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Division of Environmental Remediation

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**Record of Decision**  
**Precision Concepts Site**  
**Operable Unit 1**  
**On-Site Soil and Groundwater**  
**Town of Brookhaven, Suffolk County**  
**Site Number 1-52-158**

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**March 2002**

# **DECLARATION STATEMENT - RECORD OF DECISION**

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## **Precision Concepts Inactive Hazardous Waste Disposal Site Operable Unit 1 Town of Brookhaven, Suffolk County, New York Site No. 152158**

### **Statement of Purpose and Basis**

The Record of Decision (ROD) presents the selected remedy for Operable Unit 1 of the Precision Concepts 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 Precision Concepts inactive hazardous waste disposal 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 past remedial actions implemented at the Site. No evidence of contamination was detected on-site during the Remedial Investigation. Therefore, no threat to public health or the environment was found at the site.

An off-site groundwater investigation will be implemented as Operable Unit 2 to determine if past conditions at the site have resulted in impacts to the off-site groundwater, surface water, and sediments.

### **Description of Selected Remedy**

Based on the results of the Remedial Investigation (RI) for the Precision Concepts site, the NYSDEC has selected No Action as the remedy for Operable Unit 1. No evidence of significant contamination has been found in soils, dry well sediments, or groundwater at the site.

However, the NYSDEC has a concern for possible future discharges of contaminated groundwater to the Carmans River. Therefore, the NYSDEC will conduct an investigation of

groundwater downgradient from the Precision Concepts site and near the River. The downgradient groundwater investigation will be performed as a separate Operable Unit (OU2).


**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.

3/26/2002  
Date

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

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# **RECORD OF DECISION**

**Precision Concepts Site  
Operable Unit 1 - On-Site Soil and Groundwater  
Town of Brookhaven, Suffolk County  
Site No. 1-52-158  
March 2002**

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## **SECTION 1: SUMMARY OF THE RECORD OF DECISION**

Operable Unit 1 encompasses on-site environmental conditions within the boundary of the Precision Concepts facility. Based on the findings of the investigation of this site, which indicate that the presence of hazardous waste at the site does not pose a significant threat to human health or the environment, No Action was selected as the remedy for Operable Unit 1.

## **SECTION 2: SITE LOCATION AND DESCRIPTION**

The Precision Concepts Site is located in the North Shirley Industrial Complex at 26 Precision Drive (a.k.a. Natcon Drive) in the Hamlet of Shirley, Town of Brookhaven, Suffolk County. See Figure 1. As shown on Figure 2, the site is approximately 6 acres in size and contains one 38,000 square foot structure. The site is situated immediately south of the Long Island Expressway (LIE) and 1,350 feet east of the William Floyd Parkway. The site is listed in the New York State Registry of Inactive Hazardous Waste Disposal Sites (the Registry) as a Class 2 site. A Class 2 site is defined as “a significant threat to public health or environment - action required”.

Brookhaven National Laboratory (BNL) lies along the north side of the LIE approximately 1/8 mile to the north of Precision Concepts. BNL is a federal Superfund site and is also listed in the Registry as a Class 2 site.

## **SECTION 3: SITE HISTORY**

### **3.1: Operational/Disposal History**

Precision Concepts occupied the site from the original construction of the building in 1985 until 1993. During its occupancy, Precision Concepts manufactured metal machine parts for the electronics industry. The facility used and stored the solvents 1,1,1-trichloroethane (TCA) and 1,1-dichloroethane (DCA) on site. TCA and DCA are part of a group of chemicals known as volatile organic compounds (VOCs). The site is presently occupied by a pharmaceutical distributor.

No spills are documented to have occurred at the site. However, evidence of contamination sources was observed by the Suffolk County Department of Health Services (SCDHS) during regular site inspections.

### **3.2: Remedial History**

In May 1988, the SCDHS sampled liquid from a buried on-site leaching pool used for roof drainage along the east side of the building. TCA was found at 1,200 parts per billion (ppb) in the liquid.

In March 1990, BNL reported to SCDHS the detection of TCA and DCA in a monitoring well near the southern BNL boundary.

Subsequent sampling was conducted on 90 residential supply wells downgradient from the site. TCA and another VOC, dichloroethene (DCE) were found in five wells at concentrations of up to 340 ppb and 20 ppb, respectively. The drinking water standards for both TCA and DCE are 5 ppb. DCA was also detected at concentrations below the groundwater standard of 5 ppb in two of these five wells. As described in Section 4.2 below, these homes were connected to the public water supply.

Due to the impacts to the residential wells, SCDHS conducted a groundwater investigation near the Precision Concepts Site in 1990. Groundwater was sampled along four east-west transects of temporary wells perpendicular to the southerly groundwater flow as shown in Figure 3. One transect was sampled along the upgradient site boundary, along the LIE service road. Three transects were sampled downgradient of the site. TCA was found at 9,300 ppb in one sampling point downgradient of the site at 31 to 40 feet below the water table. The water table is at about 40 feet below the ground surface in the area of the sampling locations. The next highest concentration of TCA in the same well was 120 ppb at 21 to 30 feet below the water table. Two other downgradient wells had one sample each above the groundwater standards.

Two aboveground tanks and a number of drums were removed in January 1991. These consisted of a 6,000 gallon industrial waste tank that had overflowed within a containment structure in October 1986, a 400-gallon solvent tank, and 1,875 gallons of drummed waste from a storage area within the building.

SCDHS sampled the sediment in the on-site septic system in May 1990 and found that discharges to the septic system had exceeded state and county discharge standards. Toluene was detected at 330 ppb. SCDHS also observed that the septic system was filled to capacity. Toluene was detected in the septic system sediment at 11 ppm when the septic system was sampled again in July 1991. Approximately 8,000 gallons of waste was pumped out of the septic system in May 1992.

An interior collection pit was found to be breached with contaminated soil beneath it. SCDHS sampled the soil under the pit in April 1996 and found it to have elevated concentrations of metals. TCA and tetrachloroethene (PCE) were detected at levels below NYSDEC's recommended soil cleanup objectives (TAGM 4046). In July 1996, approximately two cubic yards of contaminated soil were removed from the interior collection pit. Analysis of endpoint samples found the remaining soil to be in compliance with TAGM 4046 values. The pit was then cemented over.

Precision Concepts was listed on the Registry in September 1996 due to the contamination that had been detected in the on-site drainage systems and in downgradient groundwater.

Based on the findings of the 1990 downgradient groundwater investigation, the Carmans River, located about 1.5 miles downgradient from the site, could be impacted by a pocket of contaminated groundwater that may have originated from the site. The NYSDEC has a concern for possible future discharges of this contaminated groundwater migrating to the River. Therefore, a separate Operable Unit (OU2) has been designated to evaluate for potential off-site impacts of the site to groundwater, surface water and sediments.

#### **SECTION 4: SITE CONTAMINATION**

To evaluate the suspected contamination at the site and to evaluate alternatives to address the threat to human health and/or the environment posed by the possible presence of hazardous waste, an engineering consultant representing the potentially responsible party (PRP) conducted a Remedial Investigation with oversight by the NYSDEC.

##### **4.1: Summary of the Remedial Investigation**

The purpose of the Remedial Investigation (RI) was to define the nature and extent of any contamination resulting from previous activities at the site.

The RI was conducted in two phases. The first phase was an investigation of on-site dry well sediments and soils that was conducted in June 1999. The second investigation phase consisted of sampling on-site groundwater in October 2000. Separate reports were prepared for each investigation. The July 1999 Focused Remedial Investigation Report presents the results of the June 1999 on-site investigation of soil and dry well sediments. The January 2001 Supplemental Remedial Investigation On-Site Groundwater Study Report documents the findings of the October 2000 groundwater investigation.

The RI included the following activities:

- Dry well sediment and soil investigation.
  - Subsurface soil and dry well sediment samples were collected from the inverts of the septic system and select dry wells.
  - Subsurface soil samples were collected from immediately downgradient of the same structures.
- Groundwater investigation.
  - Three upgradient and eight downgradient sampling points were sampled at the water table and at twenty and forty feet below the water table.

To determine which media (soil, groundwater, etc.) are contaminated at levels of concern, the RI analytical data were compared to standards, criteria, and guidance values (SCGs). Groundwater, drinking water and surface water SCGs identified for the Precision Concepts site are based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part 5 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. In addition, for soils, site specific background concentration levels can be considered for certain classes of contaminants.

#### **4.1.1: Site Geology and Hydrogeology**

The site is located in the Atlantic Coastal Plain physiographic province. Regionally, the subsurface consist of Upper Glacial deposits that are characterized by southward sloping deposits of sand, gravel, and silt. Below the site, the Upper Glacial formation is approximately 200 feet deep. The Magothy, Raritan, and Lloyd formations underlay the Upper Glacial deposits.

The lithology at the Site in the Upper Glacial formation is classified as Riverhead Sandy-Loam. The Riverhead Sandy-Loam series consists of well-drained, moderately coarse textured soils that are very permeable and allow for rapid groundwater flow.

The water table at the site is in the Upper Glacial aquifer at approximately 40 feet below the ground surface. Groundwater flows due south at the site.

#### **4.1.2: Nature of Contamination**

As described in the RI reports, soil, groundwater and dry well sediment samples were collected at the site to characterize the nature and location of contamination. Volatile organic compounds (VOCs) were the only class of contaminants found to exceed SCGs during the remedial investigation.

The contaminants of concern are TCA and DCA. These are the solvents that were used and stored at the facility and were also detected in groundwater during previous investigations.

#### **4.1.3: Extent of Contamination**

Table 1 summarizes the extent of contamination for the contaminants of concern in the on-site dry well sediments, soils and groundwater and compares the data for the site with the SCGs. The following are the media which were investigated and a summary of the findings of the investigation.

Chemical concentrations are reported in parts per billion (ppb) or parts per million (ppm). For comparison purposes, where applicable, SCGs are provided for each medium.



### **Soil and Dry Well Sediment**

No VOCs were detected in the soil or dry well sediment samples collected from the site during the RI. Metals are naturally occurring and were detected in all samples as expected. Most of the metals detected were within or below the range of background concentrations for the northeastern United States. The sample locations are depicted in Figure 2. The sampling points are designated as CP-1, CP-2, CP-3 and CP-4 in the cesspool and the septic leaching pits to the west side of the building, LP-1 and LP-2 in the roof drain leach pools along the east side of the building, DW-1 and DW-2 in the dry wells near the loading dock, and RDP -1 and RDP-2 in the roof drainage pools at the south side of the building.

### **Groundwater**

The groundwater sampling locations are designated as GSP-1 through GSP-11 in Figure 2. No site-related contaminants were detected above groundwater standards during the RI. TCA was detected at 4.9 ppb in sample GSP-7 at the water table 40 feet below the ground surface. The groundwater standard for TCA is 5 ppb. TCA was not detected in any other samples collected from on-site groundwater during the Remedial Investigation.

Chloroform was detected in GSP-10 at 10 ppb. The groundwater standard for chloroform is 7 ppb. Chloroform was not detected in any other samples and is not considered to be indicative of site contamination. Acetone was detected in up-gradient sample GSP-1 at 20 ppb. The groundwater standard for acetone is 5 ppb. The acetone is likely a laboratory contaminant and is not indicative of groundwater contamination.

The NYSDEC conducted a downgradient groundwater investigation just upgradient from the Carmans River in December 2000. Groundwater samples were collected from ten sampling points over a distance of 1800 feet running north to south along a dirt road that parallels River Road and the eastern boundary of Southaven County Park. The sampling locations are shown on Figure 4. Each point was sampled at the water table interface and at 10 and 20 feet below the water table. No evidence of site related contamination was detected in groundwater near the river during the 2000 investigation.

SCDHS has been conducting an ongoing investigation of groundwater impacts from the nearby Yaphank train station. The investigation included sampling of groundwater from one sampling point near the Carmans River in November 2001. The approximate location of the sampling point is depicted on Figure 4, to the north of NYSDEC's December 2000 sampling locations. SCDHS found MTBE at 20,000 ppb, benzene at 150 ppb, TCA at 270 ppb, tetrachloroethene (PCE) at 11 ppb and 1,1-dichloroethene (DCE) at 31 ppb. These contaminants were above their respective groundwater standards of 10 ppb, 1 ppb, 5 ppb, 5 ppb and 5 ppb.

This result from the SCDHS investigation suggests that groundwater contamination is migrating towards the Carmans River. The contamination near the river appears to be from different sources. The MTBE is an additive of gasoline and benzene is a component of gasoline. These are believed to be from a leaking tank at an upgradient gas station. The TCA, PCE, and DCE may be from a past release of contamination migrating from Precision Concepts and/or another source.

Further investigation of downgradient groundwater will be conducted under a second Operable Unit (OU2).

### **Surface Water and River Sediment**

In November 2001, the NYSDEC collected five surface water and two sediment samples from points along the Carmans River where contaminated groundwater could have been discharging. The samples were analyzed for VOCs. No VOC contamination was detected in the sediment samples. No VOCs were detected in four of the five surface water samples. One surface water sample contained MTBE at 46 ppb and TCA at 2 ppb. No VOCs were detected in the sediment sample collected from the same location. The contaminated sample was collected downstream from where contaminated groundwater migrating from Precision Concepts would be expected to discharge into the river.

The MTBE is an additive of gasoline and is not a site related contaminant. The TCA may be from a past release of contamination migrating from Precision Concepts and/or another source.

Further investigation of Carmans River surface water and sediment will be conducted under OU2.

#### **4.2: 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.

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.

The ingestion of groundwater from private downgradient supply wells is the only known route of exposure. No public water supply wells are located downgradient of the site. In the past, at least five private supply wells were affected by groundwater contamination that may have originated at the Precision Concepts site.

Suffolk County and the Town of Brookhaven arranged for public water to be supplied to the affected residents in the early 1990s. In 1996, the United States Department of Energy (US DOE) offered free connections to the public water system to residents downgradient of BNL because of the potential for groundwater contamination from BNL to affect private supply wells. The hookup area included all homes and businesses downgradient of the Precision Concepts site. Public water is available from the Suffolk County Water Authority to all of the potentially impacted homes and businesses. If any site-related groundwater contamination remains downgradient of the site, the potential for exposure is expected to be minimal due to the widespread availability of public water.

#### **4.3: Summary of Environmental Exposure Pathways**

This section summarizes the types of environmental exposures and ecological risks which may be presented by the site. No pathways for environmental exposure and/or ecological risks have been observed while conducting the site investigations or the December 2000 off-site groundwater investigation. However, based on the findings of the Suffolk County 1990 and 2001 groundwater investigations, a pocket of contaminated groundwater may have originated from the site and could be migrating in the direction of the Carmans River.

The Carmans River is a protected trout stream in the South Haven County Park and the Wertheim National Wildlife Refuge. The river is a gaining stream and receives groundwater discharge from the Upper Glacial aquifer. TCA contaminated groundwater reaching the river at concentrations of 280 ppb or greater could result in detrimental impacts to the young trout that develop in the river. Using the Tier II water quality standards derivation methodology in the NYS 6NYCRR Part 706.1, the 280 ppb of TCA is the chronic toxicity guidance value derived from information acquired from the USEPA Aquatic Toxicity Information Retrieval system.

#### **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 NYSDEC and Precision Concepts, Inc. entered into Order on Consent W1-0803-98-01 on February 10, 1999. The order obligated the responsible parties to implement a Remedial Investigation and if necessary a Feasibility Study for OU1. The PRP will be given the opportunity to perform the OU2 off-site investigation.

#### **SECTION 6: SUMMARY OF THE SELECTED REMEDY**

Based on the results of the investigations and the past remedial measures that have been performed at the site, the NYSDEC concludes that no threat to public health or the environment remains at the site. Therefore, the selected remedy for the site, Operable Unit 1 (OU1), is no action.

As summarized in this document and detailed in the RI reports, no evidence of significant contamination has been found in soils, dry well sediments, or groundwater at the site. The RI demonstrated that the site is not currently a source of groundwater contamination.

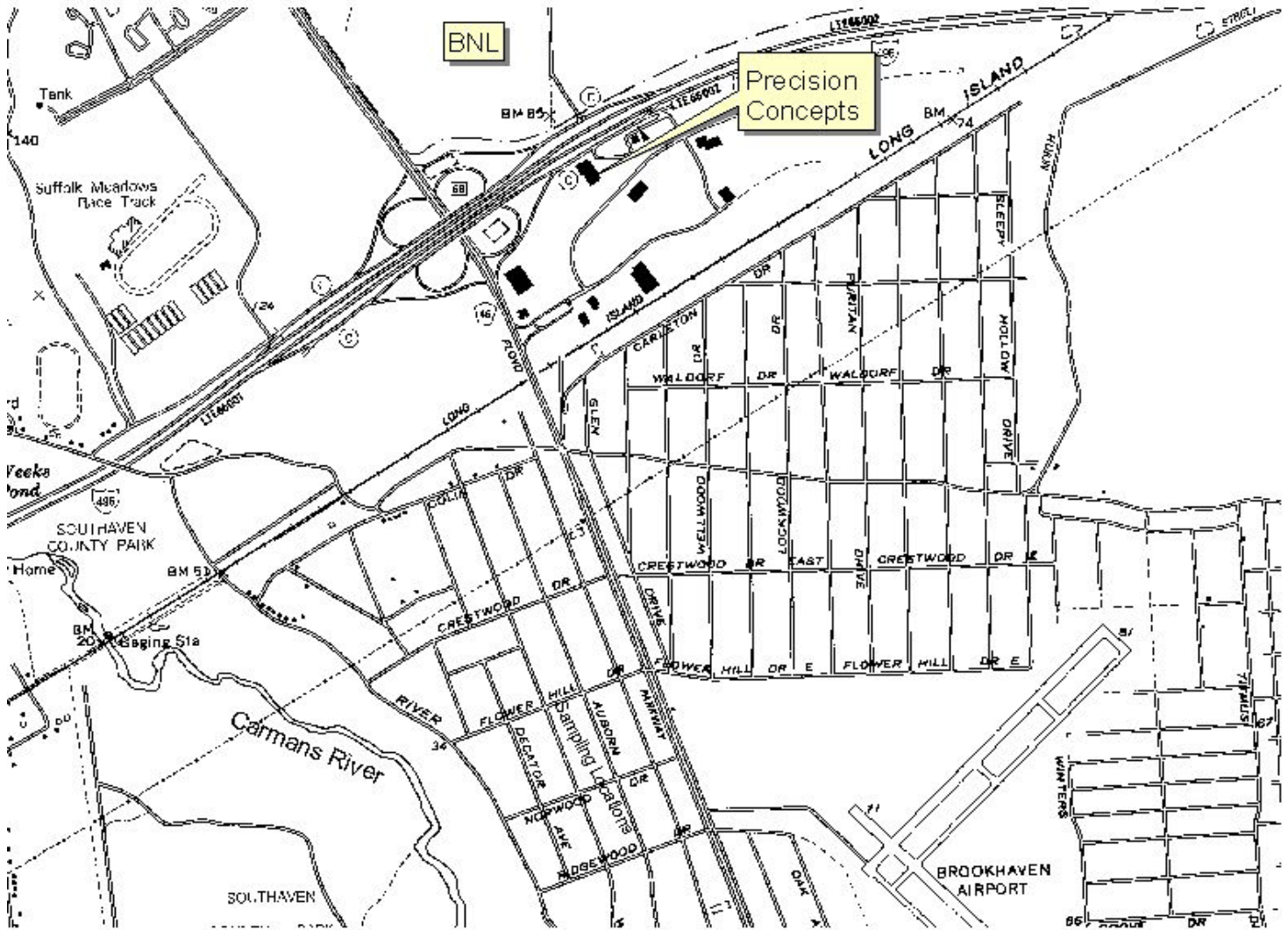
However, the Department has concern for potential discharges to the Carmans River of contaminated groundwater that may have originated from the Precision Concepts Site. Therefore, the NYSDEC will conduct an investigation of groundwater downgradient from the Precision Concepts site and near the River. The downgradient groundwater investigation will be performed as a separate Operable Unit (OU2).

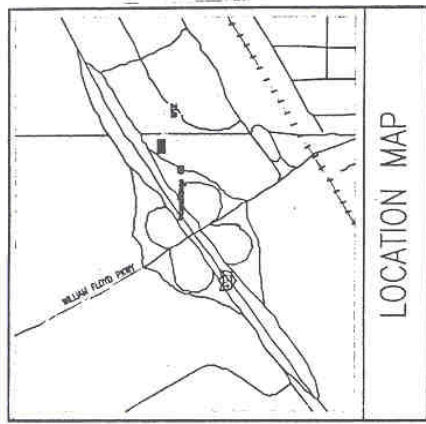
## **SECTION 7: HIGHLIGHTS OF COMMUNITY PARTICIPATION**

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 fact sheet was mailed to the public on January 7, 2002
- A public informational meeting was held on January 14, 2002
- In March 2002, a Responsiveness Summary was prepared and made available to the public, to address the comments received during the public comment period for the PRAP.

# Figure 1 Area Map





**LEGEND**

—	PROPERTY LINE
—	LOT LINE
—	BUILDING OUTLINE
—	CONCRETE WALL
⊕	LEACHING POOL
⊕	STORM WATER DRAIN
●	ROOF DRAIN
⊙	CESSPOOL
○	SEPTIC TANK
●	GROUNDWATER SAMPLING POINT

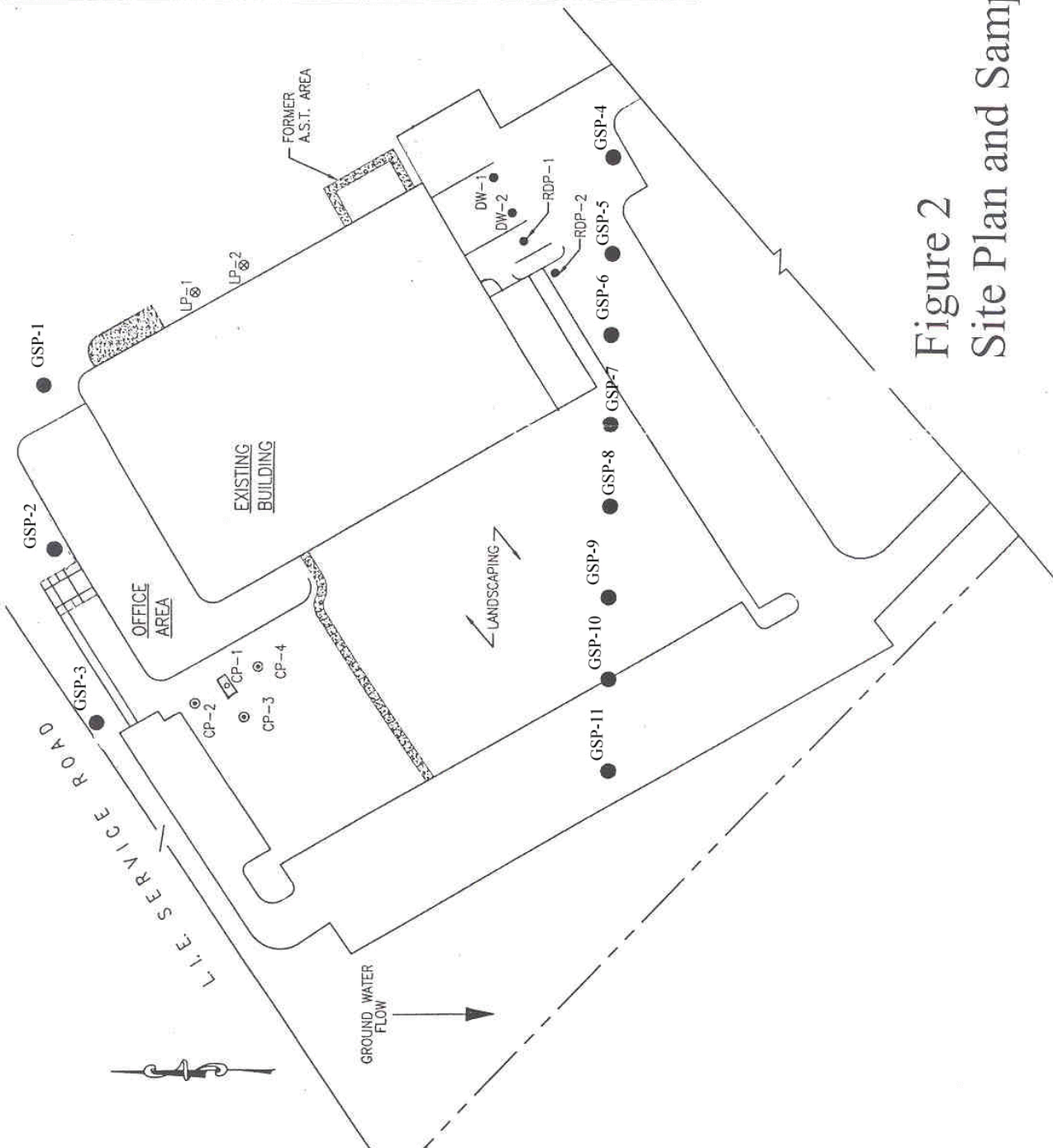
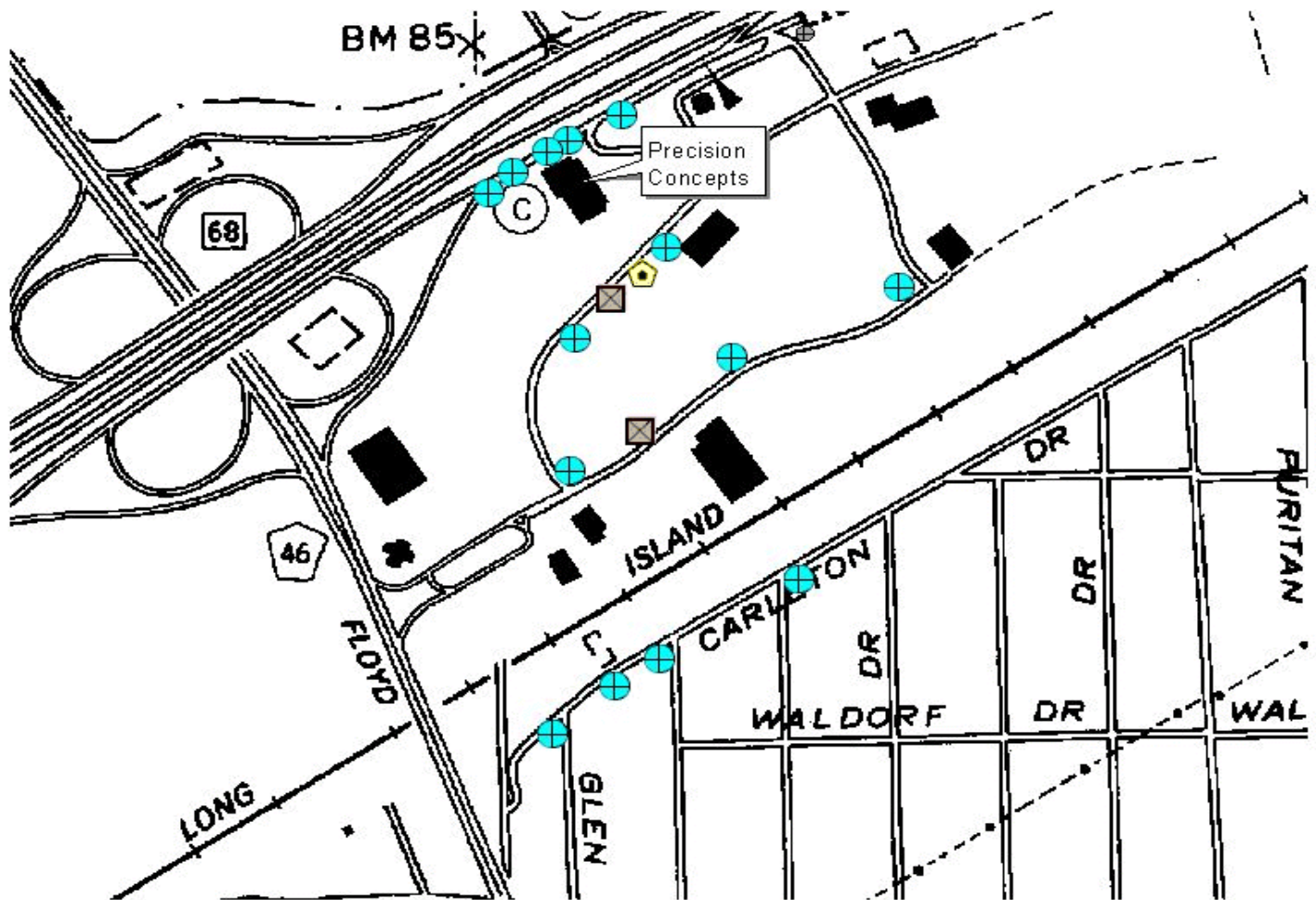


Figure 2  
Site Plan and Sampling Locations






# Figure 3

## SCDHS 1990 Groundwater Sampling Locations



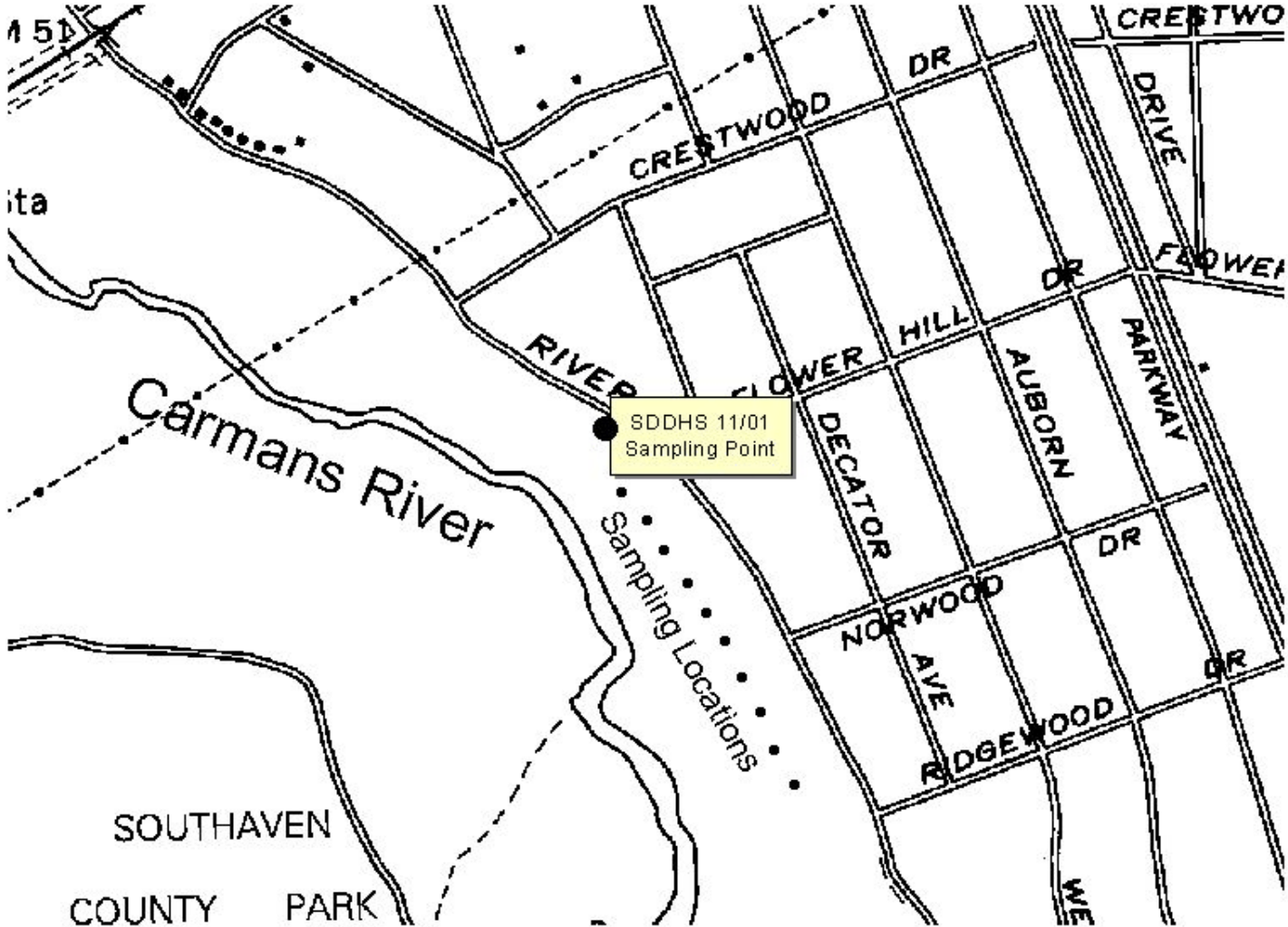
500 0 500 1000 1500 2000 2500 Feet

-  Groundwater sampling locations
-  9,300 ppb sample location
-  Sample above groundwater standard



# Figure 4

## Carmans River Groundwater Sampling Locations



Groundwater sampling locations ●





**Table 1  
Nature and Extent of Contamination**

<b>MEDIUM</b>	<b>CATEGORY</b>	<b>CONTAMINANT OF CONCERN</b>	<b>CONCENTRATION RANGE</b>	<b>FREQUENCY of EXCEEDING SCGs / Background</b>	<b>SCG / Bkgd.</b>
Groundwater (ppb)	Volatile Organic Compounds (VOCs)	1,1,1-Trichloroethane	ND (3.8) to 4.9	0 of 24	5
		1,1-Dichloroethane	ND (4.7)	0 of 24	5
Soils (ppm)	Volatile Organic Compounds (VOCs)	1,1,1-Trichloroethane	ND (100)	0 of 19	800
		1,1-Dichloroethane	ND (140)	0 of 19	200
	Inorganics (Metals)	Aluminum	246 - 7,240	1 of 19	SB (6,800)
		Cadmium	ND (0.11) - 0.39	0 of 19	10 / SB
		Chromium	1.9 - 19.3	0 of 19	50 / SB
		Copper	3 - 153	4 of 19	25 / SB
		Lead	1 - 29.4	0 of 19	400
		Silver	ND (0.11) - 0.89	1 of 19	SB (0.37)
Zinc	3.7 - 64.8	4 of 19	20 / SB		

# **APPENDIX A**

## **Responsiveness Summary**

# RESPONSIVENESS SUMMARY

**Precision Concepts  
Operable Unit 1  
Proposed Remedial Action Plan  
Brookhaven (T), Suffolk County  
Site No. 1-52-158**

The Proposed Remedial Action Plan (PRAP) for the Precision Concepts site, was prepared by the New York State Department of Environmental Conservation (NYSDEC) and issued to the local document repository on January 7, 2002. This plan outlined the preferred remedial measure proposed for the remediation of the contaminated soil and sediment at the Precision Concepts site. The preferred remedy is no action.

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 January 14, 2002 which included a presentation of the Remedial Investigation (RI) and 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 Brookhaven National Laboratory. The public comment period for the PRAP ended on February 18, 2002.

This Responsiveness Summary responds to all questions and comments raised at the January 14, 2002 public meeting and to the written comments received.

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

**COMMENT 1:**

Was any investigation conducted or interviews held concerning the historic mismanagement of solvents at the site? I am concerned that a pool of solvent may be present under the site that has not been detected, that may pose a future problem.

**RESPONSE 1:**

Suffolk County Department of Health Services (SCDHS) conducted periodic investigations of the facility when Precision Concepts conducted operations at the site. Other than a collection pit that was remediated, no evidence of contamination sources were observed in the building. The groundwater investigation conducted during the Remedial Investigation found no evidence of a contamination source under the building. If a source of contamination was located beneath the building, it is not impacting on-site groundwater.

**COMMENT 2:**

What future testing is planned for Operable Unit 2 (OU2)? When will the investigation of Operable Unit 2 be performed?

**RESPONSE 2:**

Presently (winter & spring 2002) SCDHS is conducting a general investigation of groundwater conditions in the proximity of the Carmans River. This may include an investigation of river sediments and surface water. Following the completion of the current SCDHS investigation, the NYSDEC will evaluate the data and determine the next course of action. If further investigation of the river and off-site groundwater conditions is deemed necessary, the investigation will be conducted by the NYSDEC under OU2.

**COMMENT 3:**

Is every residence to the south and west of the site connected to public water? Were all residences that were connected to public water required to abandon their wells, or are these possibly being used for irrigation or other uses? The DEC or DOH should perform a survey to determine the current use of groundwater in the down gradient area.

**RESPONSE 3:**

Public water is available throughout the area downgradient of the Precision Concepts site, and nearly all homes in the area are connected to the public water supply. While residents connecting to the public water supply system are not required to abandon private wells, they must ensure that no cross-connection can occur between a private well and the public water supply. This means that a tap connected to the public water supply cannot also be connected to a private well. Some residents whose homes are served by the public water supply may have chosen to maintain private wells for irrigation. There is no estimate of the number of wells that might still be in use. The scope of work for the investigation of Operable Unit 2, the off-site groundwater contamination, will also include a private well survey.

Anyone who has or knows of a private drinking water well that is in use downgradient of the Precision Concepts site is encouraged to contact the New York State Department of Health or the Suffolk County Department of Health Services.

A letter dated February 13, 2002 was received from L. M. Hill of Brookhaven National Laboratory that included the following comments:

**COMMENT 4:**

Of the 11 Geoprobos that were performed as part of the on-site (Operable Unit 1) investigation only three appear to be in a location that was identified during the previous investigation as being in a location generally consistent with the previously identified (1990) high concentration groundwater plume. The previous (1990) investigation showed a very narrow high concentration plume at very discreet depth intervals. The highest concentration found was 9,300 ppb of 1,1,1-trichloroethane (TCA) at 31-40 feet into the water table. No samples were taken at this same depth interval (only at 20 feet and 40 feet into the water table) during the recent field effort. The one sample that detected TCA at 4.9 ppb (GSP-7) was obtained at the water table. This location is generally consistent

with the previously identified plume, however, the high concentrations were identified at the 30-foot depth interval below the water table, and no samples were taken here.

**RESPONSE 4:**

The groundwater sampling points were sufficient to ascertain if groundwater contamination existed on-site. The Geoprobe groundwater sampling screen is 3.5 feet long and the sampling interval spanned from 36.5 to 40 feet below the water table. This spans a portion of the 31 - 40 feet of the previous sampling interval.

Plumes of contamination on Long Island tend to sink as fresh water recharges into the surface above them. If the 9,300 ppb of TCA detected at 31 - 40 feet below the water table originated at the site, the contaminant plume would have migrated from the source over a distance of about 500 feet to the sampling location. If there was an on-going source of that contamination, it would have been evident in the on-site samples. The off-site groundwater conditions documented in 1990 will be studied in the OU2 investigation.

**COMMENT 5:**

Before a no-action decision is made, we believe that additional groundwater sampling should be performed. Additional characterization of the groundwater should be performed at additional locations, in the area of the previously identified groundwater plume with samples taken at more frequent intervals starting at the water table to a minimum depth of 60 feet into the water table (approximately 100 feet below grade). If this work is performed and contamination above MCL's is not identified, then the PRAP recommendations for no further action would be appropriate for the Operable Unit 1 (source area) portion of this plume.

**RESPONSE 5:**

Based on the data obtained from the remedial investigation, NYSDEC concludes that no contamination source remains on the site. If information obtained from the OU2 investigation indicates that groundwater in the area of the previously-identified plume is contaminated, it will be addressed as part of the OU2 remedy.

**COMMENT 6:**

Considering the nature of the original releases, the State should consider the potential for a dense non aqueous phase liquid (DNAPL) source. A DNAPL screening nor data were collected to answer this question. The samples collected are too shallow to address the presence of DNAPL.

**RESPONSE 6:**

Based on the SCDHS historical monitoring of the site and the NYSDEC investigation of subsurface structures, there is no indication that high volume / high concentration discharge occurred to indicate the presence of a DNAPL source.

**COMMENT 7:**

The previous plume delineation (1990) in the vicinity of Precision Concepts should be shown on the map showing the more recent investigation. A scale should be included on the maps so the distances between Geoprobe sampling locations can be determined.

**RESPONSE 7:**

The suspected 1990 plume was never delineated in part because no on-site source was identified. The 1990 SCDHS groundwater sampling points and the points where contamination was detected are represented in Figure 3. The 2000 NYSDEC on-site groundwater sampling locations, represented on Figure 2, were placed fifty feet apart in a line perpendicular to groundwater flow. Due to differences in scale, the 2000 sampling locations and the 1990 sampling locations will not fit on the same figure.

A scale has been added to Figure 3. However, the Geoprobe sampling designations on the figure are approximate.

**COMMENT 8:**

It wasn't evident from the Proposed Plan whether any modeling was performed to model the contaminant flow pathway and travel times from Precision Concepts to the Carmans River. If contamination from Precision Concepts is expected to be at River Road by this time, are the sample depths for the wells installed along River Road appropriate? This could be addressed in Operable Unit 2.

**RESPONSE 8:**

Groundwater models developed for SCDHS were used to approximate transport of groundwater from Precision Concepts towards the Carmans River. NYSDEC consulted with SCDHS in the selection of the December 2000 groundwater sampling locations near the river.

The objective of the December 2000 groundwater sampling just upgradient from the river was to determine if the river was at risk of being impacted by shallow groundwater contamination that may have originated at the site. Deeper groundwater contamination was not a concern in regard to impacting the river.

Precision Concepts Operable Unit 2 (OU2) will be designed to investigate groundwater contamination that may have originated at the site. If site related contamination is identified in groundwater, OU2 will include an investigation of possible impacts to the Carmans River.

**COMMENT 9:**

We wanted to ensure that the State is aware of the contamination detected west of the William Floyd Parkway in the late 1980s. If needed, we have a copy of a report that was prepared by Marine Pollution Control (now MEG) - the NYSDEC Spill number was 87-4055. A series of shallow wells were installed from William Floyd Parkway to River Road. Samples from some of these wells had high levels of BTEX, carbon tetrachloride, TCA, PCE, and TCE. The contamination that the SCDHS detected in the well installed in November 2001 may be part of this plume (Figure 4 of the PRAP). Also there is a

gasoline station and dry cleaning establishment located at the intersection of William Floyd Parkway and Moriches-Middle Island Road. Were any follow-up investigations or remedial actions conducted at these sites?

**RESPONSE 9:**

The NYSDEC central office has a copy of the spill report form for spill # 87-04055. The petroleum related contamination was first detected by SCDHS in July 1987 in a residential supply well. Based on their investigation of the spill, the NYSDEC Region 1 Spills Response Unit (Spills) reported, "All the data collected in association with the investigation of spill # 97-04055 is consistent with a gasoline release occurring at USA S/S at 520 William Floyd Parkway."

Federal community development funds were provided to the Town of to install water mains throughout the affected community circa 1988 - 1989.

Prior to 1992, the NYSDEC did not regularly analyze for MTBE. Consequently, MTBE data for spill #87-04055 is extremely limited. The objective at the time was for source identification only. Therefore, the investigation focused between 44 Belmont Drive and 520 William Floyd Parkway. At the time of the 1987 investigation, MTBE was not a major issue at the site, and BTEX levels were relatively low due to natural attenuation of the dissolved plume and source removal. Source removal consisted of tank removal and excavation of contaminated soil. Due to the presence of the new water mains, the low levels of dissolved BTEX, the source removal, and the high costs of a deep three-dimensional investigation, the NYSDEC did not authorize additional state funded action past source identification.

The contamination that SCDHS recently detected in the fall of 2001 has been reported to Spills and has been assigned spill # 01-25275. Based on knowledge of the local groundwater flow and the contaminant migration pathway associated with spill #87-04055, the NYSDEC believes that the source may be the same as spill #01-25275. However, additional data is required to attempt to determine if the contamination reported under spill #01-25275 is from the same petroleum release as that reported under spill #87-04055.

NYSDEC is presently investigating spill #01-25275. SCDHS is also conducting an investigation of groundwater conditions in the area.



managed by Brookhaven Science Associates  
for the U.S. Department of Energy

February 13, 2002

Michael MacCabe, P.E.  
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NYSDEC  
625 Broadway  
Albany, New York 12233-7015

**SUBJECT: COMMENTS ON THE PRECISION CONCEPTS SITE PROPOSED  
REMEDIAL ACTION PLAN FOR OPERABLE UNIT 1**

Brookhaven National Laboratory appreciates the opportunity to review the Proposed Plan for the Precision Concepts Operable Unit I plume, located in North Shirley, New York. The Plan was well written and summarizes in sufficient detail the various investigations conducted at the site, as well as describing the exposure pathways and conclusions.

We agree with the State conclusions that additional groundwater investigations are needed for the downgradient portion of the plume to address possible future discharges of contaminated groundwater into the Carmans River. This would be accomplished under a separate Operable Unit. However, we believe that additional characterization of the site, in the form of deeper Geoprobe or vertical profiles closer to the originally identified higher concentrations of contaminants, as well as closer to the two cesspools and dry well areas, is needed to more confidently ensure there is not a significant continuing source of contamination. We recommend this limited additional field effort be performed prior to finalizing the Operable Unit I remedy.

Enclosed are more specific comments on the Proposed Plan. If you have any questions, please call Bob Howe of our office at (631) 344-5588.

Sincerely,

L.M. Hill  
Director,  
Environmental Management



REGISTERED TO ISO 14001



L. M. Hill to M. MacCabe  
Page Two

Enclosure

RH:kar

cc: D. Bennett  
T. Burke  
L. Cunniff  
W. Dorsch  
J. Granzen  
K. Geiger  
M. Hauptmann  
R. Howe  
K. Klaus  
S. Kumar  
M. McCann  
J. Lister  
D. Paquette  
G. Penny  
J. Pim  
D. Pocze  
V. Racaniello  
S. Robbins  
M. Trent  
K. White  
File: OU III Corresp.

**Brookhaven National Laboratory Comments on the  
January 2002 Proposed Remedial Action Plan (PRAP) for the  
Precision Concepts Operable Unit 1 Plume**

General Comment:

We agree with the State conclusions that additional groundwater investigations are needed for the downgradient portion of the plume to address possible future discharges of contaminated groundwater into the Carmans River. This study, which would be accomplished under a separate Operable Unit, should range from the site boundary to the Carmans River. However, we believe that additional characterization of the site, in the form of deeper Geoprobe or vertical profiles closer to the originally identified higher concentrations of contaminants as well as near the two cesspools and dry well areas, is needed to more confidently ensure there is not a significant continuing source of contamination. We recommend this limited additional field effort be performed prior to finalizing the Operable Unit I remedy. See specific comments below for more detail.

Specific Comments:

1. Of the 11 Geoprobe samples that were performed as part of the on-site (Operable Unit 1) investigation only three appear to be in a location that was identified during the previous investigation as being in a location generally consistent with the previously identified (1990) high concentration groundwater plume. The previous (1990) investigation showed a very narrow high concentration plume at very discrete depth intervals. The highest concentration found was 9,300 ppb of 1,1,1-trichloroethane (TCA) at 31-40 feet into the water table. No samples were taken at this same depth interval (only at 20 feet and 40 feet into the water table) during the recent field effort. The one sample that detected TCA at 4.9 ppb (GSP-7) was obtained at the water table. This location is generally consistent with the previously identified plume, however, the high concentrations were identified at the 30-foot depth interval below the water table, and no samples were taken here.
2. Before a no-action decision is made, we believe that additional groundwater sampling should be performed. Additional characterization of the groundwater should be performed at additional locations, in the area of the previously identified groundwater plume with samples taken at more frequent intervals starting at the water table to a minimum depth of 60 feet into the water table (approximately 100 feet below grade). If this work, along with the concern in comment 3 below, is performed and contamination above MCL's is not identified, then the PRAP recommendations for no further action would be appropriate for the Operable Unit 1 (source area) portion of this plume.
3. Considering the nature of the original releases, the State should consider the potential for a DNAPL source. A DNAPL screening nor data were collected to answer this question. The samples collected are too shallow to address a DNAPL.
4. The previous plume delineation (1990) in the vicinity of Precision Concepts should be shown on the map showing the more recent investigation. A scale should be included on the maps so the distances between Geoprobe sampling locations can be determined.
5. It wasn't evident from the Proposed Plan whether any modeling was performed to model the contaminant flow pathway and travel times from Precision Concepts to the Carmans River. If contamination from Precision Concepts is expected to be at River Road by this time, are the sample depths for the wells installed along River Road appropriate? This could be addressed in Operable Unit II.

6. We wanted to ensure that the State is aware of the contamination detected west of the William Floyd Parkway in the late 1980s. If needed, we have a copy of a report that was prepared by Marine Pollution Control (now MEG) - the NYSDEC Spill number was 87-4055. A series of shallow wells were installed from William Floyd Parkway to River Road. Samples from some of these wells had high levels of BTEX, carbon tetrachloride, TCA, PCE, and TCE. The contamination that the SCDHS detected in the well installed in November 2001 may be part of this plume (Figure 3 of the PRAP). Also there is a gasoline station and dry cleaning establishment located at the intersection of William Floyd Parkway and Moriches-Middle Island Road. Were any follow-up investigations or remedial actions conducted at these sites?

# **APPENDIX B**

## **Administrative Record**

## Administrative Record

1. Focused Remedial Investigation Work Plan, Precision Concepts, 26 Precision Drive, Shirley, New York 11967, NYSDEC IHWDS I.D. No. 1-52-158, September 1998, Kempy Engineering & General Consolidated Industries, Inc.
2. Focused Remedial Investigation Report, Precision Concepts, 26 Precision Drive, Shirley, New York 11967, NYSDEC IHWDS I.D. No. 1-52-158, July 1999, Kempy Engineering & General Consolidated Industries, Inc.
3. Supplemental Remedial Investigation Work Plan, Precision Concepts, 26 Precision Drive, Shirley, New York 11967, NYSDEC IHWDS I.D. No. 1-52-158, August 2000, Kempy Engineering & General Consolidated Industries, Inc.
4. Spplmental Remedial Investigation On-Site Groundwater Study Report, Precision Concepts, 26 Precision Drive, Shirley, New York 11967, NYSDEC IHWDS I.D. No. 1-52-158, January 2001, General Consolidated Industries, Inc. & Kempy Engineering.
5. Precision Concepts, Operable Unit 1, Brookhaven (T), Suffolk County, New York Site No. 1-52-158, Proposed Remedial Action Plan, January 2002, New York State Department of Environmental Conservation, Division of Environmental Remediation.