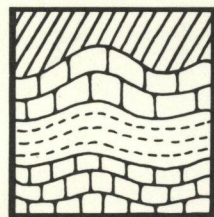


Box 28

B. J. JENKINS

APR 18 1990



**R&R**

INTERNATIONAL, INC.

**A TEAM...**  
**Dedicated to serving your needs**

**FINAL REPORT FOR THE  
REMOVAL OF  
FOUR UNDERGROUND STORAGE TANKS**

**PREPARED FOR  
RAVENNA ARMY AMMUNITION PLANT  
RAVENNA, OHIO**

**APRIL, 1990**

F. RFUST

33.00CS





# R&R

INTERNATIONAL, INC.

1234 S. CLEVELAND-MASSILLON ROAD  
P.O. BOX 4383  
AKRON, OHIO 44321  
(216) 666-2200

April 16, 1990

Ravenna Arsenal, Inc.  
8451 State Route 5  
Ravenna, Ohio 44266-9297

Attention: Mr. Bill Jenkins, Administrator

Reference: Removal of Four (4) UST's  
Ravenna Army Ammunition Plant  
R & R Project No. 100214

Gentlemen:

Enclosed please find three (3) copies of our Underground Storage Tank Closure Report for the above referenced project. This report has been prepared as part of our services for Contract No. DAAA09-88-Z-0001.

R & R International appreciates the opportunity to have worked with you on this project and we look forward to a long and successful working relationship with Ravenna Arsenal, Inc. If you have any questions or need further assistance, please do not hesitate to contact our office.

Respectfully,

R & R INTERNATIONAL, INC.

Samuel C. Reed  
Manager - Remediation Services

G. M. Rana, P.E.  
President

SCR/GMR:mm  
Enclosures



CERTIFICATION STATEMENT

I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE "REQUIREMENTS FOR UNDERGROUND STORAGE TANK REMOVAL," AS PREPARED FOR THE RAVENNA ARSENAL, INCORPORATED. ALL REMOVAL, ABATMENT, 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."

A handwritten signature in blue ink, appearing to read "G. M. Rana", is written over a horizontal line.

G. M. Rana, P.E.

16 APRIL 1990

Date





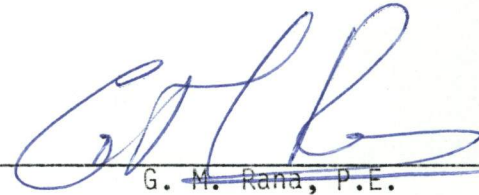


**R&R**

INTERNATIONAL, INC.

CERTIFICATION STATEMENT

I CERTIFY THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE "REQUIREMENTS FOR UNDERGROUND STORAGE TANK REMOVAL," AS PREPARED FOR THE RAVENNA ARSENAL, INCORPORATED. ALL REMOVAL, ABATMENT, 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."

  
\_\_\_\_\_  
G. M. Rana, P.E.

*April 16, 1990*  
\_\_\_\_\_  
Date





CLOSURE ASSESSMENT REPORT

I. OWNER

NAME: Ravenna Army Ammunition Plant

ADDRESS: 8451 State Rt. 5  
Ravenna, Ohio 44266-9297

CONTACT: Mr. Wayne Carkido

TELEPHONE: (216) 297-3237

II. DATE(S) of Tank Removal: February 9, 12, and 13, 1990

III. FIRE INSPECTOR

NAME: Mr. Homer Myers

ADDRESS: 3702 State Rt. 183  
Rootstown, Ohio 44272

TELEPHONE: (O) 614-864-5510  
(R) 216-325-1375

IV. NEUTRAL THIRD PARTY

NAME: Mr. Homer Myers

AFFILIATION: State Fire Marshal's Office

V. SAMPLER(S)

NAME: Mr. Brad Kinzy

AFFILIATION: R & R International, Inc.





CLOSURE ASSESSMENT REPORT (Continued)

VI. VISUAL SITE EVALUATION - Tank #1 RA #33

1. Tank size 2,000 gallon - Diesel Fuel.
2. Tank under grass and soil mound, top one-half exposed.
3. Excavation did not indicate any visual or olfactory signs of contamination.
4. The tank was intact externally; no holes or visual signs of leaks. Contamination not found according to visual and olfactory inspection of tank exterior.
5. Approximately four (4) yards of contaminated soil removed from the fill pipe area.

VII. VISUAL SITE EVALUATION - Tank #2 RA #11

1. Tank size 15,000 gallon - Diesel fuel under a concrete vault.
2. Excavated pit did not indicate any visual or olfactory signs of contamination in any area..
3. The tank was intact externally; no holes or visual signs of leaks. Contamination not found according to visual and olfactory inspection of tank exterior.
4. Approximately 15 - 20 yards of contaminated soil removed from the suction line area near building.

VIII. VISUAL SITE EVALUATION - Tank #3 RA#22

1. Tank size 15,000 gallon - Diesel fuel under a concrete vault and grass.
2. Excavated pit did not indicate any visual or olfactory sign of contamination in any area.
3. The tank was intact externally; no holes or visual signs of leaks. Contamination not found according to visual and olfactory inspection of tank exterior.
4. Approximately 15 - 20 yards of contaminated soil removed from suction line area near building.





CLOSURE ASSESSMENT REPORT (Continued)

IX. VISUAL SITE EVALUATION - Tank #4 RA#23

1. Tank size 15,000 gallon - Diesel fuel under grass.
2. Excavated pit did not indicate any visual or olfactory signs of contamination in any area.
3. The tank was intact externally; no holes or visual signs of leaks. Contamination not found according to visual and olfactory inspection of tank exterior.
4. Approximately eight (8) to ten (10) yards of contaminated soil removed from fill pipe area.

X. SAMPLE COLLECTION PROCEDURE

Soil samples were collected in four (4) ounce teflon-lid glass sample jars using a stainless steel spoon. The sample locations are indicated on the attached site sketch. Samples were collected after scraping up to four (4) inches of soil from the surface. The sampling spoon was decontaminated in between each sample collection by a thorough rinsing with distilled water and wiping dry with a clean tissue. The samples obtained were immediately placed in a cooler, containing ice, for preservation. The samples were kept in the cooler until delivery to the laboratory. A Chain-of-Custody for all samples was started, a copy of which is attached to this report.

XI. LABORATORY

NAME: Holk Environmental Services, Inc.  
ADDRESS: 7777 Wall Street  
Valley View, Ohio 44125  
TELEPHONE: (216) 524-0888

XII. LABORATORY RESULTS

A copy of the Analytical Report from the laboratory forms a part of this report.



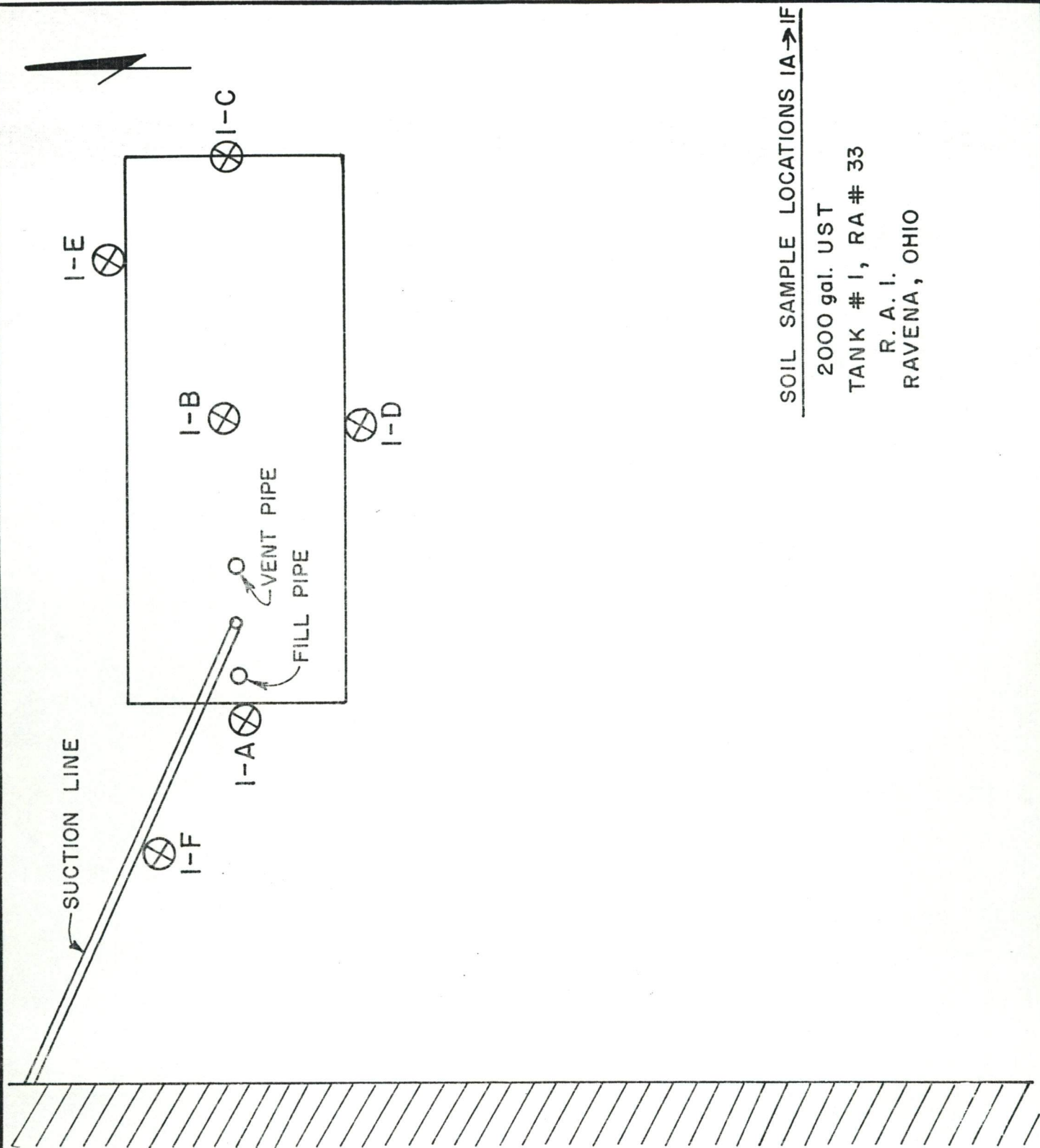


CLOSURE ASSESSMENT REPORT (Continued)

XIII. SPECIAL COMMENTS

1. The tanks were cleaned on site by R & R International, Inc. personnel. The resultant sludges and rinsates were disposed of by Chemtron Corporation of Avon, Ohio. The waste analysis data forms a part of this report.
2. The 2,000 gallon tank was disposed of at the E. 79th Scrap and Auto Wrecking in Cleveland, Ohio; the three (3) 15,000 gallon tanks were taken to Holub Iron & Steel Co., Inc. in Akron, Ohio for disposal. Documentation of disposal forms a part of this report.
3. Approximately 50 cubic yards of contaminated soil, removed from the excavations, was disposed of at Norton Landfill A.K.A. Royalton Road Sanitary Landfill in Broadview Heights, Ohio.
4. Due to security restrictions, photographs of the tank removal operations were not obtained.
5. All laboratory test results, Chain-of-Custody records, and tank disposal receipts are presented in Appendix A of this report.

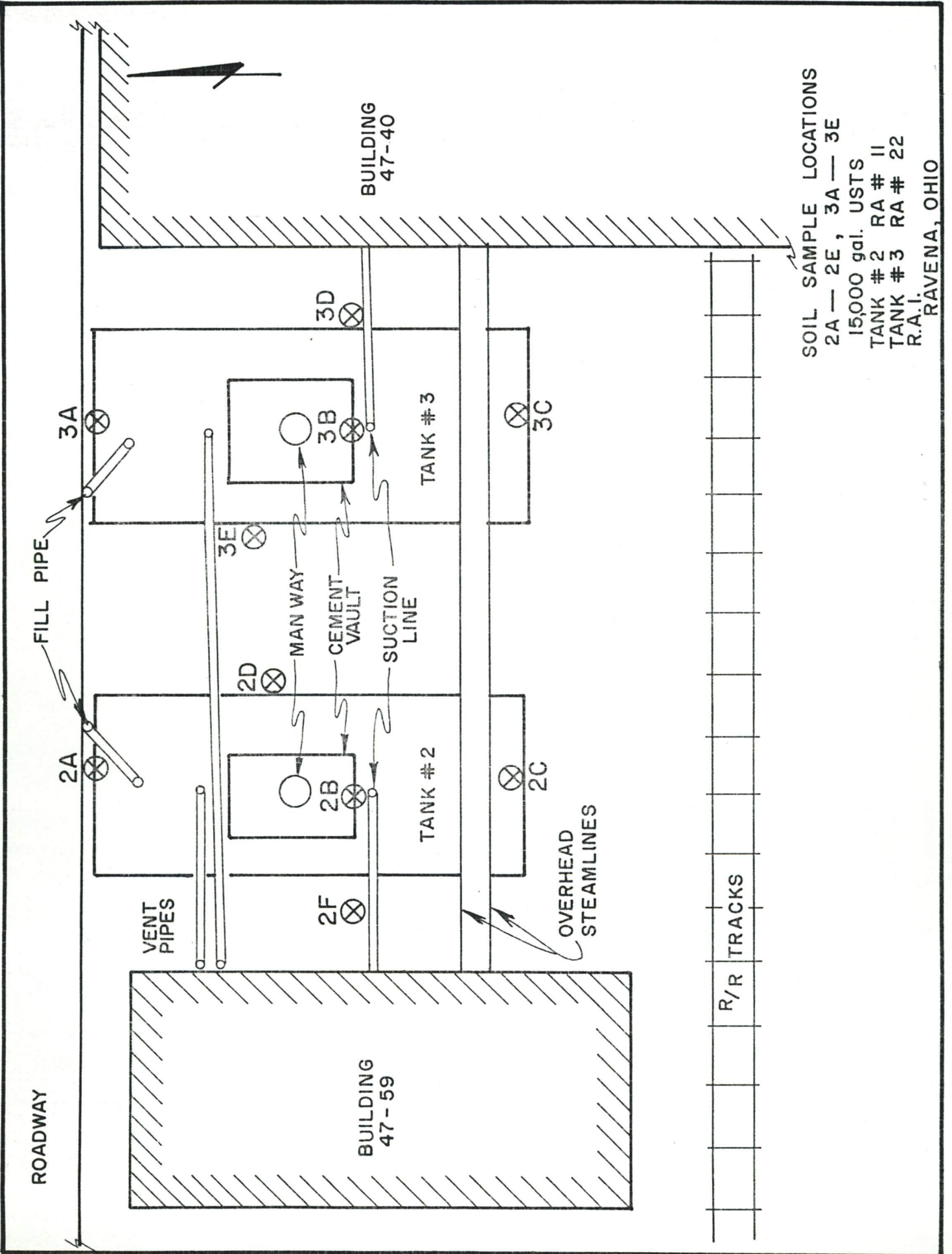
BUILDING  
S - 340

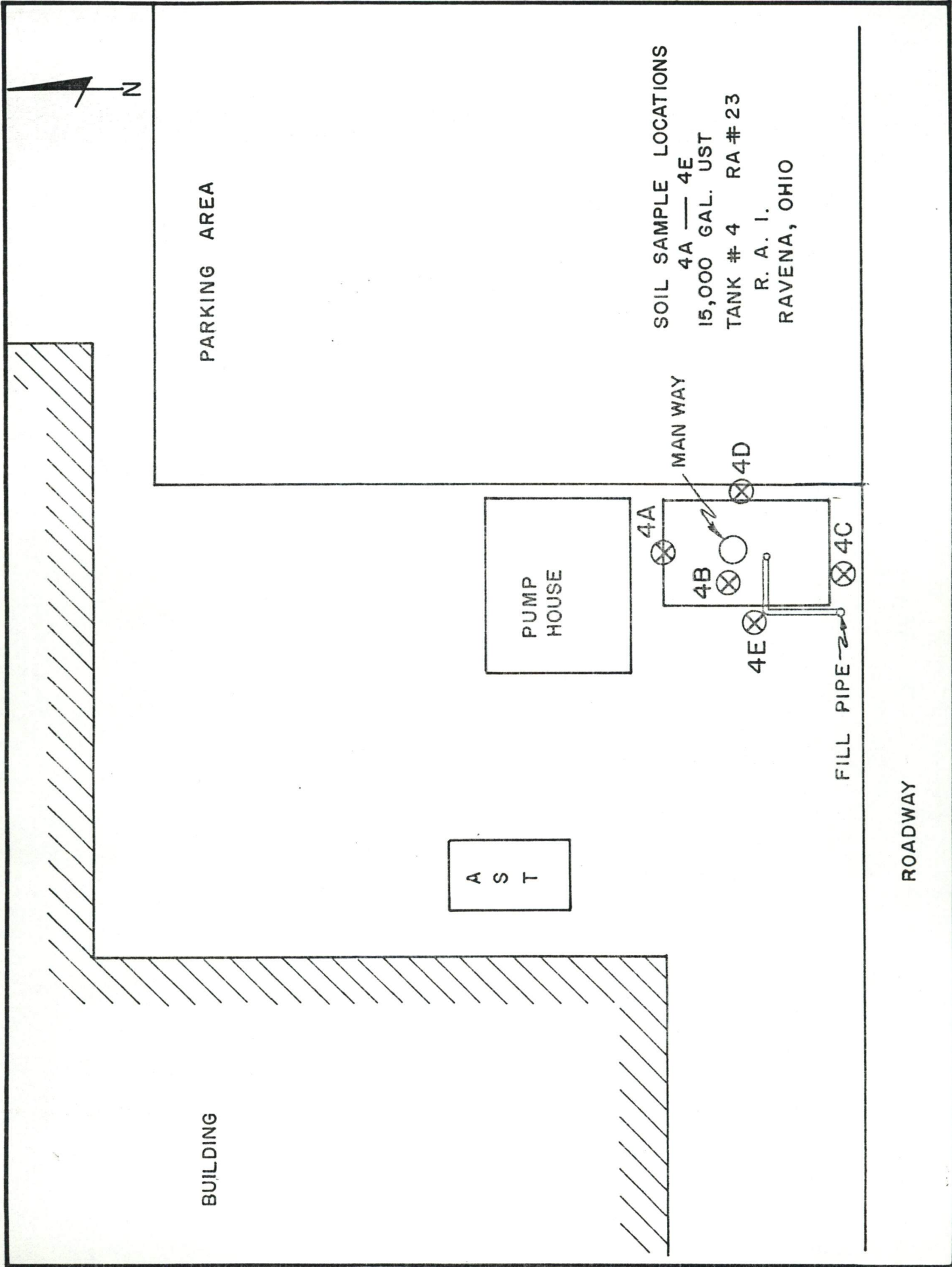


SOIL SAMPLE LOCATIONS IA → IF

2000 gal. UST  
TANK # 1, RA # 33  
R. A. I.  
RAVENA, OHIO







PARKING AREA

BUILDING

PUMP HOUSE

A S T

SOIL SAMPLE LOCATIONS  
 4A — 4E  
 15,000 GAL. UST  
 TANK # 4 RA # 23  
 R. A. I.  
 RAVENA, OHIO

MAN WAY

FILL PIPE

ROADWAY

N





HOLK ENVIRONMENTAL SERVICES, INC.  
 7777 WALL STREET  
 VALLEY VIEW, OHIO 44125  
 (216) 524-0888

CHAIN OF CUSTODY RECORD

GENERATOR/CUSTOMER <i>R:R INT'L</i>	CONTACT <i>Vince Mack - Nozzle New</i>
ADDRESS <i>1234 S. Cleve-Massillon Rd.</i>	PHONE NUMBER <i>248-5552</i>
CITY, STATE, ZIP <i>Akron, Ohio 44321</i>	TITLE <i>OWNER</i>
SAMPLE I.D. <i>LOT Soil Samples</i>	SAMPLED BY <i>BRAD KINSEY</i>
SAMPLING LOCATION <i>RAVENNA ARSENAL</i>	DATE AND TIME OF SAMPLING <i>2-13-90 11:00 AM TANK#1 SAMPLES. 2-14-90 2:00 PM TANK#2-4 samples.</i>
SAMPLE DESCRIPTION <i>BROWN SOIL SAMPLES</i>	
TYPE OF SAMPLE <u>COMPOSITE</u> <u>GRAB</u> AIR OTHER	NUMBER OF CONTAINERS <i>THIRTEEN (13)</i>
<i>1 OF 13 12 OF 13</i>	

SALES CUSTODY

SIGNATURE	SIGNATURE	DATE	TIME
RELINQUISHED BY <i>Brad Kinsey</i>	RECEIVED BY <i>Vince Mack</i>	<i>2/14</i>	<i>4 PM</i>
RELINQUISHED BY <i>Vince Mack</i>	RECEIVED BY <i>Joe OVB</i>	<i>2-15-90</i>	<i>11:30A</i>
RELINQUISHED BY <i>Joe OVB</i>	RECEIVED BY	DATE	TIME
RELINQUISHED BY	TECH SERVICE		
RELINQUISHED BY	RECEIVED BY <i>J. D. Lynn</i>	DATE	TIME
TECH SERVICE	LABORATORY	<i>2-15-90</i>	<i>12 PM</i>

LABORATORY CUSTODY

RECEIVED FROM SAMPLE ROOM			RETURNED TO SAMPLE ROOM		
ANALYST	DATE	TIME	SUPERVISOR	DATE	TIME
ANALYST	DATE	TIME	SUPERVISOR	DATE	TIME
ANALYST	DATE	TIME	SUPERVISOR	DATE	TIME
ANALYST	DATE	TIME	SUPERVISOR	DATE	TIME
ANALYST	DATE	TIME	SUPERVISOR	DATE	TIME
ANALYST	DATE	TIME	SUPERVISOR	DATE	TIME

ANALYTICAL WORK REQUIRED

*Holk I.D. # 39015-1 thru 13*  
*39015-1 COMPOSITE OF TANKS #1-#4*  
 " -2,3,4 TANK #2: EAST, CENTER, WEST  
 " -5,6,7 TANK #3: NORTH, " SOUTH  
 " -8,9,10 TANK #1: N, C, SOUTH  
 " -11,12,13 TANK #4: N, C, SOUTH





**R&R**

INTERNATIONAL, INC.

SAMPLE IDENTIFICATION CORRELATION

LAB SAMPLE I.D.

ACTUAL SAMPLE I.D.

#1

North  
Center  
South

1E  
1B  
1D

#2

East  
Center  
West

2D  
2B  
2F

#3

North  
Center  
South

3A  
3B  
3C

#4

North  
Center  
South

4A  
4B  
4C

**HOLK ENVIRONMENTAL SERVICES, INC.**

7777 Wall Street  
Valley View, Ohio 44125  
(216) 524-0888  
FAX (216) 524-2090

Date Received: 2-15-90Customer I.D.: Ravenna Arsenal

Nozzle New, Inc.  
34412 Pettibone Road  
Solon, Ohio 44139  
Attn: Mr. Vince Marek

P.O.#: vb. VM/JODate Reported: 2-20-90HOLK-Lab #: B9015-8-13Description: soil samples

<u>Customer I.D.</u>	<u>HOLK-Lab #</u>	<u>TPH</u>
Tank #1 (North)	B9015-8	149 ppm
Tank #1 (Center)	B9015-9	305 ppm
Tank #1 (South)	B9015-10	158 ppm
Tank #4 (North)	B9015-11	37 ppm
Tank #4 (Center)	B9015-12	67 ppm
Tank #4 (South)	B9015-13	394 ppm



Thomas H. Richert  
Director of Analytical Services

THR/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.



**HOLK ENVIRONMENTAL SERVICES, INC.**

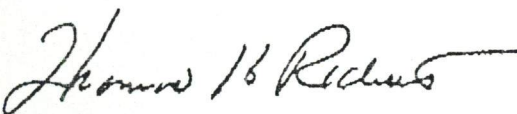
7777 Wall Street  
Valley View, Ohio 44125  
(216) 524-0888  
FAX (216) 524-2090

Date Received: 2-15-90Customer I.D.: Ravenna Arsenal

Nozzle New, Inc.  
34412 Pettibone Road  
Solon, Ohio 44139  
Attn: Mr. Vince Marek

P.O.#: vb. VM/JODate Reported: 2-20-90HOLK-Lab #: B9015-2-7Description: soil samples

<u>Customer I.D.</u>	<u>HOLK-Lab #</u>	<u>TRH</u>
Tank #2 (East)	B9015-2	22 ppm
Tank #2 (Center)	B9015-3	18 ppm
Tank #2 (West)	B9015-4	17 ppm
Tank #3 (North)	B9015-5	23 ppm
Tank #3 (Center)	B9015-6	18 ppm
Tank #3 (South)	B9015-7	44 ppm



Thomas H. Richert  
Director of Analytical Services

THR/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

**HOLK ENVIRONMENTAL SERVICES, INC.**

7777 Wall Street  
Valley View, Ohio 44125  
(216) 524-0888  
FAX (216) 524-2090

Date Received: 2-15-90Customer I.D.: Ravenna Arsenal

Nozzle New, Inc.  
34412 Pettibone Road  
Solon, Ohio 44139  
Attn: Mr. Vince Marek

P.O.#: vb, VH/JODate Reported: 2-20-90HOLK-Lab #: B9015-8-13Description: soil samples

<u>Customer I.D.</u>	<u>HOLK-Lab #</u>	<u>BTEX*</u>
Tank #1 (North)	B9015-8	<2 ppb
Tank #1 (Center)	B9015-9	<2 ppb
Tank #1 (South)	B9015-10	<2 ppb
Tank #4 (North)	B9015-11	<2 ppb
Tank #4 (Center)	B9015-12	<2 ppb
Tank #4 (South)	B9015-13	<2 ppb

\* Benzene, Toluene, Ethylbenzene, Xylene.

*Thomas H. Richert*  
Thomas H. Richert  
Director of Analytical Services

THR/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.



**HOLK ENVIRONMENTAL SERVICES, INC.**

7777 Wall Street  
 Valley View, Ohio 44125  
 (216) 524-0888  
 FAX (216) 524-2090

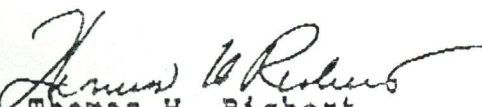
Date Received: 2-15-90Customer I.D.: Ravenna Arsenal

Nozzle New, Inc.  
 34412 Pettibone Road  
 Solon, Ohio 44139  
 Attn: Mr. Vince Marek

P.O.#: vb. VH/JODate Reported: 2-20-90HOLK-Lab #: B9015-2-7Description: soil samples

<u>Customer I.D.</u>	<u>HOLK-Lab #</u>	<u>BTEX*</u>
Tank #2 (East)	B9015-2	<2 ppb
Tank #2 (Center)	B9015-3	<2 ppb
Tank #2 (West)	B9015-4	<2 ppb
Tank #3 (North)	B9015-5	<2 ppb
Tank #3 (Center)	B9015-6	<2 ppb
Tank #3 (South)	B9015-7	<2 ppb

\* Benzene, Toluene, Ethylbenzene, Xylene.

  
 Thomas H. Richert  
 Director of Analytical Services

THR/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.

**HOLK ENVIRONMENTAL SERVICES, INC.**

7777 Wall Street  
Valley View, Ohio 44125  
(216) 524-0888  
FAX (216) 524-2090

Date Received: 2-15-90Customer I.D.: Ravenna Arsenal

Nozzle New, Inc.  
34412 Pettibone Road  
Solon, Ohio 44139  
Attn: Mr. Vince Marek

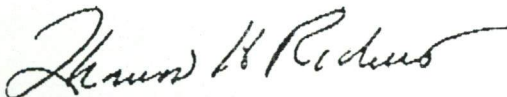
P.O.#: vb. VM/JODate Reported: 2-20-90HOLK-Lab #: B9015-1Description: Composite ofTanks #1 - #4

Flash Point (PMCC)  
Paint Filter Test  
TPH

>140 F  
No Free Liquid Present  
71 ppm

## EP TOXIC EXTRACTION PROCEDURE (SW-846; Method 1310)

	<u>Results (mg/l)</u>	<u>EP Tox Standard (mg/l)</u>
Arsenic	<0.01	5.0
Barium	0.09	100.0
Cadmium	<0.01	1.0
Chromium	<0.01	5.0
Lead	<0.01	5.0
Mercury	<0.01	0.2
Selenium	<0.01	1.0
Silver	<0.01	5.0



Thomas H. Richert  
Director of Analytical Services

THR/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.



**HOLK ENVIRONMENTAL SERVICES, INC.**

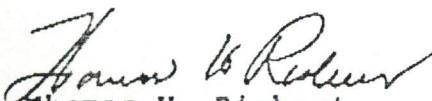
7777 Wall Street  
Valley View, Ohio 44125  
(216) 524-0888  
FAX (216) 524-2090

Date Received: 2-15-90Customer I.D.: Ravenna Arsenal

Nozzle New, Inc.  
34412 Pettibone Road  
Solon, Ohio 44139  
Attn: Mr. Vince Marek

P.O.#: vb, VM/JODate Reported: 2-20-90HOLK-Lab #: B9015-1Description: Composite ofTanks #1 - #4

Benzene	<2 ppb
Toluene	<2 ppb
Ethylbenzene	<2 ppb
Xylene	<2 ppb



Thomas H. Richert  
Director of Analytical Services

THR/tlg

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be disposed of after 30 days.



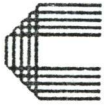
# CHAIN OF CUSTODY RECORD

RECEIVED

FEB 21 1990

PROJECT NO.: 100214		SITE NAME: RAVENNA ARSENAL			NO OF CONTAINERS	REMARKS		
STATION NO.	DATE	TIME	COMP.	GRAB		FLASHPOINT	BTL	E.P. TOXICITY
	27	12:40			1	X	X	
	27				1	X	X	
	27				1	X	X	
	27				1	X	X	
RELINQUISHED BY (SIGNATURE):				DATE / TIME	RECEIVED BY (SIGNATURE):		DATE / TIME	
<i>Ken Hald</i>				2/19/90 2:51 PM	<i>L. Williams</i>		2-16-90 4:30 PM	
RELINQUISHED BY (SIGNATURE):				DATE / TIME	RECEIVED BY (SIGNATURE):		DATE / TIME	
RELINQUISHED BY (SIGNATURE):				DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE):		DATE / TIME	
RELINQUISHED BY (SIGNATURE):				DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE):		DATE / TIME	
RELINQUISHED BY (SIGNATURE):				DATE / TIME	RECEIVED FOR LABORATORY BY (SIGNATURE):		DATE / TIME	





**CHEMTRON**  
**TECHNICAL SERVICE DIVISION**

Chemtron Corporation  
 35850 Schneider Court  
 Avon, Ohio 44011

Cleveland: 216-871-8048  
 Lorain: 216-937-6348

R & R International, Inc.  
 1234 S. Cleveland-Massillon Road  
 P.O. Box 4383  
 Akron, OH 44321

Attn: Mr. Sam Reed

SITE NAME: Ravenna Arsenal, Project No. 100214

Reference: Partially Completed W.P.S.

The following parameters and detection limits were determined for disposal at Chemtron Corp.

As Received:

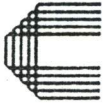
pH 10% H <sub>2</sub> O Extract	7
Color	Dark Brown
Texture	Thick Viscous
Odor	Moderate
Layers	None
Flash Point	185°F
NVM (105°C 24 Hrs.)	18.38%
Ash (900°C to Constant Wt.)	8.65%
BTU	8,070/Lb.
Halogens as Chlorine	.28%
Cyanide (Total)	<1 ppm
Sulfide (Total)	<100 ppm
Density g/cc	Not Applicable

GC Scan for Matrix: Static Pressure/Direct GC Technique

Methanol	<.1%	
Ethanol		
Acetone		
Isopropanol		
Tertiary Butanol		
Methyl Ethyl Ketone		
n-Butanol		
Benzene		
Hexane		
Methyl Isobutyl Ketone		<.1%

Date Received: 2-16-90  
 Date Reported: 2-27-90  
 Customer ID#: Tank #1 12:40 Sludge  
2-7-90 - 2,000 Gals.  
 PO#: 2616  
 Lab: A900216-1  
 Description: Dark Brown Liquid

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be discarded after 30 days. Re-evaluation will be free of charge only if discrepancies exist. Reproduction of this report for other than clients internal use is prohibited without written consent.



R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

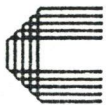
Lab: A900216-1

Description: \_\_\_\_\_

GC Scan for Matrix - Cont'd.

Butyl Acetate	<.1%
Toluene	
Xylene	
Cresols	
Cresylic Acid	
Phenols	
Nitrobenzene	
Carbon Disulfide	
Isobutanol	
Pyridine	
2-ethoxy-ethanol	
2-nitropropane	
Methylene Chloride	
1,1,1 Trichloroethane	
Carbon Tetrachloride	
Trichloroethylene	
Tetrachloroethylene	
Chlorobenzene	
1,1,2 Trichloro-1,2,2 Trifluoroethane	
Orthodichlorobenzene	
Trichlorofluoromethane	
1,1,2 Trichloroethane	
Chlorinated Fluorocarbons	<.1%
Diesel Fuel	80.0%
PCB's	<1 ppm





R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

Lab: A900216-1

Description: \_\_\_\_\_

EP Toxic Extraction Procedure (SW-846; Method 1310)

Reported as mg/l

Arsenic	0.02
Barium	1.05
Cadmium	0.03
Chromium	2.26
Lead	0.28
Mercury	<0.01
Selenium	0.01
Silver	<0.01

Robert D. Haddad  
Technical Administrator

RDH:lw



**CHEMTRON**  
**TECHNICAL SERVICE DIVISION**

Chemtron Corporation  
 35850 Schneider Court  
 Avon, Ohio 44011

Cleveland: 216-871-8048  
 Lorain: 216-937-6348

Date Received: 2-16-90  
 Date Reported: 2-27-90  
 Customer ID#: Tank #2  
 PO#: 2616  
 Lab: A900216-2  
 Description: Liquid In Amber Bottle

R & R International, Inc.  
 1234 S. Cleveland-Massillon Road  
 P.O. Box 4383  
 Akron, OH 44321

Attn: Mr. Sam Reed

SITE NAME: Ravenna Arsenal, Project No. 100214

Reference: Partially Completed W.P.S.

The following parameters and detection limits were determined for disposal at Chemtron Corp.

As Received:

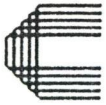
pH 10% H <sub>2</sub> O Dispersion	7
Color	Dark Brown - Black
Texture	Thick Viscous
Odor	Moderate
* Layers	See Below
Flash Point	180°F
NVM (105°C 24 Hrs.)	25.37%
Ash (900°C to Constant Wt.)	13.43%
BTU	7,060/Lb.
Halogens as Chlorine	.14%
Cyanide (Total)	<1 ppm
Sulfide (Total)	<100 ppm
Density g/cc	Not Applicable
Layers:	None visible, appears to be emulsions. Sample contains appreciable water.

GC Scan for Matrix: Static Pressure/Direct GC Technique

Methanol	<.1%
Ethanol	
Acetone	
Isopropanol	
Tertiary Butanol	
Methyl Ethyl Ketone	
n-Butanol	
Benzene	
Hexane	
Methyl Isobutyl Ketone	<.1%

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be discarded after 30 days. Re-evaluation will be free of charge only if discrepancies exist. Reproduction of this report for other than clients internal use is prohibited without written consent.





R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

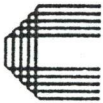
Lab: A900216-2

Description: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

GC Scan for Matrix - Cont'd.

Butyl Acetate	<.1%
Toluene	
Xylene	
Cresols	
Cresylic Acid	
Phenols	
Nitrobenzene	
Carbon Disulfide	
Isobutanol	
Pyridine	
2-ethoxy-ethanol	
2-nitropropane	
Methylene Chloride	
1,1,1 Trichloroethane	
Carbon Tetrachloride	
Trichloroethylene	
Tetrachloroethylene	
Chlorobenzene	
1,1,2 Trichloro-1,2,2, Trifluoroethane	
Orthodichlorobenzene	
Trichlorofluoromethane	
1,1,2 Trichloroethane	
Chlorinated Fluorocarbons	<.1%
Diesel Fuel	35.0%
PCB's	<1 ppm



R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

Lab: A900216-2

Description: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

EP Toxic Extraction Procedure (SW-846; Method 1310)

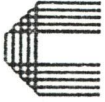
Reported as mg/l

Arsenic	0.05
Barium	0.13
Cadmium	0.02
Chromium	0.04
Lead	2.92
Mercury	<0.01
Selenium	<0.01
Silver	<0.01

Robert D. Haddad  
Technical Administrator

RDH:lw





**CHEMTRON  
TECHNICAL SERVICE DIVISION**

Chemtron Corporation  
35850 Schneider Court  
Avon, Ohio 44011

Cleveland: 216-871-8048  
Lorain: 216-937-6348

R & R International, Inc.  
1234 S. Cleveland-Massillon Road  
P.O. Box 4383  
Akron, OH 44321

Attn: Mr. Sam Reed

SITE NAME: Ravenna Arsenal, Project No. 100214

Reference: Partially Completed W.P.S.

The following parameters and detection limits were determined for disposal at Chemtron Corp.

As Received:

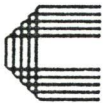
pH 10% H <sub>2</sub> O Extract	5
Color	Brown
Texture	Viscous Liquid
Odor	Moderate
* Layers	See Below
Flash Point	183°F
NVM (105°C 24 Hrs.)	25.57%
Ash (900°C to Constant Wt.)	3.41%
BTU	11,530/Lb.
Halogens as Chlorine	.42%
Cyanide (Total)	<1 ppm
Sulfide (total)	<100 ppm
Density g/cc	Not Applicable

\* Layers: None visible, appears to be emulsions. Sample contains appreciable water.

GC Scan for Matrix: Static Pressure/Direct GC Technique

Methanol	<.1%
Ethanol	
Acetone	
Isopropanol	
Tertiary Butanol	
Methyl Ethyl Ketone	
n-Butanol	
Benzene	
Hexane	
Methyl Isobutyl Ketone	<.1%

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be discarded after 30 days. Re-evaluation will be free of charge only if discrepancies exist. Reproduction of this report for other than clients internal use is prohibited without written consent.



R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

Lab: A900216-3

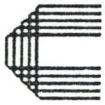
Description: \_\_\_\_\_

GC Scan for Matrix - Cont'd.

Butyl Acetate	<.1%
Toluene	
Xylene	
Cresols	
Cresylic Acid	
Phenols	
Nitrobenzene	
Carbon Disulfide	
Isobutanol	
Pyridine	
2-ethoxy-ethanol	
2-nitropropane	
Methylene Chloride	
1,1,1 Trichloroethane	
Carbon Tetrachloride	
Trichloroethylene	
Tetrachloroethylene	
Chlorobenzene	
1,1,2 Trichloro-1,2,2 Trifluoroethane	
Orthodichlorobenzene	
Trichlorofluoromethane	
1,1,1 Trichloroethane	
Chlorinated Fluorocarbons	<.1%
Diesel Fuel	30.0%

PCB's < 1 ppm





R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

Lab: A900216-3

Description: \_\_\_\_\_

EP Toxic Extraction Procedure (SW-846; Method 1310)

Reported as mg/l

Arsenic	0.07
Barium	0.10
Cadmium	<0.01
Chromium	0.02
Lead	0.19
Mercury	<0.01
Selenium	<0.01
Silver	<0.01

Robert D. Haddad  
Technical Administrator

RDH:lw



**CHEMTRON**  
**TECHNICAL SERVICE DIVISION**

Chemtron Corporation  
 35850 Schneider Court  
 Avon, Ohio 44011

Cleveland: 216-871-8048  
 Lorain: 216-937-6348

Date Received: 2-16-90  
 Date Reported: 2-27-90  
 Customer ID#: Tank #4  
 PO#: 2616  
 Lab: A900216-4  
 Description: Liquid In Amber Bottle

R & R International, Inc.  
 1234 S. Cleveland-Massillon Road  
 P.O. Box 4383  
 Akron, OH 44321

Attn: Mr. Sam Reed

SITE NAME: Ravenna Arsenal, Project No. 100214

Reference: Partially Completed W.P.S.

The following parameters and detection limits were determined for disposal at Chemtron Corp.

As Received:

pH 10% H <sub>2</sub> O Extract	6
Color	Dark Brown
Texture	Viscous Liquid
Odor	Moderate
* Layers	See Below
Flash Point	>200° F
NVM (105°C 24 Hrs.)	21.64%
Ash (900°C to Constant Wt.)	5.26%
BTU	9,870/Lb.
Halogens as Chlorine	.28%
Cyanide (Total)	<1 ppm
Sulfide (total)	<100 ppm
Density g/cc	Not Applicable

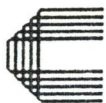
\* Layers: None visible, appears to be emulsions. Sample contained appreciable water.

GC Scan for Matrix: Static Pressure/Direct GC Technique

Methanol	<.1%
Ethanol	
Acetone	
Isopropanol	
Tertiary Butanol	
Methyl Ethyl Ketone	
n-Butanol	
Benzene	
Hexane	<.1%

The foregoing is limited to findings based upon material received for analysis and/or information furnished by client. Samples received will be discarded after 30 days. Re-evaluation will be free of charge only if discrepancies exist. Reproduction of this report for other than clients internal use is prohibited without written consent.





R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

Lab: A900216-4

Description: \_\_\_\_\_

GC Scan for Matrix - Cont'd.

Methyl Isobutyl Ketone	<.1%
Butyl Acetate	
Toluene	
Xylene	
Cresols	
Cresylic Acid	
Phenols	
Nitrobenzene	
Carbon Disulfide	
Isobutanol	
Pyridine	
2-ethoxy-ethanol	
2-nitropropane	
Methylene Chloride	
1,1,1 Trichloroethane	
Carbon Tetrachloride	
Trichloroethylene	
Tetrachloroethylene	
Chlorobenzene	
1,1,2 Trichloro-1,2,2 Trifluoroethane	
Orthodichlorobenzene	
Trichlorofluoromethane	
1,1,2 Trichloroethane	
Chlorinated Fluorocarbons	<.1%
Diesel Fuel	21.0%
PCB's	<1 ppm



R & R International, Inc.

Date Received: \_\_\_\_\_

Date Reported: \_\_\_\_\_

Customer ID#: \_\_\_\_\_

PO#: \_\_\_\_\_

Lab: A900216-4

Description: \_\_\_\_\_

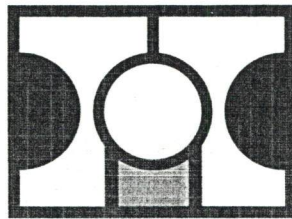
EP Toxic Extraction Procedure (SW-846; Method 1310)

Reported as mg/l

Arsenic	0.04
Barium	0.26
Cadmium	<0.01
Chromium	0.02
Lead	0.07
Mercury	<0.01
Selenium	<0.01
Silver	<0.01

Robert D. Haddad  
Technical Administrator

RDH:lw



RECEIVED

APR 12 1990

# holub iron & steel co., inc.

470 NORTH ARLINGTON STREET/AKRON, OHIO 44305/216-253-3165

April 5, 1990

R & R International  
1234 South Cleveland-Massillon Road  
Akron, Ohio 44231

Dear Sir:

On February 13 and 14, 1990 R & R International delivered three(3) clean 15,000 gallon underground storage tanks to the Holub Iron & Steel Company, 470 N. Arlington Street Akron, Ohio for scrap.

On the same two (2) days above mentioned tanks were cut into 2'x5' scrap material.

Sincerely,

THE HOLUB IRON & STEEL COMPANY

Calvin Cartier  
Supervisor

CC:cf



# E. 79th Scrap & Auto Wrecking

*Cutting & Disposing*

3205 E. 79th Street Cleveland, Ohio

Received 1-2,000 gallon steel oil storage  
tank for R & R International from Ravenna  
Arsenal. Cut up and scrap.

Jack Fox

