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CLOSURE PLAN

IMC MAGNETICS
570 MAIN STREET
WESTBURY, NEW YORK

DECEMBER 3, 1993

Prpared by:

Anson Environmental Ltd.
33 Gerard Street
Huntington, New York 11743

Closure Plan for 570 Main Street
Westbury, New York
December 3, 1993

Executive Summary

Federal regulations require facilities that use hazardous materials or generate hazardous wastes to have a Closure Plan which identifies how these hazardous substances will be disposed of when the facilities close. IMC Magnetics had such a Plan for its operations at 570 Main Street, Westbury, New York (SITE).

Part of the Plan calls for collecting samples of soils and floor materials for laboratory analysis. Analysis indicates that these samples were contaminated with solvents and metals used by IMC Magnetics during operations at 570 Main Street. Sampling performed on SITE indicates that soil contamination does not extend to groundwater.

The costs associated with SITE remediation are attached and identify two alternative approachs. Alternative One removes the maximum amount of contaminated soil while Alternative Two removes a minimal amount and

treats the residual contamination in the ground.

Introduction

To comply with RCRA, New York State passed legislation identifying New York State requirements in 6 NYCRR Part 373-3.7(c) (1). This legislation requires operations that use hazardous materials or generate hazardous wastes to have a "Closure Plan" which identifies how the facilities will handle, store and dispose of all residual hazardous materials and wastes when operations cease. The Plan also identifies sampling locations and laboratory analyses to be performed to demonstrate that the site has not been contaminated during the use of the hazardous chemical compounds.

During its operations at 570 Main Street, Westbury, Long Island, IMC Magnetics Corp. (IMC) stored and used hazardous materials in, at least its painting, alodine and degreasing operations. Regulation of this usage and storage falls under the Federal Resource Conservation and Recovery Act (RCRA), the implementation of which has been delegated to NYS Department of Environmental Conservation (NYSDEC). As part of the RCRA requirements, IMC had secured New York State and Nassau County permits

to operate the SITE. In 1992, IMC moved from the Westbury site to 435 Wireless Boulevard, Hauppauge.

In 1992, Anson Environmental Ltd. developed a Closure Plan which was approved by the state RCRA compliance group. The Plan was implemented in the same year. Regulation 6 NYCRR Part 373-3.7(c) (1) is administered by the NYSDEC RCRA compliance group located in Region 1, Stony Brook, Long Island. The Plan calls for a report of our findings to be submitted to the NYSDEC RCRA compliance group. Following their review of our findings, they will oversee the next step of the project which will be SITE remediation.

Current Status of the SITE

Sampling at the SITE has identified contamination in the soil and concrete remaining on SITE which will be a concern to the RCRA compliance group.

The situation could be more complicated because 570 Main Street is located within the NYSDEC designated New Cassel Industrial Area Inactive Hazardous Waste Disposal site. In New York State, Inactive Hazardous Waste Disposal sites are commonly called "State Superfund Sites".

New Cassel Industrial Area was designated as an Inactive Hazardous Waste Disposal site when Nassau County Department of Health performed a groundwater investigation in the area and identified contamination with volatile organic compounds, the most common of which are found in degreasers, such as those used by IMC. The responsibility for indentifying the parties responsible for the groundwater contamination falls on the shoulders of the Inactive Hazardous Waste Disposal Department located in Albany, New York. This group recently performed groundwater and soil sampling in New Cassel including adjacent to 570 Main Street.

In discusssions with John Swartout, manager of the IHWDS section in Albany, Mr. Swartout recommended that the site remediation be undertaken with the RCRA compliance group. The Mr. Swartout and the IHWDS should be made aware of our activities. If this done, Mr. Swartout agreed not to either designate 570 Main Street as an IHWD site or pursue remediation of 570 Main Street. I recommend we follow Mr. Swartout's advise, if we do, Mr. Swartout said we will not have to enter into a consent order with New York State.

Closure Plan Findings

During the implementation of the closure plan, AEL identified contamination in several locations at 570 Main Street. These locations included the three leaching fields, several floor drains and concrete flooring in the former locations of the paint storage room, drum storage area, maintenance area, alodine room and spray painting area. Types of contamination are as follows:

leaching pools	solvents and metals
floor drains	solvents and metals
concrete floors	solvents and metals

Chemical compounds in the leaching pools, floor drains and concrete floors are very similar in that there are solvents (tetrachloroethene) and metals (chromium, cadmium, lead and mercury) in most of these samples. These chemical compounds were used during the operation of 570 Main Street.

The levels of contamination in the soils and concrete are such that the NYSDEC will require cleanup of all three areas. In each area, there are two cleanup alternatives and costs presented.

Data gathered thus far do not indicate that the SITE has caused contamination of the groundwater under the SITE. However, the NYSDEC will most likely require installation and sampling of groundwater monitoring wells to determine the quality of the groundwater under the SITE. If groundwater sampling identifies the same solvents and metals in the groundwater as are present in the soils and concrete, IMC could be held accountable for remediating groundwater contamination.

Remediation Alternatives

As was stated above three areas of the SITE which need to be cleaned up are: leaching pools, floor drains and concrete floors. The key to deciding which remedial technique to choose is based on both price and effectiveness of the remedial technique. Each of the two alternatives presented below would effectively address the contamination. Alternative two will require a longer period of time to complete and will cleanup a larger area and "better address" the contamination present in the soil.

LEACHING POOLS

Alternative One

Pump out septic tanks
Excavate all contamination
to approx. 10 feet in area 1
approx. 20 feet in area 2
approx. 12 feet in area 3
Waste soil hauled from site

Alternative Two

Pump out septic tanks
Excavate minimal
contaminated soil
approx.10 feet area 1
approx.12 feet area 3
Install VES

FLOOR DRAINS

Alternative One

Excavate the drains and areas under
building to approx. six feet
in vicinity of six floor drains

Alternative Two

Cut floors and pump waste
Install VES

CONCRETE FLOORS

Alternative One

Demolish floors in areas where
hazardous materials used/stored

Alternative Two

Seal floors in areas where
hazardous materials
used/stored

Cost of Alternatives

The estimated cost of the alternatives is presented on the attached sheets. In summary, the cost of the two alternatives is approximately the same. The major difference is two-thirds of the cost of Alternative One ($412,000) is incurred in the first year. Alternative Two minimizes first year costs and spreads the costs over the four years of the project.

Recommendations

The Closure Plan report should be submitted to the NYSDEC Region 1 RCRA compliance group identifying the soil and concrete contamination and the recommended remedial technique. All work should be performed with oversight by the RCRA compliance group. This group has in the past not required a consent order. Negotiation of a consent order will cost additional monies.

In addition to working with the RCRA compliance group, the IHWDS group in Albany should be officially notified of the remediation project with oversight by the RCRA group.

In addition, the following items should be accomplished:

1. Submit the Closure Plan Report of Findings to the RCRA group in Stony Brook, New York.
2. Implement remediation alternative 2 in each of the three areas. This will reduce the year one costs and spread out remediation costs.
3. Install groundwater monitoring wells to determine the quality of the

groundwater.

4. All waste generated during remediation should be accounted for under the EPA generators identification number for 570 Main Street.

IMC Magnetics Corporation
570 Main Street
Westbury, NY
March 10, 1993

FLOOR DRAINS
Sampling Results
All Results in µg/Kg (ppb)

Volatile organic compounds

Method 8010/8020	NYSDEC standards (ppb)	FD 2	FD 4	FD 5	FD 6
Benzene	60				
Ethylbenzene	5500	56100			
1,2-Dichlorobenzene	7900	38600			
1,3-Dichlorobenzene	1600	34800			
1,4-Dichlorobenzene	8500	37000			
Toluene	1500	41200			
Xylene (Total)	1200	131000	3240	3970	
Chlorobenzene	1700	77200	1760	2000	
Chloromethane	N/A				
Tetrachlorethene	1400	1420000	169000	134000	1270
1,1,1-Trichloroethane	800	9910			
Trichloroethene	700	73600			

Metals	NYSDEC Standards	FD-2	FD-4	FD-5	FD-6
Method: 8 RCRA metals					
Arsenic	7500				
Mercury	100	25000	650	2300	1200
Barium	300000	530000		330000	
Cadmium	1000	62000	17000	230000	7100
Chromium	10000	290000	24000000	830000	
Lead	30000	550000	6100000	390000	590000
Silver	SB				
Selenium	2000				

FD=Floor Drain
ND=Not Detected at Minimum Detection Limit
U=undetected

IMC Magnetics Corporation
570 Main Street
Westbury, NY
March 16, 1993

AREA 1
Sampling Results
All Results in µg/Kg (ppb)

Volatile organic compounds Method 8010/8020	NYSDEC standards (ppb)	LP1A (18'-20')	LP1B (18'-20')	ST 1 (3')
Benzene	60			
Ethylbenzene	5500			
1,2-Dichlorobenzene	7900			
1,3-Dichlorobenzene	1600			
1,4-Dichlorobenzene	8500			
Toluene	1500			
Xylene (Total)	1200			
Chlorobenzene	1700			
Chloromethane	N/A			
Tetrachlorethene	1400			94300
1,1,1-Trichloroethane	800			
Trichloroethene	700			

Metals	NYSDEC Standards	LP1A (18'-20')	LP1B (18'-20')	ST 1 (3')
Arsenic	7500			
Mercury	100			
Barium	300000			
Cadmium	1000			
Chromium	10000		26000	27000
Lead	30000			
Silver	SB			
Selenium	2000			

LP=Leaching Pool
ST=Septic Tank
ND=Not Detected at Minimum Detection Limit
U=Undetected

IMC Magnetics Corporation
570 Main Street
Westbury, NY
March 17, 1993

AREA 2
Sampling Results
All Results in µg/Kg (ppb)

Volatile organic compounds
Method: 8010/8020

	NYSDEC standards (ppb)	LP2A (18'-20')	LP2B (7')	LP2B (12')	LP2B (18'-20')
Benzene	60				
Ethylbenzene	5500				
1,2-Dichlorobenzene	7900				
1,3-Dichlorobenzene	1600				
1,4-Dichlorobenzene	8500				
Toluene	1500			5090000	
Xylene (Total)	1200			3000000	
Chlorobenzene	1700				
Chloromethane	N/A				
Tetrachlorethene	1400		7700000	1.390E+8	2970000
1,1,1-Trichloroethane	800		79700	668000	
Trichloroethene	700				

Metals

Method: 8 RCRA metals	NYSDEC Standards (ppb)	LP2A (18'-20')	LP2B (7')	LP2B (12')	LP2B (18'-20')
Arsenic	7500				
Mercury	100			2300	
Barium	300000				
Cadmium	1000		6300	21000	
Chromium	10000	18000	4700000	7500000	40000
Lead	30000			190000	
Silver	SB				
Selenium	2000				

LP=Leaching Pool
ST=Septic Tank
ND=Not Detected at Minimum Detection Limit
Method 8010/8020

IMC Magnetics Corporation
570 Main Street
Westbury, NY
March 17, 1993

AREA 3
Sampling Results
All Results in µg/Kg (ppb)

Volatile organic compounds
Analytic method: 8010/8020

	NYSDEC standards (ppb)	LP3A (18'-20')	LP3B (18'-20')	ST 3 (10'-12')
Benzene	60			
Ethylbenzene	5500			
1,2-Dichlorobenzene	7900			
1,3-Dichlorobenzene	1600			
1,4-Dichlorobenzene	8500			
Toluene	1500			60200
Xylene (Total)	1200			
Chlorobenzene	1700			
Chloromethane	N/A			
Tetrachlorethene	1400			112000
1,1,1-Trichloroethane	800			
Trichloroethene	700			

Metals
Method: 8 RCRA metals

	NYSDEC Standards (ppb)	LP3A (18'-20')	LP3B (18'-12')	ST3 (10'-12')
Arsenic	7500			
Mercury	100			
Barium	300000			
Cadmium	1000			
Chromium	10000	27000	14000	50000
Lead	30000			
Silver	SB			
Selenium	2000			

LP=Leaching Pool
ST=Septic Tank
ND=Not Detected at Minimum Detection Limit
U=Undetected

IMC Magnetics Corporation
570 Main Street **Sampling Results**
Westbury, NY **Method 8010/8020**
Samples collected on 5/14/93
Floor drains **All Results in μg/Kg (ppb)**

Parameter	FD-2A-12'	FD-4A-1	FD-5A-8'	FD-7-6'
Benzene				
Ethylbenzene	**NONE OF THE CONSTITUENTS EXCEEDED NYSDEC STANDARDS**			
1,2-Dichlorobenzene				
1,3-Dichlorobenzene				
1,4-Dichlorobenzene				
Toluene				
Xylene (Total)				
Bromodichloromethane				
Bromoform				
Bromomethane				
Carbon Tetrachloride				
Chlorobenzene				
Chlorethane				
Chloroform				
Chloromethane				
Dichlorodifluoromethane				
1,1 Dichloroethane				
1,2 Dichloroethane				
Cis-1,3-Dichloropropene				
Trans-1,3-Dichloropropene				
Methylene Chloride				
1,1,2,2-Tetrachloroethane				
Tetrachloroethene				
1,1,1,-Trichlorethane				
1,1,2-Trichloroethane				
Trichloroethene				
Trichlorofluoromethane				
Vinyl Chloride				

ND=Not Detected at Minimum Detection Limit
Method 8010/8020

x

IMC Magnetics Corporation
570 Main Street
Westbury, NY
Samples collected 5/13/93
Area 1

Sampling Results
Method 8120
All Results in µg/Kg (ppb)

Parameter	1-2-36'	1-3-30'	1-4-40'	1-5-34'	1-6-34'
Benzene					
Ethylbenzene	**NONE OF THE CONSTITUENTS EXCEEDED NYSDEC STANDARDS**				
1,2-Dichlorobenzene					
1,3-Dichlorobenzene					
1,4-Dichlorobenzene					
Toluene					
Bromomethane					
Chlorobenzene					
Chloroethane					
Chloromethane					
Dichlorodifluoromethane					
1,1 Dichloroethene					
1,2 Dichloroethane					
Methylene Chloride					
1,1,2,2-Tetrachloroethane					
Trichlorofluoromethane					
Vinyl Chloride					
Dibromochloromethane					
1,2-Dibromo-3-chloropropane					
1,2,4-Trimethylbenzene					
meta&para-Xylene					
ortho-Xylene					
Carbon tetrachloride					
1,1-Dichloroethane					
trans-1,3-Dichloropropene					
1,1,2-Trichloroethane					
Bromoform					
Tetrachloroethene					
trans-1,2-Dichloroethene					
Chloroform					
1,1,1-Trichloroethane					
Bromodichloromethane					
1,2-Dichloropropane					
cis-1,3-Dichloropropane					
Trichloroethane					

ND=Not Detected at Minimum Detection Limit
Method 8120

IMC Magnetics Corporation
570 Main Street **Sampling Results**
Westbury, NY **Method 8010/8020**
Samples collected 5/10/93
Area 2 **All Results in µg/Kg (ppb)**

	NYSDEC	(2-1-50	(2-2-40')	(2-3-30')	(2-3-40')
Volatile organic compounds	STANDARDS				
Benzene	60				
Ethylbenzene	1200	**None of the constituents exceeded**			
1,2-Dichlorobenzene	7900	**NYSDEC standards**			
1,3-Dichlorobenzene	1600				
1,4-Dichlorobenzene	8500				
Toluene	1500				
Xylene (Total)	1200				
Bromodichloromethane	N/A				
Bromoform	N/A				
Bromomethane	N/A				
Carbon Tetrachloride	600				
Chlorobenzene	1700				
Chlorethane	1900				
Chloroform	300				
Chloromethane	N/A				
Dichlorodifluoromethane	N/A				
1,1 Dichloroethane	200				
1,2 Dichloroethane	100				
Cis-1,3-Dichloropropene	N/A				
Trans-1,3-Dichloropropene	N/A				
Methylene Chloride	100				
1,1,2,2-Tetrachloroethane	600				
Tetrachloroethene	1400				
1,1,1,-Trichlorethane	800				
1,1,2-Trichloroethane	N/A				
Trichloroethene	700				
Trichlorofluoromethane	N/A				
Vinyl Chloride	200				
1,2 Dichloropropane	N/A				

ND=Not Detected at Minimum Detection Limit
Method 8010/8020

IMC Magnetics Corporation
570 Main Street **Sampling Results**
Westbury, NY **Method 8010/8020**
Samples collected on 5/10/93
Area 2 **All Results In µg/Kg (ppb)**

Parameter	2-4-40'	2-5-40'	2-6-40'
Benzene	**NONE OF THE CONSTITUENTS EXCEEDED NYSDEC STANDARDS**		
Ethylbenzene			
1,2-Dichlorobenzene			
1,3-Dichlorobenzene			
1,4-Dichlorobenzene			
Toluene			
Xylene (Total)			
Bromodichloromethane			
Bromoform			
Bromomethane			
Carbon Tetrachloride			
Chlorobenzene			
Chlorethane			
Chloroform			
Chloromethane			
Dichlorodifluoromethane			
1,1 Dichloroethane			
1,2 Dichloroethane			
Cis-1,3-Dichloropropene			
Trans-1,3-Dichloropropene			
Methylene Chloride			
1,1,2,2-Tetrachloroethane			
Tetrachloroehene			
1,1,1,-Trichlorethane			
1,1,2-Trichloroethane			
Trichloroethene			
Trichlorofluoromethane			
Vinyl Chloride			

ND=Not Detected at Minimum Detection Limit
Method 8010/8020

x

IMC Magnetics Corporation
570 Main Street **Sampling Results**
Westbury, NY **Method 8120**
Samples collected 5/13/93
Area 3 **All Results in µg/Kg (ppb)**

Parameter	3-1-30'	3-1-50'	3-2-30'
Benzene			
Ethylbenzene	**NONE OF THE CONSTITUENTS EXCEEDED NYSDEC STANDARDS**		
1,2-Dichlorobenzene			
1,3-Dichlorobenzene			
1,4-Dichlorobenzene			
Toluene			
Bromomethane			
Chlorobenzene			
Chloroethane			
Chloromethane			
Dichlorodifluoromethane			
1,1 Dichloroethene			
1,2 Dichloroethane			
Methylene Chloride			
1,1,2,2-Tetrachloroethane			
Trichlorofluoromethane			
Vinyl Chloride			
Dibromochloromethane			
1,2-Dibromo-3-chloropropane			
1,2,4-Trimethylbenzene			
meta&para-Xylene			
ortho-Xylene			
Carbon tetrachloride			
1,1-Dichloroethane			
trans-1,3-Dichloropropene			
1,1,2-Trichloroethane			
Bromoform			
Tetrachloroethene			

ND=Not Detected at Minimum Detection Limit
Method 8120

IMC Magnetics Corporation
570 Main Street **Sampling Results**
Westbury, NY **Method 8010/8020**
Samples collected on 5/15/93
Area 3 **All Results In µg/Kg (ppb)**

Parameter	3-2-39'	3-3-40'	3-3-30'
Benzene	NONE OF THE CONSTITUENTS EXCEEDED NYSDEC STANDARDS		
Ethylbenzene			
1,2-Dichlorobenzene			
1,3-Dichlorobenzene			
1,4-Dichlorobenzene			
Toluene			
Xylene (Total)			
Bromodichloromethane			
Bromoform			
Bromomethane			
Carbon Tetrachloride			
Chlorobenzene			
Chlorethane			
Chloroform			
Chloromethane			
Dichlorodifluoromethane			
1,1 Dichloroethane			
1,2 Dichloroethane			
Cis-1,3-Dichloropropene			
Trans-1,3-Dichloropropene			
Methylene Chloride			
1,1,2,2-Tetrachloroethane			
Tetrachloroehene			
1,1,1,-Trichlorethane			
1,1,2-Trichloroethane			
Trichloroethene			
Trichlorofluoromethane			
Vinyl Chloride			

ND=Not Detected at Minimum Detection Limit
Method 8010/8020

x

Anson Environmental Ltd.

IMC Magnetics
570 Main Street
New Cassel, New York
Date collected: October 1, 1993
Analyzed for: 601/602 and 8 RCRA metals

CONCRETE SAMPLE RESULTS

Area		(paint storage room)			(drum storage area)			(maintenance area)			(alodine room)			(spray painting area)		
	NYSDEC	1-A	1-B	1-C	2-A	2-B	2-C	3-A	3-B	3-C	4-A	4-B	4-C	5-A	5-B	5-C
VOCs (ppb)	Standards															
Chloromethane	N/A															
Methylene chloride	100	950	1400	730												
Carbon tetrachlorid	600															
Trichlorethene	700															
Tetrachloroethene	1400			1900												
Chlorobenzene	1700															
1,3-Dichlorobenzer	1600															
1,4-Dichlorobenzer	8500															
1,2-Dichlorobenzer	7900															
Toluene	1500	2800														35000
Ethylbenzene	5500															6600
METALS (ppb)	NYSDEC Standards															
Arsenic	7500															
Mercury	100	300								38000		1100	1200	730	620	680
Barium	300000															76000
Cadmium	1000	7400					7000			51000		3200	2300		28000	5100
Chromium	10000	37000	77000					11000			36000	220000	64000	23000	51000	470000
Lead	30000		340000													110000
Sliver	SB															
Selenium	2000															