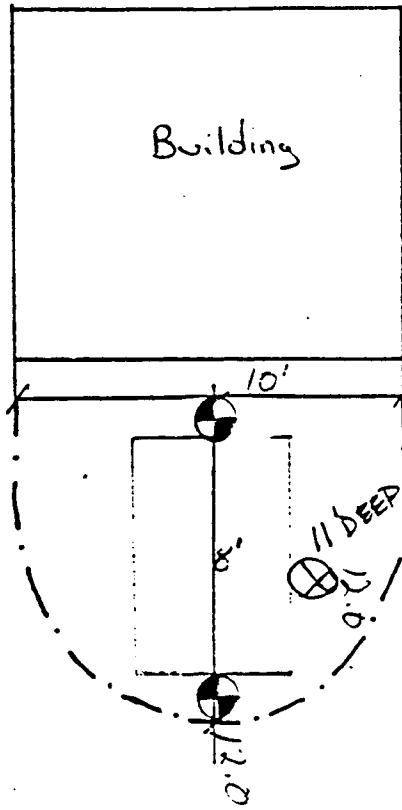
Laboratory Report Freedom

Freedom Gate



P.T.D

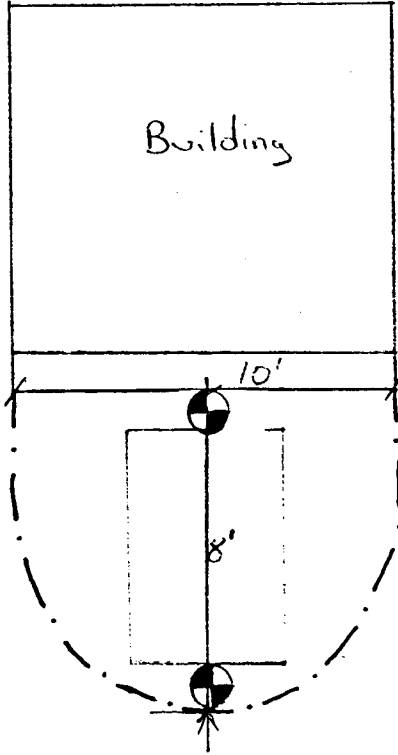
Freedom Gate



Depth



Freedom Gate



14'

7'



2025 RELEASE UNDER E.O. 14176



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53536
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: TANK #47 FREEDOM BOT. SOUTH

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53536
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: TANK #47 FREEDOM BOT. SOUTH

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4286-53536
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : TANK #47 FREEDOM BOT. SOUTH

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.7	su
Final pH	5.2	su
Amount of acetic acid used per method	2	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53537
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: TANK #47 FREEDOM BOT. NORTH

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53537
MATRIX: SOLID

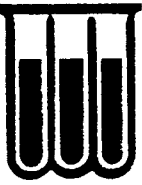
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: TANK #47 FREEDOM BOT. NORTH

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5255-57959
MATRIX : SOLID

DATE RECEIVED: 4/18/90

SAMPLE ID : FREEDOM

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/19/90	11	5 mg/kg
Lead	4/19- 4/20/90	23	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4286-53537
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : TANK #47 FREEDOM BOT. NORTH

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/19- 2/20/90	ND	0.05	mg/l
Lead	2/19- 2/20/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	7.0	su
Final pH	5.1	su
Amount of acetic acid used per method	4	ml

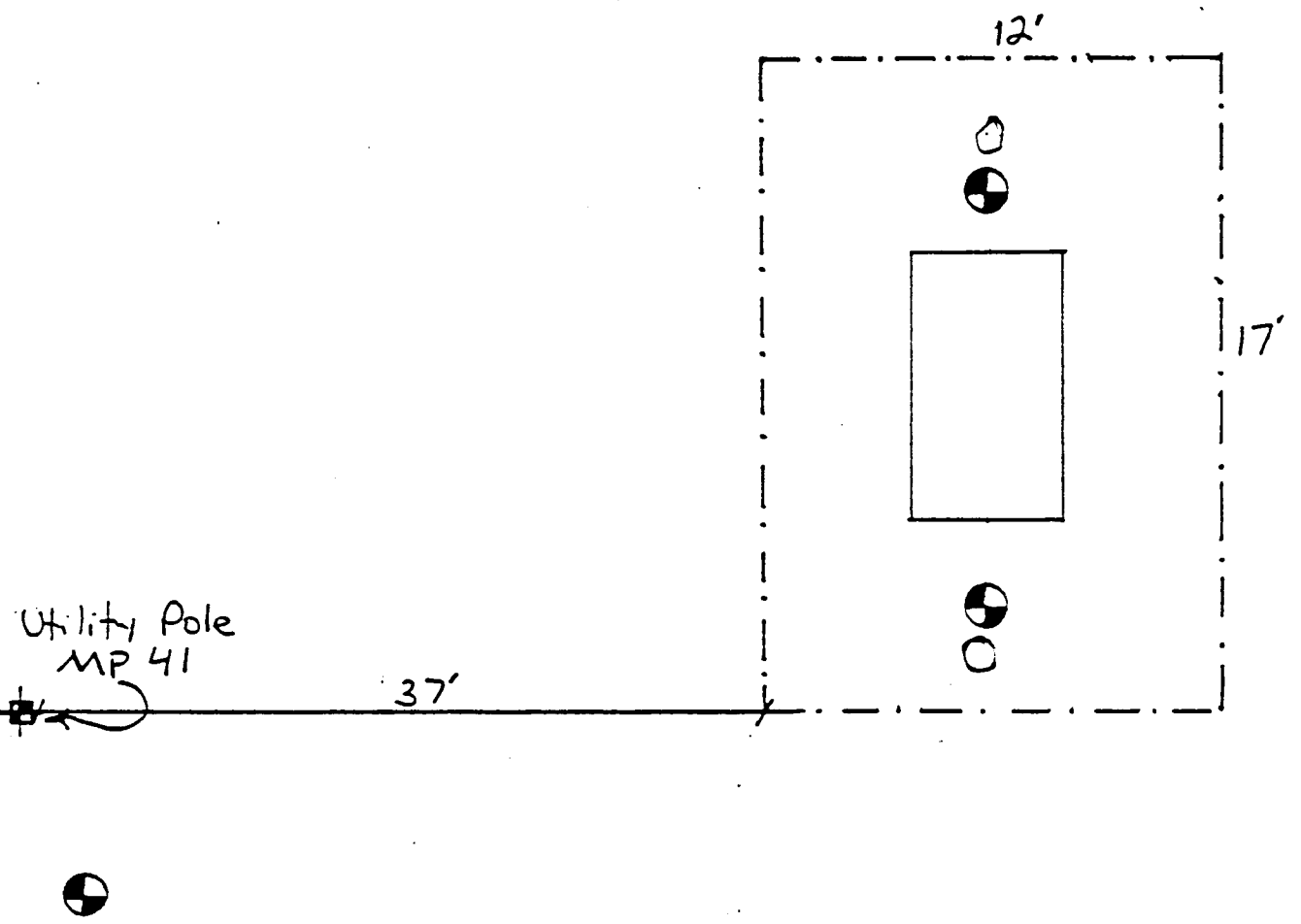
APPENDIX N

Laboratory Report Atlas

P L W
Old Atlas



385
42 386 200 SHEETS 3 SQUARE
NATIONAL
U.S.A.



Utility Pole
MP 41

37'

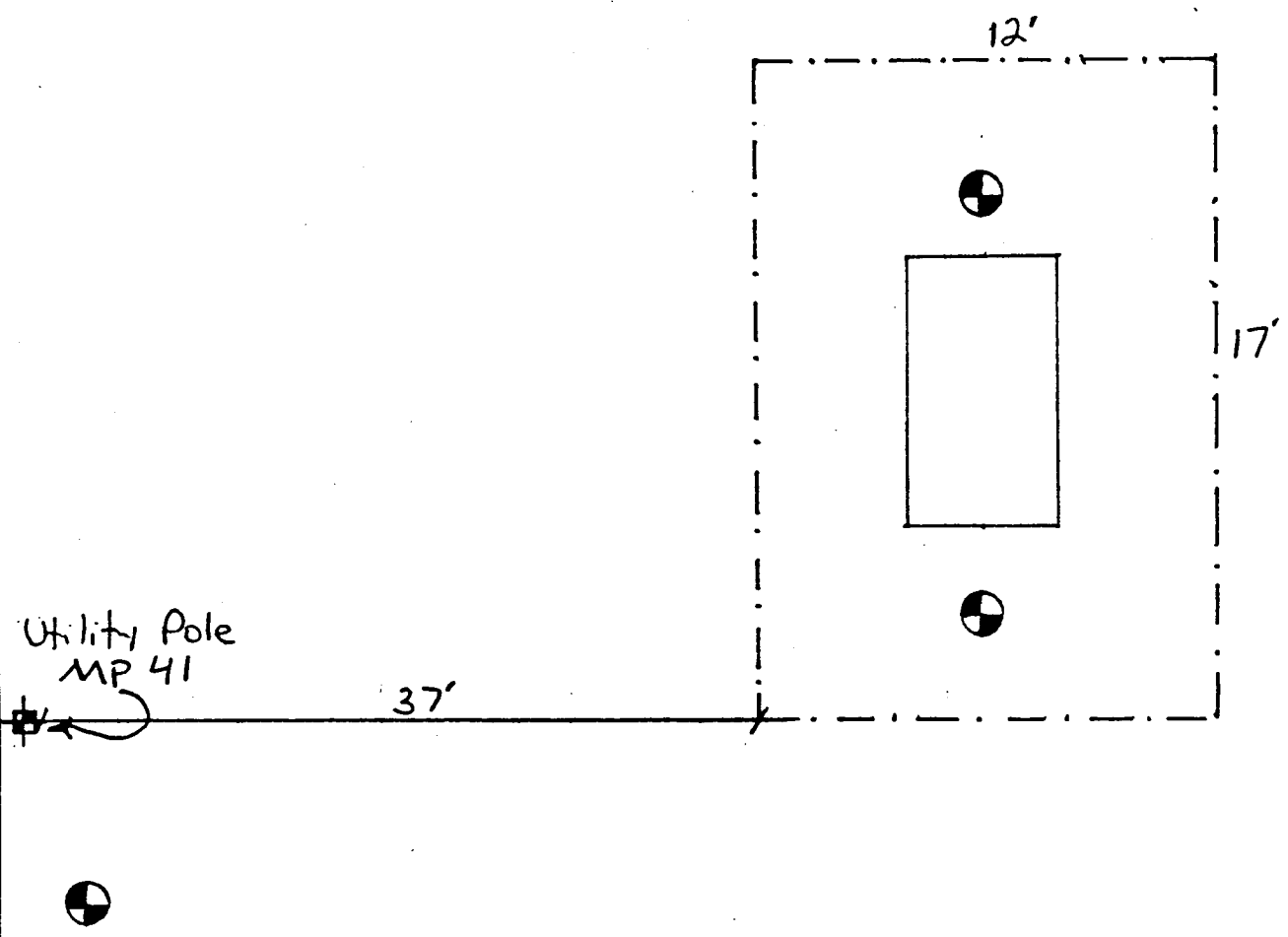
12'

17'

Old Atlas



381
43 382
NATIONAL
IS SQUARE
SHEETS SQUARE
200 SHEETS SQUARE





WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4306-53656
MATRIX: SOLID

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: EAST BOTTOM

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	16	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4306-53656
MATRIX: SOLID

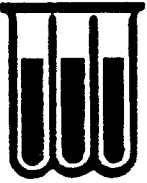
DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: EAST BOTTOM

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5255-57958
MATRIX : SOLID

DATE RECEIVED: 4/18/90

SAMPLE ID : OLD ATLAS

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/19/90	13	5 mg/kg
Lead	4/19- 4/20/90	ND	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4306-53656
MATRIX : SOLID

DATE RECEIVED: 2/14/90

SAMPLE ID : EAST BOTTOM

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	8.9	su
Final pH	4.9	su
Amount of acetic acid used per method	320	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4306-53657
MATRIX: SOLID

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: WEST WALL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4306-53657
MATRIX: SOLID

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: WEST WALL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4306-53657
MATRIX : SOLID

DATE RECEIVED: 2/14/90

SAMPLE ID : WEST WALL

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	2/19- 2/20/90	ND	0.05	mg/l
Lead	2/19- 2/20/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	9.0	su
Final pH	4.9	su
Amount of acetic acid used per method	170	ml

APPENDIX O

Laboratory Report Background



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54037
MATRIX: SOLID

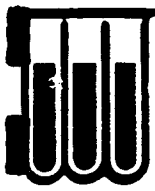
DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: BACKGROUND FREEDOM 1'-2'

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	1,600	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54037
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : BACKGROUND FREEDOM 1'-2'

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/27- 2/28/90	7.7	5 mg/kg
Lead	2/27- 2/28/90	18	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54038
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: BACKGROUND A6 1'-2'

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54038
MATRIX : SOLID

DATE RECEIVED: 2/21/90

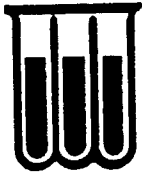
SAMPLE ID : BACKGROUND A6 1'-2'

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/27- 2/28/90	8.9	5 mg/kg
Lead	2/27- 2/28/90	19	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4425-54080
MATRIX: SOLID

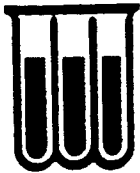
DATE RECEIVED: 2/22/90
DATE EXTRACTED: 3/ 7/90
DATE ANALYZED: 3/ 7/90

SAMPLE ID: ATLAS BACKGROUND

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	120	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4425-54080
MATRIX : SOLID

DATE RECEIVED: 2/22/90

SAMPLE ID : ATLAS BACKGROUND

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/27- 2/28/90	9.6	5 mg/kg
Lead	2/27- 2/28/90	20	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54036
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: BACKGROUND POST 27 1'-2'

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54036
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : BACKGROUND POST 27 1'-2'

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/27- 2/28/90	11	5 mg/kg
Lead	2/27- 2/28/90	14	10 mg/kg

NOTE: ND (None Detected)

APPENDIX P

Laboratory Report Landfill



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53904
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-6 12,000 LANDFILL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53904
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-6 12,000 LANDFILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53904
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-6 12,000 LANDFILL

METALS ANALYTICAL REPORT
SELECTED LIST

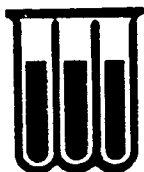
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.6	su
Final pH	4.9	su
Amount of acetic acid used per method	4.0	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53904
MATRIX : SOLID

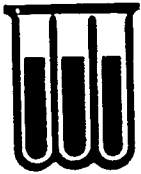
DATE RECEIVED: 2/19/90

SAMPLE ID : U-6 12,000 LANDFILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	2/27/90	>210	Deg.F
pH	2/20/90	7.8	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53907
MATRIX: SOLID

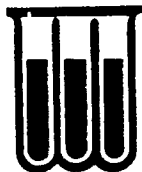
DATE RECEIVED: 2/19/90
DATE EXTRACTED: 3/ 1/90
DATE ANALYZED: 3/ 1/90

SAMPLE ID: U-3 12,000 LANDFILL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4369-53907
MATRIX: SOLID

DATE RECEIVED: 2/19/90
DATE EXTRACTED: 2/26/90
DATE ANALYZED: 2/26/90

SAMPLE ID: U-3 12,000 LANDFILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect.)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53907
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-3 12,000 LANDFILL

METALS ANALYTICAL REPORT
SELECTED LIST

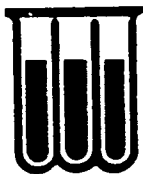
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/21/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/21- 2/23/90	ND	0.05 mg/l
Lead	2/21- 2/23/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.5	su
Final pH	5.1	su
Amount of acetic acid used per method	3.0	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4369-53907
MATRIX : SOLID

DATE RECEIVED: 2/19/90

SAMPLE ID : U-3 12,000 LANDFILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point. (PMCC)	2/27/90	>210	Deg.F
pH	2/20/90	7.8	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54041
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 3/ 6/90
DATE ANALYZED: 3/ 6/90

SAMPLE ID: A-6 3900 LANDFILL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	76	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4413-54041
MATRIX: SOLID

DATE RECEIVED: 2/21/90
DATE EXTRACTED: 2/28/90
DATE ANALYZED: 2/28/90

SAMPLE ID: A-6 3900 LANDFILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54041
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A-6 3900 LANDFILL

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/23/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/26- 2/28/90	ND	0.05 mg/l
Lead	2/26/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	8.7	su
Final pH	5.0	su
Amount of acetic acid used per method	80	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4413-54041
MATRIX : SOLID

DATE RECEIVED: 2/21/90

SAMPLE ID : A-6 3900 LANDFILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	3/ 5/90	>210	Deg.F
pH	2/21/90	8.5	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53532
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: A-6 550 LANDFILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	1
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53532
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-6 550 LANDFILL

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/15/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	7.8	su
Final pH	5.0	su
Amount of acetic acid used per method	27	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53532
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-6 550 LANDFILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	2/23/90	>210	Deg.F
pH	2/14/90	7.0	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53535
MATRIX: SOLID

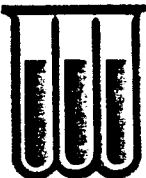
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: A-1 5000 LANDFILL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	100	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4285-53535
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: A-1 5000 LANDFILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	1	1
Benzene	ND	1
Toluene	ND	1
Ethylbenzene	ND	1

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53535
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-1 5000 LANDFILL

METALS ANALYTICAL REPORT
SELECTED LIST

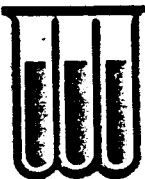
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	7.9	su
Final pH	5.0	su
Amount of acetic acid used per method	17	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4285-53535
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : A-1 5000 LANDFILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	2/23/90	>210	Deg.F
pH	2/14/90	6.7	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53541
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: POST #24 LANDFILL CHARLESTON

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	890	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53541
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/19/90
DATE ANALYZED: 2/19/90

SAMPLE ID: POST #24 LANDFILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	1.2	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4286-53541
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : POST #24 LANDFILL

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	6.9	su
Final pH	4.9	su
Amount of acetic acid used per method	24	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4286-53541
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : POST #24 LANDFILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	2/23/90	>210	Deg.F
pH	2/14/90	5.7	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 5048-57036
MATRIX: SOLID

DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 6/90
DATE ANALYZED: 4/ 6/90

SAMPLE ID: PILE

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	ND	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5048-57036
MATRIX : SOLID

DATE RECEIVED: 4/ 5/90

SAMPLE ID : P1LE

METALS ANALYTICAL REPORT
SELECTED LIST

Total metals analysis results - as received

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	4/ 9- 4/10/90	6.1	5 mg/kg
Lead	4/ 9- 4/10/90	ND	10 mg/kg

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 5048-57036
MATRIX : SOLID

DATE RECEIVED: 4/ 5/90

SAMPLE ID : PILE

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 4/ 6/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT	
Chromium	4/ 6/90	ND	0.05	mg/l
Lead	4/ 6/90	ND	0.1	mg/l

NOTE: ND (None Detected)

Initial pH	5.8	su
Final pH	5.1	su
Amount of acetic acid used per method	1.3	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 5048-57036
MATRIX: SOLID

DATE RECEIVED: 4/ 5/90
DATE EXTRACTED: 4/ 5/90
DATE ANALYZED: 4/ 5/90

SAMPLE ID: PILE

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (ug/kg)	DETECTION LIMIT
Xylenes	ND	5
Benzene	ND	5
Toluene	ND	5
Ethylbenzene	ND	5

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53538
MATRIX: SOLID

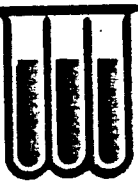
DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: TANK #47 LAND FILL

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	49	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4286-53538
MATRIX: SOLID

DATE RECEIVED: 2/13/90
DATE EXTRACTED: 2/20/90
DATE ANALYZED: 2/20/90

SAMPLE ID: TANK #47 LAND FILL

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4286-53538
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : TANK #47 LAND FILL

METALS ANALYTICAL REPORT
SELECTED LIST

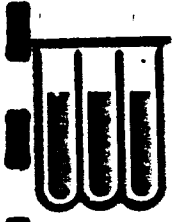
Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/15/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	7.7	su
Final pH	5.0	su
Amount of acetic acid used per method	14	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB # : 4286-53538
MATRIX : SOLID

DATE RECEIVED: 2/13/90

SAMPLE ID : TANK #47 LAND FILL

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	2/23/90	>210	Deg.F
pH	2/14/90	7.1	su

NOTE: ND (None Detected)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4306-53658
MATRIX: SOLID

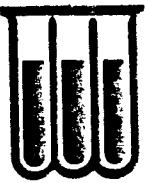
DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/23/90
DATE ANALYZED: 2/26/90

SAMPLE ID: LAND FILL PILE

ANALYTICAL REPORT - INFRARED SPECTROSCOPY

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Total Recoverable Petroleum Hydrocarbons	170	15

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY: Cardamone Construction, Inc.
LAB #: 4306-53658
MATRIX: SOLID

DATE RECEIVED: 2/14/90
DATE EXTRACTED: 2/16/90
DATE ANALYZED: 2/16/90

SAMPLE ID: LAND FILL PILE

SELECTED ORGANIC COMPOUNDS ANALYTICAL REPORT

PARAMETER	RESULT (mg/kg)	DETECTION LIMIT
Xylenes	ND	0.2
Benzene	ND	0.2
Toluene	ND	0.2
Ethylbenzene	ND	0.2

NOTE: ND (None Detected)
J (Detected, but below quantitation limit; quantitation suspect)



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.
LAB #: 4306-53658
MATRIX : SOLID

DATE RECEIVED: 2/14/90

SAMPLE ID : LAND FILL PILE

METALS ANALYTICAL REPORT
SELECTED LIST

Leachate testing in accordance with USEPA Manual SW846 Method 1310

EP EXTRACTION DATE: 2/16/90

ELEMENT	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Chromium	2/19- 2/20/90	ND	0.05 mg/l
Lead	2/19- 2/20/90	ND	0.1 mg/l

NOTE: ND (None Detected)

Initial pH	8.6	su
Final pH	4.8	su
Amount of acetic acid used per method	75	ml



WADSWORTH/ALERT
LABORATORIES, INC.

COMPANY : Cardamone Construction, Inc.

DATE RECEIVED: 2/14/90

LAB #: 4306-53658

MATRIX : SOLID

SAMPLE ID : LAND FILL PILE

ANALYTICAL REPORT

PARAMETER	PREPARATION - ANALYSIS DATE	RESULT	DETECTION LIMIT
Flash Point (PMCC)	2/23/90	>210	Deg.F
pH	2/15/90	7.8	su

NOTE: ND (None Detected)

APPENDIX Q
Soil Fate Schedule



4865
Chaincraft Road
Garfield Heights
Ohio 44125
216-581-1133

March 21, 1990
REVISED JUNE 6, 1990

Ravenna Arsenal
8451 State Route 5
Ravenna, Ohio 44266

Attention: Ms. Sue McCauslin

Regarding: Ravenna Arsenal
UST Closures
Ravenna, Ohio

Gentlemen:

As per discussions with Mr. Jenkins, Mr. Carkido and Ms. McCauslin, decisions with regards to the destination of each adjacent excavated soil material pile were concluded at the site on Wednesday March 21, 1990. The following specifications were authorized and directed by representatives of the Ravenna Arsenal (Mr. Jenkins, Mr. Carkido and Ms. McCauslin).

<u>Location</u>	<u>Soil (Contaminated) Removal</u>	<u>Soil To Stay</u>
Old Atlas	1. All south of excavation 2. Norton Landfill	1. All north of excavation 2. All run-off water to be pumped onto adjacent ground
U-3	N/A	1. All soil to stay 2. All run-off water to be pumped onto adjacent ground
U-6	1. Soil from bottom section S.E. of excavation 2. Norton Landfill	1. All remaining soil to stay 2. All run-off water to be pumped onto adjacent ground

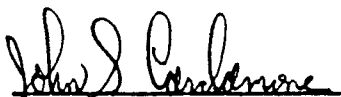
Ravenna Arsenal
Page 2
March 21, 1990

A-1	1. Soil east of excavation to be removed 2. Norton Landfill	1. All remaining soil to stay 2. All run-off water to be pumped onto adjacent ground
A-6 (small tank)	N/A	1. Total excavation soil to stay 2. All run-off water to be pumped onto adjacent ground
A-6 (3 larger tanks)	1. Soil east and south of excavation to be removed 2. Norton Landfill	1. All remaining soil to stay 2. All groundwater to be pumped onto adjacent ground
Freedom Gate	1. All soil furthest south of excavation	1. All remainder of soil to stay 2. All run off water to be pumped onto adjacent ground
Charleston	1. All soil to be removed from this location 2. Norton Landfill	N/A

This work scope is to commence on March 22, 1990.

Sincerely,

CARDAMONE CONSTRUCTION COMPANY



John S. Cardamone

JSC:jmh



Cardamone
CONSTRUCTION INC.

4865
Chaincraft Road
Garfield Heights
Ohio 44125
216•581•1133
1•216•686•2476

April 6, 1990

Ravenna Arsenal
8451 State Route 5
Ravenna, Ohio 44266

Attention: Ms. Sue McCauslin

Regarding: Ravenna Arsenal
UST Closures
Ravenna, Ohio

Gentlemen:

As per verbal discussions with Mr. Jenkins and Mr. Carkido, the initial contaminated soil from the Charleston Gate was hauled to the landfill March 29 and March 30, 1990.

On April 4 and April 5, 1990 additional excavations were completed at the Charleston Gate. Materials were stockpiled and samples taken. Stockpiled material was handled as directed by Ravenna Arsenal.

Sincerely,

John S. Cardamone,
President

JSC/mb



4865
Chaincraft Road
Garfield Heights
Ohio 44125
216-581-1133

April 12, 1990
REVISED JUNE 6, 1990

Ravenna Arsenal
8451 State Route 5
Ravenna, Ohio 44226

Attention: Ms. Sue McCauslin

Regarding: Ravenna Arsenal
UST Closures
Ravenna, Ohio

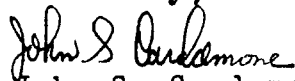
Gentlemen:

As per verbal discussions with Mr. Jenkins and Mr. Carkido, decisions with regards to the destination of the excavated soil pile were concluded by phone on Wednesday April 11, 1990. The following specification were authorized and directed by representatives of the Ravenna Arsenal (Mr. Jenkins, and Mr. Carkido).

<u>Location</u>	<u>Soil (Contaminated) Removal</u>	<u>Soil To Stay</u>
Charleston	1. N/A	1. All remainder of soil to stay 2. All run-off water to be pumped onto adjacent ground

This work scope is to commence on April 12 and April 16, 1990.

Sincerely,


John S. Cardamone,
President

JSC:mb

At the request of representatives of the Ravenna Arsenal the following language is incorporated in this report to clarify action taken relating to water in the excavations by representatives of the arsenal.

A groundwater table was present in only one (1) excavation (A6). This groundwater was sampled and determined by representatives of the arsenal to be non-contaminated based on samples and testing parameters determined by the same personnel (See Appendix R). Water was present in the other excavations. The water in each hole was a result of:

1. Time of Season Work Commenced (spring)
2. Run-Off

Upon receipt of soil results verifying the excavations to be clean, then and only then was non-contaminated run-off permitted to be pumped out of the hole onto adjacent ground.

APPENDIX R

Groundwater Sample Results

PROJECT
PO# 19819

SAMPLERS(Signature)

RVAAP

L Johnson + J Mound

CLIENT ID	SAMPLE NUMBER	DATE	TIME	ANALYSIS REQUIRED
A-6	17-A	2/22/90	10:25	A BETA (1) BETA TOT Volital Hydro Carbons TOTAL LEAD TOTAL PETRO Hydro Carbons

Relinquished by:(Signature) <i>L Johnson + J Mound</i>	Received by:(Signature) <i>Debra K. Keckerman</i>	Date/Time 11:00 AM 2/22/90
Relinquished by:(Signature) <i>Debra K. Keckerman</i>	Received by:(Signature) <i>Released to UPS</i>	Date/Time
Relinquished by:(Signature)	Received by:(Signature)	Date/Time
Relinquished by:(Signature)	Received at Laboratory <i>Carol Wilhoit</i>	Date/Time

Name & Address of Laboratory:

SHIPPING ORDER REQUEST
RAVENNA ARSENAL, INC.
Ravenna, Ohio 44266

2-22-90

S.O.No. _____ Date _____

TRANS. TERMS _____

Vendor

SHIP VIA _____ #411

SHIP DATE _____ Pick

SHIP TO _____ On Thursday 11:00

ADDRESS _____

CUSTOMER'S NO. _____

P O NO _____ R. & I. NO. _____

VENDOR

AQUA-TECH
5276 Fulton Drive N.W.
Canton, Ohio 44718
(216) 494-3324

QUANTITY	DESCRIPTION	PRICE	AMOUNT
2	1 liter bottles, containing water for Petroleum analysis.		
<p>REASON FOR SHIPMENT: Analysis necessary to establish determination of ground water at A-6 excavation site. 55-934 2550-7676</p> <p>CREDIT ACCOUNT NO. _____</p> <p>APPROX. VALUE: \$ _____</p> <p>APPROX. DATE OF RETURN TO RA: _____</p>			

ORDERED BY: _____

DEPT. _____

APPROVALS: _____

RA-7, Rev. 2/70

Ravenna Arsenal, Inc.

P.O. No. 19819

Date: _____

2-22-90

PURCHASE REQUISITION

Dept.: 26

* These Sections To Be Filled In By Purchasing Division Only

VENDOR _____

ADDRESS _____

Ship Via: _____

Date Promised: _____

Terms: _____

F.O.B. _____

D.O. _____

D.M.S. Req. _____

Confirming: _____

Order To: _____

Per Your Quote: _____

Buyer: _____

Receiving Dept.: _____

Deliver To: _____

Quantity	Stock No.	Description (Please Type)	Price	Unit
1		Perform laboratory analysis on water sample		
		for A) BTEX Analysis		
		1) Benzene		
		2) Toluene		
		3) Ethyl Benzene		
		4) Total xylenes		
		5) other volatiles		
		6) Total lead	15	
		7) Total Petroleum Hydrocarbons	15	

AQUA TECH ENVIRONMENTAL CONSULTANTS INC.
RESULT SHEET

Customer Name: Ravenna Arsenal
Sample Type: Water
Analysis Performed: Purgeable Organics
Analyst: REB
Client Sample No.: A-6 17-A

Project No.: RVAAP
Date Received: 2/23/90
Date Analyzed: 2/26/90
Method No.: SW-846; 8240
ATEC Sample No.: 2435

Acrolein	< 100
Acrylonitrile	< 100
Benzene	< 5.0
Bromoform	< 10.0
Carbon Tetrachloride	< 5.0
Chlorobenzene	< 5.0
Chlorodibromomethane	< 5.0
Chloroethane	< 10.0
2-Chloroethyl Vinyl Ether	< 10.0
Chloroform	< 5.0
Dichlorobromomethane	< 5.0
Dichlorodifluoromethane	< 10.0
1,1-Dichloroethane	< 5.0
1,2-Dichloroethane	< 5.0
1,1-Dichloroethene	< 5.0
1,2-Dichloropropane	< 5.0
cis-1,3-Dichloropropene	< 5.0
trans-1,3-Dichloropropene	< 5.0
Ethyl Benzene	< 5.0
Methyl Bromide	< 10.0
Methyl Chloride	< 10.0
Methylene Chloride	< 10.0
1,1,2,2-Tetrachloroethane	< 5.0
Tetrachloroethene	< 5.0
Toluene	< 5.0
cis-1,2-Dichloroethene	< 5.0
trans-1,2-Dichloroethene	< 5.0
1,1,1-Trichloroethane	< 5.0
1,1,2-Trichloroethane	< 5.0
Trichloroethene	< 5.0
Trichlorofluoromethane	< 10.0
Vinyl Chloride	< 10.0
Total Xylenes	< 5.0

RECEIVED
MAINTENANCE DEPT.

MAR 22 1990

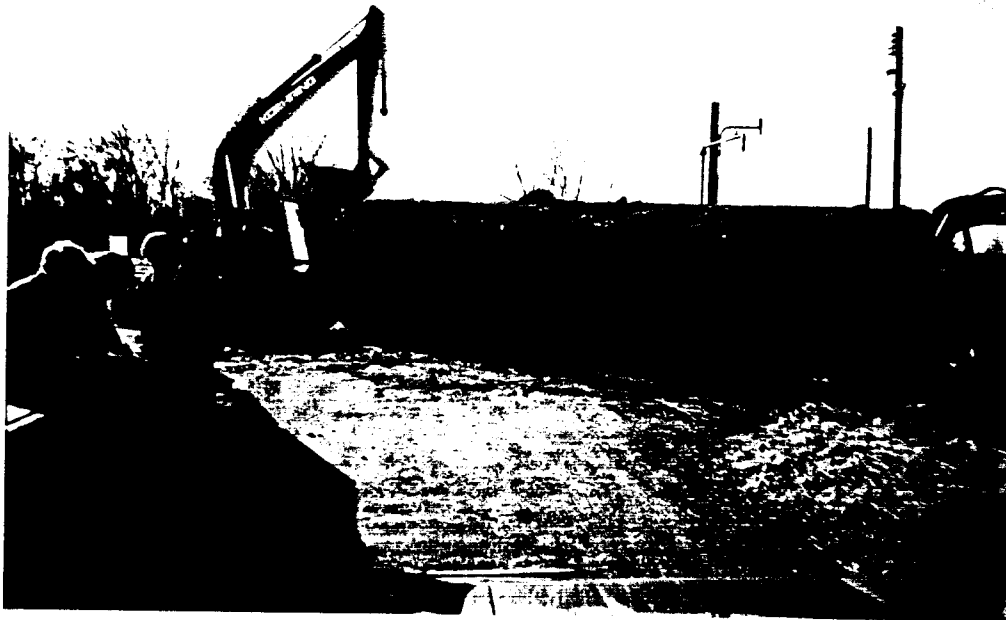
AM 3,9,10,11,12,1,2,3,4,5,6 PM

All results reported as ug/l (PPB)

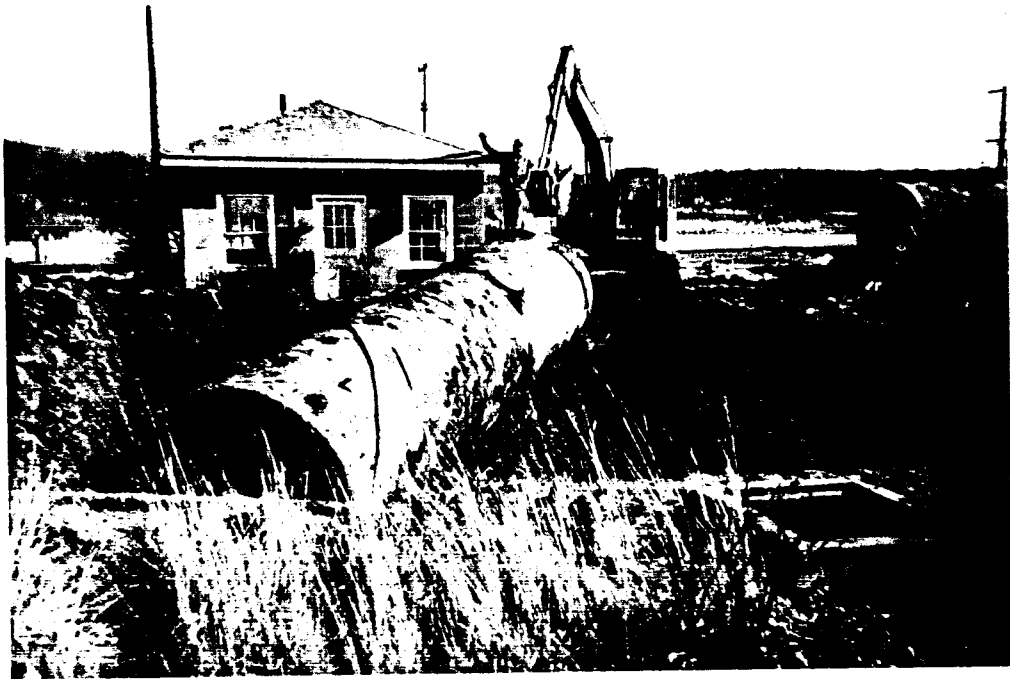
APPENDIX S

Photographic Documentation of Each Tank Site

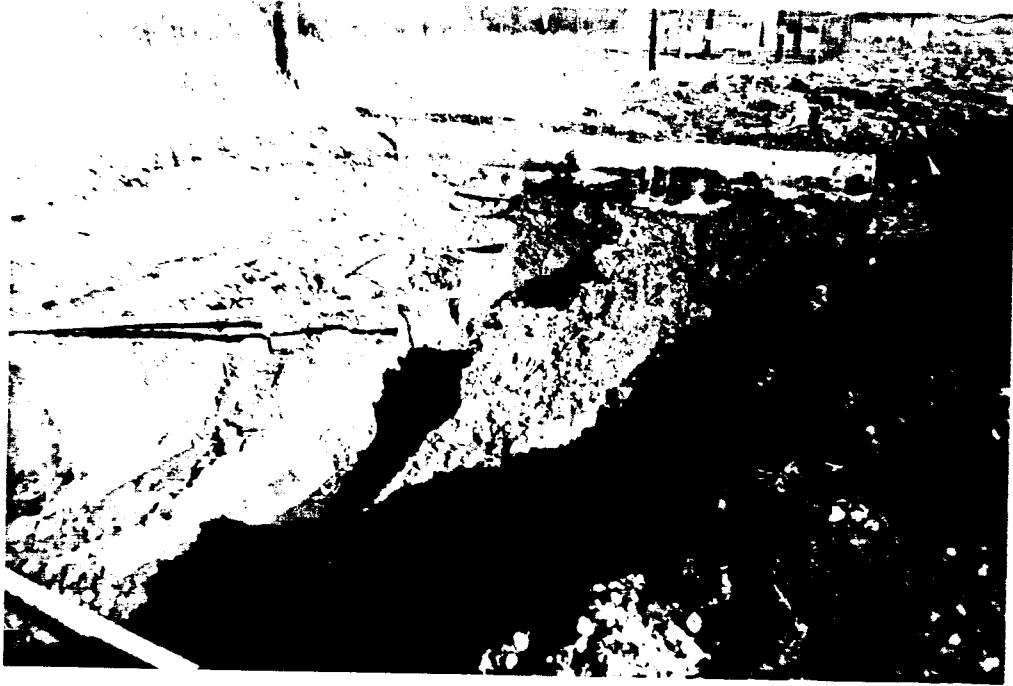
U-6 SITE REMOVAL & DECOMMISSION



U-3 SITE REMOVAL & DECOMMISSION



A-6 SITE REMOVAL



A-6 500 GAL
REMOVAL & DECOMMISSION



A-1 SITE
REMOVAL &
DECOMMISSION



CHARLESTON
SITE
REMOVAL &
DECOMMISSION

FREEDOM SITE
REMOVAL & DECOMMISSION



ATLAS SITE
REMOVAL &
DECOMMISSION



AQUA TECH
ENVIRONMENTAL CONSULTANTS, INC.

P.O. Box 76 Melmore, Ohio 44845 (419) 337-2559 or (337) 2200
P.O. Box 436 181 South Main Street, Marion, Ohio 43302 (614) 362-5991

LABORATORY ANALYSIS REPORT

DATE REC'D.	02-23-1990	LAB NO.	2725-90
DATE REP'D.	03-13-1990	CLIENT NO.	10232
SAMPLE LOCATION	A-6	DATE SAMPLED	02-22-1990
SAMPLED BY	L. JOHNSON/J. MOUND	TIME SAMPLED	10:25

MR. JOE MOUND
RAVENNA ARSENAL, INC.
8451 SR 5
RAVENNA OH 44266

COMMENTS

STORET	ANALYSIS	RESULT	UNITS	DATE OF ANALYSIS
01051	LEAD, TOTAL, FS	<5	UG/L	02-26-1990
45501	PETROLEUM HYDROCARBONS	<1.0	MG/L	03-09-1990

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MAR 15 1990
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LABORATORY CERTIFICATION # 4053

SIGNED _____

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