Department of Environmental Conservation

Division of Environmental Remediation

Record of Decision

Three Dimensional Circuits Site
Oyster Bay, Nassau County
Site Number 1-30-026

March 2000

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* JOHN P. CAHILL, *Commissioner*

DECLARATION STATEMENT - RECORD OF DECISION

Three Dimensional Circuits Inactive Hazardous Waste Site
Oyster Bay, Nassau County, New York
Site No. 1-30-026

Statement of Purpose and Basis

The Record of Decision (ROD) presents the selected remedy for the Three Dimensional Circuits Site Class 2 Inactive Hazardous Waste Disposal Site which was chosen in accordance with the New York State Environmental Conservation Law. 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 on the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Three Dimensional Circuits inactive hazardous waste site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A listing 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 have been addressed by implementing the interim remedial measures identified in this ROD. The removal of contaminated soil from the site has significantly reduced the threat to public health and the environment. Therefore, the site no longer represents a current or potential significant threat to public health and the environment.

Description of Selected Remedy

Based on the results of the Remedial Investigation (RI) for the Three Dimensional Circuits Site and the criteria identified for evaluation of alternatives, the NYSDEC has selected no further remedial action with continued groundwater monitoring. The components of the remedy are as follows:

- Sampling and analysis of groundwater quality and flow direction from five existing groundwater monitoring wells on a quarterly basis for a minimum of two years.

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.

3/31/2000
Date

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

INACTIVE HAZARDOUS WASTE DISPOSAL SITE

ROD - SUMMARY SHEET

Site Number: 1-30-026
Name of Site: Three Dimensional Circuits
Town and County: Plainview, Nassau County

Prepared By:
Jamie Ascher, NYSDEC, DER, Region 1

Description of Problem:
Discharges of untreated and treated wastewater from electroplating operations into the on-site leaching pool system led to contamination of on-site soil and groundwater. Concentrations of lead and copper in soil were as high as 6,820 ppm and 46,000 ppm, respectively. The maximum concentrations of lead and copper in on-site groundwater was 483 ppb and 1,480 ppb, respectively. In April 1999, lead was at 110 ppb and copper was at 206 ppb. Monitoring of off-site groundwater has revealed that neither contaminant exceeds New York State Drinking Water Standards.

Description of Remedy:
A groundwater monitoring program will be undertaken to evaluate the effectiveness of prior IRMs in reducing groundwater contaminant levels. Three on-site and two off-site monitoring wells will be sampled for inorganic contaminants on a quarterly basis for a minimum of two years. Evaluation of this data may lead to the extension, modification or discontinuation of the program. If the groundwater monitoring program is discontinued, the site would be delisted from the Registry.

Costs:
Capital Cost: $0
Annual O&M: $9,000
Total Present Worth: $16,700

Issues:
The NYSDOH concurs with the ROD.

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Flanigan Square, 547 River Street, Troy, New York 12180-2216

Antonia C. Novello, M.D., M.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

March 29, 2000

Mr. Michael O'Toole, P.E., Director
Division of Hazardous Waste Remediation
NYS Department of Environmental Conservation
50 Wolf Road
Albany, NY 12233

RE: Three Dimensional Circuits
Oyster Bay, Nassau County
Site # 130026

Dear Mr. O'Toole:

My staff have reviewed the Record of Decision (ROD) for the referenced site. Based on that review, I understand that the PRAP calls "No Further Action" with continued groundwater monitoring. Groundwater monitoring conducted to date has demonstrated the effectiveness of the Interim Remedial Measure (IRM) soil removal conducted in August 1998.

I understand that groundwater samples will be collected from all five monitoring wells on a quarterly basis for a minimum of two years. At the end of that period NYSDEC, in conjunction with NYSDOH, will evaluate the data to determine what further action, if any, is required.

Based on the success of the IRM and the continued groundwater monitoring, I concur that the ROD is protective of public health.

Sincerely,

G. Anders Carlson, Ph.D., Director
Bureau of Environmental Exposure Investigation

cc: Dr. N. Kim
Mr. S. Bates/Mr. G. Laccetti
Mr. B. Smith – NCHD
Mr. P. Graiger – P.W.D.
Mr. S. Ervolina – DEC
Ms. S. McCormick – DEC
Mr. J. Asher – DEC, Reg. 1

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RECORD OF DECISION

Three Dimensional Circuits Site
Oyster Bay, Nassau County
Site No. 1-30-026
March 2000

SECTION 1: SUMMARY OF THE RECORD OF DECISION

The New York State Department of Environmental Conservation (NYSDEC) in consultation with the New York State Department of Health has selected this remedy for the Three Dimensional Circuits Class 2 Inactive Hazardous Waste Disposal Site. As more fully described in Sections 3 and 4 of this document, the discharge of electroplating baths and rinsewater resulted in the disposal of a number of hazardous wastes, specifically copper and lead, at the site. These disposal activities resulted in the following significant threat to the public health and the environment:

- a significant threat to human health and the environment due to the potential for contamination of the groundwater which is utilized as a sole source aquifer.

During the course of the investigation certain actions, known as Interim Remedial Measures (IRMs), were undertaken at the Three Dimensional Circuits Site in response to the threats identified above. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS. The IRM undertaken at this site included the excavation and removal of 204 tons of contaminated soil, sludge and concrete from the site.

Based on the success of the above IRM, the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment, therefore No Further Action with continued groundwater monitoring was selected as the remedy for this site. In addition, the Department will also reclassify the site to a Class 4 site in the New York State Registry of Inactive Hazardous Waste Disposal Sites. A Class 4 site is defined as a site which is "properly closed - requires continued management".

SECTION 2: SITE LOCATION AND DESCRIPTION

The Three Dimensional Circuits Site (#1-30-026) is located at 31 Commercial Street in the City of Plainview, Town of Oyster Bay, Nassau County, New York. The Site is located on a one acre parcel in an industrial development. The Site contains an 18,000 square foot masonry building. The Site is located approximately 0.25 miles south of the 100 Commercial Street Site (#1-30-

075). The Plainview Water District owns and operates public water supply well N-7526 located approximately 2000 feet southeast of the Site. A Site location map is presented in Figure 1.

SECTION 3: SITE HISTORY

3.1: Operational/Disposal History

1970-1984: Three Dimensional Circuits manufactured electronic circuit boards for automobile radios. The facility was granted a State Pollution Discharge Elimination System (SPDES) permit which allowed the facility to discharge inorganics (metals), flourides, total nitrogen and volatile organic compounds (VOCs) in its wastewater at levels below the groundwater effluent standards. Wastewater was discharged into a series of interconnected subsurface leaching pools (LP-1 - LP-11) at the Site (Figure 2). This wastewater entered the water table by slowly leaching downward through the subsurface soil. The facility was in chronic violation of it SPDES permit by discharging wastewater which contained contaminants at levels exceeding the facility's permit limitations. Most often, those exceedances were related to discharges of copper and lead. In response to these violations, the facility constructed a wastewater treatment system to reduce the concentrations of copper and lead in the wastewater. Shortly thereafter, in 1984, the facility ceased operations and left the premises.

1984 - present: The facility has been occupied by a variety of tenants, none of which had any known industrial discharges.

3.2: Remedial History

September 1984: Based upon inspection and sampling data accumulated by the Nassau County Department of Health (NCDH), the Site was listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites as a Class 2a site. A Class 2a designation is defined as a "temporary classification assigned to sites that have inadequate and/or insufficient data for inclusion in any of the other classifications".

May 1986: Composite soil samples were taken from the bottom of each of the 11 former SPDES leaching pools located on-site. Analytical results revealed levels of copper as high as 46,000 ppm and lead levels as high as 6,820 ppm in bottom sediments. VOCs were only detected in leaching pools #1 and #9. However, the concentrations that these contaminants were detected at was generally an order of magnitude lower than the recommended soil cleanup objectives.

August 1987: Soil sampling conducted during a Phase II investigation revealed that leaching pool #14 had elevated levels of copper (239 ppm). Additionally, three groundwater monitoring wells were installed. Difficulties were encountered during the installation of MW-3 and the effort was aborted. Based upon countywide water table elevation maps, monitoring well MW-1 was determined to be sidegradient and MW-2 was determined to be upgraident of the contaminated source areas.

Groundwater samples were analyzed for inorganics and VOCs and revealed the following detections: MW-1 had lead at 60 ppb and copper at 142 ppb. MW-2 had lead at 16 ppb, copper at 1,115 ppb and 1,1,1-trichloroethane at 50 ppb. Monitoring well MW-3 was ultimately installed in 1990 at a downgradient location off-site. The first groundwater samples were taken from MW-3 in July 1996 (Section 4.1.3, Tables 3 and 4).

November, 1990: Site was reclassified to Class 2.

SECTION 4: SITE CONTAMINATION

To evaluate the contamination present at the Site and to evaluate alternatives to address the significant threat to human health and the environment posed by the presence of hazardous waste, the potentially responsible party (PRP) has recently conducted a RI.

4.1: Summary of the Remedial Investigation

The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the Site.

The RI began in January 1996 with a proposal to conduct additional investigative work and IRMs. The IRMs were completed in August 1998 and the RI was completed in April 1999. A report entitled Remedial Investigation Report dated February 2000 has been prepared which describes the field activities and findings of the RI in detail.

The RI included the following activities:

- *Installation of one additional on-site monitoring well and one off-site monitoring well;*
- *Subsurface soil sampling through all on-site leaching pools;*
- *Sampling of all five monitoring wells associated with the Site; and*
- *Surveying and mapping the Site*

To determine which media (soil and groundwater) were contaminated at levels of concern, the RI analytical data were compared to environmental Standards, Criteria, and Guidance values (SCGs). Groundwater and drinking water SCGs identified for the Three Dimensional Circuits Site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of New York State Sanitary Code. For soils, NYSDEC Technical and Administrative Guidance Memorandum (TAGM) 4046 provides soil cleanup guidelines for the protection of groundwater, background conditions, and health-based exposure scenarios. Guidance values for evaluating contamination in sediments are provided by the NYSDEC "Technical Guidance for Screening Contaminated Sediments".

Based on the RI results, in comparison to the SCGs and potential public health and environmental exposure routes, subsurface soil required remediation and groundwater required monitoring. This is summarized below. More complete information can be found in the RI Report.

Chemical concentrations are reported in parts per billion (ppb) and parts per million (ppm). For comparison purposes, where applicable, SCGs are provided for each medium. See Tables 1, 3, 4 and 5.

4.1.1: Site Geology and Hydrogeology

The water table is encountered approximately 90 feet below land surface (bls). Hydrogeologic records and hollow stem augering on and off-site have revealed the presence of intermittent silt and clay lenses below the water table in the area. At the Site, groundwater flow is in a south, southwesterly direction.

4.1.2: Nature of Contamination

As described in the RI report, many soil and groundwater samples were collected at the Site to characterize the nature and extent of contamination. The category of contaminants which exceeds their SCGs are inorganics. VOCs and semi-volatile organic compounds (SVOCs) were not detected at levels exceeding SCGs in on-site soil. Low levels of the VOC tetrachloroethene (PCE) were observed in upgradient well MW-2 and downgradient well MW-5. The presence of this contaminant is unrelated to Site activities. No other VOCs were detected in groundwater during the RI.

The metal contaminants of concern are lead and copper. These contaminants were present in on-site soil as a result of the discharge of partially treated wastewater into the industrial leaching pool system.

Although elevated levels of these contaminants were observed in on-site groundwater, the removal of these contaminants through source remediation has reduced on-site contamination and will prevent future groundwater contamination.

4.1.3: Extent of Contamination

Tables 1, 3, 4 and 5 summarizes the extent of contamination for the contaminants of concern in soil and groundwater and compares the data with the SCGs for the Site. The following are the media which were investigated and a summary of the findings of the investigation.

Soil

There were 15 subsurface leaching pools located on-site (Figure 2). Upon completion of the IRMs, 12 leaching pools were completely backfilled with certified clean fill and abandoned. Soil

samples acquired from all on-site leaching pools were analyzed for inorganics, VOCs and SVOCs. The former SPDES leaching pool system is comprised of 11 leaching pools (LP-1 - LP-11). Composite soil samples were taken from the bottom of each of the SPDES leaching pools. Laboratory analysis revealed the following contaminants with maximum detections levels: lead at 6,820 ppm and copper at 46,000 ppm. The recommended cleanup objective for lead and copper is 500 ppm and 25 ppm, respectively. Deeper soil borings through these pools revealed that lead and copper levels diminished significantly with depth. Soil borings were conducted immediately adjacent to leaching pools LP-1 and LP-9 to determine if there had been lateral migration of contaminants in these pools. These soil samples were acquired at depths corresponding to the known depth of contamination within these pools. Both exterior soil borings had levels of lead and copper below the recommended cleanup objectives.

Visual inspection of leaching pools LP-12 and LP-13 revealed that these pools were not interconnected with the SPDES leaching pool system. Instead, these pools recharged stormwater. Additionally, laboratory analysis of the bottom sediments from LP-12 and LP-13 revealed no elevated levels of any contaminants.

Leaching pool LP-14 was found to contain elevated levels of copper at 7,500 ppm in bottom sediments. A deeper soil boring within this pool revealed that copper levels diminished to 134 ppm at 15 feet - 17 feet bls.

A storm drain (SD) located in an on-site loading dock was found to have elevated levels of lead at 6,820 ppm and copper at 1,940 ppm in bottom sediments. A soil boring through the storm drain revealed lead at 509 ppm and copper at 44 ppm at 15 feet - 18 feet bls. At 24 feet - 26 feet bls, lead was at 134 ppm and copper was 8 ppm. At 29 feet - 31 feet bls, lead was at 59 ppm and copper at 6 ppm.

No other site related contaminants were detected above the soil cleanup objectives in any boring.

Groundwater

Based upon calculations of site specific groundwater flow direction, two additional groundwater monitoring wells were installed during the RI. MW-4 was installed on-site in January 1997 at a location immediately downgradient of the former SPDES leaching pools. MW-5 was installed off-site in March 1999 downgradient of the same source area. The RI confirmed the groundwater flow direction to be southwest.

Groundwater samples taken during the RI were analyzed for inorganics, VOCs and SVOCs. Groundwater samples were taken in July 1996 from wells MW-1, 2 and 3. MW-1 had detections of copper at 234 ppb and lead at 240 ppb. MW-2 had copper at 867 ppb and lead at 1 ppb. MW-3 had copper at 3 ppb and lead at 1 ppb. In June 1997, MW-4 had copper levels of 1,480 ppb and lead levels of 483 ppb (Tables 3 & 4). The groundwater standards for lead and copper are 25 ppb and 200 ppb, respectively.

Groundwater samples acquired in April 1999 revealed the following detections: MW-1 - lead at 2.5 ppb and copper at 6 ppb. MW-2 - lead at 1.7 ppb, copper at 169 ppb and PCE at 5.4 ppb, MW-3 - lead at 1.4 ppb and copper at 4 ppb, MW-4 - lead at 110 ppb and copper at 206 ppb, MW-5 - lead at 24.6 ppb, copper at 33 ppb and PCE at 3.7 ppb (Tables 1, 3 & 4). The groundwater standard for PCE is 5 ppb.

Besides copper and lead, no other site related contaminants were detected above groundwater standards in any of the wells.

4.2: Interim Remedial Measures

An Interim Remedial Measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the RI/FS.

April 1998: Ground penetrating radar was utilized to determine if there were any subsurface leaching pools which may have been previously undetected. No additional leaching pools were found. The asphalt parking lot was broken up and then the top dome section of each leaching pool was removed. A vacuum extraction truck was then utilized to remove several feet of bottom sediments from each pool (Figures 3 & 4). This material was stockpiled and covered for disposal (Figure 5).

Visual inspection of the interior of the former SPDES leaching pools (LP-1 - LP-11) revealed that several leaching rings were caked with sludge material. For this reason, the affected leaching rings were removed, crushed and stockpiled for disposal. Based on soil boring data, a determination was made to excavate the subsurface soil to an approximate depth of 21 - 23 feet bls in LP-1 - LP-11. Soil excavation in LP-14 and the loading dock storm drain (SD) extended to a depth of 16.5 feet and 14 feet bls, respectively. Excavation below these depths was not immediately possible as the physical structure of the building would have been compromised. Confirmatory end point soil samples were taken from each of the 13 remediated leaching pools and revealed that copper and lead levels were significantly reduced (Table 5). Leaching pools LP-1 - LP-11 and LP-14 were completely backfilled and abandoned with certified clean sand fill and the parking lot was repaved, effectively capping the area. The loading dock storm drain (SD) was backfilled with four feet of certified clean fill.

In August 1998 the IRMs were completed. Composite soil samples of the stockpiled material were analyzed utilizing the Toxicity Characteristic Leachate Procedure (TCLP) and all 204 tons of soil, sediment, sludge and concrete were transported to Republic Environmental Systems, Inc. in Pennsylvania to be disposed of as hazardous waste (Figures 5 and 6). This facility is a permitted TSDF.

4.3: Summary of Human Exposure Pathways:

This section describes the types of human exposures that may present added health risks to persons at or around the Site. A more detailed discussion of the health risks can be found in the RI report.

An exposure pathway is the manner by which an individual may come in contact with a contaminant. The five elements of an exposure pathway are 1) the source of contamination; 2) the environmental media and transport mechanisms; 3) the point of exposure; 4) the route of exposure; and 5) the receptor population. These elements of an exposure pathway may be based on past, present, or future events.

Pathways which are known to or may exist at the Site include: ingestion of contaminated groundwater and direct or incidental contact with contaminated soil.

The potential for exposure to Site related contamination in soil has been significantly reduced by excavating and removing this material from the Site. Residual metals contamination in soil is located subsurface and the majority of the Site is either paved or covered by the facility building, thus limiting the possibility of contact with on-site soil.

Exposure to Site related contaminants in drinking water is not expected since homes and businesses near the Site are connected to public water. The public water supply wells are routinely monitored and must meet New York State Department of Health (NYSDOH) drinking water standards. The nearest public water supply well is located approximately 2,000 feet from the Site and is owned and operated by the Plainview Water District.

The NYSDEC and NYSDOH have concluded that the Site has not discharged significant levels of VOCs to the groundwater and the on-site metals have been sufficiently remediated so that the Site poses no threat to the Plainview Water District's public water supply well N-7526.

The excavation and removal of contaminated soil from the Three Dimensional Circuits Site has significantly reduced the level of Site related copper and lead in on-site groundwater. Monitoring of off-site groundwater has revealed that levels of Site related contaminants do not exceed drinking water standards.

4.4: Summary of Environmental Exposure Pathways

The Site is centered in an industrial complex. Area reconnaissance revealed no environmental exposure pathways or ecological risks.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers. The PRP has been identified as Donald E. Axinn, the owner of the Site.

The following is the enforcement history of this Site.

Orders on Consent

Date	Index	Subject
4/13/95	W1-066-93-11	RI/FS/IRM

The NYSDEC and Donald E. Axinn entered into a Consent Order on April 13, 1995. The Order obligates the responsible parties to implement a RI/FS. Upon issuance of the Record of Decision, the NYSDEC will approach the PRP to implement the selected remedy under a second Order on Consent.

SECTION 6: 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. The NYSDEC believes that the remediation now in place, which is described in Section 4.2 Interim Remedial Measures, would accomplish this objective provided that it continues to be monitored and maintained in a manner consistent with the design.

Based upon the results of the investigations and the IRMs that have been performed at the Site, the NYSDEC is proposing No Further Action with continued groundwater monitoring as the preferred remedial alternative for the Site. The Department would also reclassify the Site from a Class 2 to a Class 4 which means the Site is "properly closed - requires continued management" on the New York State Registry of Inactive Hazardous Waste Disposal Sites.

The elements of the selected remedy are as follows:

- Groundwater quality data generated during the RI demonstrates that remediation of on-site source areas has resulted in reducing the concentrations of lead and copper in on-site groundwater. A groundwater monitoring program will continue to monitor the effectiveness of prior IRMs in reducing contaminant levels and would be a component of the monitoring and maintenance of the Site.

- Groundwater samples will be collected from monitoring wells MW-1, 2, 3, 4 and 5 on a quarterly basis for a minimum of two years. Samples will be analyzed for inorganic contaminants. Water levels will also be taken from these wells for calculation and confirmation of groundwater flow direction. At the end of the two year monitoring period, the data will be evaluated and a determination made as to whether to continue, modify, or discontinue the groundwater monitoring program. If the decision is made to discontinue the monitoring program, the Site would be delisted from the New York State Registry of Inactive Hazardous Waste Disposal Sites.

SECTION 7: HIGHLIGHTS OF COMMUNITY PARTICIPATION

As part of the remedial investigation process, a number of Citizen Participation 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:

- A repository for documents pertaining to the site was established.
- A site mailing list was established which included nearby property owners, local political officials, local media and other interested parties.
- A RI Fact Sheet was distributed per the site mailing list at the conclusion of the RI.
- A public meeting was held on February 29, 2000 to present the Proposed Remedial Action Plan.
- In March, 2000 a Responsiveness Summary was prepared and made available to the public to address the comments received during the public comment period for the PRAP.

Three Dimensional Circuits
Site #1-30-026
Figure #1

SCALE: 1"=2000'

SOURCE: USGS QUAD HUNTINGTON, NY

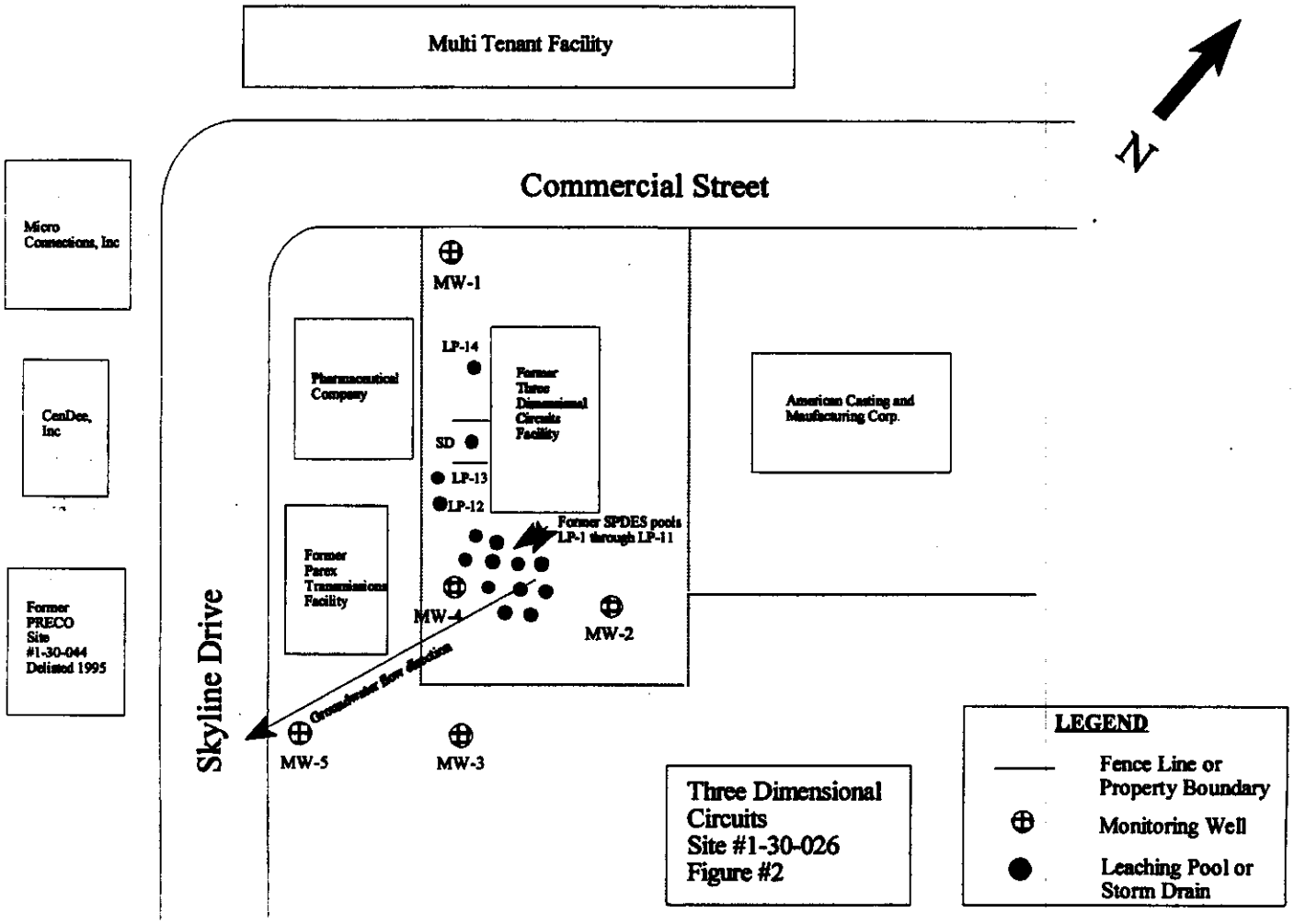
Multi Tenant Facility
N
Commercial Street
Micro Connections, Inc
CenDec, Inc
Former PRECO Site #1-30-044 Delisted 1995
Skyline Drive
MW-1
LP-14
Pharmaceutical Company
Former Three Dimensional Circuits Facility
SD
LP-13
LP-12
American Casting and Manufacturing Corp.
Former Parex Transmissions Facility
Former SPDES pools LP-1 through LP-11
MW-4
MW-2
Groundwater flow direction
MW-5
MW-3
Three Dimensional Circuits
Site #1-30-026
Figure #2
LEGEND
Fence Line or Property Boundary
Monitoring Well
Leaching Pool or Storm Drain

Figure 3: Sludge layer at bottom of leaching pool

Figure 4: Exposed leaching pools during excavation

Figure 5: Stockpiled waste material

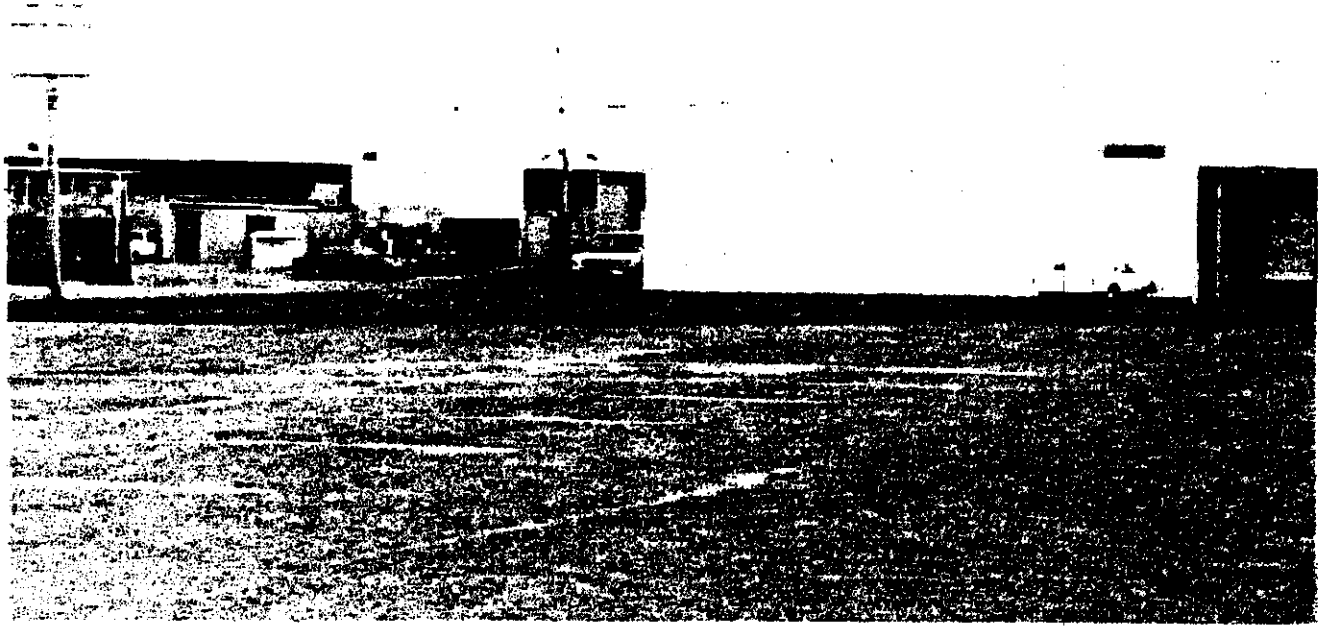

Figure 6: View of site after remediation and repaving

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Table 1
Nature and Extent of Contamination

MEDIUM	CATEGORY	CONTAMINANT OF CONCERN	CONCENTRATION RANGE (ppb)	FREQUENCY of EXCEEDING SCGs/Background	SCG/ Bkgd. (ppb)
Groundwater	metals	copper	3 to 1,480	4 of 9	200
		lead	1 to 483	3 of 9	25
	VOCs	tetrachloroethene	3.7 to 5.4	1 of 9	5
Soils	metals	copper	ND to 46,000 *	13 of 15	25 *
		lead	1 to 6,820 *	13 of 15	500 *
			*concentration range and SCGs for soils are given in ppm		

Table 2
Remedial Alternative Costs

Remedial Alternative	Capital Cost	Annual O&M	Total Present Worth
No Further Action- gw monitoring	$0	$9,000	$16,700

Table 3: Copper in Groundwater

	July, 1996	June, 1997	April, 1999
MW-1	**234**	not sampled	6
MW-2	**867**	not sampled	169
MW-3	3	not sampled	4
MW-4	did not exist	**1,480**	**206**
MW-5	did not exist	did not exist	33

Notes:
Results in ppb
SCG for copper is 200 ppb
exceedances of SCGs noted in **bold**

Table 4: Lead in Groundwater

	July, 1996	June, 1997	April, 1999
MW-1	**240**	not sampled	2.5
MW-2	1	not sampled	1.7
MW-3	1	not sampled	1.4
MW-4	did not exist	**483**	**110**
MW-5	did not exist	did not exist	24.6

Notes:
Results in ppb
SCG for lead is 25 ppb
exceedances of SCGs noted in **bold**

Table 5: Confirmatory Bottom Samples (Soil)

	LP-1	LP-2	LP-3	LP-4	LP-5	LP-6	LP-7	LP-8	LP-9	LP-10	LP-11	LP-12	LP-13	LP-14	SD
copper	48	22	15	32	117	13	33	47	41	10	28	20	11	134	44
lead	56	37	49	66	123	29	72	40	58	9	2	23	18	28	509

Notes:
Results in ppm
SCG for copper is 25 ppm
SCG for lead is 500 ppm
exceedances of SCGs noted in **bold**

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Three Dimensional Circuits Site
Proposed Remedial Action Plan
Oyster Bay, Nassau County
Site No. 1-30-026

The Proposed Remedial Action Plan (PRAP) for the Three Dimensional Circuits, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on February 22, 2000. This Plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil and groundwater at the Three Dimensional Circuits Site. The preferred remedy is No Further Action with continued groundwater monitoring.

The release of the PRAP was announced via a notice to the mailing list, informing the public of the PRAP's availability.

A public meeting was held on February 29, 2000 which included a presentation of the Remedial Investigation (RI) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. Written comments were received from Mr. Samuel Panciroli and Mr. Paul Granger of the Plainview-Water District.

The public comment period for the PRAP ended on March 21, 2000.

This Responsiveness Summary responds to all questions and comments raised at the February 29, 2000 public meeting and to the written comments received.

The following are the comments received at the public meeting, with the NYSDEC's responses:

. Comment: How long were solvents being discharged at the Site?

Response: The degreasing machinery which utilized solvents was a closed system meaning there was no continuous discharge of solvents. However, solvents were used at the facility from 1970 to 1984.

. Comment: What is the depth of the monitoring wells and how deep do they go into the aquifer?

Response: The wells are generally 105 feet deep and are screened approximately 15 feet into the aquifer.

Comment: Is the groundwater flow direction towards Plainview Water District well N-7526?

Response: The RI confirmed a site specific groundwater flow direction of southwest. Well N-7526 is located approximately 2000 feet southeast of the Site.

4. Comment: Was the radius of influence of well N-7526 plotted?

Response: The radius of influence was not plotted.

5. Comment: Are any additional monitoring wells planned?

Response: No additional monitoring wells are currently planned for this site.

6. Comment: Were the on-site drywells paved over?

Response: After the remediation of the on-site drywell system, the drywells were completely backfilled with certified clean sand and the parking lot was repaved.

7. Comment: Plainview Water District supply well N-7526 is impacted by volatile organic compounds (VOCs). Who will pay for a treatment system for it?

Response: Currently, as the source of this contamination is unknown, the Water District would pay for wellhead treatment.

8. Comment: Was the parking lot drainage separate on-site? Where did it go?

Response: Parking lot drainage was into the 15 on-site leaching pools. Stormwater which entered the leaching pools recharged the groundwater through on-site subsurface soil.

9. Comment: Narda Microwave and Avnet Electronics were located in this industrial park. They should be included in the areawide preliminary site assessment.

Response: Records regarding these facilities will be researched to determine their environmental history.

10. Comment: Do we have enough information to determine if there is a contaminant plume between supply well N-7526 and the site?

Response: The Remedial Investigation (RI) determined that there are no elevated levels of contaminants leaving the site in groundwater.

11. Comment: When did discharges end at the site?

Response: Discharges at the site which were regulated under the facility's State Pollution Discharge Elimination System (SPDES) permit ceased in 1984 when the company closed down.

12. Comment: What was in the wastewater when the facility was operational?

Response: Analysis of the facility's wastewater revealed chronic violations of the effluent limitations for copper and lead prescribed in the facility's SPDES permit.

13. Comment: Did the investigation, to date, miss the plume?

Response: The first groundwater investigation at the site began in 1987. Additional monitoring wells were added in 1990, 1997 and 1999. During this time, on-site groundwater was found to contain elevated levels of copper and lead. Off-site groundwater, downgradient of the site, has not been found to contain elevated levels of any contaminants. Based upon the site specific groundwater flow direction and groundwater quality data generated during the RI, the Department has concluded that there is no contaminant plume emanating from the site.

14. Comment: When will the area-wide preliminary site assessment (PSA) be conducted?

Response: The PSA is expected to be initiated in June, 2000.

15. Comment: Was the excavated contaminated soil allowed to leach out? When it was removed?

Response: All excavated soil was placed on heavy plastic sheeting and covered with heavy plastic sheeting to prevent rainwater from leaching through it. The Interim Remedial Measure began in April, 1998 and all excavated soil was removed from the site during August, 1998.

16. Comment: Was the main focus of the RI metals or solvents?

Response: Soil and groundwater samples acquired during the RI were analyzed for metals, VOCs and semi-VOCs.

A letter dated February 29, 2000 was received from Mr. Paul Granger of the Plainview Water District which included the following comments:

. Comment: What are the levels of VOCs in the plume heading towards our water supply wells?

Response: The Remedial Investigation (RI) conducted at the Three Dimensional Circuits Site did not detect the presence of VOCs in groundwater downgradient of the Site. In view of the fact that the Water District is experiencing VOC contamination at well N-7526, the Department will be undertaking an area-wide preliminary site assessment to determine the source or sources of this contamination.

. Comment: Will the plume impact our facilities with VOC levels in excess of New York State Drinking Water Standards?

Response: The RI did not identify a VOC plume emanating from the Three Dimensional Circuits Site.

3. Comment: What actions will be undertaken to remediate the plume and address the impact on the Water District?

Response: While the RI did not detect a VOC plume emanating from the Three Dimensional Circuits Site, the NYSDEC will be undertaking an area-wide preliminary site assessment in an effort to identify sources of VOCs in the industrial park upgradient of public water supply well N-7526.

A letter dated February 29, 2000 was received from Mr. Samuel Panciroli of the Plainview Water District which included the following comments:

1. Comment: We urge the NYSDEC to provide funding assistance to the Plainview Water District for the construction of a treatment system for supply well N-7526.

Response: Since the Department cannot directly attribute the contamination observed in well N-7526 to an existing Class 2 inactive hazardous waste disposal site, funding for a treatment system is currently unavailable.

APPENDIX B

Administrative Record

APPENDIX B
ADMINISTRATIVE RECORD
Three Dimensional Circuits Site: 1-30-026

1. **Phase II Investigation Work Plan, Three Dimensional Circuits Site**, Henderson and Bodwell Consulting Engineers, August 1985

2. **Phase II Investigation Report, Three Dimensional Circuits Site**, Henderson and Bodwell Consulting Engineers, March 1988

3. **Remedial Investigation and Interim Remedial Measures Work Plan, Three Dimensional Circuits Site**, Henderson and Bodwell Consulting Engineers, January 1996

4. **Remedial Investigation Report, Three Dimensional Circuits Site**, Henderson and Bodwell Consulting Engineers, February 2000