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September 8, 1987

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Mr. Richard Carlson
Director
Illinois Environmental Protection Agency
2200 Churchill Road
Springfield, Illinois 62706

Attention: Ms. Mary E. Dinkel

Re: Analytical Results
Phase III - Site Investigation
Dutch Boy Paint Plant
Chicago, Illinois

Dear Mr. Carlson:

I am writing on behalf of NL Industries, Inc. ("NL") which, as you know, has retained Toxcon Engineering Company ("Toxcon") for the purposes of (1) assessing conditions at the former Dutch Boy site situated at 120th and Peoria Streets, Chicago, Illinois (the "site" or the "plant"), including any releases of hazardous substances at the site; and (2) evaluating the nature and extent of the removal actions undertaken and proposed by the Illinois Environmental Protection Agency ("IEPA"). As you are also aware, Toxcon, with the approval of IEPA, devised a Phase III Site Investigation Plan to (1) define the nature and extent of lead that may exist in the soils at the site and in adjacent properties; (2) determine if asbestos is present in the surface soils at the south end of the site; and (3) determine the level of volatile organic compounds in the soils near the underground storage tanks on the west side of the site.

The field investigation was conducted from June 14, 1987 through June 20, 1987. We have reviewed the analytical results from the investigation and, accordingly, write to apprise you of NL's conclusions and recommendations for additional sampling and analysis. The analytical results of the field sampling and the proposed locations for additional sampling are represented on the enclosed plot plans. Certified laboratory data sheets and chain of custody records are included in Appendix A.

NL will submit a supplemental report after all field investigations and analytical work are completed.

further sampling and analysis be undertaken to determine the lateral extent of soils that contain asbestos.

DISCUSSION

A. Lead Results - Drawing DBP-III-01

Drawing DBP-III-01 reflects the analytical results of the lead samples and approximate location of the sampling points. It should be noted that some of the sampling locations were changed from the locations indicated in the original site sampling plan. The location changes were agreed to by Mary Dinkel, IEPA Remedial Project Manager, during field sampling in order to provide better sampling coverage or because the location to be sampled was inaccessible to the drilling rig.

For each sample point, the drawing denotes the sample number, the total lead value and the EP toxicity lead values, if available. Site characterization samples are designated as Nos. 31-34; samples taken in the parkway across the street from the site are designated as Nos. 22-30; and onsite samples are designated as Nos. 1-17, 19 and 21. The drawing also depicts the results of the road dirt samples and the background samples taken two blocks north, east and south of the site. All samples analyzed were taken at the 0-1 foot interval, except for the road dirt samples which were surface samples.

The samples yielded the following results:

1) Only one sample point contained an EP toxicity level of lead greater than 5.0 mg/l, which is considered hazardous. This was Sample Point No. 12 which is located on the west side of the site.

2) No onsite samples exhibited elevated total lead levels, except for Sample Point No. 12.

3) The parkway samples, designated as Nos. 22-33, averaged a total lead content of 1665 ppm. Background samples, taken at the same 0-1 foot interval as the parkway samples but at points two blocks north, east and south of the site, averaged 1022 ppm total lead content. These two averages are not statistically different at the 95% confidence level. Therefore, it is reasonable to conclude that the levels of lead in the parkway samples are not elevated when compared with the levels of lead contained in the background samples.

4) Site characterization Sample Point No. 33 contained 11,400 ppm total lead. The elevated total lead level at this location indicates that further sampling should be undertaken both vertically and laterally. Sample Point No. 33 should be re-sampled and analyzed for total lead and for EP toxicity lead at the 0-1 foot and 1-2 foot intervals. In addition, it is suggested that sampling

and analysis for total lead and EP toxicity lead at the 0-1 foot and 1-2 foot intervals should be undertaken west of Sample Point No. 33 across from Sample Points 28 and 29, and south of Sample Point No. 33 across from Sample Points 26 and 25. See Drawing DBP-III-01A.

The elevated lead level at this particular location on the site, especially given the significantly lower levels in the surrounding parkway areas, is undoubtedly the result of the demolition activities undertaken by the current property owner and scavengers prior to IEPA's Phase I removal action. Contributing to the elevated lead level at this Sample Point may also be the excavation, storage and removal activities undertaken by IEPA in the northeast corner of the site during the Phase II removal project.

5) The data obtained from Sample Point No. 27 is an anomaly. It contains a lower total lead content than Sample Points 29 and 26, but a higher EP toxicity lead level. It should be noted, however, that the level of total lead in Sample No. 27 is not significantly higher than the level of total lead in the background samples, and that the EP toxicity lead level is less than 5.0 mg/l and is not hazardous.

SAMPLE POINT	TOTAL LEAD, PPM	EP TOXICITY LEVEL, MG/L
27	1680	4.6
29	2560	0.27
26	2120	1.19
25	1510	0.25

B. Asbestos Samples - Drawing DBP-III-02

Drawing DBP-III-02 reflects the analytical results and the approximate location of the onsite samples taken to determine the presence of asbestos in the south portion of the site. For each sampling location, the drawing sets forth the sample number and the level of asbestos, if any.

Analysis of the asbestos samples revealed the following:

1) No asbestos was detected in eight of the ten samples collected.

2) In two samples, denoted as Sample Nos. 4A and 8A, from 1-10% asbestos was found. The presence of asbestos in these locations is attributed to the dispersal of asbestos from improper demolition practices at the site prior to IEPA's Phase I removal project.

Because asbestos was detected in Sample Nos. 4A and 8A, we believe that further sampling and analysis is warranted to determine the lateral extent of soils which contain asbestos. It is suggested that, initially, surface samples should be taken and analyzed for asbestos at specified locations 10 feet from Sample Points 4A and 8A. If these samples indicate the presence of asbestos, then samples located 20 feet from Sample Points 4A and 8A should be analyzed. A list of the proposed sampling points is set forth below:

SAMPLE POINT	LOCATION
4A-10W	10 Ft. west of Sample Point 4A
4A-10E	10 Ft. east of Sample Point 4A
4A-20W	20 Ft. west of Sample Point 4A, if necessary
4A-20E	20 Ft. east of Sample Point 4A, if necessary
8A-10NW	10 Ft. northwest of Sample Point 8A
8A-10SE	10 Ft. southeast of Sample Point 8A
8A-10SW	10 Ft. southwest of Sample Point 8A
8A-20NW	20 Ft. northwest of Sample Point 8A, if necessary
8A-20SE	20 Ft. southeast of Sample Point 8A, if necessary
8A-20SW	20 Ft. southwest of Sample Point 8A, if necessary

See Drawing DBP-III-02A.

C. VOA Samples - Drawing DBP-III-03

Drawing DBP-III-03 reflects the analytical results and the approximate location of each sample taken to determine the level of volatile organics. An HNU photoionization detector was used to determine the presence of volatile organic compounds.

It should be noted that samples were not taken at two of the locations planned because the sampling points were inaccessible to the rig.

In connection with the discussion of VOA sampling, it is important to understand the stratigraphy in this area of the site. In general, the site stratigraphy may be described as follows:

INTERVAL	DESCRIPTION
0-1 foot	Rocks, fill
1-4 feet	Black sand
4-7 feet	Grey/brown sand
below 7 feet	Grey clay

1) Composite Samples

A total of four composite samples were taken. The composite samples and the analytical results are included on Drawing DBP-III-03. The four composite samples were composed of three or four individual samples which were taken at the 6-7 or 7-8 foot interval at the bottom of the grey/brown sandy layer. The samples were taken at this depth because it is at the 6-7 or 7-8 foot interval that one might expect to find evidence of a leak from the underground tanks if, in fact, such a leak had occurred.

None of the individual samples comprising the composite samples exhibited any odor or discoloration. Moreover, as represented on the drawing, all four composite samples contained less than 0.5 ppm of volatile organic compounds. Based upon this sampling data and the field observations of the samples, it is reasonable to conclude that the underground storage tanks on the west side of the property have not leaked.

2) Samples 35 and 42

It was decided that Sample Nos. 35 and 42 should be taken in the top of the clay layer at the "below 7 foot" interval. Had there been evidence of a leak from the underground storage tanks, sampling at this interval would have permitted us to determine whether any organic compounds had migrated into the clay. As reflected on the drawing, Sample Nos. 35 and 42 contain no evidence of volatile organics. This data strengthens the conclusion that the underground storage tanks have not leaked.

3) Samples 44 and 49

During the drilling of many of the boreholes, the HNU had indicated that volatile organic material was present in the 1-4 foot black sandy interval. Accordingly, it was

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decided to take two samples in the black sandy stratum at the 1-4 foot interval. These samples are denoted as Sample Points 44 and 49. As reflected on the drawing, Sample Nos. 44 and 49 contained 104.4 ppm and 102.8 ppm, respectively, of volatile organic compounds. Both samples looked and smelled oily. The compounds detected in the samples included compounds which one would expect to find in mineral spirits, diesel fuel, and hydraulic oils. Because of the composition and concentration of the volatiles in Sample Nos. 44 and 49, and the fact that the volatiles are found only in the 1-4 foot interval and not in the sandy or clay layers below 4 feet, it is concluded that the volatiles are the result of minor surface spills and are not attributable to any leakage from the underground storage tanks.

CONCLUSION

The lead sampling results suggest that further analysis should be undertaken at the 3-4 foot interval at Sample Point No. 12.

The site characterization data for Sample Point No. 33 also suggests that further sampling and analysis should be undertaken at Sample Point No. 33 and at locations west and south of Sample Point No. 33, as previously described. Samples for total lead and EP toxicity should be taken at the 0-1 foot and 1-2 foot intervals at Sample Point No. 33 as well as at the four suggested sampling locations.

None of the other onsite, parkway or site characterization samples contained significantly elevated lead levels. Accordingly, there is no cause to undertake further analysis for lead at any other sample point.

The asbestos samples indicated the presence of asbestos in two of ten samples. Additional sampling and analysis should be undertaken, as specified, in the area of these two samples to determine the lateral extent of soils containing asbestos.

There is no cause to undertake additional VOA analysis. The composite samples and field observations, as well as the additional VOA samples taken, indicate that the underground storage tanks have not leaked.

Please call me after you have had an opportunity to review the information in this letter and are prepared to discuss our next step.

Regards,

Robert Finkelstein

Robert Finkelstein
Engineer

cc: F. Baser
J. Smith
D. Riesel

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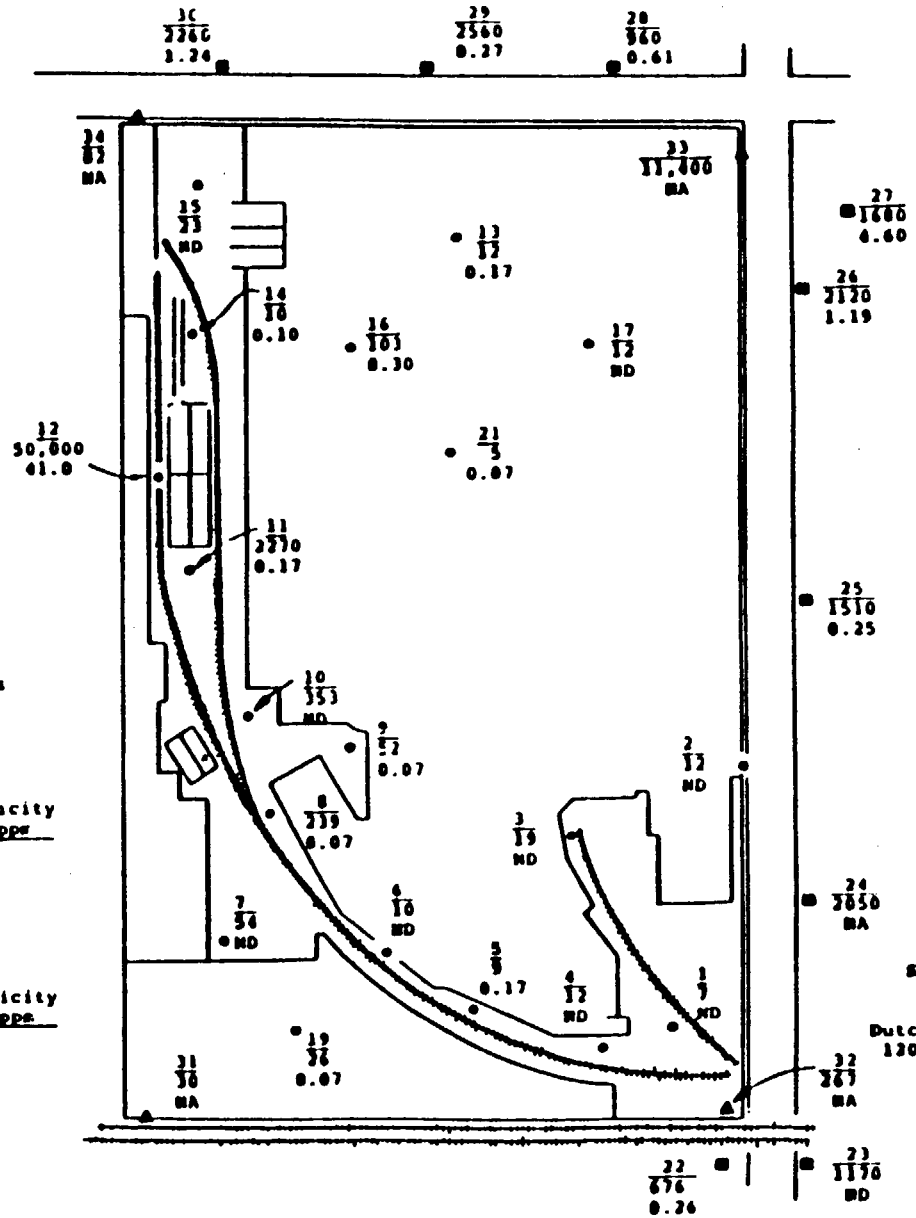
APPENDIX A



LEGEND **EXAMPLE**

Sample Number — 001
Total Lead, ppm — 100
EP Toxicity Lead, ppm — ND

NA - Not Available
ND - Not Detected

SYMBOLS

- ■ Parkway samples
- ▲ Site characterization samples
- ● On site samples

ROAD DIRT SAMPLING

Location	Total Lead ppm	EP Toxicity Lead, ppm
North, 2 blocks	445	0.24
East, 2 blocks	737	0.12
South, 2 blocks	236	ND

BACKGROUND SAMPLES

Location	Total Lead ppm	EP Toxicity Lead, ppm
North, 2 blocks	347	0.10
East, 2 blocks	1290	0.21
South, 2 blocks	1430	ND

Phase III
Site Investigation
Lead Sampling Data
Dutch Boy Paint Plant
120th and Peoria Sts.
Chicago, Illinois
June - July, 1987

NOTE: All samples except Road Dirt samples are 0-1 ft. intervals.

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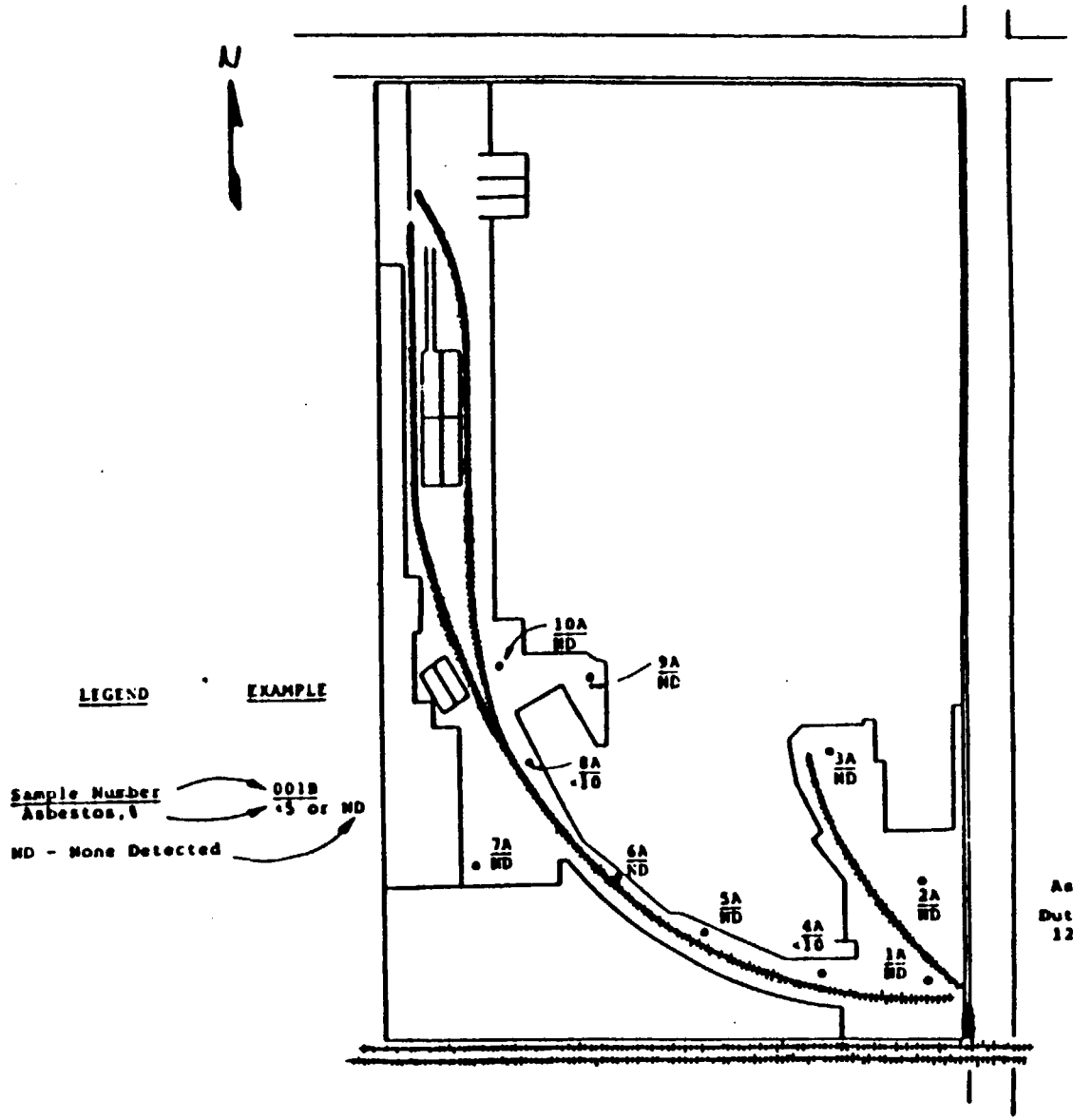
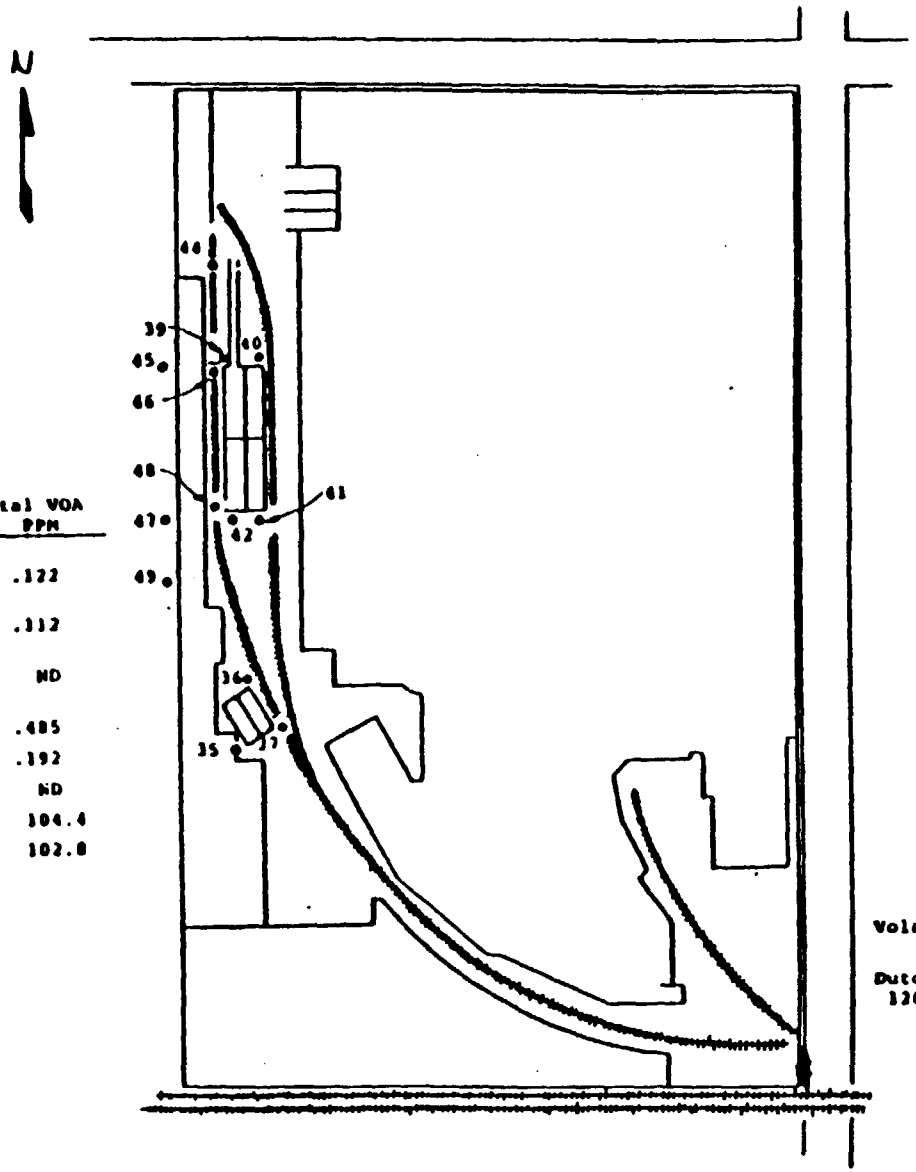


Phase III
Site Investigation
Asbestos Sampling Data
Dutch Boy Paint Plant S
120th and Peoria Stree
Chicago, Illinois
June - July, 1987

DWG DBP-III-02



LEGEND

Sample	Sampling Interval	Total VOA PPM
Composite 35,36,37	6-7 feet	.122
Composite 47,48,49	6-7 feet	.112
Composite 44,45,46	6-7 feet	ND
Composite 39,40,41,42	6-8 feet	.485
35	7-8 feet	.192
42	8-9 feet	ND
44	2-3½ feet	104.4
49	4-5 feet	102.8

ND = Not Detected

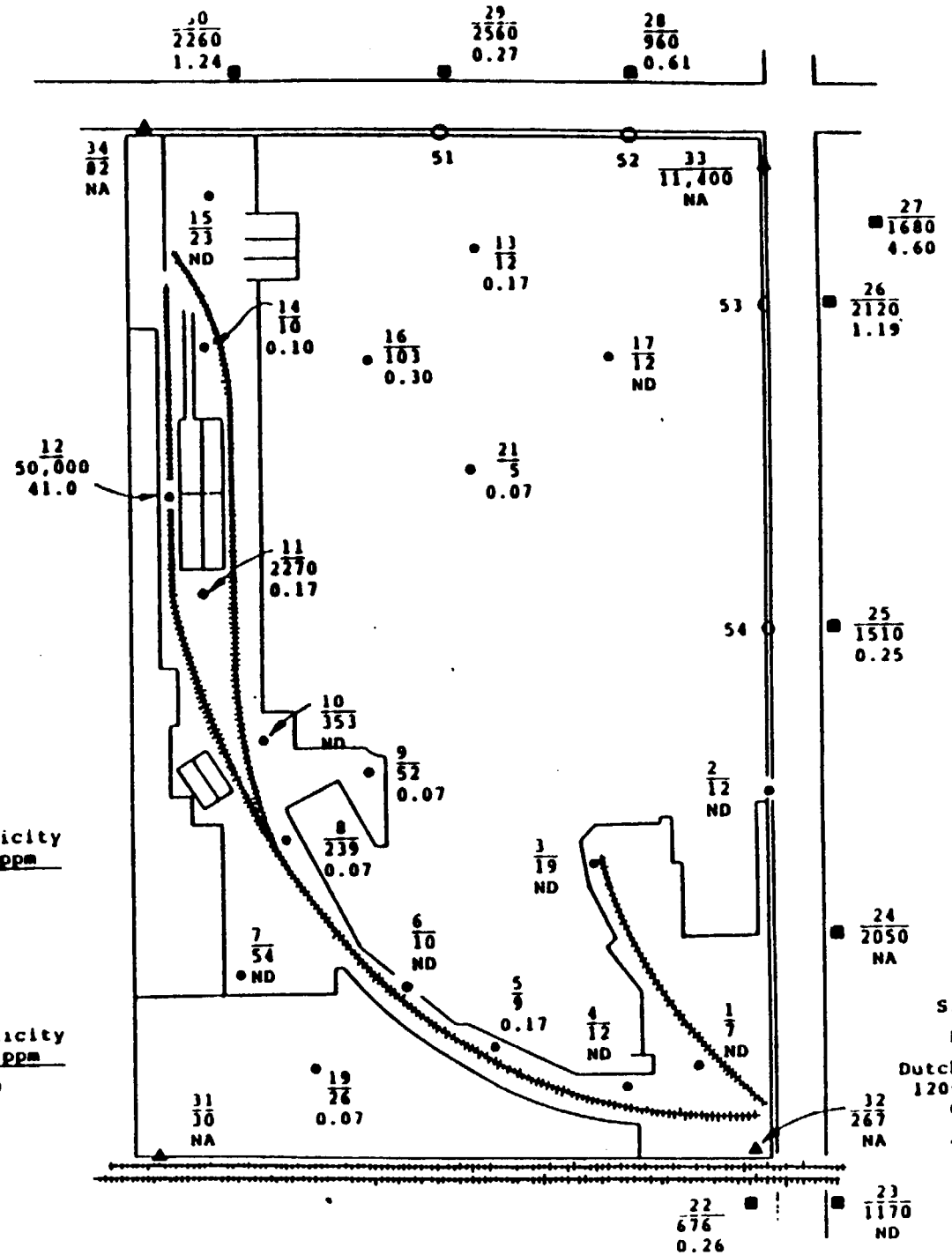
Phase III
Site Investigation

Volatile Organic Compoun
Data

Dutch Boy Paint Plant S
120th and Peoria Street
Chicago, Illinois

June - July, 1987

DWG DBP-III-03



LEGEND **EXAMPLE**

Sample Number — 001
Total Lead, ppm — 100
EP Toxicity Lead, ppm — ND

NA - Not Available
ND - Not Detected

SYMBOLS

- ■ Parkway samples
- ▲ Site characterization samples
- ● On site samples
- ○ Proposed sample points

ROAD DIRT SAMPLING

Location	Total Lead ppm	EP Toxicity Lead, ppm
North, 2 blocks	445	0.24
East, 2 blocks	737	0.12
South, 2 blocks	236	ND

BACKGROUND SAMPLES

Location	Total Lead ppm	EP Toxicity Lead, ppm
North, 2 blocks	347	0.10
East, 2 blocks	1290	0.21
South, 2 blocks	1430	ND

Phase III
Site Investigation
Lead Sampling Data
Dutch Boy Paint Plant Site
120th and Peoria Streets
Chicago, Illinois
June - July, 1987

NOTE: All samples except Road Dirt samples are 0-1 ft. intervals.

DWG DBP-III-01A

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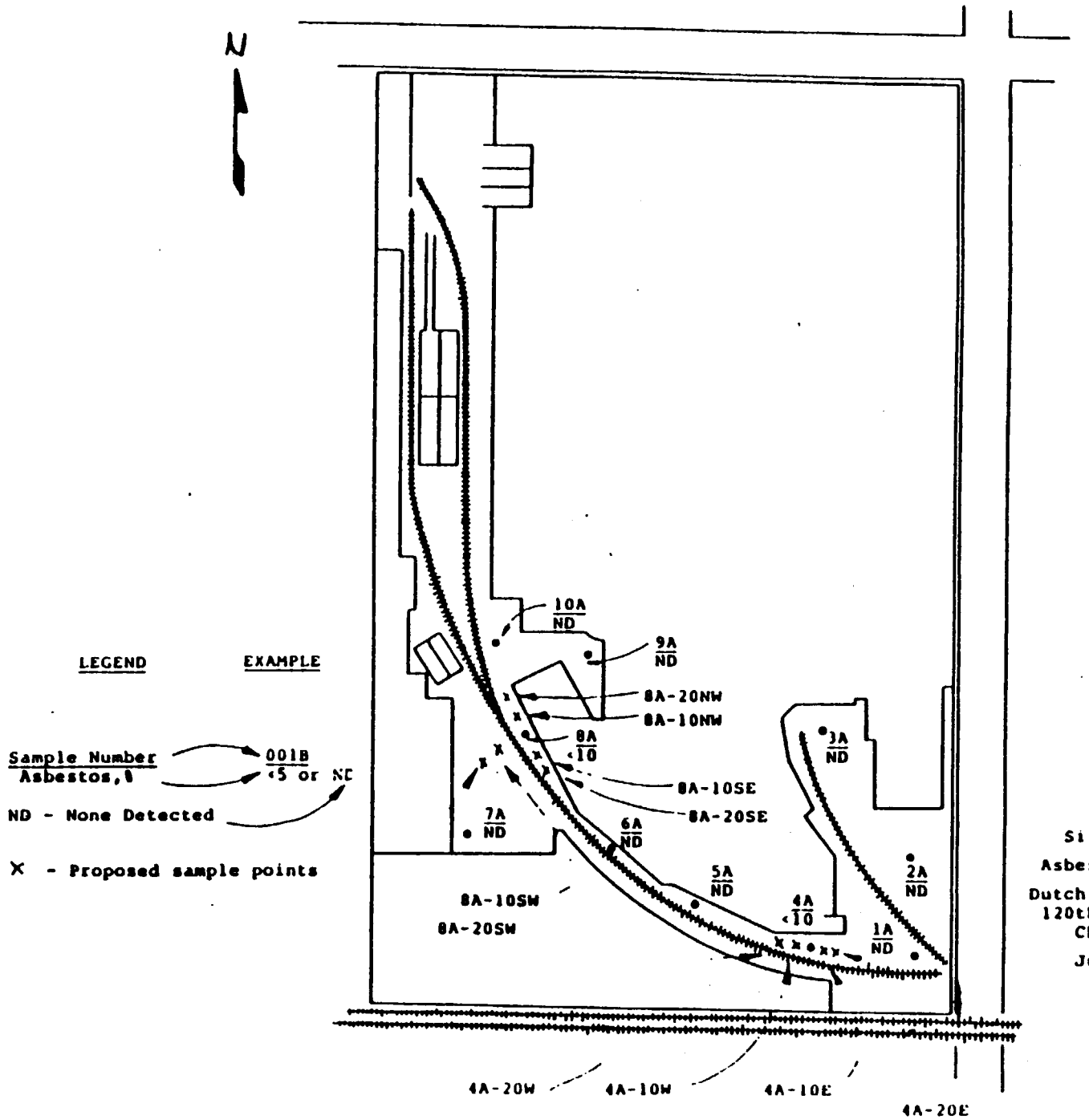

Phase III
Site Investigation

Asbestos Sampling Data

Dutch Boy Paint Plant Site
120th and Peoria Streets
Chicago, Illinois

June - July, 1987

DWG DBP-III-62A

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