

REC-11111

JUN 01 1987

ENVIRONMENTAL
LABORATORY

**ANALYTICAL TEST RESULTS
UNDERGROUND STORAGE TANK CONTENTS**

Prepared for:

Buffalo Urban Renewal Agency
Buffalo, New York

Prepared by:

Goldberg-Zoino Associates of New York, P.C.
Buffalo, New York

May 1987

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Goldberg-Zoino Associates of New York, P.C.





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GENERAL MANAGER

May 22, 1987
File: R5726.7

Buffalo Urban Renewal Agency
920 City Hall
Buffalo, New York 14202

Attention: Ms. Rosanne Frandina

Re: New Buffalo Industrial Park,
Analytical Test Results,
Underground Storage Tank
Contents

Gentlemen:

Goldberg-Zoino Associates of New York, P.C. (GZA) has reviewed Recra Environmental, Inc.'s (REI) report of test results for the sample collected from the contents of the underground storage tank located in Area I at the New Buffalo Industrial Park (NBIP) site (see Figures 1 and 2). A summary of the analytical test results are presented below, and the REI report is enclosed as Appendix A.

Results

The sample was tested for the following parameters: purgeable halocarbons (Method 8010); polychlorinated biphenyls (Selected Method 8080); polynuclear aromatics [PNAs (Method 8010)]; total metals (Method 7000 Series); and flash point (closed-cup method).

Polychlorinated biphenyls (PCBs) and purgeable halocarbons were not detected, and the sample did not exhibit the hazardous waste characteristic of ignitability, in that its flash point was greater than 140°F (e.g., 185°F). Total metals and total recoverable phenolics were detected at relatively low levels (i.e. 1.8 to 8.6 ppm and 1.2 ppm, respectively). Also, some polynuclear aromatic hydrocarbon compounds were detected in the range of 140 to 1700 ppm.

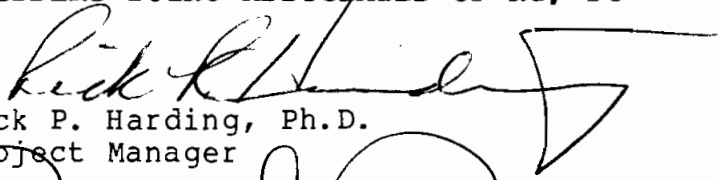
Summary

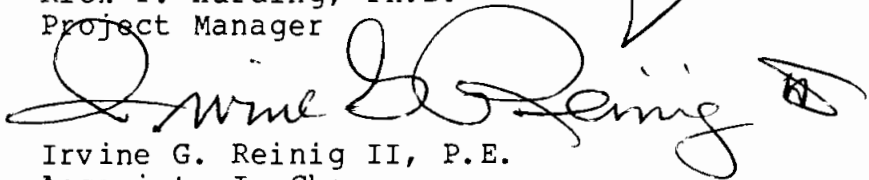
Analytical test results for the sample collected from the underground storage tank located in Area I at the NBIP site do not indicate the material to be hazardous. The PNA compounds detected in the sample are relatively insoluble/immobile, and, therefore, it is not highly probable that these constituents would readily migrate from their source.

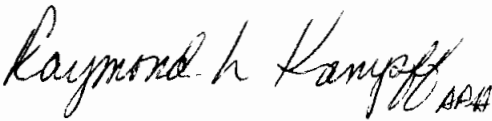
We are hopeful that this information is suitable for your purposes, and if you are in need of any additional information, please feel free to call the undersigned.

Very truly yours,

GOLDBERG-ZOINO ASSOCIATES OF NY, PC


Rick P. Harding, Ph.D.
Project Manager


Irvine G. Reinig II, P.E.
Associate-In-Charge


Raymond L. Kampff
Project Reviewer

RPH:kf
Enclosures



RECRA ENVIRONMENTAL, INC.

Chemical Waste Analysis, Prevention and Control

May 6, 1987

Dr. Rick Harding
Goldberg Zoino Associates
364 Nagel Drive
Buffalo, NY 14225

Re: Analytical Results

Dear Dr. Harding:

Please find enclosed results concerning the analyses of the sample recently submitted by your firm.

Pertinent Information: Quote #: Q87-212
Matrix: Diesel sample
Sample Received: 3/24/87
Sample Date: 3/18/87

If you have any questions concerning these data, do not hesitate to contact our Customer Service Representative at (716) 691-2600.

Sincerely,

RECRA ENVIRONMENTAL, INC.

Arun K. Bhattacharya, Ph.D.
Senior Vice President/
Laboratory Director

DRA/AKB/mdl/jhs
Enclosure

I.D. #87-329
#7A510550

ANALYTICAL RESULTS

Prepared For

Goldberg Zoino Associates
364 Nagel Drive
Buffalo, New York 14225

Prepared By

Recra Environmental, Inc.
10 Hazelwood Drive, Suite 106
Amherst, New York 14150

METHODOLOGIES

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data table. The method numbers presented refer to the following U.S. Environmental Protection Agency reference.

- o U.S. Environmental Protection Agency "Test Methods for Evaluating Solid Waste - Physical/Chemical Methods". Office of Solid Waste and Emergency Response. November 1986, SW-846, Third Edition.

COMMENTS

Comments pertain to data on one or all pages of this report.

The values reported as "less than" (<) indicate the working detection limit for the particular sample and/or parameter.



METHOD 8010 - PURGEABLE HALOCARBONS

COMPOUND (Units of Measure = µg/g)	SAMPLE IDENTIFICATION
	NBIP-03187-01
Bromodichloromethane	<4
Bromoform	<14
Bromomethane	<10
Carbon tetrachloride	<4
Chlorobenzene	<4
Chloroethane	<7
2-Chloroethylvinyl ether	<10
Chloroform	<4
Chloromethane	<7
Dibromochloromethane	<4
1,2-Dichlorobenzene	<10
1,3-Dichlorobenzene	<10
1,4-Dichlorobenzene	<10
1,1-Dichloroethane	<4
1,2-Dichloroethane	<4
1,1-Dichloroethene	<4
trans-1,2-Dichloroethene	<4
1,2-Dichloropropane	<4
cis-1,3-Dichloropropene	<4
trans-1,3-Dichloropropene	<4
Methylene chloride	<4
1,1,2,2-Tetrachloroethane	<7
Tetrachloroethene	<7
1,1,1-Trichloroethane	<4
1,1,2-Trichloroethane	<4
Trichloroethene	<4
Vinyl chloride	<4
Analysis Date	4/6/87
Extraction Date	4/6/87



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SELECTED METHOD 8080 - POLYCHLORINATED BIPHENYLS

COMPOUND (Units of Measure = $\mu\text{g/g}$)	SAMPLE IDENTIFICATION
	NBIP-03187-01
Aroclor 1016	<4
Aroclor 1221	<8
Aroclor 1232	<8
Aroclor 1242	<4
Aroclor 1248	<4
Aroclor 1254	<2
Aroclor 1260	<2
Extraction Date	3/26/87
Analysis Date	3/28/87



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METHOD 8100 - POLYNUCLEAR AROMATICS

COMPOUND (Units of Measure = $\mu\text{g/g}$)	SAMPLE IDENTIFICATION
	NBIP-03187-01
Acenaphthene	<1,000
Acenaphthylene	<1,000
Anthracene	140
Benzo(a)anthracene	590
Benzo(b)fluoranthene	<200
Benzo(k)fluoranthene	<200
Benzo(a)pyrene	<200
Benzo(g,h,i)perylene	<200
Chrysene	240
Dibenzo(a,h)anthracene	<200
Fluoranthene	660
Fluorene	340
Indeno(1,2,3-cd)pyrene	<200
Naphthalene	920
Phenanthracene	1,700
Pyrene	<200
Analysis Date	4/7/87



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TOTAL METALS

PARAMETER (Units of Measure = $\mu\text{g/g}$)	METHOD NUMBER	ANALYSIS DATE	SAMPLE IDENTIFICATION
			NBIP-03187-01
Total Antimony	7040	4/8/87	<11
Total Arsenic	7060	4/3/87	<4
Total Beryllium	7090	4/3/87	<0.4
Total Cadmium	7130	4/3/87	<0.9
Total Chromium	7190	4/2/87	<0.6
Total Copper	7210	4/1/87	1.8
Total Lead	7420	4/3/87	<4
Total Mercury	7470	4/2/87	<0.04
Total Nickel	7520	4/3/87	<3
Total Selenium	7740	4/2/87	<0.4
Total Silver	7760	4/2/87	<0.4
Total Thallium	7840	4/8/87	<3
Total Zinc	7950	4/1/87	8.6



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PARAMETER	UNITS OF MEASURE	ANALYSIS DATE	SAMPLE IDENTIFICATION
			NBIP-03187-01
Flash Point	°F	4/6/87	185
Total Recoverable Phenolics	µg/g	4/22/87	1.2



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QUALITY CONTROL INFORMATION - ACCURACY
METHOD 8010 - PURGEABLE HALOCARBONS

SAMPLE IDENTIFICATION NBIP-03187-01

COMPOUND	NANOGRAMS OF SPIKE	PERCENT RECOVERY
Bromodichloromethane	11	305
Bromoform	11	158
Bromomethane	11	45
Carbon tetrachloride	11	66
Chlorobenzene	11	120
Chloroethane	11	41
2-Chloroethylvinyl ether	11	611
Chloroform	11	114
Chloromethane	11	57
Dibromochloromethane	11	153
1,2-Dichlorobenzene	11	146
1,3-Dichlorobenzene	11	118
1,4-Dichlorobenzene	11	189
1,1-Dichloroethane	11	102
1,2-Dichloroethane	11	110
1,1-Dichloroethene	11	95
trans-1,2-Dichloroethene	11	102
1,2-Dichloropropane	11	120
cis-1,3-Dichloropropene	11	153
trans-1,3-Dichloropropene	11	134
1,1,2,2-Tetrachloroethane	11	131
Tetrachloroethene	11	131
1,1,1-Trichloroethane	11	88
1,1,2-Trichloroethane	11	153
Trichloroethene	11	100
Vinyl chloride	11	41
Extraction Date	4/6/87	
Analysis Date	4/6/87	

Inconsistent Purgeable Halocarbon recoveries are due to the organic nature of the sample matrix



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QUALITY CONTROL INFORMATION - ACCURACY
SELECTED METHOD 8080 - POLYCHLORINATED BIPHENYLS

SAMPLE IDENTIFICATION NBIP-03187-01

COMPOUND	NANOGRAMS OF SPIKE	PERCENT RECOVERY
Aroclor 1242	1.0	138
Extraction Date	3/26/87	
Analysis Date	3/28/87	



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QUALITY CONTROL INFORMATION - PRECISION
TOTAL METALS

PARAMETER (Units of Measure = µg/g)	METHOD NUMBER	SAMPLE IDENTIFICATION	VALUE 1	VALUE 2	MEAN	STANDARD DEVIATION
Total Antimony	7040	NBIP-03187-01	<11	<11	<11	-
Total Arsenic	7060		<4	<4	<4	-
Total Beryllium	7090		<0.4	<0.4	<0.4	-
Total Cadmium	7130		<0.9	<0.9	<0.9	-
Total Chromium	7190		<0.6	<0.6	<0.6	-
Total Copper	7210		2.0	1.5	1.8	0.35
Total Lead	7420		<4	<4	<4	-
Total Mercury	7470		<0.04	<0.04	<0.04	-
Total Nickel	7520		<3	<3	<3	-
Total Selenium	7740		<0.4	<0.4	<0.4	-
Total Silver	7760		<0.4	<0.4	<0.4	-
Total Thallium	7840		<3	<3	<3	-
Total Zinc	7950		11	6.3	8.6	3.3

QUALITY CONTROL INFORMATION - ACCURACY
TOTAL METALS

PARAMETER	METHOD NUMBER	SAMPLE IDENTIFICATION	MICROGRAMS OF SPIKE	PERCENT RECOVERY
Total Antimony	7040	NBIP-03187-01	500	106
Total Arsenic	7060		50	92
Total Beryllium	7090		500	91
Total Cadmium	7130		500	95
Total Chromium	7190		500	91
Total Copper	7210		500	94
Total Lead	7420		500	95
Total Mercury	7470		0.4	99
Total Nickel	7520		500	100
Total Selenium	7740		50	92
Total Silver	7760		500	82
Total Thallium	7840		500	96
Total Zinc	7950		500	110



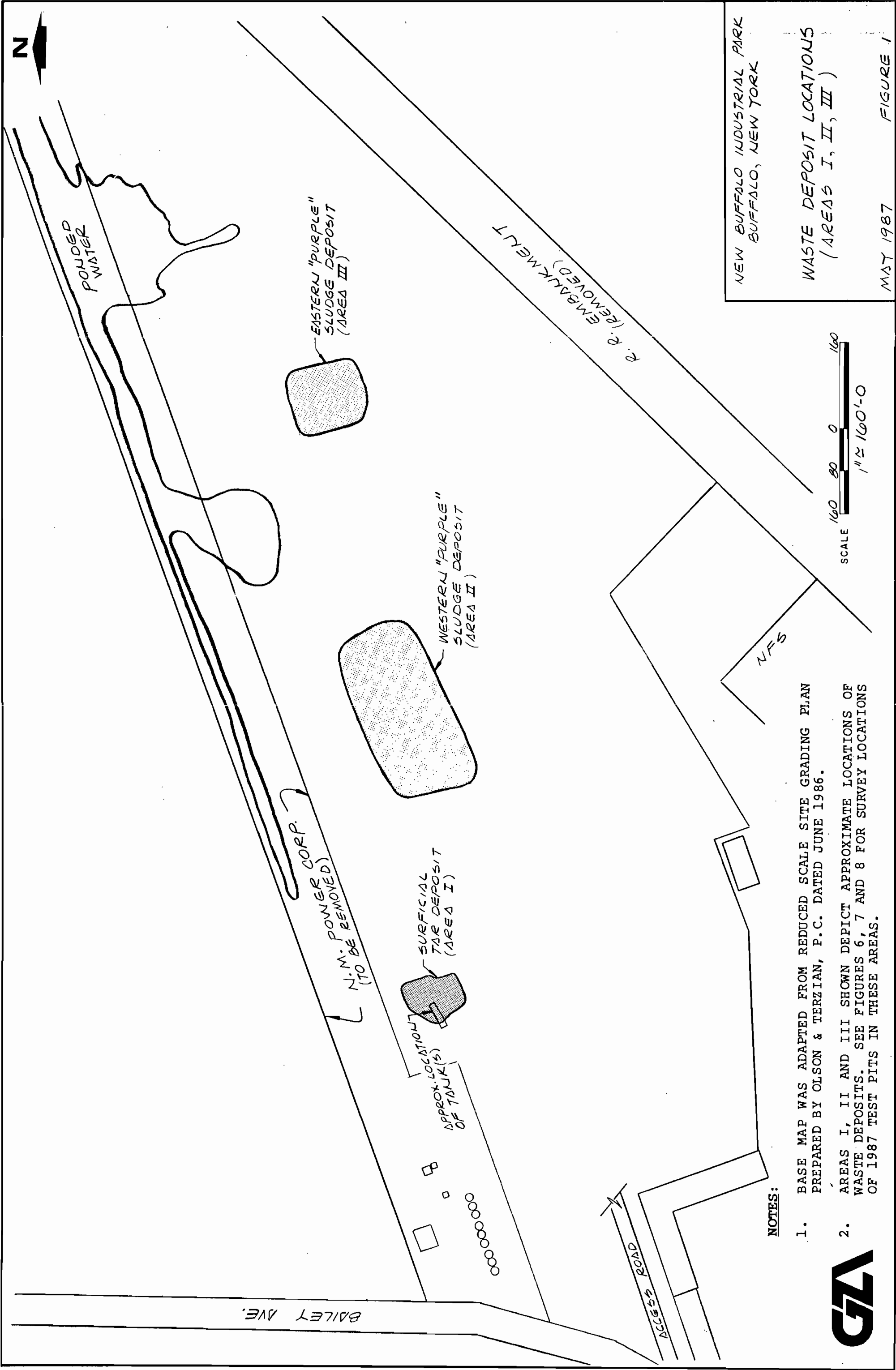
I.D. #87-329

QUALITY CONTROL INFORMATION - ACCURACY

PARAMETER	SAMPLE IDENTIFICATION	μg OF SPIKE	% RECOVERY
Total Recoverable Phenolics	NBIP-03187-01	51	67



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NOTES:

1. BASE MAP WAS ADAPTED FROM REDUCED SCALE SITE GRADING PLAN PREPARED BY OLSON & TERZIAN, P.C. DATED JUNE 1986.
2. AREAS I, II AND III SHOWN DEPICT APPROXIMATE LOCATIONS OF WASTE DEPOSITS. SEE FIGURES 6, 7 AND 8 FOR SURVEY LOCATIONS OF 1987 TEST PITS IN THESE AREAS.



NEW BUFFALO INDUSTRIAL PARK
BUFFALO, NEW YORK

WASTE DEPOSIT LOCATIONS
(AREAS I, II, III)

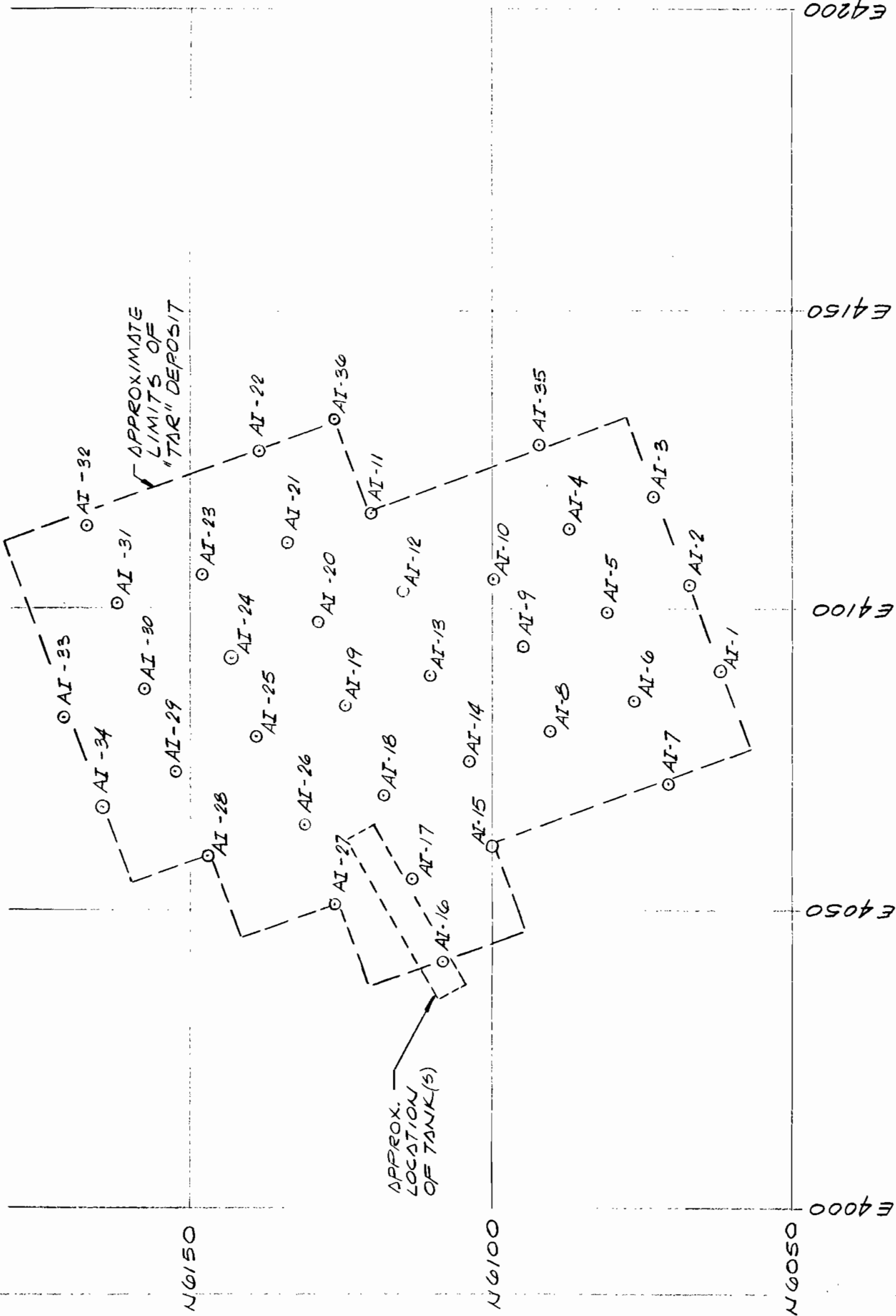
MAY 1987

FIGURE 1



LEGEND

○ AI-3 TEST PIT LOCATION
"TAR" DEPOSIT



NOTES:

1. TEST PITS WERE LOCATED IN THE FIELD USING OPTICAL SURVEY METHODS BY SODERHOLM ENGINEERING. THE LOCATIONS SHOULD BE CONSIDERED ACCURATE TO THE DEGREE IMPLIED BY THE METHOD USED.
2. THE APPROXIMATE LIMITS OF THE "TAR" DEPOSIT SHOWN ARE BASED ON VISUAL OBSERVATIONS MADE DURING 1987 TEST PITS.

NEW BUFFALO INDUSTRIAL PARK BUFFALO, NEW YORK	AREA I EXPLORATIONS
	MAY 1987
	FIGURE 2

