Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

IMC Magnetics Site
Westbury (V), North Hempstead (T)
Site Number 1-30-043A
Operable Unit 01 - Soils

January 1998

New York State Department of Environmental Conservation

GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

IMC Magnetics Inactive Hazardous Waste Disposal Site
Westbury (V), North Hempstead(T), Nassau County, New York
Site No. 1-30-043A
Operable Unit 01-Soils

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedial action for operable unit 01 of the IMC Magnetics Incorporated inactive hazardous waste disposal site which was chosen in accordance with the New York State Environmental Conservation Law (ECL). The remedial program selected is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300).

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the IMC Magnetics Inactive Hazardous Waste Site and upon public input to the November 1997 Proposed Remedial Action Plan (PRAP) presented by the NYSDEC on December 4, 1997. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Actual or threatened release of hazardous waste constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health and the environment.

Description of Selected Remedy

Based upon the results of the Remedial Investigation/Feasibility Study (RI/FS) for operable unit 01 of the IMC Magnetics Inactive Hazardous Waste Disposal Site and the criteria identified for evaluation of alternatives the NYSDEC has determined that the Interim Remedial Measure (soil vapor extraction) which is currently operating will be the final remedy for soil contamination at the site. The components of the selected remedy are as follows:

* *The physical plant for the SVE system is contained in a small building on the northwest corner of the site.*

* *The system will utilize one extraction well, located in the most contaminated area of the site (the northwest corner) and screened at three levels.*

* *The system shall be operated for a minimum of six months. Operation will continue past this time period if the system is still removing significant contamination and/or contaminant levels still exceed the cleanup guidelines established in NYSDEC TAGM 4046.*

* *At the end of the useful life of the system, soil contamination at the site will be re-evaluated to determine whether the remedial goals have been met.*

* *Institutional controls will be implemented and deed restrictions will be recorded in the chain of title of the property to restrict the future use of groundwater at the site.*

New York State Department of Health Acceptance

The New York State Department of Health concurs with the remedy selected for this site as being protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

2/1/98
Date

Michael J. O'Toole, Jr., Director
Division of Environmental Remediation

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RECORD OF DECISION

IMC Magnetics Inc.
Site No. 1-30-043A
Operable Unit 01-Soils

Westbury (V), North Hempstead (T)
New Cassel Industrial Area, Nassau County, New York

January 1998

SECTION 1: SITE LOCATION AND DESCRIPTION

The site is located at 570 Main Street in the New Cassel Industrial Area, in the Village of Westbury, Town of North Hempstead, Nassau County, New York. Please refer to Figures 1, 1A and 2. This property is slightly over two acres with one manufacturing building and a paved parking lot covering most of the area. Please refer to Figure 3. The site has several floor drains, septic tanks and leaching pools, and the building has been connected to the Nassau County sewer system since approximately 1980.

The on site soil contamination that would be treated by this remedial action plan has been designated as Operable Unit 01, and the groundwater contamination associated with this site has been designated as Operable Unit 02. This subdivision of the site contamination was done to expedite the remediation of the identified on site soils contaminated with volatile organic compounds. An operable unit represents a discrete portion of the remedy for a site which for technical or administrative reasons can be addressed separately to eliminate or mitigate a release, threat of release or exposure pathway resulting from the contamination present at the site. By remediating these on site soils at this site as a separate unit, the removal of the source of the groundwater contamination can be expedited and the overall time it will take to remediate the site in its entirety can be shortened.

SECTION 2: SITE HISTORY

2.1 Operational and Disposal History

The Site was occupied by IMC Magnetics Inc. from the early 1950s until 1992. The site is currently vacant except for a portion of the southern end of the building which is occupied by Castle Collision, an entity unrelated to IMC. Products made during IMC's occupation of the site included, among others, induction motors, fans and blowers, stepper motors and other rotating machines. Unsaturated soils at the site are contaminated with chlorinated hydrocarbons, petroleum hydrocarbons and metals. Investigations carried out in the early 1990's indicated that there were three areas on the site in which there were leaching pools and/or septic tanks. Area 1, which includes two leaching pools and one septic tank, is located at the northeastern corner of the property. Area 2, which includes two leaching pools, is located at the northwestern corner of the property, and Area 3, which includes one septic tank and two leaching pools, is located in the southwestern portion of the property. Additionally, five probable floor drain/penetration locations were

identified inside the building. These are shown in Figure 3.

2.1 Remedial History

In 1988, the entire New Cassel Industrial Area, including this site, was listed in the New York State Inactive Hazardous Waste Disposal Site Registry (the Registry), as a Class 2 site due to the presence of high levels of volatile organic compounds (VOCs) in the groundwater. The Class 2 classification indicates that the site poses a significant threat to the public health or the environment and action to remediate the site is required.

In the early 1990's, the septic tanks and leaching pools were exposed and soil samples taken from these structures for laboratory analysis. VOC contamination was observed, particularly in Area 2.

In February of 1995 a Site Investigation Report for the New Cassel Industrial Area was completed by Lawler, Matusky and Skelly Engineers under the New York State Superfund program. Based on this report, in March 1995, the majority of the New Cassel Industrial Area was removed from the Registry. Concurrently, the IMC Magnetics site was listed as an individual Class 2 site on the Registry. This Site Investigation Report is available for review at the document repositories.

SECTION 3: CURRENT STATUS

In March of 1996, the responsible party submitted a Work Plan for the Investigation and Design of an Interim Remedial Measure (IRM) for the Vadose Zone at the IMC Magnetics Corp. Manufacturing Facility. The field work was carried out between May 6, 1996 and July 16, 1996, under the oversight of the NYSDEC. The final report was completed in February of 1997.

3.1 Summary of the Focused Remedial Investigation

The purpose of the focused remedial investigation was to identify and delineate any soil contamination resulting from previous activities at the site. The remedial investigation was completed in July 1996. The Final Investigation Report for the Investigation and Design of the Interim Remedial Measure for the Vadose Zone was completed in February 1997. This report is available for review at the document repositories, and describes the field activities and findings of the investigation in detail. The Remedial Investigation activities included the following:

* *A search of local agency and state files for information on past activities and construction at the site to identify and locate cesspools and other likely areas of contamination.*

* *A source and release identification survey to identify potential release mechanisms of contaminants into the subsurface.*

* *A topographical and property survey conducted by a surveyor registered in the State of New York.*

* *Soil and groundwater samples were analyzed in a Mobile Lab on-site. In order to comply with the NYSDEC's contract laboratory program (CLP) analytical requirements for inactive hazardous waste sites, confirmatory samples were submitted to an off-site NYSDOH approved laboratory.*

* *Eighty-eight geoprobe soil locations were sampled. The locations were chosen on a flexible grid system, which emphasized sampling in locations of known contami nation, particularly septic tanks, floor*

drains and leaching pools. At each soil boring location, a minimum of two soil samples were collected on five-foot intervals beginning at 4 to 6 feet below grade. Soil borings were continued until two successive soil samples were determined via the Mobile Laboratory to contain specific volatile organic compounds (VOCs) below pre-determined screening levels (Table 1). Selected samples were submitted to a fixed laboratory for metals analysis.

* *Three existing groundwater monitoring wells and seven geoprobe locations on-site were sampled and analyzed for VOCs and metals as above.*

The analytical data obtained from the Remedial Investigation was compared to applicable Standards, Criteria, and Guidelines (SCGs). Groundwater, drinking water and surface water SCGs identified for the IMC Magnetics site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of the NYS Sanitary Code. NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used as SCGs for soil. Sitewide screening levels for VOCs are given in Table 1. The screening levels are the site specific cleanup levels. They are derived from the TAGM levels by adjusting for the organic content of the soil. The results of the soil sampling are summarized in Table 1. Groundwater results are summarized in Table 2A and 2B.

3.1.1 Nature of Contamination

3.1.1.1 Soil Contamination

VOCs in soils were found to be concentrated near a leaching pool outside the building at the northwest corner of the site. This area is designated as Area 2 on the site map (Figure 3).

In Area 2, concentrations of tetrachloroethylene (PCE) as high as 39,396 ppm were found in leaching pool LP2-B, with lesser concentrations of other VOCs, including trichloroethylene (TCE), 1,1,1 trichloroethane (1,1,1 TCA), 1,1 dichloroethylene (1,1 DCE), o-xylenes, m&p xylenes, ethyl benzene and toluene. Outside of Area 2, only PCE was observed at concentrations above the screening limits , to a maximum concentration of 10.39 ppm, with all observed occurrences at depths of 10 feet or less.

Metal contamination was detected in concentrations above the TAGM cleanup objectives in three soil borings (SB 25, SB 26 and SB 63). The metal observed above TAGM levels was chromium, with the highest concentration being 740 ppm (the TAGM level for chromium is 50 ppm). The deepest occurrence of chromium contamination was 12 feet in Area 2.

3.1.1.2 Groundwater Contamination

The highest concentrations of VOCs in groundwater were detected in SB-25, which is within Area 2. PCE at this location was detected at 2,680 ppb. PCE and TCE were detected in lesser amounts at MW-1, SB-65, MW-3, SB-63, MW-2 and SB-54. The second highest VOC concentrations were at MW-2 (PCE at 899 ppb and TCE at 206 ppb), which is on the northern edge of the site. Based on the soil boring data accumulated during the investigation, it appears that there is a current source of groundwater contamination in Area 2, which may also be contributing to the high concentrations observed in MW-2. SCGs for these contaminants are 5 ppb.

Three existing groundwater monitoring wells and seven geoprobe locations were sampled for metals. Barium was detected at concentrations from 47 to 79 ppb at all three wells and chromium was detected at levels from less than 10 ppb to 32 ppb at MW-3. The groundwater standards for barium and

chromium are 1,000 ppb and 50 ppb respectively. Although the metal concentrations from the geoprobe borings were higher than the monitoring well samples, the metal concentrations from the geoprobe borings are likely not representative of actual dissolved metal concentrations due to the turbidity of samples collected by this method.

The on-site groundwater contamination will be investigated in detail for the Operable Unit 02 (groundwater) remedial investigation.

3.2 Interim Remedial Measures

Based on the results of the Focused Remedial Investigation, Soil Vapor Extraction (SVE) was chosen as an appropriate Interim Remedial Measure for VOC contamination in Area 2 of the site. An SVE pilot test was run in Area 2 during the first two weeks of July 1996, using a total of three extraction and monitoring borings. Extraction rates between 22 and 44 cubic feet per minute were used. Removal rates for VOCs were estimated to be as high as 26.89 pounds per day for PCE, the most common contaminant. Total VOC removal was estimated at an initial rate of 27.33 pounds per day. Details of the SVE pilot test may be found in Table 3 and Table 4.

Figure 4 shows the locations of the SVE borings in Area 2. Soil permeabilities derived from the pilot test were consistent with those expected for a homogenous unit of medium and coarse sands, as indicated by geoprobe samples. Calculations for the effective radius of influence for a SVE system in this environment showed that one unit should easily cover Area 2, the most contaminated area. VOC contamination outside of Area 2 was not judged to represent a significant threat to human health or the environment because the shallow depth and relatively low concentrations of the contamination did not indicate that the groundwater would be significantly contaminated. In addition, this material was beneath the building floor, further restricting its mobility.

An appropriate SVE system was installed during the summer of 1997 and began operation in October of that year. This system utilizes one extraction well (SVE-1) which was installed to a depth of 56 feet as part of the pilot program. Figure 4 shows the physical layout of the SVE system and gives a flow chart of the system's operation. The well consists of three "nested" extraction wells within the borehole which are screened at different intervals and separated by bentonite seals. The operating conditions for each screened interval are controlled separately. The SVE system consists of a moisture tank separator, an in-line particulate filter, and the blower. From the blower, the vapor stream is routed through two vapor-phase granular activated carbon (GAC) canisters connected in series and then discharged. The useful life of the system is expected to be at least six months, and performance will be monitored on a weekly basis for the first month, then on a biweekly schedule. The system may be operated as long as significant contamination is being removed, or until the cleanup objectives, as outlined in NYSDEC TAGM 4046, Soil Cleanup Guidelines, are met.

3.3 Summary of Human Exposure Pathways

The greatest part of the VOC contamination at the site is concentrated in Area 2 well below the ground surface. The principal pathway for human exposure from this material would be through the groundwater. Other routes, such as through the air or exposure to surface soils, yield very small exposure levels and are not considered to be of direct concern. Similarly for metals, only chromium is found above the TAGM level, also in Area 2 well below the surface. In this case also, the principal exposure route is through the groundwater. Outside of Area 2, contamination is generally found beneath concrete or asphalt, and does not extend to the

groundwater table. The remedial focus for this site must therefore be the prevention of further groundwater contamination.

The contaminated groundwater in the New Cassel Industrial Area presents a potential route for human exposure; however, the area is served by public water. This public water supply is treated and routinely monitored for purity and quality. The final remediation of groundwater contamination at this site for both metals and VOCs will be addressed separately, as a second operable unit. Based on the results of the Focused Remedial Investigation, other pathways (through the air or by exposure to soil) are not considered to be of concern.

3.4 Summary of Environmental Exposure Pathways

The primary pathway for environmental exposure is through the migration of the contaminants in the on site sources into the underlying aquifer, and then through the aquifer. This groundwater contamination will be the focus of the future remedial investigation for Operable Unit 02.

SECTION 4: ENFORCEMENT STATUS

The Potential Responsible Party (PRP) for the site is:

IMC Eastern Corp.
Formerly IMC Magnetics
570 Main Street
Westbury, N.Y. 11590

The NYSDEC and IMC Magnetics, Inc., (the site owner and operator) entered into a Consent Order on March 6, 1996, Index # 1-W1-0750-96-02. The Order obligates the responsible party to implement a Focused RI/FS and IRM. The above order is the only order on record between the NYSDEC and IMC Magnetics, Inc.

The PRP implemented the Focused Remedial Investigation and Feasibility Study and the Interim Remedial Measure at the site when requested by the NYSDEC. This work was then performed by the PRP's consultant under the supervision of the NYSDEC.

SECTION 5: SUMMARY OF THE SELECTED REMEDY

The selected remedy for any site should, at a minimum, eliminate or mitigate all significant threats to the public health or the environment presented by the hazardous waste present at the site.

Based upon the results of the RI and previous investigations that have been performed at the site, the NYSDEC has determined that the Interim Remedial Measure (SVE extraction) which is currently operating will be the final remedial measure for soil contamination at this site. The SVE system will be operated as per the specifications summarized in Section 4.2, and presented in detail in the Final Investigation Report for the Investigation and design of the Interim Remedial Measure for the Vadose Zone at the 570 Main Street Manufacturing Facility, Westbury, New York. In summary:

* *The physical plant for the SVE system is contained in a small temporary building in Area 2.*

* *The system will utilize one extraction well which was installed to a depth of 56 feet for a pilot test. The well consists of three "nested" extraction wells within the borehole which are screened at different intervals and separated by bentonite seals. The shallow interval is screened from 5 to 20 feet below grade, the intermediate interval is screened from 23 to 38 feet below grade, and the deep interval is screened from 41 to 56 feet*

below grade.

* *The operating conditions for each screened interval will be controlled at the manifold assembly inside the SVE system enclosure.*

* *The three vacuum lines will be located below grade and connected to each nested well beneath an eight-inch, water-tight manhole to schedule 40 PVC pipe running to the SVE system. At the SVE system, each vacuum line will have a sample port, flow meter, vacuum gauge, and flow control valve prior to a manifold which will route all three vapor streams through the SVE system.*

* *The SVE system will consist of a moisture tank separator, an in-line particulate filter and a blower. From the blower, the vapor stream will be routed through two vapor-phase granular activated carbon canisters connected in series and will then be discharged to the atmosphere.*

* *The system shall be operated for a minimum of six months. Operation will continue past this time period if the system is still removing significant contamination and/or contaminant levels still exceed the cleanup guidelines established in NYSDEC TAGM 4046.*

* *At the end of the useful life of the system, soil contamination at the site will be re-evaluated to determine whether the remedial goals have been met.*

* *Institutional controls will be implemented and deed restrictions will be recorded in the chain of title of the property to restrict the future use of groundwater at the site.*

Groundwater contamination for this site will be addressed as a separate operable unit (Operable unit 02). During the investigation of this operable unit the Department will evaluate whether the metals contamination at the site has a significant effect on groundwater.

SECTION 6: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remediation process, a number of Citizen Participation (CP) activities were undertaken in an effort to inform and educate the public about conditions at the site and the potential remedial alternatives. The following public participation activities were conducted for the site:

* The following repositories for documents pertaining to the site were established:

NYSDEC Central Office
50 Wolf Rd. - Rm. 242
Albany, NY 12233-7010
Phone: (518) 457-1708
Mon. To Fri.: 8:30 am to 4:45 pm

NYSDEC Region 1
SUNY Campus
Loop Road, Building 40
Stony Brook, NY 11790-2356
Phone: (516) 444-0241
Mon. To Fri.: 8:30 am to 4:45 pm

New Cassel Environmental Justice Project
847 Prospect Avenue
New Cassel, N.Y. 11590
Phone (516) 876-9526
Mon. To Fri.: 10:30 am to 1:00 pm

New Cassel Community Center
252 Grand Street
New Cassel, NY 11590
Phone (516) 333-4186
Mon. To Fri.: 9:00 am to 6:00 pm

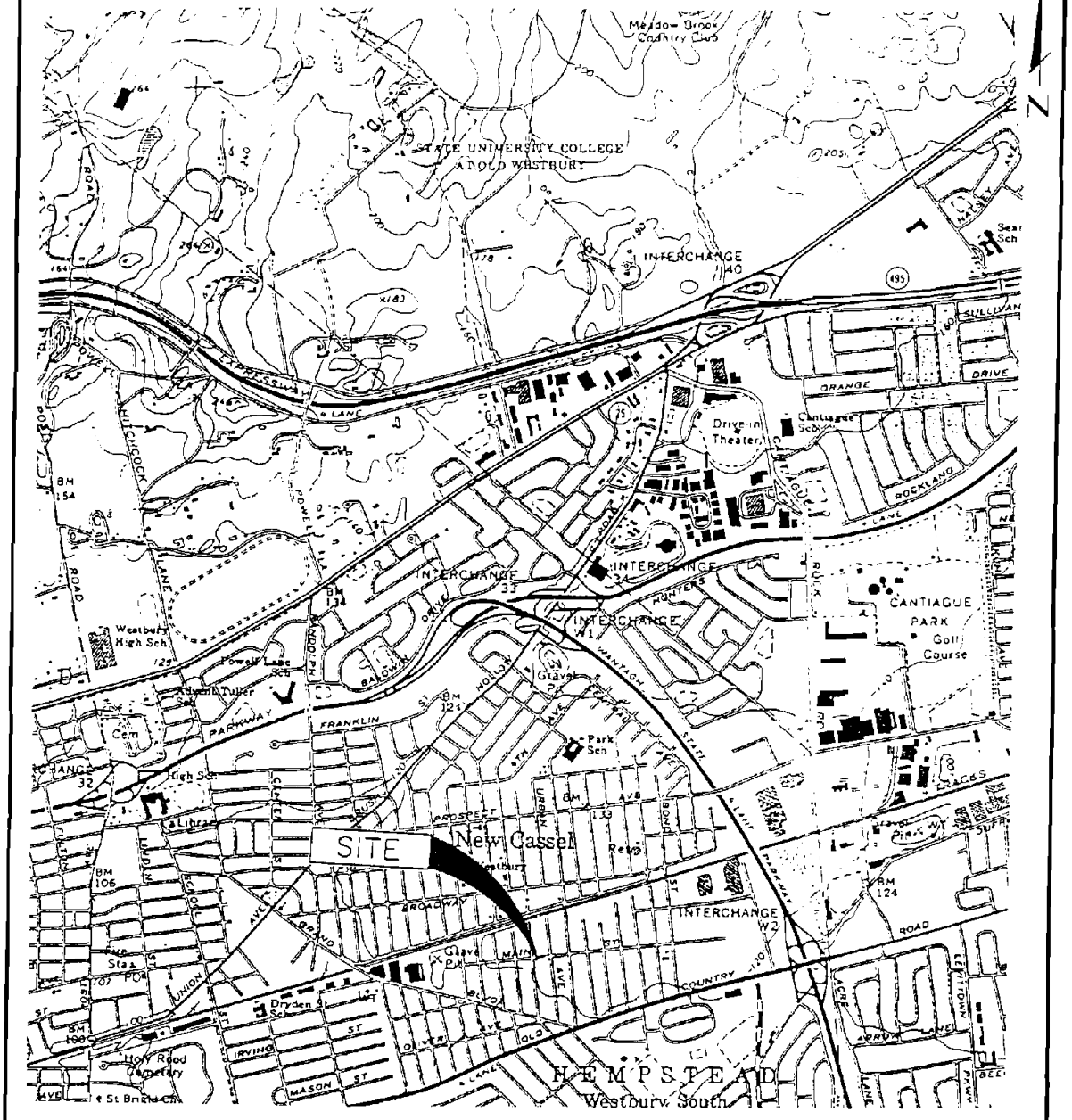
Westbury Memorial Public Library
445 Jefferson Street
Westbury, NY 11590
Phone (516) 333-0176
Mon. to Fri.: 9:30 am to 9:00 pm
Sat.: 9:30 am to 5:30 pm
Sun.: 1:00 pm to 5:00 pm

* A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.

* Fact sheets describing all aspects of the remediation of inactive hazardous waste disposal sites in the New Cassel Industrial Area, including the IMC Magnetics site, were distributed to the public in August 1995, November 1995, May 1996, September 1996, April 1997 and November 1997.

* Public information meetings were held in January 1996, May 1996, October 1996, May 1997 and December 1997. DEC personnel were available to discuss all New Cassel Industrial Area sites, including the IMC Magnetics site, at each meeting.

* In January of 1998 a Responsiveness Summary, included in this Record of Decision as Appendix A, was written to address questions raised by the Public at the December 1997 public meeting and received by mail or telephone during the comment period for the Proposed Remedial Action Plan. In general, the public comments received were supppportive of the selected remedy.



SOURCE: USGS 7.5 MIN. QUADRANGLE
HICKSVILLE, NEW YORK - 1967
(PHOTOREVISED - 1979)

FIGURE 1

Hull & Associates, Inc.
DUBLIN, OHIO

FORMER IMC MAGNETICS CORP. MANUFACTURING FACILITY
FINAL INVESTIGATION REPORT

SITE LOCATION MAP

WESTBURY, NEW YORK

DATE: FEBRUARY 1997 NMB 004

NMB\30300007
02/10/97 SCHOONOV

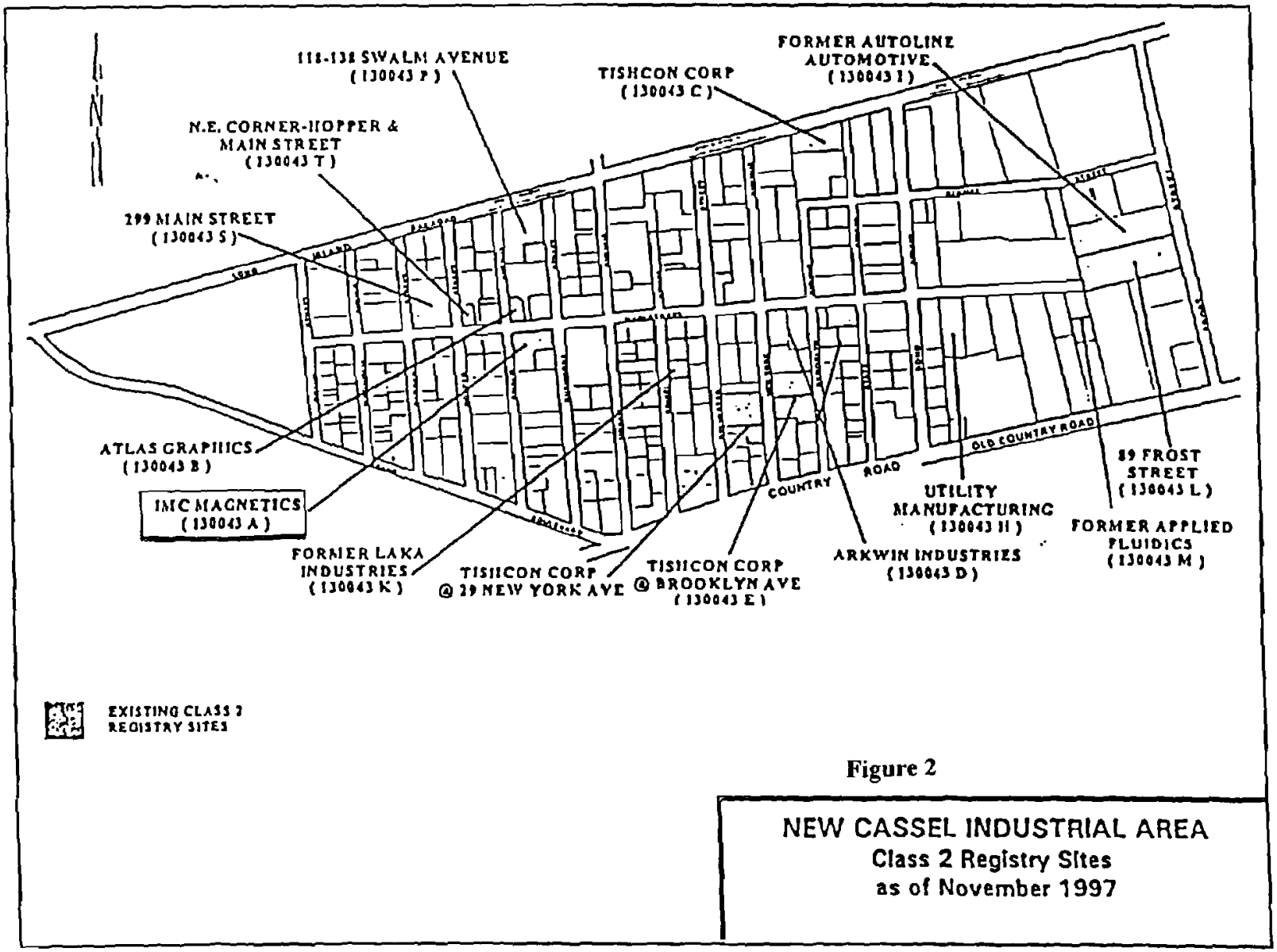


Figure 2

NEW CASSEL INDUSTRIAL AREA
Class 2 Registry Sites
as of November 1997

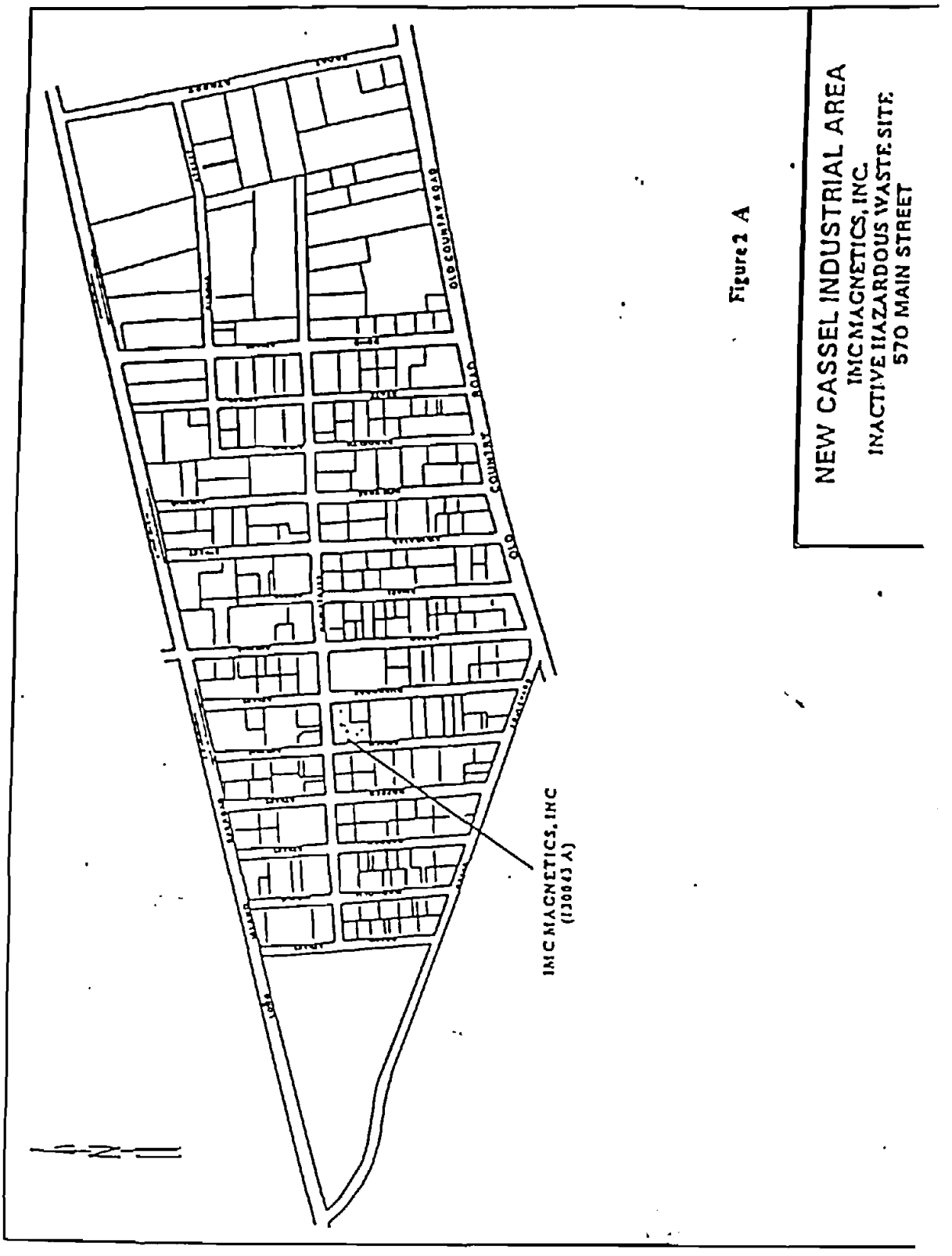

NEW CASSEL INDUSTRIAL AREA
IMC MAGNETICS, INC.
INACTIVE HAZARDOUS WASTE SITE
570 MAIN STREET
OLD COUNTRY ROAD
IMC MAGNETICS, INC

Figure 2 A

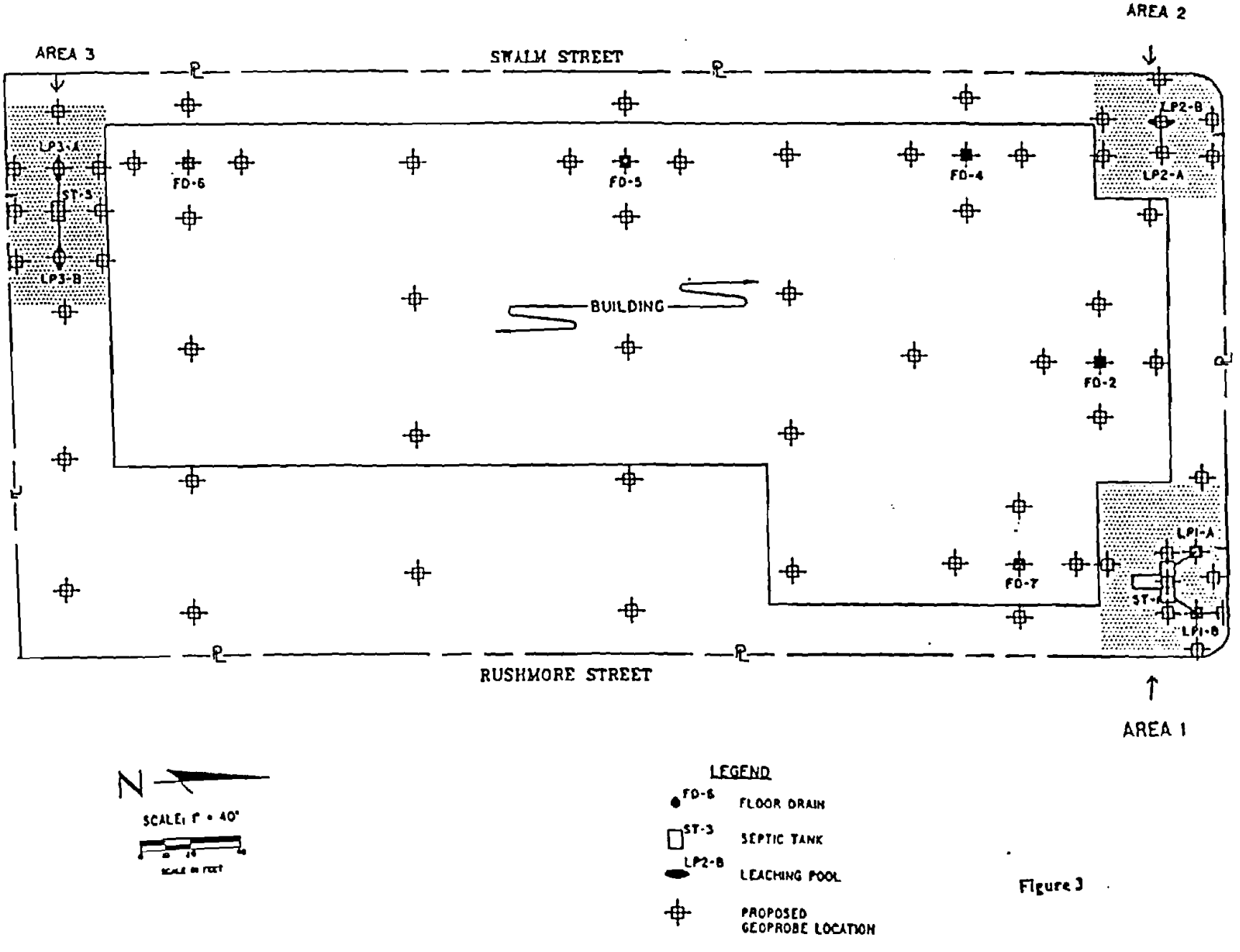

AREA 2
AREA 3
SWALM STREET
LP2-B
LP2-A
LP3-A
ST-3
LP3-B
FD-6
FD-5
FD-4
BUILDING
FD-2
LP1-A
FD-7
ST-1
LP1-B
RUSHMORE STREET
AREA 1
N
SCALE: 1" = 40'
LEGEND
FD-6 FLOOR DRAIN
ST-3 SEPTIC TANK
LP2-B LEACHING POOL
PROPOSED GEOPROBE LOCATION

Figure 3

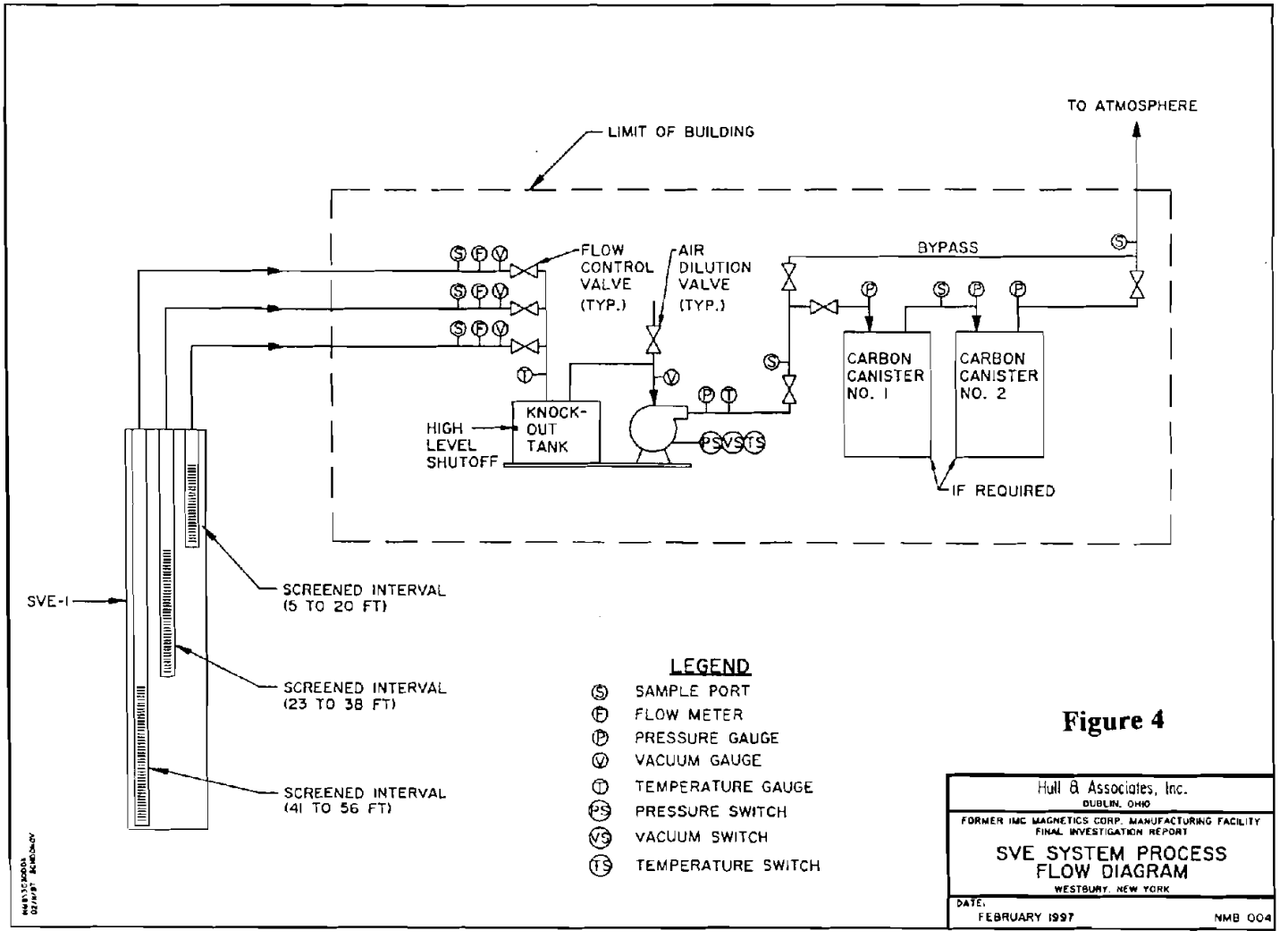

TO ATMOSPHERE
LIMIT OF BUILDING
FLOW CONTROL VALVE (TYP.)
AIR DILUTION VALVE (TYP.)
BYPASS
CARBON CANISTER NO. 1
CARBON CANISTER NO. 2
KNOCK-OUT TANK
HIGH LEVEL SHUTOFF
IF REQUIRED
SVE-1
SCREENED INTERVAL (5 TO 20 FT)
SCREENED INTERVAL (23 TO 38 FT)
SCREENED INTERVAL (41 TO 56 FT)
LEGEND
SAMPLE PORT
FLOW METER
PRESSURE GAUGE
VACUUM GAUGE
TEMPERATURE GAUGE
PRESSURE SWITCH
VACUUM SWITCH
TEMPERATURE SWITCH
Hull & Associates, Inc.
DUBLIN, OHIO
FORMER IMC MAGNETICS CORP. MANUFACTURING FACILITY
FINAL INVESTIGATION REPORT
SVE SYSTEM PROCESS FLOW DIAGRAM
WESTBURY, NEW YORK
DATE:
FEBRUARY 1997
NMB 004

Figure 4

Table 1
Soil Sampling Results
For VOCs
Summary *

Contaminant	Maximum Concentration (ppm)	Number of Instances Above Screening	Screening Level** (ppm)
Benzene	3	1	0.012
Toluene	1,851	10	0.300
Ethylbenzene	633	6	1.10
P&M Xylenes	903	7	0.240
O-Xylenes	192	7	0.240
1,1 DCE	2,773	12	0.080
1,1,1-TCA	287	8	0.152
TCE	127	7	0.140
PCE	39,396	49	0.280

* This summary table is derived from the on-site analysis. A total of 279 samples were taken at 88 locations. For complete results of the on-site analysis and the fixed laboratory results, please refer to the Final Investigation Report for the Investigation and Design of the Interim Remedial Measure for the Vadose Zone at the 570 Main Street Manufacturing Facility, Westbury, New York. This document is available at the repositories. All high levels were found in Area 2.

** The screening levels are the site specific cleanup levels. They are derived from the TAGM levels by adjusting for the organic content of the soil.

IRM VADOSE ZONE INVESTIGATION
FORMER IMC MAGNETICS FACILITY
WESTBURY, NEW YORK

Table 2 A

FIXED LABORATORY
GROUND-WATER SAMPLE TOTAL METAL ANALYTICAL RESULTS

		CONSTITUENT				
SAMPLE I.D.	COLLECTION DATE	Pb (ug/l)	Hg (ug/l)	Ba (ug/l)	Cd (ug/l)	Cr (ug/l)
SB25	05/21/96	320	6.1	340	32	5200
SB29	05/16/96	56	0.31	300	6.1	3200
SB54	05/21/96	51	0.34	370	<3.0	1000
SB63	05/21/96	18	0.33	130	<3.0	710
SB65	05/21/96	66	0.88	180	6.7	1700
MW1	05/28/96	<3.0	<0.2	54	<3.0	<10
MW2	05/28/96	<3.0	<0.2	79	<3.0	<10
MW3	05/28/96	<3.0	<0.2	47	<3.0	32

Notes:

< - Not detected above the method detection limit indicated.

IRM VADOSE ZONE INVESTIGATION
FORMER MAGNETICS FACILITY
WESTBURY, NEW YORK

Table 2B

MOBILE LABORATORY SAMPLE SPLIT VOC ANALYTICAL RESULTS

	CONSTITUENT									
SAMPLE I.D.	BENZENE	TOLUENE	ETHYLBENZENE	m&p-XYLENES	o-XYLENES	1,1-DCE	trans-1,2-DCE	1,1,1-TCA	TCE	PCE
GROUND WATER (ug/l)										
MW1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7
MW2	<1	<1	<1	<1	<1	<1	<1	7	206	899
MW3	<1	<1	<1	<1	<1	1	<1	2	10	64
SB25	<1	33	4	9	<1	<1	<1	<1	<1	2680
SB29	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
SB54	<1	<1	<1	<1	<1	<1	<1	<1	102	55
SB63	<1	<1	<1	<1	<1	<1	<1	<1	55	49
SB65	<1	<1	<1	<1	<1	<1	<1	<1	<1	172
Standards	5	5	5	5	5	5	5	5	5	5

IRM VADOSE ZONE INVESTIGATION
FORMER IMC MAGNETICS FACILITY
WESTBURY, NEW YORK

Table 3

SVE PILOT TEST DATA SUMMARY

PILOT TEST NUMBER	EXTRACTION WELL NUMBER	EXTRACTION RATE (CFM)	SVE ROI @ 0.10" H20 Vacuum (Feet)	STEADY RATE AIR PERMEABILITY (Darcys)	NON-STEADY STATE AIR PERMEABILITY, CLOSEST WELL (Darcys)
Test One	SVE-1, Shallow	44	30	178	696
Test Two	SVE-1, Shallow	23	19	154	NM
Test Three	SVE-1, Intermediate	44	40	205	432
Test Four	SVE-1, Intermediate	26	18	202	108
Test Five	SVE-1, Deep	41	40	112	346
Aux Test One	SVE-4, Shallow	44	25	148	531
Aux Test Two	SVE-4, Intermediate	41	34	148	1083
Aux Test Three	SVE-4, Intermediate	22	21	175	NM
Aux Test Four	SVE-4, Deep	41	35	98	565

Comments

1) If transient, or non-steady state permeabilities are to be used, the data set obtained from the closest monitoring point is most appropriate due to surface short-circuiting effects which increase as a function of distance away from the extraction points. The transient calculations are based on equations from Johnson et al. (1990), which assumes horizontal flow.
2) Low ROI from Aux Test One may be due to surficial soil water saturation following a heavy rainfall event the evening prior to the test.

Table 4

ESTIMATED INITIAL VOC REMOVAL RATES FOR FINAL SVE SYSTEM

Parameter	Concentration (mg/m3) SVE-1 Test Segment			Estimated Flowrate for Final System (CFM)	Estimated Removal Rate (lb/day)
	Shallow	Intermediate	Deep		
Chlorobromomethane	5.42			20	0.009
		4.82		40	0.017
			6.93	20	0.012
Subtotal				80	0.038
Tetrachloroethylene	3330			20	5.97
		4060		40	14.56
			3550	20	6.36
Subtotal				80	26.89
1,1,1-Trichloroethane	12.6			20	0.023
		25.4		40	0.091
			51.3	20	0.092
Subtotal				80	0.206
Trichloroethylene	14			20	0.025
		31		40	0.056
			65	20	0.117
Subtotal				80	0.2
Toluene	0.11			20	0.0002
		0.56		40	0.002
			0.78	20	0.001
Subtotal				80	0.0032
Total VOCs					27.33

APPENDIX A
Responsiveness Summary
IMC Magnetics, Inc.
Site No. 1-30-043A

This document summarizes the comments and questions received by the New York State Department of Environmental Conservation (NYSDEC) regarding the November 1997 Proposed Remedial Action Plan (PRAP) for operable unit 01 of the IMC Magnetics Site, located at 570 Main Street in the New Cassel Industrial Area, in the Village of Westbury, Town of North Hempstead, New York. A comment period from November 20, 1997 to December 22, 1997 was provided to receive comments from the public on this PRAP.

The status of the site was also discussed during two previous public meetings in May 1997 and October 1996.

This responsiveness summary is comprised of verbal comments and questions voiced during the December 4, 1997 public meeting that were relevant to the investigation and remedy presented in the PRAP for this site. No written comments were received during the associated thirty day comment period. The following verbal comments were received during the December 4, 1997 public meeting:

1.C: Is it possible for the contaminants to escape into the atmosphere?

R: Most of the contamination at the IMC Magnetics site is found either at appreciable depth below the soil surface or beneath the building foundations. In either case it is difficult for the contamination to escape into the atmosphere. The operation of the SVE system will not result in release of contaminants into the air because exhaust air from the system will be routed through two vapor-phase granular activated carbon (GAC) canisters which will remove contaminants before discharging the exhaust into the air.

2.C: Why can't the building be demolished just like a mercury contaminated building in New Jersey?

R: In the case of the IMC Magnetics site, little or no contamination is actually contained in the building. The contamination is below the ground surface or below the building floor and/or foundation. Therefore, demolishing the building will not provide any additional protection of human health and the environment.

3.C: What will this site be remediated to?

R: The site will be remediated to applicable Standards, Criteria, and Guidelines (SCGs). NYSDEC TAGM 4046 soil cleanup guidelines for the protection of groundwater, background conditions and risk - based remediation criteria are used as SCGs for soil.

4.C: One of the elements of the proposed remedy is a deed restriction. What is a deed restriction?

R: A deed restriction, also called "covenant" or "restrictive covenant" is a land use control restricting the use of property and is included in the chain of title of the property and other land records to alert the public and subsequent purchasers about the restricted use. The deed restriction is often recorded in a document entitled "Declaration of Covenants and Restrictions" and is filed with the governmental agency responsible for keeping land records.

A Declaration of Covenants and Restrictions will be filed with the Office of the County Clerk in Nassau County on the IMC property indicating that the use of the groundwater at the site will be restricted due to groundwater contamination.

5.C: The PRAP states that a deed restriction is needed as part of a final remediation. There are no details of what the deed restriction covers. Please provide additional information regarding details of the restriction. Perhaps a "notification" to the deed would be sufficient to achieve the Department's goals.

R: The deed restriction is necessary to alert the public and subsequent purchasers that the groundwater is contaminated at the site and that its use is restricted because of the contamination.

Appendix B

IMC Magnetics Operable Unit 01
SITE NO. 1-30-043A
January 1998

ADMINISTRATIVE RECORD

1. New York State Superfund Contract, Site Investigation Report, New Cassel Industrial Area Site, Work Assignment No. D002676-2.2, Lawler Matusky & Skelly Engineers, February 1995.

2. Comprehensive Citizen Participation Plan, New Cassel Industrial Area Site, Site ID: 1-30-043 A-K, New York State Department of Environmental Conservation, November 1995.

3. New York State Superfund Contract, PSA Report, New Cassel Industrial Area Site, Work Assignment No. D002676-2.2, Lawler Matusky & Skelly Engineers, March 1996.

4. New York State Superfund Contract, Multisite PSA Task 4 Report, New Cassel Industrial Area Site, Work Assignment D002676-12B-1, Lawler Matusky & Skelly Engineers, March 1997.

5. Work Plan for the Investigation and Design of the Interim Remedial Measure for the Vadose Zone at the former IMC Magnetics Corp. Manufacturing Facility, Westbury, New York, Hull & Associates, Inc., March 1996

6. Soil Vapor Extraction System Operations, Maintenance, and Monitoring Plan for the 570 Main Street Property, Westbury, New York, Hull & Associates, November 1996.

7. Final Investigation Report for the Investigation and Design of the Interim Remedial Measure for the Vadose Zone at the 570 Main Street Manufacturing Facility, Westbury, New York, Hull & Associates, Inc., February 1997.

APPENDIX C

Record of Decision Glossary
for the
IMC Magnetics Inactive Hazardous Waste Site
Westbury (V), North Hempstead (T)
Site No. 1-30-043A
Operable Unit 01 - Soils

Ambient Water Quality Standards and Guidance Values -- These are the NYS standards and guidance values for the protection of water bodies.

Cesspools -- These are underground drainage structures, similar in construction to storm drains. They are often used to dispose of rainwater and/or sewage in areas where there is no public sewer system.

Citizen Participation -- A program of planning and activities to encourage communication among people affected by or interested in hazardous waste sites and the government agencies responsible for investigating and remediating them.

Citizen Participation Plan -- A document which must be developed at a site's Remedial Investigation stage. A CP Plan describes the citizen participation activities that will be conducted during a site's remedial process.

Class 2 site -- The NYSDEC assigns inactive hazardous waste sites to classifications established by state law, as follows:

Classification 1 -- a site causing or presenting an imminent danger of causing irreversible or irreparable damage to the public health or the environment, immediate action is required.

Classification 2 -- a site posing a significant threat to the public health or environment , action is required.

Classification 2a -- a temporary classification for a site known or suspected to contain hazardous waste. Most likely the site will require additional investigation and based on the results, the site would then be reclassified.

Classification 3 -- a site at which hazardous waste is confirmed but does not pose a significant threat to the public health or the environment, action may be deferred.

Classification 4 -- a site which has been properly closed, but will require continued management.

Classification 5 -- a site which has been properly closed with no evidence of present or potential adverse impact , no further action is required.

Consent Order -- A legal and enforceable agreement negotiated between NYSDEC and a responsible party. The order sets forth agreed upon terms by which a responsible party will undertake site investigation and/or cleanup, or pay for the costs of those activities. The order includes a description of the remedial actions to be taken by the responsible party with NYSDEC oversight, and a schedule for implementation.

Delist -- This is the action by which the NYSDEC removes a hazardous waste site from the Registry. This is done based on the determination that: the site contains inconsequential amounts of hazardous waste; or that a remediated site no longer requires operation and maintenance; or that a remediated site does not require operation and maintenance.

Down Gradient -- See up gradient.

Environmental Notice Bulletin -- This a trade paper that carries information on the environmental field, including legally required notices to the public for the reclassification of a hazardous waste site and other environmental related items.

Exposure Pathway -- This is the term for the pathway that a contaminant could use to migrate from a source to an existing or potential point of contact with the public. For example, the oil slick from a spill could be an exposure pathway to swimmers in a lake.

Feasibility Study (FS) -- This is a study undertaken to develop and evaluate options for the the site to eliminate or reduce the threat to public health and the environment. This study often includes data analysis and may be conducted during or after the RI.

Focused Remedial Investigation (FRI) -- A focused remedial investigation is an investigation that is primarily directed at known, or likely, source areas of contamination.

Geoprobe points/borings -- A geoprobe is a piece of equipment that can collect soil and water samples from below the ground. The place on the ground where the sample is obtained from, is referred to as a point or boring.

Interim Remedial Measure (IRM) -- This is an activity that is conducted to quickly provide relief to reduce the risk to public health or the environment from a well defined hazardous waste problem. These activities include removing contaminated soil and drums, providing alternative water supplies or securing a site to prevent access.

Monitoring Wells -- These are groundwater wells that are installed for the sole purpose of obtaining groundwater samples. Essentially, they are pipes that extend down to the groundwater.

NCIA -- New Cassel Industrial Area. This is an industrial area that is located in the Village of Westbury, Town of North Hempstead. The industrial area is bordered on the south by Old Country Road, on the east by Frost Street, on the west by Grand Boulevard, and the north by the Long Island Railroad.

NYS -- New York State

NYSDEC -- New York State Department of Environmental Conservation.

NYSDOH -- New York State Department of Health.

PAHs -- Petroleum Aromatic Hydrocarbons. A group of petroleum related compounds. These compounds are often found in industrial areas and places where petroleum products (gasoline, hydraulic fluid, etc.) are used.

Part V of the NYS Sanitary Code -- These are the New York State regulations that apply to drinking water supplies and sources.

Parts per Million (PPM) -- This is a way of measuring concentrations of contaminants in soil, water and air. It is the equivalent of one unit of material mixed in with one million units of another material. For example, one ounce of salt mixed in with one million ounces of soil. One ppm is the same as one thousand (1,000) ppb.

Parts per Billion (PPB) -- This is a way of measuring low concentrations of contaminants in soil, water and air. It is the equivalent of one unit of material mixed in with one billion units of another material. For example, one ounce of salt mixed in with one billion ounces of soil. One ppb is one-thousandth ($^{1}/_{1000}$) of one ppm.

Petroleum Hydrocarbons -- A group of petroleum related compounds. These compounds are often found in industrial areas and places where petroleum products (gasoline, hydraulic fluid, etc.) are used.

PRPs -- Potentially Responsible Parties. These are the parties that may be legally liable for the site. PRP's include: those who owned the site during the time wastes were placed, current owners, past and present operators of the site, and those who generated the wastes placed at the site.

Proposed Remedial Action Plan (PRAP) -- This is a document that identifies and discusses the proposed remedial action plan that the NYSDEC believes is the most appropriate for an inactive hazardous waste site. This document also summarizes the site history, results of

investigations, and any remedial work performed at the site. This proposed remedy is reviewed by the public and other state agencies.

Registry -- The New York State Inactive Hazardous Waste Site Registry. This is a document that the NYSDEC is directed by law to maintain and which lists and provides information about every site in New York State which meets the criteria established through the definition of hazardous waste and the classification system.

Remedial Investigation (RI) -- A remedial investigation is an investigative process to fully determine the nature and extent of contamination at a site by collecting and analyzing data. This investigation also delineates the area of contamination that the contamination has migrated to.

Responsiveness Summary -- A summary of responses by the NYSDEC to all significant public questions and comments. A written responsiveness summary is included in a Record of Decision to the questions and comments on the Proposed Remedial Action Plan for a site.

Record of Decision (ROD) -- This is a document that identifies the selected remedy for an Inactive Hazardous Waste Disposal Site. This document is the result of the public input received on the PRAP.

Route of Exposure -- See Exposure Pathway.

SCGs -- Standards, Criteria And Guidelines. These are regulatory values specified for several environmental media such as air, groundwater, surface water, soil and sediment.

Significant Threat -- The determination based on available evidence and relevant factors, that the hazardous waste disposed at the site has or may result in an adverse impact upon public health or the environment.

Soil Gas -- Soil is composed of smaller pieces of rock and earth. In between these pieces, are smaller spaces that are empty except for air and some components of the soil, such as vapors or chemical contaminants.

State Super Fund (SSF) -- This is a program that was established to fund the investigation and cleanup of hazardous wastes for which no responsible party could be identified or for which the responsible party is unable to fund the work.

TAGM 4046 -- Technical And Guidance Memorandum. These are guidance documents issued by the NYSDEC for the investigation and remediation of hazardous waste sites. The number 4046, refers to the TAGM entitled Determination of Soil Cleanup Objectives and Clean Up Levels.

TCL/TAL -- Target Compound List/Target Analyte List. This is a list of compounds that are

analyzed for at hazardous waste sites. This list includes volatile organic compounds, semi volatile organic compounds, pesticides, polychlorinated biphenols, and metals.

Up Gradient -- A location or area that is higher. With respect to groundwater, this is an area or place that groundwater is flowing from. This is the opposite of down gradient, which is an area or place that groundwater is flowing to.

VOCs -- Volatile Organic Compounds. This a group of chemicals such as benzene, vinyl chloride, 1,1, 1 trichloroethane, trichloroethene, dichloroethane, dichloroethene, and tetrachloroethane.