Department of Environmental Conservation

Division of Hazardous Waste Remediation

Record of Decision

Fairchild Republic Old Recharge Basin Site
Town Of Farmingdale, Suffolk County
Site Number 1-52-004

June 1996

New York State Department of Environmental Conservation
GEORGE E. PATAKI, *Governor* MICHAEL D. ZAGATA, *Commissioner*

RECORD OF DECISION

FAIRCHILD REPUBLIC
OLD RECHARGE BASIN
SUFFOLK COUNTY, NEW YORK

SITE NUMBER 152004

PREPARED BY:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF HAZARDOUS WASTE REMEDIATION

JUNE 1996

DECLARATION STATEMENT - RECORD OF DECISION

Fairchild Republic Old Recharge Basin
Inactive Hazardous Waste Site
Farmingdale, Suffolk County, New York
Site No. 152004

Statement of Purpose and Basis

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

This decision is based upon the Administrative Record of the New York State Department of Environmental Conservation (NYSDEC) for the Fairchild Republic Old Recharge Basin Inactive Hazardous Waste Site and upon public input to the Proposed Remedial Action Plan (PRAP) presented by the NYSDEC. A bibliography of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Assessment of the Site

Exposure to hazardous constituents from this site, if not addressed by implementing the response action selected in this ROD, presents a current or potential threat to public health.

Description of Selected Remedy

Based on the results of the Remedial Investigation/Feasibility Study (RI/FS) for the Fairchild Republic Old Recharge Basin Site and the criteria identified for evaluation of alternatives, the NYSDEC has selected the Limited Action/Institutional Controls alternative. Components of the remedy are as follows:

- A deed restriction will be placed on the basin to restrict future use of the site.
- The site fence will be inspected to determine if it is effective at keeping out trespassers. If the fence is not effective an appropriate replacement will be installed or appropriate repairs will be made. The site will be posted in a highly visible manner indicating that hazardous constituents are present and that trespassing, swimming, and fishing are prohibited.
- Fairchild will be responsible for inspecting, locating, and repairing any damage to the fence within a reasonable time frame. Fairchild will maintain the fence, including the control of vegetation which may compromise the fence.

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.

6/20/96
Date

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

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RECORD OF DECISION

FAIRCHILD REPUBLIC - OLD RECHARGE BASIN
Farmingdale, Suffolk County, New York
Site No. 152004
June 1996

SECTION 1: SITE LOCATION AND DESCRIPTION

The Fairchild Republic "Old Recharge Basin" (ORB) is a 13 acre inactive hazardous waste disposal site located in a commercial/industrial area of Farmingdale, New York. This inactive recharge basin is located in western Suffolk County in the Town of Babylon. The Old Recharge Basin is bordered on the east by Route 110 and on the north by Conklin Avenue. To the west is Carmans Road and the East Farmingdale Fire Department. The basin is kidney shaped with an island in the center. The water is as deep as 30 feet in some parts of the basin. See attached site location map, Figure 1.

Another Fairchild Republic inactive hazardous waste disposal site is located on the opposite (eastern) side of Rt. 110. The other site is referred to as the Fairchild "Main Plant" and was the site of an active airplane manufacturer until 1987.

The "Old Recharge Basin" and the "Main Plant" are *two separate* inactive hazardous waste disposal sites; the sites are being remediated separately by the Department. The Department has in the past distributed fact sheets to the public for both sites and held public meetings regarding both sites. **This Record of Decision (ROD) addresses only hazardous waste disposal and remediation at the Old Recharge Basin. This ROD does not address hazardous waste disposal nor does it address the remediation at the Main Plant.** The Proposed Remedial Action Plan (PRAP) for the Main Plant should be distributed in 1996. All groundwater contamination south of the Old Recharge Basin under the airport and the Main Plant will be handled as part of the Main Plant Remedial Investigation (RI) whether the source was the Basin or the Main Plant. Remediation of hazardous waste at the Main Plant and the groundwater contamination will be addressed in a separate Main Plant PRAP. The public will have an opportunity to comment on groundwater remediation at that time. Groundwater *remediation* is not addressed in this document. Groundwater *contamination* in the vicinity of the ORB is discussed further in Section 3.

SECTION 2: SITE HISTORY

2.1: Operational/Disposal History

Fairchild Republic and its predecessors manufactured airplanes and airplane parts at the Main Plant from 1931 to 1987. Starting in the 1940's the ORB was used by Fairchild for disposal of various plant wastes. The discharges included stormwater, non-contact cooling water, wastewater, process wastes, and incinerator ash. Airplane manufacturing operations discharged approximately two million gallons per day into the ORB. Other

facilities also used the basin including the New York State Department of Transportation (NYSDOT) which used it for storm water run-off from Rt. 110.

2.2: Remedial History

Five previous environmental investigations were performed at the Old Recharge Basin. The first two environmental studies were conducted from June to October 1982. These studies focused mainly on metals contamination and included the collection of bottom sediments, surface water, and groundwater samples. Four groundwater monitoring wells were installed.

The third investigation was performed beginning in October 1983. This study included the installation of seven monitoring well pairs (shallow and deep) in the vicinity of the basin, collection of water level data, and the collection and analyses of groundwater samples from the monitoring wells. Water level measurements indicated that groundwater was flowing in the south, south-east direction.

Beginning in April 1985 a fourth investigation was conducted. Groundwater samples were taken and analyzed and sediment samples were tested for leachability using the extraction procedure.

These studies all focused on metals contamination and showed that the sediments contained concentrations of chromium, titanium, lead, cadmium, aluminum, and iron above background levels. The sediments were not found to leach metals above standards, i.e., the sediments are not a hazardous waste. Groundwater and surface water were sampled for metals and were filtered prior to analysis. Lead, iron, chromium, and cadmium were found above applicable standards.

The fifth investigation was conducted from September 1988 to January 1989. This included a geophysical survey, collection and analysis of sediments, soil, and surface water.

Samples of sediments and of the native soil beneath the sediments were collected from 16 soil borings during this study. These data indicate that there were detectable concentrations of volatile organic compounds (VOCs), semi-volatile compounds, polychlorinated biphenyls (PCBs), and metals in the ORB sediment. Pesticides were also detected, but only in two locations. Sediment sample results are summarized in Table 5. A profile of the Basin is illustrated in Figure 6.

Surface water samples were collected from 11 locations in the North Pond and 11 in the South Pond as part of the 1988/1989 investigation. Neither pesticides nor PCBs were detected in any of the surface water samples, but VOCs and metals were detected. VOCs were found in the South Pond at concentrations ranging from 67 to 134 parts per billion (ppb).

SECTION 3: CURRENT STATUS

In response to a determination that the presence of hazardous waste at the site presents a significant threat to human health and the environment, Fairchild has recently completed a Remedial Investigation/Feasibility Study (RI/FS).

3.1: 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 conducted between June 1992 and May 1993, the second phase during September 1993. A report entitled "Old Recharge Basin Remedial Investigation Report, September 1995" has been prepared describing the field activities and findings of the RI in detail. A summary of the RI follows:

The RI activities consisted of the following:

- eleven new monitoring wells were installed
- seven surface soil samples were taken
- hydrological data were measured
- two rounds of surface water and groundwater samples were taken and analyzed
- a fish and wildlife impact assessment was conducted

The analytical data obtained from the RI was compared to applicable Standards, Criteria, and Guidance values (SCGs) in determining remedial alternatives. Groundwater, drinking water and surface water SCGs identified for the Fairchild ORB site were based on NYSDEC Ambient Water Quality Standards and Guidance Values and Part V of NYS Sanitary Code. For the evaluation and interpretation of soil and sediment analytical results, NYSDEC soil cleanup guidelines for the protection of groundwater, background conditions, and risk-based remediation criteria were used to develop remediation goals for soil.

Groundwater

The eleven new monitoring wells and the previously installed monitoring wells were sampled. Well locations are shown in Figure 2. Fifty-two groundwater samples were taken in 1992 and 1993, (2 rounds of twenty-six samples each). The results are shown in Table 1. The samples were analyzed using NYSDEC and EPA sampling and analysis protocols. Ten volatile organic compounds were detected above drinking water standards. Eight of those ten volatile organic compounds were detected within one order of magnitude of the drinking water standard. Two compounds were found at higher levels; concentrations of 1,1 dichloroethylene (1,1-DCE) ranged from non-detectable to 70 parts per billion (ppb); the groundwater standard is 5 ppb. 1,1,1-Trichloroethane (1,1,1-TCA) was found from non-detectable to 660 ppb; the groundwater standard is 5 ppb. The only monitoring wells that had the higher levels of 1,1-DCE and 1,1,1-TCA were 6S and 6D, a deep and shallow pair of wells located on the west side of the basin along Carmans Road.

The higher level of contamination found during the RI in monitoring wells 6S and 6D was not found in earlier sampling events. In December 1987, 1,1-DCE was not detectable in monitoring wells 6S and 6D. At that time 1,1,1-TCA levels in 6S and 6D were 9 ppb and 10 ppb, respectively. It was suggested by Fairchild that a reported petroleum spill across the street at the East Farmingdale Fire Department may have been responsible for the higher organic levels. Two wells across the street (near to the Fire Department) were subsequently sampled. These well locations are shown in Figure 3 and analytical results are in Table 2. No 1,1-DCE or 1,1,1-TCA above standards was found in those wells. The NYSDEC is not sure of the source of this contamination; the sampling at the Fire Department did not yield information that would suggest that the Fire Department was a source. No other wells in the vicinity were similarly contaminated.

Surface Water

Surface water analyses were also performed during the RI. Twenty-four samples were taken (two rounds of 12 samples each) from the Basin at the water surface and midway to the bottom. The location of the samples are shown in Figure 4 and the data are shown in Table 3. Only two organic compounds were detected at or above surface water guidance values. 1,1-DCE was detected in one sample at 0.2 ppb. The NYS surface water guidance value for this compound is 0.07 ppb. Perchloroethylene (PCE) was detected in 4 samples in a range of 0.8-2.0 ppb. The PCE guidance value is 0.7 ppb. No semi-volatiles, pesticides, or PCBs were detected above surface water standards or guidance values. Iron and manganese levels were above the standards of 300 ppb for each metal in many samples. However this is typical for Long Island water. Iron levels ranged from 88 to 2,955 ppb. Manganese was found at levels ranging from 290 to 1,948 ppb. Cobalt was detected in one sample at 11.1 ppb exceeding the standard of 5 ppb. Antimony levels in three samples exceeded the guidance value of 3 ppb; concentrations ranged from non-detect to 33.8 ppb.

Soil

Three surface soil samples were taken in the vicinity of the ORB and tested for a full suite of hazardous constituents (volatile and semi-volatile organics, pesticides, PCBs, and metals). The samples were collected from 0 - 6 inches below grade. The results are shown in Table 4 and sampling locations are shown in Figure 5. No volatile compounds were found at concentrations above New York State soil cleanup objectives. Five semi-volatile compounds were found in two samples at concentrations above cleanup objectives; benzo(a)anthracene (1,840 ppb and 4,666 ppb [cleanup objective - 220 ppb]), chrysene (1,873 ppb and 4,579 ppb [400 ppb]), benzo(b)fluoranthrene (1,616 ppb and 2,298 ppb [1,100 ppb]), benzo(k)fluoranthrene (1,230 ppb and 1,946 ppb [1,100 ppb]), and benzo(a)pyrene (1,545 ppb and 2,315 ppb [61 ppb]). All three samples exceeded the soil cleanup objectives for chromium of 50 parts per million (ppm) or site background; the range of concentrations of chromium is 35.5 - 907 ppm. Lead was found in one sample at 289 ppm with a cleanup objective equivalent to levels found in site background. Lead can be found in highly variable concentrations, from 4-61 ppm in rural areas to up 200 - 500 ppm in suburban or metropolitan areas. Zinc was found above the soil cleanup objective of 20 ppm (or site background) in two samples at 134 ppm and 341 ppm.

The original three plus five more soil samples were analyzed for pesticides and PCBs. One sample contained two pesticides at levels at or slightly higher than the soil cleanup objectives; γ-BHC at 60 ppb (soil cleanup objective - 60 ppb) and aldrin at 97 ppb (soil cleanup objective - 41 ppb). Arochlor 1254 (a type of PCB) was found in one sample at 7,900 ppb; the surface soil cleanup objective for PCBs in industrial areas is 10,000 ppb. For residential areas the objective is 1,000 ppb.

3.2: Interim Remedial Measures - None

3.3: Summary of Human Exposure Pathways

As part of the RI/FS a health risk assessment was conducted to provide a quantitative estimate of the potential health effects associated with exposure to contaminants at the site. A risk assessment considers the toxicity and concentrations of site contaminants, the pathways by which people may be exposed to the contaminants, and the amount of the contaminant that may enter the body.

The risk assessment prepared for this site was based on the assumption that the potential for exposure to on-site contaminants will remain limited. That is, the site will remain fenced and posted with warning signs. This,

along with the sediments being as much as 30 feet below the surface of the water and the surface of the water being 15 feet below the top of the basin significantly reduces the possibility of contact with the contaminated sediments.

The potentially exposed population evaluated in the risk assessment for this site included an adult who is exposed to surface water and sediments in the basin once in a lifetime and a teenage trespasser swimming in the basin during the summer months. The exposure pathways evaluated include direct contact with and ingestion of surface water, sediments, and surface soil and inhalation of surface soil dusts.

The health risk values calculated for the evaluated pathways of exposure do not represent a significant health concern. However, any change which allowed greater access to the site would significantly increase the health risk values calculated for each pathway of exposure.

3.4: Summary of Environmental Exposure Pathways

There is no significant habitat for endangered fish or wildlife on or in the vicinity of the site. The area around the basin is a densely populated urban area. Based on this fact, the potential exposure of a significant wildlife population to site contamination was assumed unlikely.

SECTION 4: ENFORCEMENT STATUS

The NYSDEC and the Fairchild Corporation entered into a Consent Order on March 20, 1992. The Order obligated the Responsible Party (Fairchild) to implement a RI/FS. The Remedial Action has been initiated by the Responsible Party.

SECTION 5: SUMMARY OF THE REMEDIATION GOALS

Goals for the remedial program have been established through the remedy selection process stated in 6NYCRR Part 375-1.10. These goals are established under the guideline of meeting all Standards, Criteria, and Guidance values (SCGs) and protecting human health and the environment.

At a minimum, the remedy selected should eliminate or mitigate all significant threats to the public health and to the environment presented by the hazardous waste disposed at the site through the proper application of scientific and engineering principles.

The goals selected for this site are:

- Reduce, control, or eliminate the contamination present within the soils on site.
- Eliminate the threat to surface waters by eliminating any future contaminated surface run-off from the contaminated soils on site.
- Eliminate the potential for direct human or animal contact with the contaminated soils, surface water, and sediments on the site.
- Prevent, to the extent possible, migration of contaminants from the sediments to the surface water and groundwater.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

Potential remedial alternatives for the Old Recharge Basin site were identified, screened and evaluated in the Feasibility Study. The potential remedies were intended to address the contaminated soils, sediments, and groundwater at the site. Seven potential remedial alternatives were discussed at some length in the FS. Those alternatives were: (1) No Action; (2) Limited Action/Institutional Controls; (3) Cover bottom sediment with clean fill; (4) Remove contaminated surface soil/sediment and dispose of in an off-site landfill; (5) Remove contaminated surface soil/sediment, treat on site, and dispose of in an off-site landfill; (6) Remove contaminated surface soil/sediment, treat off site, and dispose of in an off-site landfill; and (7) Saturated zone stabilization. Four of these alternatives (Nos. 1,2,3, and part of No. 4) were selected for a more detailed evaluation.

Alternatives 4, 5, 6, and 7 were concerned specifically with the remediation of soils and sediments in the ORB. The sediment is not a hazardous waste and the health risk assessment does not show that there is an unacceptable risk due to exposure to the sediments. Also the sediments do not appear to be a continuing source of contamination to groundwater or surface water. Because of this, sediment remediation was not addressed in the final detailed analysis of alternatives. Therefore, Alternatives 5, 6, and 7 were eliminated from further consideration. The soil removal and disposal portion of Alternative 4 was retained for the final detailed analysis.

The complete evaluation is presented in the report entitled "Old Recharge Basin Feasibility Study, September 1995". A summary of the four detailed analyses for Alternatives 1,2,3, and the remainder of 4 follows.

6.1: Description of Remedial Alternatives

(1) No Action

The no action alternative was evaluated as a procedural requirement and as a basis for comparison. It is limited to continued monitoring of the surface water and the groundwater in the *immediate vicinity* of the Basin only. (As stated in Section 2, the contaminated groundwater further downgradient from the Basin, underneath the airport will be addressed simultaneously with the Main Plant remediation). The estimated total present worth (based on thirty years of monitoring) of this alternative is $187,000.

(2) Limited Action/Institutional Controls

This alternative would leave the soil and sediment in place at the Old Recharge Basin. Administrative controls would be used to limit access to the site. A deed restriction prohibiting modification to the site without NYSDEC approval will be placed on future development of the ORB site. The existing fence around the site would restrict unauthorized access and minimize the potential for direct contact with soil and sediments. The boundary fence would be inspected regularly and repairs would be made as necessary. The site would be posted in a highly visible manner indicating that hazardous materials are present and that trespassing, swimming, and fishing are prohibited. This would also include long term monitoring of the surface water and the groundwater. The estimated total present worth of this alternative is $446,000.

(3) Cover Bottom Sediment With Clean Fill

This alternative would involve covering the bottom layer of sediment with clean fill. This alternative would prevent human exposure to the sediments and long term resuspension of contaminated sediments in the surface water. This would also include long term monitoring of the surface water and the groundwater. The estimated total present worth of this alternative is $3,339,000 - $4,079,000 depending on whether sand or clay is used as cover material, respectively.

(4) Remove Contaminated Surface Soil and Dispose of Off Site

This alternative would include removing contaminated areas of surface soil and disposing of the material in an off-site landfill. This alternative would also include long term monitoring of the surface water and the groundwater. The estimated total present worth of this alternative is $307,000.

6.2: Evaluation of Remedial Alternatives

The eight criteria used to compare the potential remedial alternatives are defined in the regulation that directs the remediation of inactive hazardous waste disposal sites in New York State (6NYCRR Part 375). For each of the criteria, a brief description is provided followed by an evaluation of the alternatives against that criterion. A detailed discussion of the evaluation criteria and comparative analysis is contained in the Feasibility Study.

The first two evaluation criteria are termed threshold criteria and must be satisfied in order for an alternative to be considered for selection.

1. Compliance with New York State Standards, Criteria, and Guidance Values (SCGs). Compliance with SCGs addresses whether or not a remedy will meet applicable environmental laws, regulations, standards, and guidance.

   As discussed in Section 4.1, the contaminant concentrations in basin sediments and surface soils do exceed NYS cleanup objectives in limited instances. However, basin sediments are not likely to be contacted except for a small amount suspended in the surface water that may be contacted by swimmers. Surface soils are above standards for a small number of semi-volatiles, one PCB cogener (detected in one of eight samples), and metals. Surface water concentrations of three metals do exceed some surface water standards. However, these levels are comparable to local background levels, i.e. they are not indicative of contamination by hazardous waste. The groundwater in the immediate vicinity of the basin also exceeds some standards.

   None of the alternatives will completely meet this criteria. Alternative 3, covering the sediments, will not meet sediment cleanup objectives. Alternative 4 is the only one that would meet the soil cleanup objectives. However, the health risk assessment indicates that, given the scenarios presented, the contaminant levels do not pose an unacceptable risk to human health and the environment.

2. Protection of Human Health and the Environment. This criterion is an overall evaluation of the health and environmental impacts to assess whether each alternative is protective.

As stated previously, the human health risk assessment indicates that exposure to contaminated media does not result in an unacceptable risk. Also the sediments do not appear to be a source of current groundwater or surface water contamination. Therefore, all alternatives would be protective. The health risk assessment does assume that the site is not open to the public and only used (swam in) infrequently by trespassers and a conservative approach would limit access to the site as much as possible. Alternative 1 would not provide any assurances that access to the site would be eliminated or at least reduced. Alternative 2 would restrict access to the site, reducing the number of trespassers and the frequency of exposure. Alternative 3 would cover the sediments and reduce the potential contact swimmers would have with sediments. Alternative 4 would reduce surface soil contamination but not affect the other media.

Currently the basin surface water and groundwater are not highly contaminated. The condition of these waters is not expected to change in the future due to Fairchild's activities. Long-term monitoring of the surface water and/or groundwater in the immediate vicinity of the ORB would not provide any protection of human health or the environment.

The next five "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Short-term Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared with the other alternatives.

   The short term effectiveness, i.e., the effect upon the community and workers during remedial activities would not be an issue for Alternatives 1 and 2. Alternative 3, the covering of the sediments, may cause significant resuspension of the sediments for a short time, however this would not present a problem to the surrounding workers and community. Alternative 3 would cause a temporary increase in traffic volume in the vicinity of the basin. Alternative 4 would not involve any serious negative short-term impacts to workers and the community if standard engineering practices of site safety and dust control were used.

4. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of alternatives after implementation of the response actions. If wastes or treated residuals remain on site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the controls intended to limit the risk, and 3) the reliability of these controls.

   The health risk assessment has shown that the risks due to site exposure are not unacceptable. The assessment is based on the fact that the site is protected by a good fence and posted with warning signs. Therefore Alternatives 2,3, and 4 meet the criteria. Alternative 1, the no-action alternative, would not protect the site effectively or permanently. Alternative 2 does offer the advantage of reducing possible exposure to the site by reducing the likelihood of trespassers. Also, a deed restriction on the site would eliminate the chance of unmonitored development occurring at the site. The long-term benefit of covering the sediments (Alternative 3) are unclear. Alternative 4 would reduce the soil contamination permanently.

5. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

   Alternatives 1 and 2 would not reduce the toxicity, mobility or volume of hazardous waste at the site. However, as stated previously, the risks associated with the site are minimal. Alternative 3 would reduce the mobility of the sediments in the basin but not reduce their toxicity or volume. Alternative 4 would reduce the amount of contamination in the surface soil.

6. Implementability. The technical and administrative feasibility of implementing each alternative is evaluated. Technically, this includes the difficulties associated with the construction, the reliability of the technology, and the ability to monitor the effectiveness of the remedy. Administratively, the availability of the necessary personal and material is evaluated along with potential difficulties in obtaining specific operating approvals, access for construction, etc.

   Alternatives 1, 2, and 4 are all easily implementable. Alternative 3 would not be easily implementable. The walls of the basin are steep. To cover the steep slopes with a stable layer of clay or sand would be extremely difficult. While putting down a cover layer, the sediments would likely be disturbed, resuspending them and defeating the purpose of the remedial action - to prevent the sediments from being in contact with the surface water. Also because of the size of the basin, a very large quantity of cover material would be required - approximately 50,000 cubic yards.

7. Cost. Capital and operation and maintenance costs are estimated for each alternative and compared on a present worth basis. Although cost is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the remaining criteria, cost effectiveness can be used as the basis for the final decision. The costs for each alternative are shown in Table 6.

This final criterion is considered a modifying criterion and is taken into account after evaluating those above. It is focused upon after public comments on the Proposed Remedial Action Plan have been received.

8. Community Acceptance. Concerns of the community regarding the RI/FS reports and the Proposed Remedial Action Plan have been evaluated. A "Responsiveness Summary" was prepared (Appendix A) that presents public comments received and the Departments' responses to those concerns. This is the same remedy as is outlined in the PRAP. Significant public comment was received regarding the future use of the property. At the time the PRAP was written, there was no change in use expected. Subsequently, Fairchild has requested to fill the basin in with demolition debris from the Main Plant Site. The Department is currently negotiating with Fairchild to implement this activity.

SECTION 7: SUMMARY OF THE SELECTED REMEDY

Based upon the results of the RI/FS, and the evaluation presented in Section 6, the NYSDEC is selecting **Alternative 2** without long-term monitoring of groundwater or surface water as the remedy for this site. Groundwater monitoring and remediation associated with the ORB will be handled in the PRAP for the Main Plant Site. Alternative 2 will be protective of human health and the environment, easily implemented, and cost effective as the selected alternative.

The elements of the selected remedy are as follows:

1. A deed restriction will be placed on the basin to restrict access to and future use of the site.

2. The fence in place will be inspected to determine if it is effective at keeping out trespassers. If the fence is not effective an appropriate replacement will be installed or appropriate repairs will be made. The site will be posted in a highly visible manner indicating that hazardous materials are present and that trespassing, swimming, and fishing are prohibited.

3. Fairchild will be responsible for inspecting, locating, and repairing any damage to the fence within a reasonable time frame. Fairchild will maintain the fence, including the control of vegetation which may compromise the fence.

The capital cost of this alternative is estimated to be $65,000 to change the deed and bring the fence to an acceptable state. The annual estimated cost of monitoring and maintaining the fence is $5,500. The total present worth of the remedy over 30 years is approximately $131,000.

After the implementation of the ROD, i.e., the deed has been changed and a written agreement with Fairchild is in place regarding the maintenance of the fence, the site will be delisted and removed from the New York State Registry of Inactive Hazardous Waste Disposal Sites.

SECTION 8: HIGHLIGHTS OF COMMUNITY PARTICIPATION

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

- A repository for documents pertaining to the site was established.

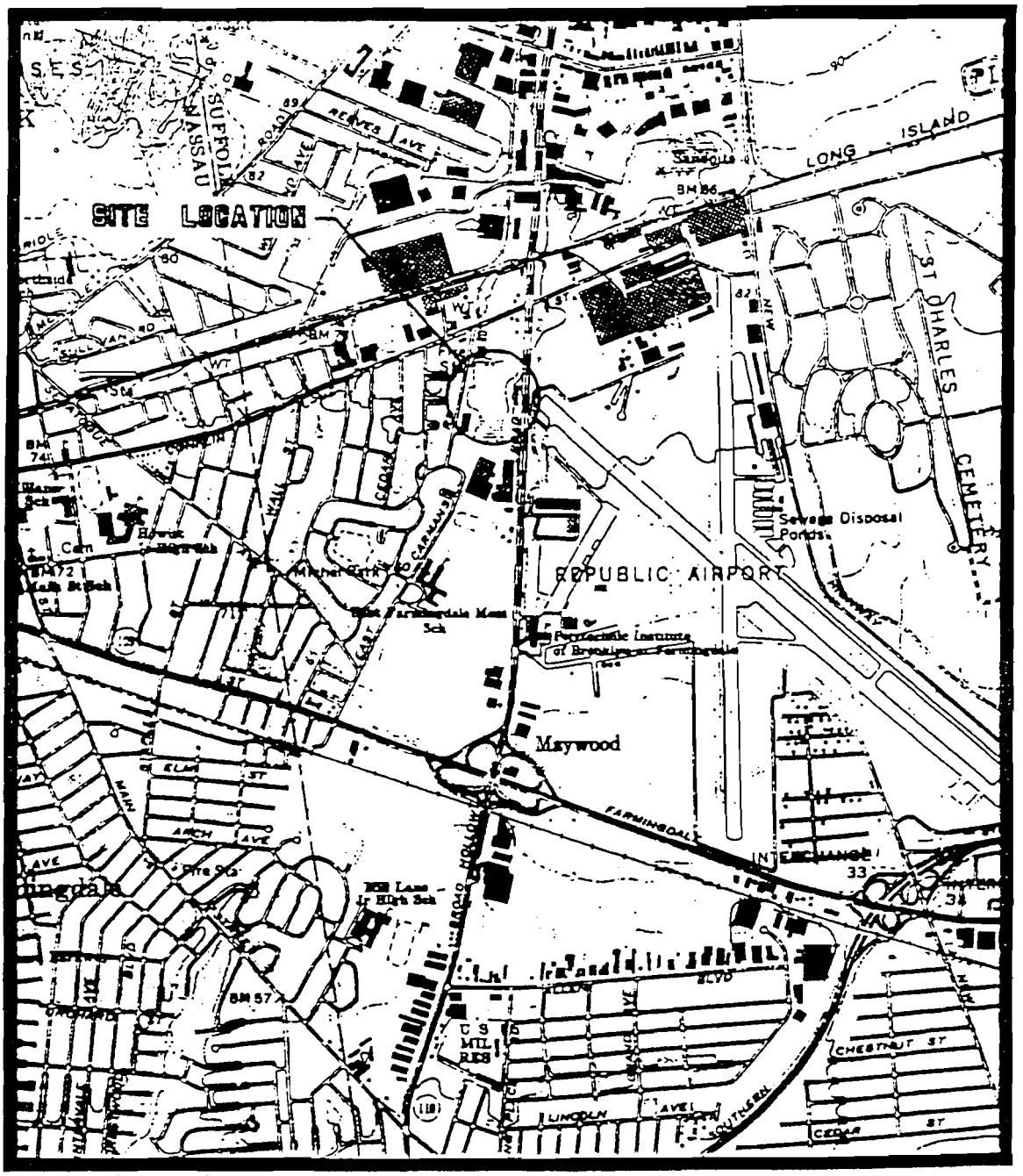
- A site mailing list was established which included nearby property owners, local political officials local media and other interested parties.

- Public meetings were held in June 1992, December 1993, December 1994, January 1996, and March 1996 to discuss this project and answer questions posed by the public. Notification was through a meeting invitation and fact sheet distributed to the mailing list, a paid public notice, and notice to the press.

- The NYSDEC solicited input from the community for this remedial action during the two public meetings held in 1996 and through the associated comment period. The public comment period for the Fairchild ORB PRAP was from January 3 to March 28, 1996 during which time the public was encouraged to participate in the remedy selection process for this site.

- In June 1996 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
FAIRCHILD INDUSTRIES INC.
EAST FARMINGDALE, NEW YORK



SCALE 1"=2000'

U.S.G.S. 7.5 MINUTE QUADRANGLE
AMITYVILLE, NEW YORK

LOCATION MAP

FIGURE 2
FAIRCHILD INDUSTRIES INC.
GROUNDWATER MONITORING WELLS
LOCATION MAP

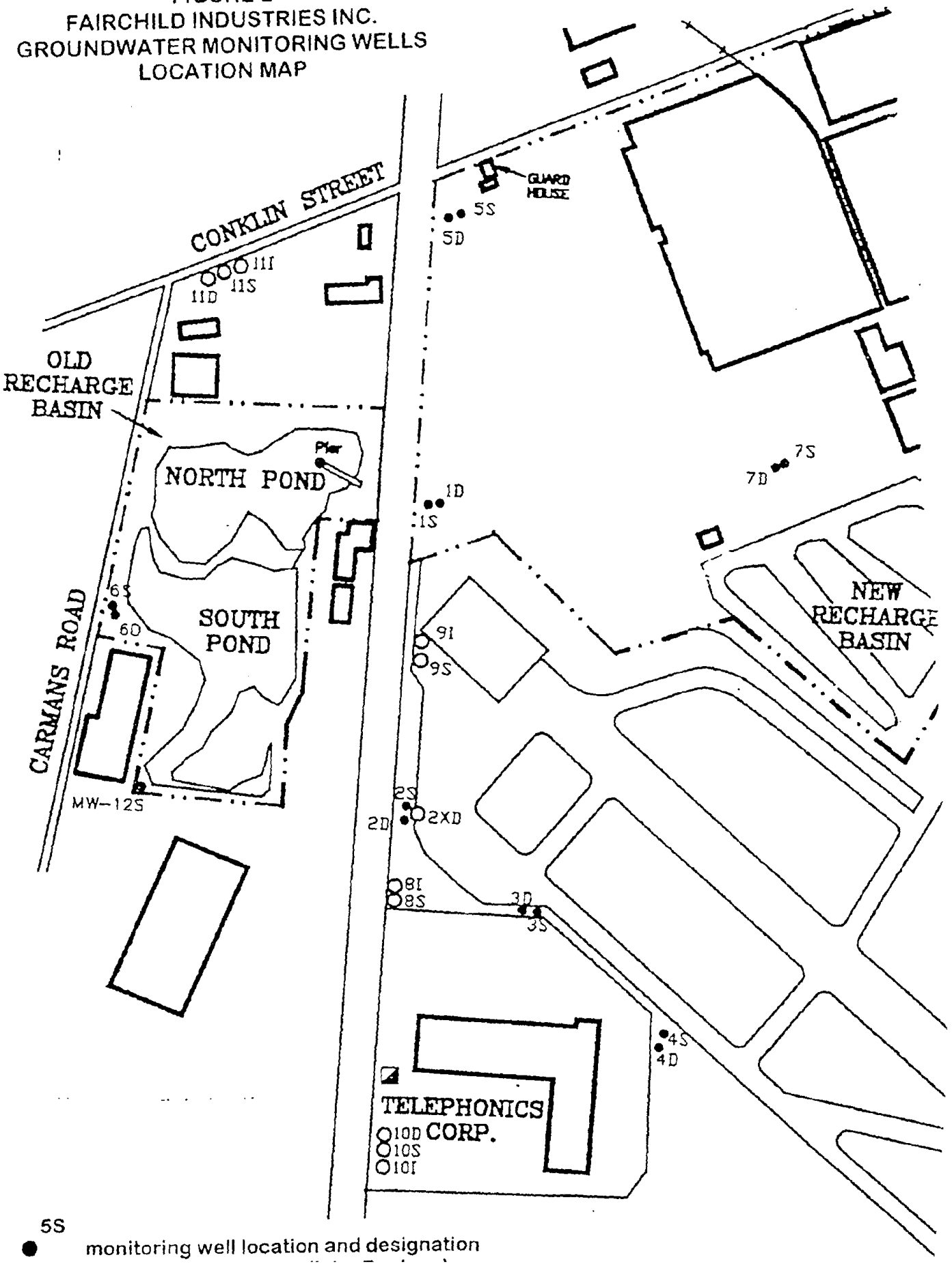


FIGURE 3
EAST FARMINGDALE FIRE DEPARTMENT
MONITORING WELL LOCATION MAP

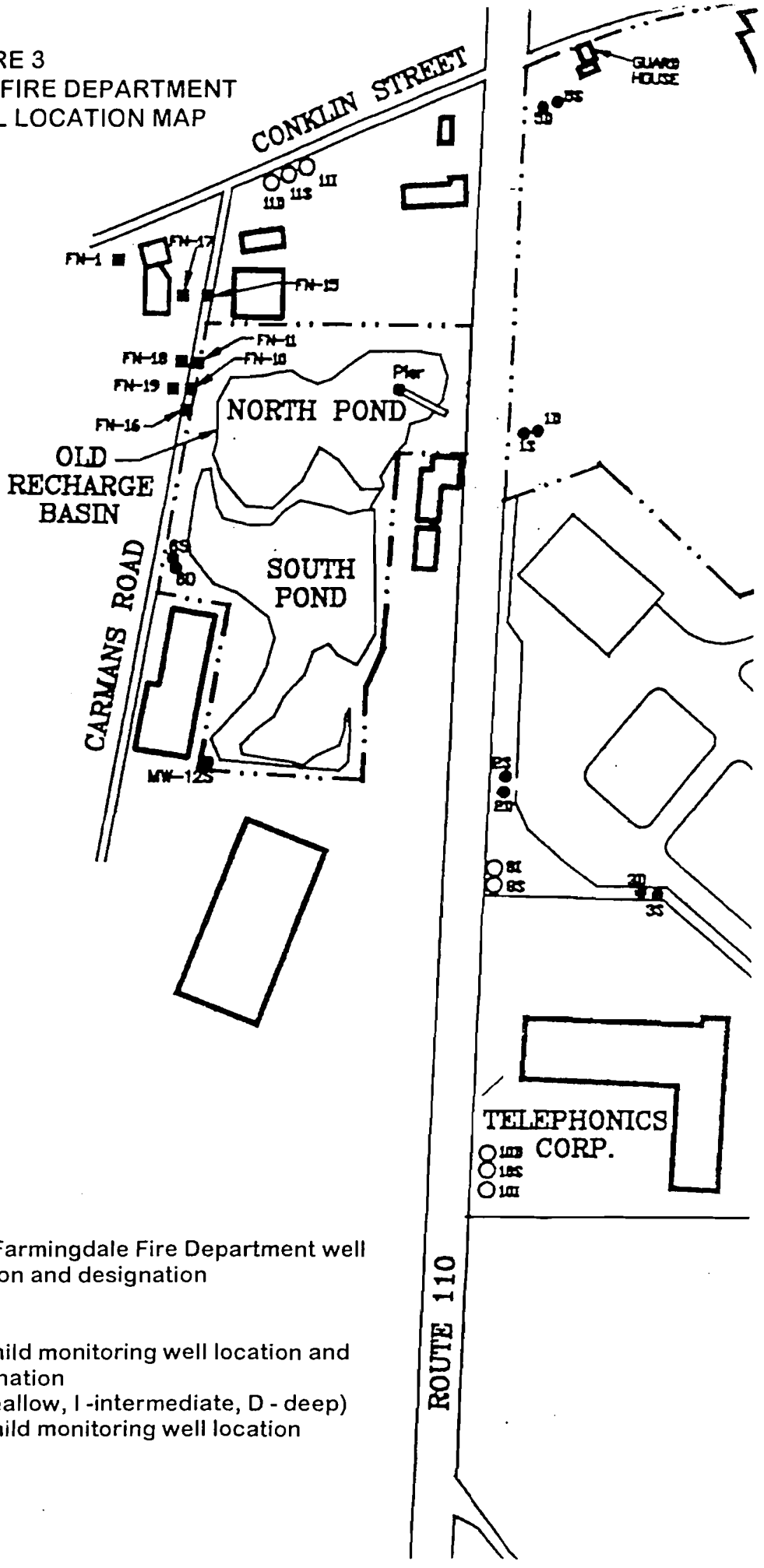
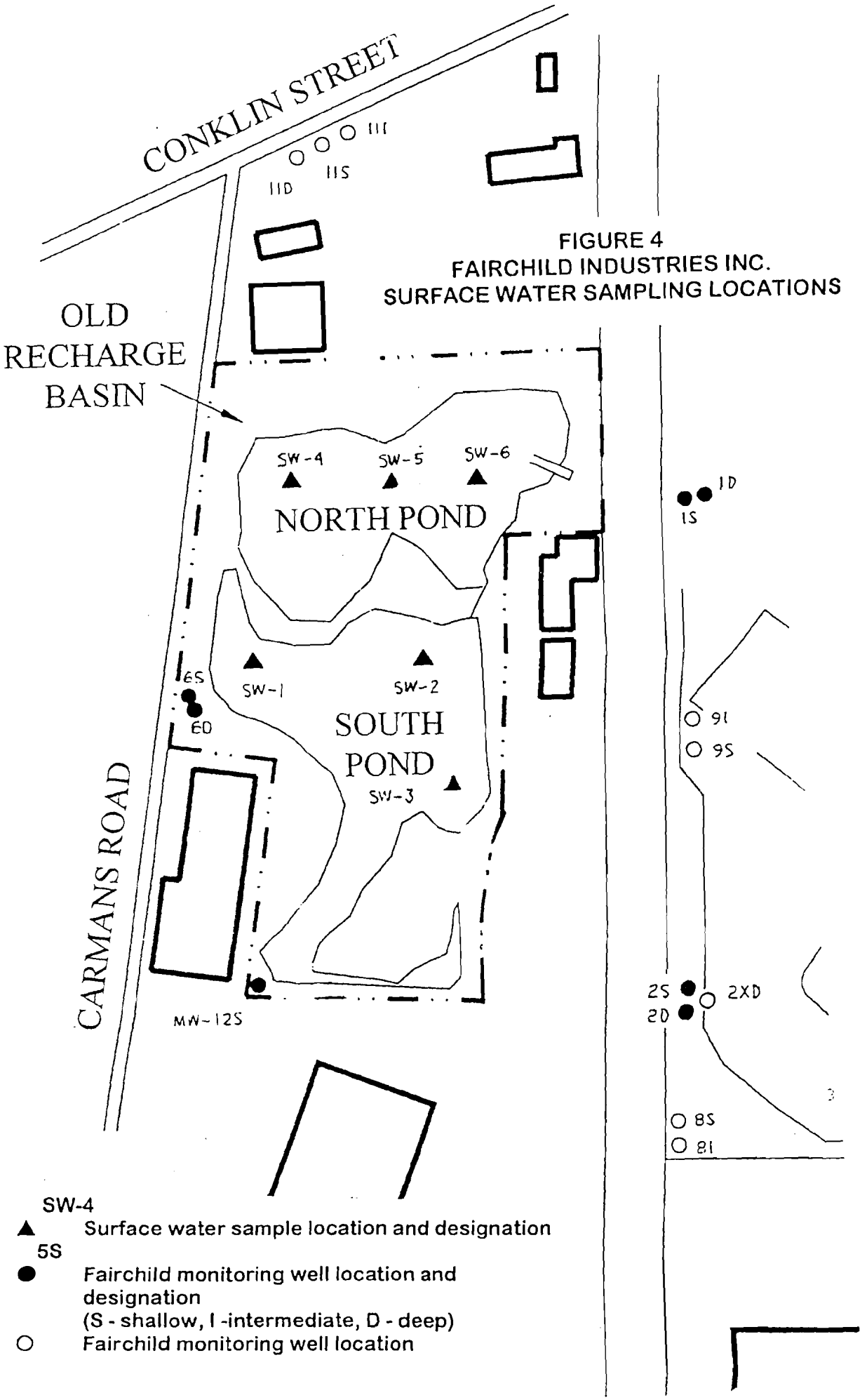


FIGURE 4
FAIRCHILD INDUSTRIES INC.
SURFACE WATER SAMPLING LOCATIONS



SW-4
▲ Surface water sample location and designation

5S
● Fairchild monitoring well location and designation
(S - shallow, I -intermediate, D - deep)

○ Fairchild monitoring well location

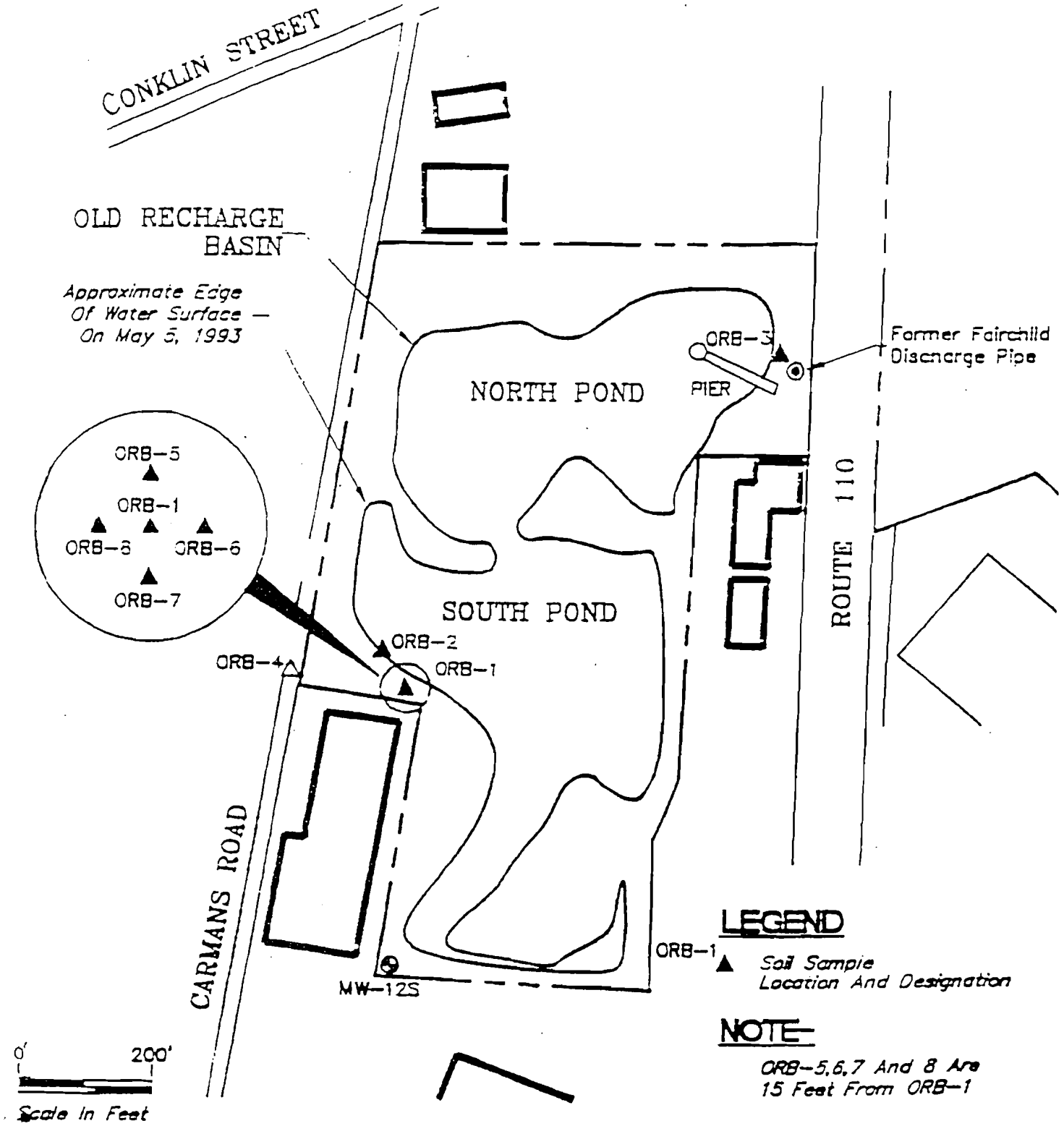
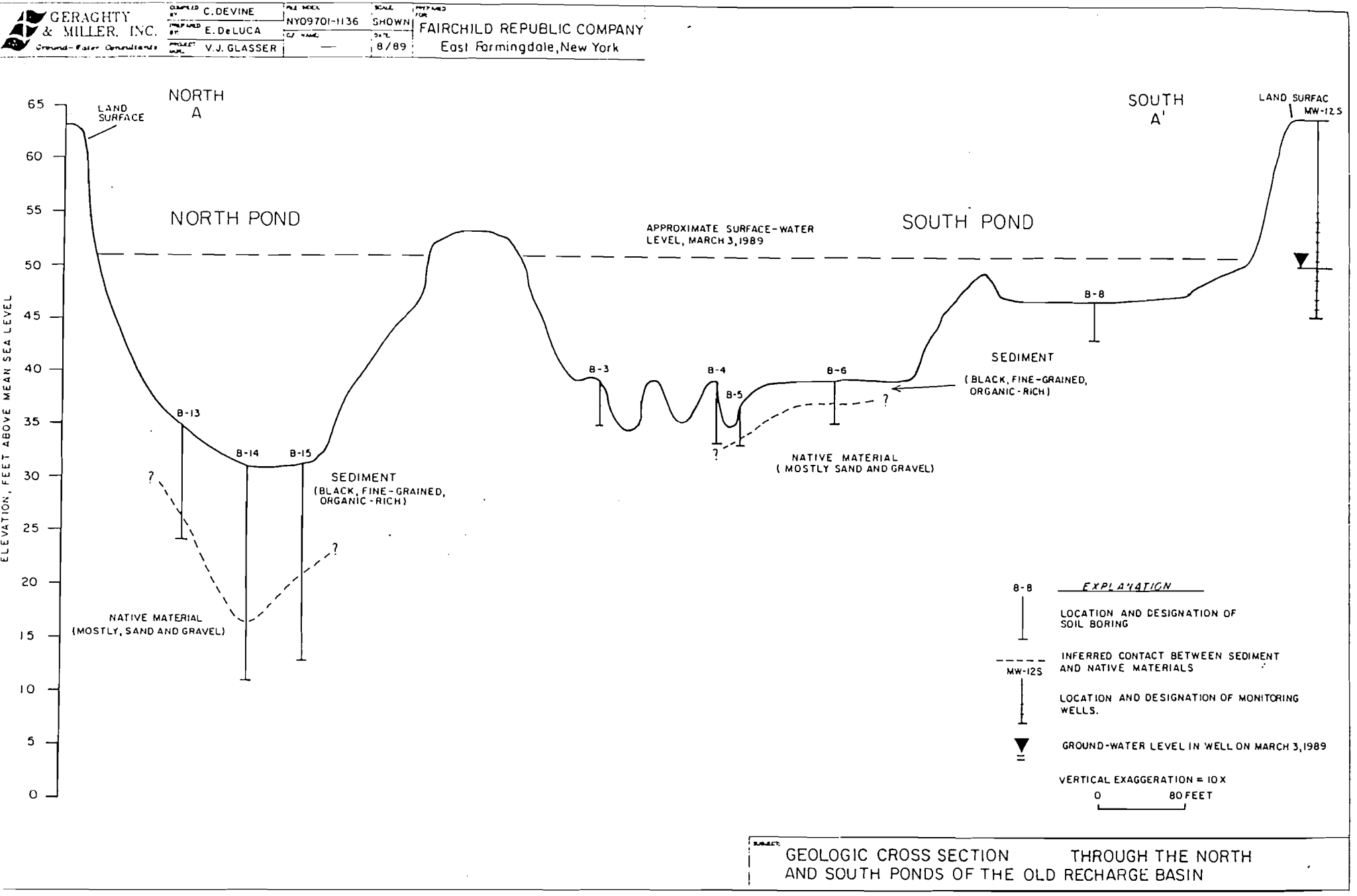


FIGURE 5
FAIRCHILD INDUSTRIES INC.
SURFACE SOIL SAMPLING LOCATIONS

FIGURE 6
FAIRCHILD INDUSTRIES INC.



GEOLOGIC CROSS SECTION THROUGH THE NORTH AND SOUTH PONDS OF THE OLD RECHARGE BASIN

Table 1
Fairchild Old Recharge Basin
Groundwater Analytical Data

MONITORING WELL		1S	1S	1D	1D	2S	2S	2D	2D	2XD	2XD	3S	3S	3D	3D	4S	4S	4D	4D	5S	5S
sample date		Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93
	STANDARD *	VOLATILE ORGANIC COMPOUNDS (ppb)																			
chloromethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	15.2	-	-	-	-	-	-
vinyl chloride	2	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-
benzene	0.7	-	0.8	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	5	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	4	-
1,1,DCE	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,DCA	5	-	-	-	-	-	1	-	2	2	-	-	-	-	1	-	-	5	4	-	-
1,2 DCE	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,1 TCA	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TCE	5	-	-	-	-	-	-	-	-	-	1.2	-	-	-	-	-	-	-	-	-	-
PCE	5	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-
		SEMIVOLATILE ORGANIC COMPOUNDS (ppb)																			
chrysene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b(b)fluoranthene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b(k)fluoranthene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b(a)pyrene	nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I(123cd)pyrene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		PESTICIDES AND PCBs (ppb)																			
dieldren	nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.007	-	-	-
4,4' DDD	nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a-chlordane	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
g-chlordane	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PCB-1254	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		METALS (ppb)																			
arsenic	25	-	-	-	-	50.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
chromium	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
lead	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
zinc	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

This Table only includes data that is above groundwater standards
Only those compounds whose standards were exceeded are listed
***Standard - TOGS 1.1.1 Groundwater Standards (G) - guidance value**

nd - not detectable

Table 1
Fairchild Old Recharge Basin
Groundwater Analytical Data

MONITORING WELL		5D	5D	6S	6S	6D	6D	7S	7S	7D	7D	8S	8S	8D	8D	9S	9S	9D	9D	10S	10S
sample date		Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93
	STANDARD*	VOLATILE ORGANIC COMPOUNDS (ppb)																			
chloromethane	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
vinyl chloride	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
benzene	0.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Methylene chloride	5	2	-	-	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,DCE	5	-	-	37	12	52	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,1,DCA	5	3	-	-	3	12	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1,2 DCE	5	-	-	-	4	29	na	-	-	-	-	6	-	-	1	-	-	-	-	-	-
1,1,1 TCA	5	14	-	550	130	580	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TCE	5	-	-	27	9	28	32	28	22	28	38	-	-	-	-	-	1	-	-	-	-
PCE	5	-	-	-	6	10	14	-	-	3	-	-	-	-	-	-	-	-	-	-	-
		SEMIVOLATILE ORGANIC COMPOUNDS (ppb)																			
chrysene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b(b)fluoranthene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b(k)fluoranthene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
b(a)pyrene	nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
I(123cd)pyrene (G)	0.002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		PESTICIDES AND PCBs (ppb)																			
dieldren	nd	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4,4' DDD	nd	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
a-chlordane	0.1	0.013	-	-	-	0.016	0.014	0.016	-	0.012	-	-	-	-	-	-	-	-	-	-	-
g-chlordane	0.1	0.025	0.01	-	-	0.017	0.014	0.017	-	0.017	-	-	-	-	-	-	-	-	-	-	-
PCB-1254	0.1	-	-	0.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		METALS (ppb)																			
arsenic	25	-	-	-	-	-	-	-	-	-	-	-	44.7	-	-	-	-	-	-	-	-
chromium	50	-	-	60.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	239	-
lead	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.2	-
zinc	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

This Table only includes data that is above groundwater standards.
Only those compounds whose standards were exceed are listed.

nd - nondetectable

Table 1
Fairchild Old Recharge Basin
Groundwater Analytical Data

MONITORING WELL		10I	10I	10D	10D	11S	11S	11I	11I	11D	11D	MW12S	MW12S	Max. detection	Aver-age	No. of detections > standard
sample date		Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93	Dec.92	Mar.93			
	STANDARD*	VOLATILE ORGANIC COMPOUNDS (ppb)														
chloromethane	5	-	-	-	-	-	-	-	-	-	-	-	-	15.2	0.29	1/52
vinyl chloride	2	-	3	-	-	-	-	-	-	-	-	-	-	3	0.10	1/52
benzene	0.7	-	-	-	-	-	-	-	-	-	-	-	0.7	2	0.07	2/52
Methylene chloride	5	-	-	-	-	-	-	21	-	-	-	-	-	21	0.90	2/52
1,1,DCE	5	-	-	-	-	-	-	-	-	-	-	-	-	70	3.29	4/52
1,1,DCA	5	-	2	-	-	-	-	-	-	-	-	-	-	12	0.87	2/52
1,2 DCE	5	3	12	11	15	-	-	-	-	-	2	4	1.4	29	1.70	5/52
1,1,1 TCA	5	-	-	-	-	-	-	-	-	-	-	-	-	660	37.19	5/52
TCE	5	-	5	8	7	-	-	-	-	-	2	-	-	38	4.54	10/52
PCE	5	-	4	19	17	-	-	-	-	-	-	-	-	19	1.48	5/52
		SEMIVOLATILE ORGANIC COMPOUNDS (ppb)														
chrysese (G)	0.002	-	0.2	-	-	-	-	-	-	-	-	0.6	0.4	0.6	0.02	3/52
b(b)fluoranthene (G)	0.002	-	0.4	-	-	-	-	-	-	-	-	0.5	0.3	0.5	0.02	3/52
b(k)fluoranthene (G)	0.002	-	0.3	-	-	-	-	-	-	-	-	0.6	0.3	0.6	0.02	3/52
b(a)pyrene	nd	-	0.4	-	-	-	-	-	-	-	-	0.6	0.3	0.6	0.03	3/52
I(123cd)pyrene (G)	0.002	-	-	-	-	-	-	-	-	-	-	0.2	-	0.2	0.00	1/52
		PESTICIDES AND PCBs (ppb)														
dieldren	nd	-	-	-	-	-	-	-	-	-	-	-	-	0.01	0.00	2/52
4,4' DDD	nd	-	-	-	-	-	-	-	-	-	-	-	0.042	0.04	0.00	1/52
a-chlordane	0.1	-	-	-	-	-	-	-	-	-	-	1.1	0.48	1.1	0.03	2/52
g-chlordane	0.1	-	-	-	-	-	-	-	-	-	-	1	0.41	1	0.03	2/52
PCB-1254	0.1	-	-	-	-	-	-	-	-	-	-	-	1.7	1.7	0.04	2/52
		METALS (ppb)														
arsenic	25	-	-	-	-	-	-	-	-	-	-	-	-	50.5	1.83	2/52
chromium	50	-	204	-	-	-	-	-	-	-	-	137	132	239	14.85	5/52
lead	25	-	-	-	37.4	-	-	-	-	-	-	331	338	338	14.11	4/52
zinc	300	-	-	-	-	-	-	-	-	-	-	673	693	693	26.27	2/52

This Table only includes data that is above groundwater standards.
Only those compounds whose standards were exceed are listed.

FAIRCHILD INDUSTRIES, INC.
OLD RECHARGE BASIN
GROUNDWATER ANALYTICAL RESULTS FOR VOLATILE ORGANIC COMPOUNDS
EAST FARMINGDALE FIRE DEPARTMENT WELLS
SEPTEMBER 1993

TABLE 2

COMPOUND (All concentrations in ppb)	NYSDEC-6NYCRR703 GW STANDARDS	FRCW2101	FRCW1901	TRIP BLANK
Chloromethane	5	2 BJ	1 BJ	1 BJ
Bromomethane	5	7 BJ	6 BJ	6 BJ
Vinyl Chloride		10U	10U	10U
Chloroethane		10U	10U	10U
Methylene Chloride	5	10U	10U	4 J
Acetone	50	3 BJ	10U	4 BJ
Carbon Disulfide		10U	10U	10U
1,1-Dichloroethene		10U	10U	10U
1,1-Dichloroethane		10U	10U	10U
1,2-Dichloroethene (total)		10U	10U	10U
Chloroform		10U	10U	10U
1,2-Dichloroethane		10U	10U	10U
2-Butanone (MEK)		10U	10U	10U
1,1,1-Trichloroethane	5	5 J	10U	10U
Carbon Tetrachloride		10U	10U	10U
Bromodichloromethane		10U	10U	10U
1,2-Dichloropropane		10U	10U	10U
cis-1,3-Dichloropropene		10U	10U	10U
Trichloroethene		10U	10U	10U
Dibromochloromethane		10U	10U	10U
1,1,2-Trichloroethane		10U	10U	10U
Benzene		10U	10U	10U
trans-1,3-Dichloropropene		10U	10U	10U
Bromoform		10U	10U	10U
4-Methyl-2-Pentanone (MIBK)		10U	10U	10U
2-Hexanone		10U	10U	10U
Tetrachloroethene		10U	10U	10U
1,1,2,2,-Tetrachloroethane		10U	10U	10U
Toluene		10U	10U	10U
Chlorobenzene		10U	10U	10U
Ethylbenzene		10U	10U	10U
Styrene		10U	10U	10U
Xylenes (total)		10U	10U	10U

NOTES:
J = Estimated concentration
B = Detected in Method Blank
U = Indicates that the compound was analyzed for but not detected.

table1.wk1/6-16-94

Table 3
Fairchild Old Recharge Basin
Surface Water Data (ppb)

LOCATION		SW-1	SW-1	SW-1	SW-1	SW-2	SW-2	SW-2	SW-2	SW-3	SW-3	SW-3	SW-3
SAMPLE DATE		12/7/92	12/10/92	3/2/93	3/2/93	12/7/92	12/7/93	3/2/93	3/2/93	12/7/92	12/10/92	3/2/93	3/2/93
SAMPLE DEPTH		SUR	MID	SUR	MID	SUR	MID	SUR	MID	SUR	MID	SUR	MID
	Surface Water Standards (ppb)												
1,1 DCE	0.07(G)**	0.2	-	-	-	-	-	-	-	-	-	-	-
PCE	0.7(G)	-	-	-	-	-	-	-	-	-	-	-	-
COBALT	5	-	-	-	-	-	-	-	-	-	11.1	-	-
IRON	300	-	-	-	-	-	-	357	-	-	2950	-	-
MANGANESE	300	391	347	300	320	389	399	306	-	384	1950	-	304

LOCATION		SW-4	SW-4	SW-4	SW-4	SW-5	SW-5	SW-5	SW-5	SW-6	SW-6	SW-6	SW-6
SAMPLE DATE		12/7/92	12/7/92	3/2/93	3/2/93	12/7/92	12/7/92	3/2/93	3/2/93	12/7/92	12/7/92	3/2/93	3/2/93
SAMPLE DEPTH		SUR	MID	SUR	MID	SUR	MID	SUR	MID	SUR	MID	SUR	MID
	Surface Water Standards (ppb)												
1,1 DCE	0.07(G)	-	-	-	-	-	-	-	-	-	-	-	-
PCE	0.7(G)	-	0.8	-	-	0.8	-	-	-	1.03	2	-	-
COBALT	5	-	-	-	-	-	-	-	-	-	-	-	-
IRON	300	912	895	347	393	903	909	383	383	857	884	-	335
MANGANESE	300	516	519	558	577	509	524	583	583	517	541	563	588

This Table only shows values above surface water standards
**** (G) - Guidance Value**
SUR - sample taken at surface of pond
MID - sample taken midway to bottom of pond

PRAP3.TAB

Table 4
Fairchild Republic Old Recharge Basin
Surface Soil Data

	Soil Cleanup Objectives	Surface Soil Sampling Locations								
		ORB-1	ORB-1D	ORB-2	ORB-3	ORB-4	ORB-5	ORB-6	ORB-7	ORB-8
VOLATILE ORGANIC COMPOUNDS (ppb)										
methylene chloride	100	7	4	5	7	na	na	na	na	na
acetone	200	9	3	12	6	na	na	na	na	na
carbon disulfide	2700	nd	nd	0.7	nd	na	na	na	na	na
trichloroethylene	700	nd	nd	nd	2	na	na	na	na	na
SEMI-VOLATILE COMPONDS (ppb)										
2,4-dimethylphenol	-	nd	nd	nd	26	na	na	na	na	na
naphthalene	13000	340	35	nd	32	na	na	na	na	na
2-methylnaphthalene	36400	120	26	nd	42	na	na	na	na	na
acenaphthylene	41000	56	71	nd	51	na	na	na	na	na
acenaphthene	50000	500	200	nd	140	na	na	na	na	na
dibenzofuran	6200	352	82	nd	97	na	na	na	na	na
diethylphthalate	7100	nd	9	nd	17	na	na	na	na	na
fluorene	50000	593	207	nd	205	na	na	na	na	na
phenanthrene	50000	5675	2651	nd	2696	na	na	na	na	na
anthracene	50000	1148	535	nd	435	na	na	na	na	na
carbazole	-	1656	725	nd	735	na	na	na	na	na
di-n-butylphthalate	8100	129	65	38	102	na	na	na	na	na
fluoranthrene	50000	9532	5036	12	5242	na	na	na	na	na
pyrene	50000	8201	3725	19	2831	na	na	na	na	na
benzo(a)anthracene	220	4666	2775	nd	1840	na	na	na	na	na
chrysene	400	4579	2597	nd	1873	na	na	na	na	na
bis(2-Ethylhexyl)phthalate	50000	265	145	989	464	na	na	na	na	na
di-n-octylphthalate	50000	nd	nd	8	nd	na	na	na	na	na
benzo(b)fluoranthrene	1100	nd	1616	nd	2298	na	na	na	na	na
benzo(k)fluoranthrene	1100	nd	1946	nd	1230	na	na	na	na	na
benzo(a)pyrene	61	nd	2315	nd	1545	na	na	na	na	na
indeno(1,2,3-cd)pyrene	3200	nd	1073	nd	nd	na	na	na	na	na
benzo(g,h,i)perylene	50000	nd	298	nd	549	na	na	na	na	na
PESTICIDES AND PCBs (ppb)										
gamma BHC	60	nd	nd	nd	nd	1.5	nd	nd	60	nd
aldrin	41	nd	nd	nd	nd	nd	nd	nd	97	nd
4,4-DDE	2900	nd	nd	nd	nd	nd	510	1100	720	650
4,4-DDD	2100	nd	nd	nd	nd	nd	210	nd	nd	nd
endosulfan sulfate	1000	nd	nd	nd	nd	17	nd	nd	nd	nd
4,4-DDT	2100	nd	nd	nd	nd	nd	nd	300	240	270
endrin ketone	-	nd	nd	nd	nd	160	nd	nd	nd	420
Arochlor 1254 (surface)	1000	nd	7900	nd	620	nd	nd	nd	nd	nd
METALS (ppm)										
chromium	10**	126.1	108	35.5	907	na	na	na	na	na
lead	SB	nd	nd	nd	289	na	na	na	na	na
zinc	20**	nd	nd	134	341	na	na	na	na	na

**** Cleanup Objective is number shown or site background**
Shaded areas designate those values at or above the soil cleanup objective
SB - site background
na - Not Analyzed
nd - Not Detected

PRAP4.TAB

Table 5
Fairchild Republic Old Recharge Basin
Sediment Data Summary

	Maximum Concentration	Number of detections found in samples	Average Concentration	Soil Cleanup Objective
VOLATILE ORGANIC COMPOUNDS (ppb)				ppb
methylene chloride	0	0/20	0.00	100
acetone	4,600	3/20	407.45	200
1,2-dichloroethene	5,000	3/20	316.50	400
chloroform	0	0/20	0.00	300
toluene	860	5/20	85.75	1,500
chlorobenzene	180	2/20	17.00	1,700
ethylbenzene	12	1/20	0.60	5,500
styrene	0	0/20	0.00	-
xylenes (total)	430	5/20	89.50	1,200
2-butanone	1,100	4/20	136.25	300
vinyl chloride	210	1/20	10.50	200
tetrachloroethene	3	1/20	0.15	1,400
trichloroethene	1,800	2/20	137.00	700
1,1,1-trichloroethane	1	1/20	0.05	800
SEMI-VOLATILE COMPOUNDS (ppb)				ppb
n-nitrosodiphonylamine	0	0/20	0.00	-
1,2-dichlorobenzene	590	5/20	48.70	-
diethylphthalate	0	0/20	0.00	7,100
di-n-butylphthalate	1,800	3/20	97.55	8,100
phenol	280	1/20	14.00	30*
hexachlorobenzene	43	1/20	2.15	410
bis(2-Chloroethyl)ether	0	0/20	0.00	-
2-chlorophenol	0	0/20	0.00	800
2,4-dinitrophenol	0	0/20	0.00	200*
1,4-dichlorobenzene	0	0/20	0.00	-
benzo(g,h,i)perylene	0	0/20	0.00	50,000
benzo(a)pyrene	4,600	12/20	1,071.00	61*
indeno(1,2,3-cd)pyrene	500	2/20	38.00	3,200
4-methylphenol	43	1/20	2.15	900
n-nitroso-di-n-propylamine	0	0/20	0.00	-
acenaphthene	750	5/20	99.00	50,000
bis(2-ethylhexyl)phthalate	15,000	1/20	750.00	50,000
4-nitrophenol	0	0/20	0.00	100*
isophorone	0	0/20	0.00	4,400
dibenzofuran	410	7/20	70.40	6,200
2,4-dimethylphenol	27,000	4/20	2,020.50	-
benzoic acid	250	4/20	26.60	-
benzo(b)fluoranthene	12,000	14/20	2,653.00	1,100
benzo(k)fluoranthene	2,400	4/20	236.00	1,100
1,2,4-trichlorobenzene	170	1/20	8.50	-
naphthalene	510	7/20	77.55	13,000
benzo(a)anthracene	6,200	5/20	880.00	224*
chrysene	9,000	11/20	1,601.50	400

	Maximum Concentration	Number of detections found in samples	Average Concentration	Soil Cleanup Objective
SEMI-VOLATILE COMPOUNDS (ppb)				ppb
4-chloro-3-methylphenol	44	1/20	2.20	240*
2-methylnapthalene	1,900	9/20	187.90	36,400
pentachlorophenol	0	0/20	0.00	1,000*
phenanthrene	10,000	14/20	2,272.55	50,000
anthracene	1,700	8/20	338.85	50,000
di-n-octyl phthalate	0	0/20	0.00	50,000
fluoranthrene	13,000	19/20	4,937.50	50,000
pyrene	14,000	18/20	4,673.90	50,000
dimethylphthalate	0	0/20	0.00	2,000
acenaphthylene	560	8/20	77.30	41,000
fluorene	880	4/20	114.50	50,000
butylbenzylphthalate	0	0/20	0.00	50,000
PESTICIDES AND PCBs (ppm)				ppm
alpha BHC	4.3	2/20	0.25	0.11
gamma BHC	5.4	2/20	0.31	0.06
arochlor 1248	88	15/20	20.41	10
arochlor 1254	51	16/20	11.51	10
METALS (ppm)				ppm
Al	44,770	20/20	20,851.30	SB
Sb	15.6	3/20	1.98	SB
Ar	34.4	18/20	10.18	7.5**
Ba	461	18/20	136.41	300**
Be	6.4	16/20	1.81	0.16**
Cd	267	19/20	68.45	1**
Ca	103,000	20/20	14,942.70	SB
Cr	11,400	20/20	4,354.57	10**
Co	29.6	19/20	14.50	30**
Cu	1,130	19/20	428.07	25**
Fe	49,700	20/20	26,333.50	2000**
Pb	864	20/20	265.15	SB
Mg	9,940	20/20	3,979.67	SB
Mn	1730	20/20	653.80	SB
Hg	6.4	15/20	1.32	0.1
Ni	90.2	19/20	32.47	13**
K	1430	18/20	613.85	SB
Se	1.4	8/20	0.33	2**
Ag	360	18/20	84.98	SB
Na	859	8/20	195.44	SB
Th	0	0/20	0.00	SB
V	142	20/20	51.97	150**
Zn	7,470	20/20	1,984.28	20**
cyanide	116	15/20	25.27	-

Shaded areas designate those values over soil cleanup objectives
SB - site background
MDL - Method detection limit
*** Cleanup Objective is the number shown or the method detection limit.**
**** Cleanup Objective is the number shown or the site background**

PRAP5.TAB

Table 6
Fairchild Republic Old Recharge Basin
Costs of Remedial Alternatives

Alterative	Present Worth	Capital Costs	Annual Operation & Maintenance (per year)	Years to Implement
1 - No Action w/ long-term groundwater and surface water monitoring	$187,000	-	$14,300	immediate
2 - Limited Action/ Institutional Controls Fence Maintenance, Deed Restrictions, etc. w/out long-term monitoring	$131,000	$65,000	$5,500	immediate
2 - Limited Action/ Institutional Controls Fence Maintenance, Deed Restrictions, etc. w/ long-term monitoring	$446,000	$65,000	$29,900	immediate
3 - Cover bottom sediment with clean fill Fence Maintenance, w/ long-term monitoring	$3,339,000 - $4,079,000	$2,958,000 - $3,698,000	$29,900	12 - 18 months
4 - Remove contaminated surface soil and dispose of in an off-site landfill No Fence Maintenance, w/ long-term monitoring	$337,000	$37,000	$23,400	six months

APPENDIX A
FAIRCHILD REPUBLIC OLD RECHARGE BASIN (# 152004)
RESPONSIVENESS SUMMARY

The issues presented in this Responsiveness Summary are those concerns raised by the public regarding the Fairchild Republic Old Recharge Basin (ORB) remedy. Two public meetings regarding the ORB were held on January 17 and March 14, 1996 at the East Memorial Elementary School in Farmingdale, NY. The purpose of the meetings was to present the Proposed Remedial Action Plan (PRAP) for the ORB to the public and to receive comments on the PRAP for consideration during the final selection of a remedy. The comments received during those meetings as well as written comments and questions received during the public comment period (January 3 - March 28, 1996) have been collected and responded to in this Responsiveness Summary. This Responsiveness Summary is part of the public record and Administrative Record.

Comments from Citizens for Pure Water, January 28, 1996 (Q1-Q9)

Q1. *It is our understanding that the purpose of a recharge basin is to collect water for the replenishment of our underground aquifer's supply, not to provide a dumping ground for industry. The aquifer system beneath Long Island's soil is the sole source of drinking water for a majority of the Island's residents, including the residents of South Farmingdale and the Massapequas. Your health department representative implied that this particular recharge basin is self-contained and, therefore, poses no threat to our drinking water supply. How is this possible?*

A. The recharge basins on Long Island are primarily for the collection of storm water run-off to prevent flooding. This water is then slowly, by gravity, recharged to the aquifer. This particular recharge basin was used by Fairchild Republic for disposal of liquid wastes from their main plant on the opposite side of Route 110. The New York State Department of Transportation (NYSDOT) also used it to collect run-off from Route 110. The Old Recharge Basin (ORB) is approximately 30 feet deep and in direct connection to the Upper Glacial Aquifer. Long Island's drinking water comes from the Magothy Aquifer which is beneath the Upper Glacial Aquifer. The ORB is not a continuing source of groundwater contamination although the NYSDEC suspects that it once was a source of the groundwater contamination found to the southeast of the ORB.

Q2. *The project manager stated that pollution was found south of this site, but that the source of this pollution has not yet been determined. When will its source be determined?*

A. Groundwater contamination was found approximately 3000 feet south-southeast of the basin. As stated above, the NYSDEC suspects that it came from the ORB. However, Fairchild does not agree with our conclusion. It is the NYSDEC's opinion that the ORB is the most likely source and therefore the Proposed Remedial Action Plan for the main plant site will be written by the NYSDEC to deal with this contamination. This contamination, along with the large plume of contaminated groundwater emanating from the main plant site, will be remediated as a whole under the proposed remedy for the main plant site. It would not be technically feasible to remediate these groundwater plumes separately.

Q3. To leave pollutants such as the "the volatile organic compounds...detected above drinking water standards" that were found "in 1992 and 1993," and the arsenic, chromium, lead, zinc, cadmium and PCBs that were detected in groundwater, sediment and soil samples on this site is not only unacceptable, but also unconscionable.

Fact Sheet #4 states "One sample contained two pesticides at levels at or slightly higher than the soil clean-up objectives. Arochlor 1254 (a type of PCB) was found in one sample at 7,900 ppb; the surface soil clean-up objective is 1,000 ppb." How are these "objectives" being met by a fence?

A. Although it is correct to state that there were detections of these compounds, these detections do not constitute unacceptable levels. (As stated previously, the groundwater will be handled separately.) The NYSDEC has established soil clean-up objectives which are based on protection of groundwater. These soil clean-up objectives are used as guidelines to determine if there are unacceptable levels of contaminants present. It should be noted that these clean-up objectives are guidance values that are used by the NYSDEC as goals and are not regulatory standards that must be met.

Table 4 and Figure 5 of the ROD show that eight surface soil samples were collected and analyzed for volatile organic compounds, semi-volatile compounds, pesticides, PCBs and metals. Clean-up objectives were only exceeded for a few compounds and only marginally. One isolated hit of PCBs was found at 7,900 ppb, which is below the industrial clean-up criteria of 10,000 ppb. The NYSDEC subsequently sampled around that location (ORB-5 - ORB-8) and found no additional PCB contamination. It was concluded that this one PCB hit was an isolated occurrence and not indicative of widespread PCB contamination. The semi-volatile and chromium levels found are attributable to Fairchild's discharges. These compounds were taken into consideration in the calculations done in the risk assessment.

An analysis of the sediment data, as seen in Table 5, indicates that some compounds slightly exceed the sediment criteria in several of the 20 samples that were taken. The sediment was analyzed to determine if it meets the criteria to be classified as a characteristic hazardous waste, and although the sediment contains some hazardous constituents, it is not a hazardous waste. Some metals are above clean-up objectives, but metals are not mobile compounds and, therefore, they are not contaminating the groundwater or surface water. Additionally, all of these contaminants are at the bottom of the basin below as much as 30 feet of water thereby presenting no direct human exposure.

Q4. The site is already fenced. Breaches in the fencing have gone unnoticed and unrepaired. Area residents claim to have seen both adults and children (who apparently gained access to the site through the breaches) and were fishing at the site.

A. The Department is aware that the fence is not in good repair. The Department has requested that Fairchild repair the fence. Fairchild's response was to suggest that portions of the fence be replaced completely. This was done in the spring of 1996. The health risk assessment assumes that teenagers will periodically visit the site (32 times per year). The assessment indicates that this exposure does not pose an unacceptable health risk. The fence and posted signs, while not guaranteeing that the site will not be accessed by trespassers, should reduce the number of visits to the site. It should also be noted that the risks from other hazards such as drowning are far greater.

Q5. Is it possible for fish to get into this polluted basin? Did the DEC stock it?

A. The NYSDEC did not stock the basin with fish. It is assumed that fish eggs were transported there by birds.

Q6. The project manager stated that no underground streams run through this site, yet it is our understanding that an underground stream from this site empties out from under Main Street, south of the site, into State-owned property at the corner of Junard Drive and Main Street in Farmingdale. Perhaps another stream carries fish from other areas into the basin?

A. There are absolutely no underground streams in this area. The Upper Glacial Aquifer and Magothy Aquifer are both sandy aquifers. The groundwater moves in a uniform, homogenous manner with no streams or conduits. Underground streams are only found in certain types of bedrock. The bedrock under Long Island is over 1,000 feet below the surface.

Q7. It is also our understanding that the polluted S.J.&J. gas station site, located directly north of the basin off Rt. 110, has a plume of contamination that may be a current source of contamination for the basin. This was not addressed, except to tell the public that the S.J.&J. site had been "delisted." What happened to those pollutants? There isn't even a magical chain-link fence around that site!

A. The S.J.& J. site was investigated by the USEPA. The main chemicals of concern were semi-volatile organic compounds and metals. The contamination that was found was cleaned up and no plume of groundwater contamination was discovered. After the remediation, the site was removed from the Registry of Inactive Hazardous Waste Disposal Sites.

Q8. We residents of the South Farmingdale/Massapequa area are surrounded by current and "former" toxic waste sites. Many of our homes already sit on plumes of toxic chemicals and heavy metals. Our drinking water supply is already at risk. The proposed "remedy" for the ORB addresses, at most, two of the eight "conditions" to be met by a remedial alternative - "cost" (the cheapest alternative for the PRPs) and, possible, "compliance with statutory requirements," a condition not fully explained in the RI/FS Fact Sheet. To "leave the soil and sediment in place at the Old Recharge Basin" is NOT an acceptable "remedy" to the community. In fact, we want additional wells drilled to the south and south/west of the basin, particularly around wells 6S and 6D, where high levels of pollution were found, according to the project manager, but not addressed by the proposed "remedy."

According to the DEC "Fact Sheet" for the "Remedial Investigation/Feasibility Study" stage of the remediation process, the "DEC...uses the RI/FS information to select a remedial action that effectively eliminates the threat posed by the site." However, the proposed "action" for this site, fencing the site without further monitoring totally ineffective (for both the long and short term), technically unreliable,

and impermanent.

A. As stated above, the ORB does not present an unacceptable risk to the community, nor is it a continuing source of groundwater contamination. The drinking water supply is not at risk from this site. Drinking water comes from very deep wells that are monitored quarterly for contamination. No contamination has been found in the public water supply wells downgradient of the site. Groundwater flows to the south/southeast in this area. The NYSDEC feels that this flow direction has been adequately investigated and that no further monitoring wells are necessary.

Q9. One local resident mentioned concerns about the phosphorescent quality of the water in the ORB, as it glows blue-green at times. If this quality indicates that radioactive cobalt was also dumped at this site, we certainly want the site tested for its presence.

A. There is no reason to suspect that radioactive cobalt was dumped in the basin. The color of the basin may be due to algae growth.

Comments from Mr. Thomas J. Cambell, January 29, 1996 (Q10-Q13)

Q10. Contamination was detected above groundwater standards in monitoring well identified as MW-12S. One component of the Remedial Investigation (RI) is to determine the lateral extent of contamination. Why haven't additional wells been installed southwest and south of MW-12S to determine the lateral extent of contamination? At a minimum, a monitoring well should be installed south of MW-12S since the predominate groundwater flow direction is south/southeast. I believe it is important that the public has a general understanding of groundwater conditions in their immediate surrounding environment as a result of this site. If additional wells are installed south of MW-12S, it provides the NYSDEC with the lateral extent of contamination that the RI is designed to determined and will be useful in reducing the fears that the public has with this contaminated site. In addition, these new wells could be used to determine if contamination continues to migrate at a later date.

A. It is true that groundwater in MW-12S contravened groundwater standards for a small number of compounds. Several other wells in the vicinity of the Basin also contained water that exceeded the standards. However, these exceedences were not substantial and do not exhibit a pattern that indicates the presence of a groundwater plume. It also does not indicate that the Basin is a current source of groundwater contamination. Because groundwater contamination currently is not emanating from the Basin, further delineation of contamination was not deemed necessary, including the installation of more wells south of the property. The groundwater contamination that was in connection with the Basin has since left and has traveled downgradient (south-southeast). Installing monitoring wells further south of the Basin would not provide any additional information relative to the Basin.

Q11. The PRAP does not include any long-term groundwater monitoring downgradient of the ORB. My understanding is that contamination from sediments within the ORB is not leaching anymore and consequently, groundwater monitoring is not required by NYSDEC. How can the NYSDEC be so confident that contamination will not leach at some time in the future? It is possible that the water chemistry of the ORB could change in the future (100 years later) to allow contamination to leach. Why is the NYSDEC willing to take on this risk? I believe that the PRAP should include groundwater monitoring.

A. It is correct that the sediments in the Basin are not leaching. This is evidenced by the lack of significant contamination in the surface water and groundwater. The Department does not believe that the contaminants in the sediments will migrate in the future. Soil contamination can move in one of two ways, as a solid or as a dissolved contaminant in groundwater. The contaminants are not dissolved in the groundwater now as is indicated by the lack of groundwater contamination downgradient or surface water contamination. There is no reason to believe that this will change. Only a very large change in aquifer conditions (such as a major pH drop) could precipitate such a change. Such a change is not plausible. Solid contamination could not physically move out of the Basin as a solid since the Upper Glacial Aquifer acts as a barrier and no significant quantities of sediments could be forced through the sand. The contaminants found in the Basin are not volatile and therefore the air pathway is also negligible.

The ROD does not contain groundwater monitoring, but the PRAP for the Main Plant site will. The groundwater plume associated with the Basin will be monitored.

Q12. As I understand it, groundwater contamination that has already leached from the ORB will be remediated when the Main Plant site is remediated. How can a groundwater remediation system be properly designed if the extent of contamination has not been determined to the south/southwest side of the ORB? How can the public be assured that the contaminated groundwater downgradient of the ORB will be treated concurrently with the Main Plant? I would like to see that language is included in an administrative consent order with Fairchild Republic to require them to remediate the contaminated groundwater immediately adjacent and south of the ORB.

A. The consent order will state that Fairchild must address the groundwater contamination southeast of the Basin. It is not technically feasible to remediate the groundwater plumes from the two sites separately. The exact extent of the groundwater plumes is not known, however, they have been delineated enough to allow the Department to design a groundwater pump and treat system to treat the contaminated groundwater. It is standard practice to use approximate delineations of plumes in designing a remedy.

Q13. What options exist to remediate the site? What are the costs associated with these options? What are the advantages and disadvantages with remediating the site as opposed to placing a fence around the site? I think it is important for the public to know what remedial options exist. I think this information will help the public make a more informed decision on the remedial action planned by NYSDEC. Based on the January 16, 1996 meeting, the public does not trust Fairchild Republic and will not agree with the PRAP.

A. There are several options outlined in the Feasibility Study. The options range from taking no action, to removing the contaminated sediment, to filling in the Basin. The options that involve removing contaminated material or filling in the Basin are very expensive, each option costing many millions of dollars. The Remedial Investigation shows that the Basin is not a current source of groundwater contamination. The quality of Long Island's drinking water supply is not jeopardized by this site. The health risk assessment shows that the risks associated with exposure to the site are not unacceptable. The health risk assessment assumes that teenagers and adults will breach the fence and on occasion be exposed to the contaminants at the site. Given these conditions, the fencing and posting of the site is adequate to protect human health and the environment.

Comments from Assemblyman Robert Sweeney, February 2, 1996 (Q14-Q17)

Q14. The soil and sediment currently contain an unacceptable level of volatile organic compounds, PCBs and dangerous metals.

A. It is correct in stating that there were some detections of these compounds however, these detections do not constitute unacceptable levels. The NYSDEC has established soil clean-up objectives which are based on protection of groundwater. These clean-up objectives along with the Division of Fish & Wildlife's sediment clean-up criteria are used as guidelines to determine if there are unacceptable levels present. It should be noted that these clean-up objectives and guidelines are guidance values that are used by the NYSDEC as goals and are not regulatory standards that must be met.

Table 4 and Figure 5 from the Record of Decision show that there were eight surface soil samples taken and analyzed for volatile organic compounds, semi-volatile compounds, pesticides, PCBs and metals. Clean-up objectives were only exceeded for a few compounds and only marginally. One isolated hit of PCBs was found at 7,900 ppb, which is below the industrial clean-up criteria of 10,000 ppb. The NYSDEC subsequently sampled around that location (ORB-5 - ORB-8) and found no additional PCB contamination. It was concluded that this one PCB hit was an isolated occurrence and not indicative of widespread PCB contamination. The semi-volatile exceedences are attributable to the close proximity of this site to a major roadway. These compounds are associated with combustion by-products from automobile exhaust. There is no explanation for the high chromium levels found. However, these high chromium levels were included in the calculation of the risk assessment.

An analysis of the sediment data as seen in Table 5 indicates that some compounds slightly exceed the sediment clean-up criteria in several of the twenty samples that were taken. The sediment was analyzed to determine if it meets the criteria to be classified as a characteristic hazardous waste, and although the sediment contains some hazardous constituents, it is not a hazardous waste. Some metals are above clean-up objectives, but metals are not mobile compounds and, therefore, they are not contaminating the groundwater or surface water. Additionally, all of these contaminants are at the bottom of the basin below as much as 30 feet of water, thereby presenting no direct human exposure.

Q15. The risk assessment assumes access to the site will be prevented by the New York State Department of Health. However, access to the site cannot be prevented for years to come without a strong presence on the site and vigilant monitoring which is not provided for in the plan.

A. The NYSDOH will not be responsible for limiting access to the site. This will be the property owner's duty and the exact guidelines for doing so will be addressed in the site monitoring and maintenance plan which has not yet been prepared. One of the exposure routes used in the health risk assessment assumed that teenagers will periodically visit the site (32 times per year). The assessment indicates that this exposure does not pose an unacceptable health risk. The fence and posted signs, while not guaranteeing that the site will not be accessed by trespassers, should reduce the number of visits to the site. It should also be noted that the risks from other hazards such as drowning are far greater.

Q16. The study at the site is limited to the Old Recharge Basin (ORB) and downgradient of the ORB. Flooding was a known problem at the site. It does not appear that samples were taken from storm drains located along East Carmans Road where this flooding would have been collected. This exposure pathway was not adequately analyzed.

A. The sediment in storm drains on East Carman Road was not sampled because the likelihood of finding any contamination associated with the flooding does not exist. Subsequent storm run-off will have washed away any contamination long ago. In addition, the storm drains do not offer a direct route of exposure to the public. There is no connection between these storm drains and the public drinking water supply which is taken from deep wells in the Magothy Aquifer.

In March 1996 the Department did take additional soil samples along East Carmans Road to allay concerns about contamination from flooding. Please see the response to comment Q26 for a discussion of these results.

Q17. If the site is delisted and a development proposal is received, or if it is determined that the contaminants in the sediment will be released if disturbed, who will be responsible to clean up the soil and sediment? Who will evaluate the risk to the surrounding community? These unanswered questions pose a great threat to public health.

A. If the site were developed in the future, the ORB would most likely be filled prior to any construction. Data from the sediment analysis indicates that even if the sediments were disturbed during this process, they would not release contaminants into the groundwater or surface water. The responsible party for this activity would either be the current property owner or the developer depending on their property transaction agreement. In any case, the NYSDEC would oversee this activity as permits would be needed. There should be no risk to public health associated with future development. If additional contamination is discovered during development, the NYSDEC has the right to relist the site on the New York State Registry of Inactive Hazardous Waste Disposal Sites, if appropriate.

Comments from the Town of Babylon, February 2, 1996 (Q18-Q33)

Q18. According to NYSDOH, the health risk values calculated for the exposure scenarios referenced in the document do not represent a significant health concern because of the existing on-site barriers that prevent easy access of known contamination and the risk would increase significantly if access is easily achieved. The NYSDEC and NYSDOH have witnessed evidence of trespassing on the site. The existing on-site barriers do not prevent access to the site. Therefore, concluding that there is an acceptable risk is in error and needs to be reevaluated. The risk assessment states that the exposure scenarios are very conservative; however, evidence of regular activity in the ORB witnessed by the NYSDOH may require a reexamination of these exposure pathways. Considering the documented trespassing problem at this site, it must be clarified at what point carcinogenic and noncarcinogenic risks significantly increase.

A. Site barriers, warning signs indicating the presence of hazardous substances or constituents (see Q44) and cautioning against trespassing, swimming, and fishing, and surface water at a depth of up to 30 feet significantly reduce the possibility of exposure to contaminants at this site. However, as you stated, it is apparent that people do on occasion trespass on the site. The presence of trespassers was taken into account in the health risk assessment. The exposure assessment considered occasional trespass by adults (1 day per life time) and more frequent trespassing by teenagers (32 days per year for 3 years). The cancer and non-cancer risk values calculated using these conservative trespass exposure scenarios do not indicate a significant health concern.

Drawing an exact line where health risks become significant is very difficult; this type of evaluation was not performed in the health risk assessment. A standard risk assessment evaluates scenarios

which are conservative and reasonable. If the associated risk in the chosen scenario(s) is not unacceptable, then the assessment is considered adequate. It is when the risk values approach a level that is considered significant that the NYSDOH becomes concerned. (This was not the case with Fairchild's assessment.) A detailed discussion of the health risk assessment for this site is presented in the May 17, 1995 report from Eder Associates entitled "Old Recharge Basin Final Baseline Risk Assessment Report."

It should also be noted that portions of the existing site fence have been removed and replaced with a more secure fence by Fairchild in the Spring of 1996.

Q19. Seasonal temperature variations in bodies of water such as the ORB may cause density changes within the water column. These density changes can produce vertical mixing resulting in turbulence and eddies in the water body that may disturb the sediment. Could contaminants bound in sediment for most of the year be transported to the surface water of the ORB once seasonal temperature changes alter the density of the surface water? How would this affect the risk assessment?

A. Colloidal particles will stay suspended in the basin waters despite the changes in temperature. Heavier particles will settle out. The surface water samples collected for the RI were analyzed both before and after filtering for particulates. There was not an unexpectedly large difference in these results. Thermal mixing is not viewed as significant and would not alter the risk assessment results.

Q20. In the ORB Final Baseline Risk Assessment Report the concentrations of the target compounds used in the algorithms utilized a mean. As the site is characterized by hot spots and clean areas, this simplification is problematic. If a person were to ingest clean sediment, his/her risk would approach zero; however, if that same person were to ingest sediment from a hot spot, that risk would be much greater than that calculated in the report. Using a mean artificially reduces the calculated risk by lowering the contaminant concentration used in the algorithm determining risk. This methodology does not produce the conservative estimate as is stated in the report. Performing the calculation using a maximum exposure concentration would produce the conservative estimate that is touted in the RI. If a mean continues to be used in the risk calculations, a standard deviation or range should be included to properly demonstrate the risk.

A. When evaluating the risks associated with exposure to contaminated sediments at the recharge basin the mean concentration of the contaminants detected in the sediment samples was used. The use of the average concentration of contaminants is reasonable for this situation since long-term contact with only the maximum concentration of contamination is unlikely. Although using the mean concentration is not the most conservative risk calculation it is reasonable and representative of likely exposure scenarios.

Since the bottom of the recharge basin is significantly below the groundwater table, water in the basin is up to 30 feet deep. The potential for exposure to the contaminated sediments on the bottom of the basin is significantly reduced.

Q21. In the ORB Final Baseline Risk Assessment Report it is stated that 100 mg/day is typically used as an ingestion rate for soil; however, 5 mg/day is used in the report. This is a 95% reduction in this parameter. No justification for such reduction is given except that "The amount ingested is likely to be small compared to the 100 mg/day that is typically used . . . " Given the impact this assumption would have on the risk calculation justification for this assumption must be discussed. Please quantify how the reduction from the typical concentration used (100 mg/day) affects the risk assessment

for the site.

A. Fairchild did originally calculate risk factors using a soil ingestion rate of 5 mg/day. The NYSDOH requested that Fairchild recalculate the risk using 100 mg/day ingestion rate, which Fairchild did. The report discusses risk associated with the lower ingestion rate of 5 mg/day and also includes calculations of risk at the higher ingestion rate. The latter results are in the May 17, 1995 "Old Recharge Basin Final Baseline Risk Assessment Report." Attachment A, page 12 in the first section of the document. The risk values calculated using a 100 mg/day ingestion rate do not indicate a significant health concern.

Q22. In the ORB Final Baseline Risk Assessment Report it is stated that there is a high degree of uncertainty in the sediment data. The recommendation for delisting is based upon a risk assessment that does not appear to be as conservative as the report states (above) and data with a high degree of uncertainty. A decision to delete an inactive hazardous waste site must be based upon sound data collected with the utmost of confidence. An informed decision cannot be made with data that is uncertain. The decision to delist this site must begin with accurate analytical data.

A. A statistically large number of samples were taken of the sediment as part of the 1988 hydrogeologic study of the Basin. Although there was variability of the Basin data, that does not translate into uncertainty. The Department is satisfied with the quality and reliability of data in the report.

Q23. Only three soil samples were taken in the ORB with one containing elevated levels of PCBs. The area around ORB-1 was examined further and the extent of PCB contamination was delineated. However, the search was not extended to anywhere else in the ORB. As one in three random samples contained PCBs, it is not unlikely that other hot spots exist. The study appears to assume that there are no other PCB hot spots. A more thorough examination of the surface soils should have been performed once 33% of the initial samples turned up PCBs. We are not convinced that additional PCB hot spots do not exist by this limited sampling. Our level of confidence that no other PCB "hot spots" exist is extremely low.

A. A total of nine soil samples were taken at the site including a duplicate sample. New York State's PCB cleanup objective for industrial sites is 10,000 ppb. The New York State cleanup objective for residential property is 1,000 ppb. Of these nine samples, no samples exceeded the industrial objective. Only one soil sample had PCBs at a level above the residential value at 7,900 ppb. The next highest value found was 620 ppb. In all of the rest of the samples no PCBs were detected. Given that no PCBs were found above the industrial cleanup objective and a total of nine samples were taken, the Department feels that the sampling done is adequate to characterize the basin.

Q24. An estimate of 35 yd^3 of PCB contaminated soil was delineated around station ORB-1. Why isn't this contaminated soil being removed? This soil is easily accessible and is easily excavated.

A. The risk assessment assumes that people will access the site on occasion and be exposed to the soil, sediments, and surface water. The risk associated with this exposure is not unacceptable. Also, the small amount of PCBs found in the soil did not exceed the industrial cleanup objectives. Given these factors, the Department believes that resources can be better spent on remediating other parts of the Fairchild property such as the Main Plant groundwater contamination.

Q25. As shown in Table 24 of the ORB Final Remedial Investigation Report, lab calibration criteria were not met in many samples. The accuracy of the data whereby a decision to delist was made is in

question.

A. The US Environmental Protection Agency and the NYS Department of Environmental Conservation demand rigorous quality assurance/quality control (QA/QC) of laboratories analyzing materials for a remedial investigation (RI). In addition to this strict QA/QC in the laboratory, the Department requires RI data be evaluated by an independent third-party data quality validator. The third party validator makes an overall judgement on the quality and usability of the data based on the *overall* laboratory QA/QC. This validation involves an examination of QA/QC laboratory parameters including those that may not meet all of the rigorous criteria. Even if some individual QA/QC criteria are not met during the analysis of samples in a lab, the analytical data can be deemed valid based on the overall laboratory QA/QC. The independent data validator for the Fairchild Old Recharge Basin RI found the data to be acceptable and usable. As stated previously, the Department is confident of the validity and reliability of the data.

Q26. The Old Recharge Basin Final Remedial Investigation Report states that the possibility of surface water transport by flooding is minimal. While this may be true now, the basin was closed in 1983 due to flooding. Therefore, the transport of contaminants during flooding was a legitimate concern prior to 1983 when the discharge pipes to the ORB were sealed. The exposure pathway was not examined, nor were samples taken along East Carmans Road where the basin overflowed onto. Perhaps samples should be examined from along East Carmans Road and west and south of the ORB due to the previous flooding problem. The RI did not consider this pathway and probably should have.

A. The Department did not consider this a significant pathway of concern. Surface soil samples were taken at the edge of the basin. These soils are immediately adjacent to the basin and would be most affected by flooding and would show the worst contamination due to flooding. The levels found in the surface soils at the edge of the basin were not unacceptable. Given that the contaminant levels in the surface soils in the basin were not unacceptable and given that contamination in soils due to Fairchild discharges would definitely be higher near the basin than down the street, the Department felt additional surface soil sampling was not necessary.

The Department decided however to sample soil on East Carmans Road due to public concern. Two rounds of soils samples were taken and those samples were sent to four independent laboratories. The samples were analyzed for volatile organics, polynuclear aromatic hydrocarbons, PCBs, and metals. The data from these laboratories show that there is no contamination in the residential area from the basin.

All of the samples analyzed for volatile, semi-volatile organics, and pesticides were clean of those compounds. Low levels of PCBs were found in some of the samples. The highest PCB level found was 470 ppb; the average levels from each laboratory were between nondetectable and 148 ppb. It does not appear that the PCBs are from the Basin. The residential soil samples taken closest to the Basin had no detectable PCBs in them. Also, the levels that were found in other areas are below the residential soil cleanup criteria of 1,000 ppb indicating that there are no significant health risks associated with these levels. Although one would not necessarily expect to see PCBs in a residential area, PCBs are a ubiquitous class of chemicals found in many places. The metals data indicate that levels found are not unusual for Long Island.

Q27. The ORB Final Remedial Investigation Report states that Picone Corporation allegedly began dumping C&D debris, trees, tires, drums, and other waste at the south end of the ORB in 1964. This portion of the site is situated over station MW-12S. The RI limited its scope to downgradient of the existing

ORB, not downgradient of the south end that was filled in. Buried contamination south of the ORB may have been overlooked due to the study being limited to the south southeast trajectory of the groundwater flow. Samples should be obtained downgradient of the filled-in portion of the site to ensure contaminants do not exist southwest of the trajectory studied in the RI. It should be noted that clusters 6 and 12 are the western extent of the study. Clusters 6 and 12 do not delineate the western extent of contamination as is evidenced by the contamination at these clusters.

A. Material was dumped into the basin during the Basin's operational history. This dumping could create an environmental problem if material was leaching into the groundwater. However, this is not happening as evidenced by the lack of groundwater and surface water contamination. The monitoring wells southeast of the site would intercept any contamination that was leaking from the basin. The wells are set to intercept groundwater that is downgradient of many different areas of the basin, including the north and the south end of the pond. It should be also noted that the basin, until it was closed to discharge, was one large pond. Contamination that may have been in the basin would not be leaking from one small specific area but would be spread out and emanating from a larger area.

Q28. In the ORB Final Baseline Risk Assessment it is stated in the report that the carcinogenic risk for the incidental ingestion of surface sediments by teenagers exceeded the $1x10^{-6}$ benchmark; however, the Hazard Quotient did not exceed unity. This pathway appears to be where the risk was greatest. The 10^{-6} guideline was exceeded, please explain why "no adverse health effects" are predicted. The exposure pathways utilized in the study are not as conservative as was stated in the report (see previous concerns/comments). Taking into account the comments made above, could a reevaluation of this and other exposure pathways with the more appropriate values for chemical concentration and ingestion rate cause an increase in the risk calculation and hazard quotient? Further, the lab analysis, if incorrect, could significantly affect the values calculated. A discussion on how the uncertain data can affect the risk calculation is essential.

A. The total health risk value calculated in the risk assessment (RA) report for children ingesting contaminated sediment (using the higher intake values requested by the DOH) is 3.7 in 1,000,000. This value is a numerical estimate of cancer occurring based on specific exposure assumptions, and should not be regarded as prediction of observed cancer cases. The RA report indicates that this value is "marginally above" a 1 in 1,000,000 cancer risk (page 4 of the RA report), and refers to the United States Environmental Protection Agency's (USEPA) "benchmark" cancer risk range (page S-1 of the RA report) which falls between 1 in 10,000 and 1 in 1,000,000. There is a general consensus among scientists and government about what level of cancer risk is acceptable. Cancer risks of 1 in 1,000,000 or less are usually not considered a significant public health concern. Cancer risks greater than 1 in 10,000 usually trigger action to lower exposures.

Increasing the dose levels in the health risk assessment would increase the predicted risk. But the NYSDOH is confident that the values used for the health risk assessment are reasonable and representative of possible exposure scenarios. As stated previously, the mean chemical concentrations used were appropriate given the nature of the intermittent exposure of the public. Also, the Departments are satisfied with the quality of the data given the extensive laboratory QA/QC and concurrent independent data validation. Due to the conservative nature of the exposure scenario (see response #18 and 21), and the existence of site barriers preventing casual access to this site (see response #18 and 20), health effects associated with exposure to contaminated sediments are not likely to occur.

Q29. The ORB Final Remedial Investigation Report states that contaminant migration through fugitive dust

emission is greatly reduced by vegetation around the ORB. However, vegetative ground cover is less in the winter months than the summer. Risk evaluation was not performed for winter months with less vegetative cover.

A. Although vegetation dies back during the colder months, the remaining root systems tend to prevent soil erosion. In addition, a reduction in human activity is expected during the winter, thus reducing the potential for exposure to site-related contaminants.

Q30. The RI states that the dermal exposure to sediments is the pathway in both scenarios that primarily influences the total scenario cancer risk. Page 4 indicates that the cancer risks for the ingestion of surface sediments by teenagers exceeded the benchmark. The risk calculation for ingestion of PCBs exceeded 1 x 10^{-6}. The cancer risks for the two scenarios do not exceed the lower limit of the benchmark range of 1 x 10^{-6}. The risk for scenario 2 is only one order of magnitude below the benchmark of 1 x 10^{-6}. Assumptions on ingestion of sediment (5 mg/day instead of 100 mg/day) and concentrations of contaminants (mean instead of max concentrations) will likely cause the calculation for risk to be reduced significantly. Justification for these assumptions must be made, or else the risk assessment must include the more conservative values. These values could increase the risk above the 1 x 10^{-6} benchmark and impact the delisting option chosen.

A. As stated previously, Fairchild originally calculated risk factors using a soil ingestion rate of 5 mg/day. The NYSDOH requested that Fairchild recalculate the risk using 100 mg/day ingestion rate, which Fairchild did. The report discusses risk associated with the lower ingestion rate of 5 mg/day but also includes calculations of risk at the higher rate. The latter results are in the May 17, 1995 "Old Recharge Basin Final Baseline Risk Assessment Report," Attachment A, page 12 in the first section of the document. The risk values calculated using a 100 mg/day ingestion rate do not indicate a significant health concern.

Q31. Much of the rationale behind the delisting option chosen involves the contaminants in the sediment being bound. Once delisted, should a development proposal be submitted to the Town of Babylon, it would require filling the basins, and thereby disturbing the sediment. The southern pond was previously used as a landfill. Therefore, the ground would need to be stabilized (compacted). This would undoubtedly disturb the sediment. New material that would be placed in the basins would have to be compacted. It is not known what will happen to the contaminants currently bound in the sediment should the sediment be disturbed. The town does not have the resources to conduct such an evaluation should the site be delisted. We would be concerned that the NYSDEC may be unable to offer sufficient assistance to review a development proposal. Who would be responsible to conduct a new risk assessment and remedial investigation for the potential development of the site? It is unclear whether Fairchild would still have responsibility and unlikely that a potential developer would be willing to bear the cost. The Town of Babylon is concerned that we will be left with a contaminated parcel of land within our jurisdiction, with no supporting data, resources, or regulatory authority proposal. If the town was left with no alternative but to prohibit development of the site, who would be legally responsible for the taking? Will the deed restriction address this issue? Specific direction on how the site can be filled and developed along with a guarantee of NYSDEC assistance in reviewing future proposals on the site is essential.

A. There are many concerns raised in this comment. The filling of the basin would be strictly regulated by the NYSDEC Division of Solid and Hazardous Materials (DSHM). Any filling operation must follow 6NYCRR Part 360 Solid Waste Regulations. Typically, filling operations require a full-time on-site monitor to observe all shipments delivered to the fill area. Delisting the site would in no way

remove it from the NYSDEC's jurisdiction.

Proper compaction and other concerns would be addressed by the DHSM. The Department is not concerned that contamination will be spread due to filling. Contamination can move in one of two ways, as a solid or as a dissolved contaminant. The contaminants are not dissolved in the groundwater now as is indicated by the lack of groundwater and surface water contamination. The contaminants will not start to dissolve without reason. Only a very large change in aquifer conditions (such as a major pH drop) would precipitate such a change. Such a change is not plausible. Solid contamination could not physically move out of the basin as a solid as it would have no where to go. The Upper Glacial Aquifer acts as a physical barrier and no significant quantities of sediments could be forced through the sand. The contaminants found in the basin are not volatile and therefore the air pathway is also negligible.

The NYSDEC would not require a second remedial investigation of the site if it were developed. Also, the Division of Hazardous Waste Remediation will share all available information with the DSHM to ensure proper engineering of the fill operation.

Q32. The Town Planning Department has informed Town of Babylon Department of Environmental Control of interest in developing this property.

A. The NYSDEC has also been notified by several private parties of interest in developing this property.

Q33. In the September 12, 1995 letter Sally Dewes to Eder Associates it is stated that the RI/FS indicates that Fairchild is not the source of most of the contamination found in the ORB. The NYSDEC does not agree with this conclusion. The delisting option chosen was the only real option available. How could the NYSDEC require Fairchild to clean up a site when its RI/FS found that Fairchild could not be the party responsible for the contamination?

A. Fairchild has attempted to minimize its contribution to environmental contamination in the area of the Basin and Main Plant. In the September 12 letter you refer to the Department disagrees with that notion.

The Department is not requiring Fairchild to clean up the site. A site cleanup is not required because the amount of contamination present in the basin is minimal and the associated risks are minimal. The Department does believe that Fairchild is responsible for the contaminants found in the sediments in the basin. The Department also believes that although the groundwater contamination around the basin is minimal (and not a significant risk), the contamination may have been due in part to the basin.

Comments from Louis Iannone, February 19, 1996 (Q34-Q42)

Q34. Why are there no wells to the south of the property?

A. Groundwater flow direction varies from one area to another for many different reasons. Part of the logic of locating monitoring wells is to determine groundwater flow direction. In the area of the ORB and the Fairchild Main Plant, the groundwater has been found to flow to the south-southeast. Monitoring wells were not placed due south of the ORB as we would not expect to find any contaminants related to the ORB in that direction.

Q35. Why no current testing of the site?

A. The most recent data we have is from 1993. Fairchild stopped discharging to the ORB in early 1983. The concentration of contaminants in the groundwater due to these discharges normally decreases with time. The NYSDEC feels that the 1993 data is adequate to propose a final remedy for the site. There is an increase in contamination in wells 6S and 6D. These wells are west of the ORB and in the NYSDEC's opinion do not represent contamination attributable to Fairchild. The NYSDEC is aware that dumping of various materials into the ORB occurred. Our sampling program was adequate to detect any contaminants associated with the dumping.

Q36. The validity of the test results were questioned since they were done by Fairchild's private consultant. Did the Department take split samples?

A. The project manager mispoke at the public meeting in January. The NYSDEC did not take split samples from the consultant. The consultant did however perform full quality control/quality assurance on the analysis that verified the validity of the sample results.

Q37. The Fairchild site was split into two sites, the main plant site and the old recharge basin. The project manager told us that the clean up of both sites would be done if and when the main plant site is finalized. Reading the fact sheet that we received, it contradicts your representative's statement.

A. The fact sheet is correct. The Proposed Remedial Action Plan for the ORB addresses the soil, sediment, and surface water for the ORB. The groundwater contamination attributable to the ORB will be addressed by the Proposed Remedial Action Plan for the main plant site. This is because it would not be technically feasible to remediate the groundwater plumes separately.

Q38. How can this be classified as an inactive waste site, if new levels of toxins have been found at the site?

A. An inactive hazardous waste disposal site is classified as such if there is documented disposal of hazardous waste. Inactive refers to past disposal as opposed to a current generation of hazardous waste. Classifying the site as an inactive hazardous waste disposal site gives the State a mechanism for investigating and remediating the site.

Q39. Is there an appeal process to the remedial plan to get the investigation reopened? Another information meeting is requested. Also how can I request new well testing and how do I get information regarding the site to the NYSDEC?

A. There is an appeal process associated with the remedial program. To get more information on this, please contact our case attorney, Ms. Rosalie Rusinko, Esq. in Tarrytown at (914) 332-1835, ext. 315. Another public information meeting for the site was held on March 14, 1996 at 7:30 pm at the East Memorial Elementary School. If you would like your home tap water sampled, you may request that from Mr. Joseph Crua of the NYSDOH. He can reached at (518) 458-6305 or toll free at 1-800-458-1158. If you have additional information regarding the ORB that would be useful to the NYSDEC, please submit it to Ms. Sally Dewes, P.E., Project Manager, NYSDEC, 50 Wolf Road, Room 242, Albany, NY 12233-7010.

Q40. Distribution of the meeting notice and information to the public. I live within a thousand feet of the site and received no information of this meeting by mail. You stated that the Town of Babylon was still awaiting the final reports on this site.

A. The mailing list generated for the site was developed from the Town of Babylon tax maps. The

process is not perfect and we apologize for the oversight. You will be included on the list in the future. The Town of Babylon has commented extensively regarding the project and the PRAP and have been involved for many years.

Q41. Breaches in the site fence were known about but not repaired. Why not? It was stated that Fairchild would be responsible for the fence maintenance and the maintenance of trees, shrubs, and the general over growth of the property. The DOT owns more than three-quarters of the site, why are they not responsible also? Will the town assume this responsibility?

A. The NYSDEC has notified Fairchild in writing many times regarding needed repairs to the fence. Fairchild has responded accordingly. It is difficult to keep up with the vandalism of the fence, but the maintenance agreement with Fairchild will require repairs to be made on a timely basis. This agreement has not been negotiated yet. Fairchild will be responsible for maintaining the integrity of the fence and controlling the vegetative growth on the site. The Town of Babylon will not be responsible for the site or the fence. To the NYSDEC's knowledge, the NYSDOT does own a portion of the ORB but is currently conveying the title to Fairchild.

Comments by the Town of Oyster Bay Dept. of Public Works, March 8, 1996 (Q43-Q46)

Q42. The existing fence is in a state of disrepair. A higher barbed wire fence should be installed around the entire perimeter.

A. The Department is aware that the fence was in a state of disrepair. Fairchild replaced several sections of the fence in the Spring of 1996.

Q43. Signs that identify the site as a hazardous waste site should be posted.

A. The site will be posted with signs that warn of hazardous constituents on site and warn against trespassing, fishing, and swimming. The signs will be posted in English and Spanish.

Q44. The DEC or the Town of Babylon should have a phone number on the fence.

A. If people notice trespassers at the site, then local police should be notified. Breaches or damage to the fence can be referred to the Department's Operations and Maintenance Section which will oversee the maintenance of the fence. The Department can be reached at 1-800-342-9296.

Q45. Fines should be levied against Fairchild if the fence is not fixed in a timely manner.

A. The consent order that Fairchild will enter into for the maintenance of the site may include monetary penalties if Fairchild fails to make any necessary repairs in a timely manner.

Comments from Public Meetings, January 17, 1996 and March 14, 1996 (Q47-Q123)

Q46. The demolition of buildings on the Fairchild Main Plant property has caused damage to the airplanes at Republic Airport. They have not paid for this damage. What guarantee is there that they will pay for the clean up of contaminated groundwater?

A. Fairchild at the present time has expressed a willingness to remediate groundwater at the Main Plant. The Department has no guarantee that Fairchild will pay for the remediation of the groundwater until

Fairchild signs a consent order legally binding Fairchild to perform the remediation. If Fairchild refuses to pay for the cleanup, the NYSDEC may pay for it and recover the costs from Fairchild at a later date. The remediation of the groundwater will be addressed in the Proposed Remedial Action Plan (PRAP) for the Fairchild Main Plant. The PRAP for the Main Plant has not been developed yet nor has it been presented to the public. This Responsiveness Summary only addresses the ORB.

Q47. The demolition at the Fairchild Main Plant caused air pollution.

A. The Department is aware that there were complaints regarding excessive dust including asbestos from demolition activities at the Fairchild Main Plant. The NYSDEC does not have jurisdiction over asbestos issues. The NYS Department of Labor (NYSDOL) has jurisdiction over asbestos matters. When the NYSDEC was first made aware of the complaints, we immediately notified the appropriate personnel at the NYSDOL, who then went out and inspected the site. Thereafter, Fairchild took steps to reduce dust generation.

Q48. There are polychlorinated biphenyls (PCBs) at seven times the soil clean-up objective. Doesn't that require immediate action/removal?

A. Some compounds, including PCBs, have two different cleanup levels, one for industrial areas and one for residential areas. The soil cleanup objectives for PCBs are 10,000 ppb and 1,000 ppb respectively. One isolated soil sample had PCBs at a concentration of 7,900 ppb. The NYSDEC subsequently sampled around that location (ORB-5 - ORB-8) and found no additional PCB contamination. It was concluded that this one PCB hit was an isolated occurrence and not indicative of widespread PCB contamination. Because of the low level found (below industrial cleanup standards) and the limited quantity of contamination, a removal action wasn't deemed necessary.

Q49. If you find PCBs, don't you have to remove them?

A. No, the mere presence of PCBs does not necessitate removal. The location of the contamination, the quantity and concentration of contamination and the possible receptors are all taken into account. PCBs are not regulated as a hazardous waste unless they are at concentrations greater than 50,000 ppb. As stated above, the level and amount of PCBs found at the Basin did not indicate unacceptable or widespread PCB contamination.

Q50. Why would you find only one soil sample with PCBs in it?

A. Finding one soil sample soil out of eight with PCBs in it indicates that PCB contamination in the surface soil around the Basin is limited. It may be from an isolated incident.

Q51. Is 7,900 ppb PCBs normal?

A. This level of PCBs is not normal for residential areas. It is not an uncommon level to be found in an industrial area. PCBs are a class of industrial chemicals that were very widely used in industry for a greater part of the twentieth century. They are ubiquitous in many industrial areas of the country.

Q52. Are there future plans to build at the site? If so, what?

A. The Department has been approached by several parties, including Fairchild, to fill in the ORB. The

inquiries to the Department have involved filling in the Basin with no further development plans at this time.

Q53. Will the site be vacant forever?

A. The Department cannot answer this question definitively. There are several parties interested in filling in the Basin. Their interest would indicate that the Basin will be filled in the near future for possible development.

Q54. If the Basin was filled in, it would overflow and run down East Carmans Road as it did in the past.

A. The Basin would not over flow if it was filled in. The Basin overflowed years ago when very large quantities of water, on the order of millions of gallons per day, were being discharged into it. It would be very difficult, if not impossible, to put that much clean fill in the Basin that quickly. The Department would restrict the rate at which fill was put in so as to ensure that the Basin would not overflow.

Q55. If the Basin is filled, will the contamination spread into the groundwater?

A. That is very unlikely. The main contaminants remaining in the Basin are semivolatiles and metals. These contaminants are bound tightly to the soil and sediments in the Basin. This is evident by the fact that the surrounding groundwater and surface water are not contaminated. If the Basin was filled in with clean inert fill, the PCBs and metals would remain bound to the soil and sediments.

Basin contamination can move in one of two ways, as a solid or as a dissolved contaminant. As stated above, the contaminants are not dissolved in the groundwater now as is indicated by the lack of groundwater and surface water contamination. The contaminants will not start to dissolve without reason. Only a very large change in aquifer conditions (such as a major pH drop) would precipitate such a change. Such a change is not plausible. Contamination could not physically move out of the Basin as a solid as it would have no where to go. The Upper Glacial Aquifer acts as a physical barrier and no significant quantities of sediments could be forced through the sand. The contaminants found in the Basin are not volatile and therefore the air pathway is also negligible.

Q56. If someone were to fill the Basin, what could they fill it with?

A. According to State regulations, the Basin must be filled with clean non-biodegradable fill such as sand and gravel up to at least five feet above the water table (the water level of the Basin). This does not include construction and demolition (C&D) debris. Above five feet above the water table other types of clean fill (including C&D debris) can go into the Basin in accordance with 6NYCRR Part 360.

Q57. Is Fairchild planning to develop the site?

A. Fairchild has expressed an interest in filling in the Basin as a cost effective way of disposing of construction and demolition debris from the Fairchild Main Plant.

Q58. Who profits from the new cinema?

A. The developer, the owner, and the operator. The Department does not know the names of these corporations. The cinema is not located on what was or is a New York State Inactive Hazardous Waste Disposal Site.

Q59. Groundwater contamination is further downgradient from the Basin. How far downgradient?

A. There is very little groundwater contamination in the immediate vicinity of the ORB. The groundwater contamination further downgradient found by the Department is approximately 5,000 - 6,000 feet south-southeast of the Basin.

Q60. Why is the contaminated groundwater further downgradient of the Basin being treated as a separate issue? Why wait to clean it up under a different consent order?

A. The groundwater downgradient from the Basin and downgradient from the Fairchild Main Plant will be addressed under the PRAP for the Main Plant. The Department has chosen to do this for logistical reasons. It is more cost effective and efficient to design and operate a single groundwater pump and treat system (or whatever method may be chosen for remediation) than to design, build, and operate two separate systems. Fairchild does not agree with the Department that the contamination downgradient of the Basin is attributable to Fairchild.

Q61. What guarantee do we have that the above-mentioned groundwater will be addressed by the Department and Fairchild? How can we guarantee that the groundwater will be cleaned up in conjunction with the Main Plant? Who will pay for groundwater cleanup?

A. Fairchild at the present time has expressed a willingness to remediate groundwater at the Main Plant. The Department has no guarantee that Fairchild will pay for the remediation of the groundwater until Fairchild signs a consent order legally binding Fairchild to perform the remediation. If Fairchild refuses to pay for the cleanup, the NYSDEC may pay for it and recover the costs from Fairchild at a later date. The remediation of the groundwater will be addressed in the Proposed Remedial Action Plan for the Fairchild Main Plant. The PRAP for the Main Plant has not been developed yet nor has it been presented to the public.

Q62. Can you arbitrarily decide to clean up one groundwater problem under a consent order of a different site?

A. In this case, because Fairchild is the responsible party for both inactive hazardous waste disposal sites, the answer is yes.

Q63. The people at Republic Airport have been told not to drink the water. People at Republic Airport are drinking contaminated groundwater. What water district supplies Republic Airport?

A. The NYSDOH and the Suffolk County Department of Health are not aware of any order or recommendation advising the people at Republic Airport not to drink the water. Republic Airport is suppled with public water from the East Farmingdale public water supply district. Public water supply wells are sampled quarterly and must meet NYSDOH public drinking water standards.

Q64. At other NYSDEC public meetings, people said that groundwater moves south, not south-southeast.

A. Groundwater in different areas travels in different directions. The initial groundwater monitoring wells that were installed at the Basin were placed in part to precisely determine the direction that groundwater was flowing in. In the vicinity of the Basin and Main Plant and in Farmingdale in general, the groundwater travels south-southeast. If it was stated otherwise at a public meeting, it was an error.

Q65. Why are there no wells south of the site?

A. In the area of the ORB and the Fairchild Main Plant, the groundwater has been found to flow to the south-southeast. Monitoring wells were not placed due south of the ORB as we would not expect to find any contaminants related to the ORB in that direction. Installing monitoring wells further south of the Basin would not provide any additional information relative to the Basin.

Q66. Why are there no wells south-southeast of monitoring wells 6S, 6D, and MW-12S to further delineate contamination?

A. Groundwater in MW-12S, 6S, and 6D contravened groundwater standards for a small number of compounds. Several other wells in the vicinity of the Basin also contained water that exceeded the standards. However, these exceedences were not substantial and do not exhibit a pattern that indicates the presence of a groundwater plume. It also does not indicate that the Basin is a current source of groundwater contamination. Because groundwater contamination currently is not emanating from the Basin, further delineation of contamination was not deemed necessary.

Q67. People are exposed to groundwater contaminated by Fairchild. Private homes use groundwater to wash their cars, irrigate their lawns, etc. This water is contaminated by Fairchild.

A. This is not the case. Private homeowner wells are typically relatively shallow wells, 50 -70 feet deep. The contaminated groundwater plumes downgradient of the Basin and from the Main Plant are significantly deeper than that and would not contaminate residents' shallow wells. The SCDHS surveyed all of the residents that are downgradient of both sites to locate all private wells. These wells have been sampled by SCDHS. If any well showed any contamination by any source, SCDHS notified those households immediately.

Q68. Even if there is no problem with the groundwater in the vicinity of the Basin now, there may be a problem later.

A. There are no new waste sources or run-off going into the Old Recharge Basin at the present time. Therefore, the Basin should not become a future source of groundwater contamination. The contamination that was deposited in the basin has either been washed away downgradient, degraded in some fashion, or remained in the sediments in a stable form. As previously discussed, the Basin sediments are not readily transmutable into a mobile form and will stay in place. The Department does not anticipate that the Basin will become a future source of contamination.

Q69. What about the other Inactive Hazardous Waste Disposal Sites is the area? How do they affect the area and the Basin?

A. Figure A1 shows the area around the ORB and other Inactive Hazardous Waste Disposal Sites in the vicinity. The four sites closest to Fairchild are discussed below. Other sites in the vicinity are not discussed because they are hydrogeologically distinct. **Circuitron**, which is northeast of the Basin, was investigated by the Department. A distinct groundwater plume was found emanating from the site and traveling about 700 feet downgradient. This plume does not come close to the Fairchild properties. **SJ&J (Kenmark Textiles)** was also investigated by the Department. A remedial action was performed and then the site was removed from the Inactive Hazardous Waste Disposal Site Registry. See comment Q7. **Hazardous Waste Disposal**, a small site north of Conklin Avenue, is currently being investigated by the Department. We have not yet determined the nature and extent of the contamination from this site. **Target Rock** was put on the Inactive Hazardous Waste Disposal Site Registry during the early years of the Remediation Program. Further investigation revealed that no hazardous waste had been disposed of at that site. The site was then removed from the Registry.

Q70. There are gas stations in the area that have spilled fuel. How does that affect the area?

A. Unfortunately, fuel spills by gas stations are a ubiquitous problem. The fire station across the street from the ORB is currently pumping and treating the groundwater because of a leaking petroleum tank. The compounds that are found in the fire department's wells are not the same as the compounds found near the ORB. Petroleum spills leave a suite of chemical compounds in the groundwater that are very distinctive and easy to identity as petroleum.

Q71. Are there any discharges to the Basins now?

A. There are no discharges to the Basin now, only surface water run-off from precipitation events.

Q72. Where is the deepest part of the Basin?

A. The deepest parts of the Basin are approximately in the center of the south pond and in the western lobe of the north pond.

Q73. Who owns the property?

A. Fairchild Republic owns almost all of the property. The NYS Department of Transportation owns a very narrow strip of the site on the east side on which a bridge sits with a beacon for the airport.

Q74. How does the NYSDEC know that there isn't buried material in the Basin?

A. The Department does not know what was buried in the Basin. It appears that Fairchild dumped incinerator ash into the Basin at one point and that Picone also dumped some material in there. Dumped material can pose an environmental threat if it leaches into the groundwater contaminating it. If this material was leaching out, it would be detectable in the wells that Fairchild has installed. This has not been the case.

Q75. The fact sheet says the Basin is in a commercial/industrial area but there are residences around the site. Explain.

A. The zoning around the basin is commercial/industrial. That is why it is stated in the Fact Sheet that the Basin is in a commercial/industrial area. The Department recognizes that residents live near the Basin. The statement in the Fact Sheet was not written with the intent to diminish the importance of the residents.

Q76. While the Basin was still in use, it would periodically flood and overflow towards the south on East Carmans Road.

A. The Department is aware of this. At residents' requests, the Department has sampled a number of locations along East Carmans Road to look for contamination. Please see the response to Comment Q26.

Q77. There is vegetation at the site now.

A. There is vegetation on the property that is leaning on the fence. Fairchild has replaced certain parts of the fence and removed the vegetation that might weigh down the fence.

Q78. Are there breaches in the fence? Why haven't the holes in the fence been fixed if the Department knows that they are there?

A. The Department is aware that the fence is not in good repair. Also several citizens at the public meeting stated that there were breaches in the fence at the time of the meeting. Fairchild was notified shortly after the meeting to repair the damage and it was done in the Spring of 1996.

Q79. There is a spring in the Basin.

A. That is incorrect. There is no spring in or near the Basin. There are no underground rivers anywhere in Suffolk or Nassau County. Long Island is essentially a very large sandbar consisting of two sandy aquifers: the Upper Glacial Aquifer and Magothy Aquifer. The groundwater moves through the sands in a uniform, homogenous manner with no streams or conduits. Underground streams are only found in certain types of bedrock. The bedrock under Long Island is over 1,000 feet below the surface. The water in the Basin is groundwater.

Q80. Has the USGS studied this area?

A. The USGS had studied Long Island geology extensively. The USGS does not study specific hazardous waste sites.

Q81. Is there a barrier between the Upper Glacial Aquifer and the Magothy?

A. The Gardiners Clay unit is a northward-thinning wedge of silty marine clay that discontinuously underlies the Upper Glacial Aquifer in this area. The edge of the Gardiners Clay approaches the ORB, separating the two aquifers.

Q82. Long Island has billions of underground streams.

A. This is incorrect. See Q80.

Q83. What if the Basin dries up?

A. The level of the water in the basin will not change significantly for a very long time. The water in the basin is essentially the watertable, i.e., it is at the same level as the watertable. This in turn is closely linked to sea level. The height of the water in the basin (sea level) will not change substantially for eons.

Q84. If the sediments in the Basin are contaminated, why isn't the groundwater and surface water contaminated?

A. The contamination found in the sediments are bound to the soil and sediments in the Basin. They are not dissolving into the groundwater or surface water and therefore are not found in the groundwater or surface water. Some compounds prefer to remain in groundwater in a dissolved state and some compounds prefer to cling to soil. The main contaminants found in the Basin (semi-volatiles, PCBs, and metals) generally prefer to cling to soil.

Q85. Why don't metals move in groundwater?

A. As stated above, metals generally do not dissolve in groundwater and therefore do not move with groundwater.

Q86. Does the presence of organic compounds in the water affect metal solubilities?

A. The presence of organic compounds in the Basin would not affect the solubilities of metals. Metals are more likely to be affected by large changes in pH.

Q87. People south of the site have died of cancer.

A. Unfortunately cancer is a very common disease. One in three persons will be diagnosed with cancer at sometime during their life and it will eventually affect three of every four families. One in five deaths in the United States is due to cancer. Cancer is not one disease, but a group of diseases. There are more than 100 different types of cancer, each with different risk factors. Cancers develop in people of all ages but most often in the middle-aged and the elderly.

The NYSDOH is doing a cancer study in the vicinity of the Basin in zip code areas 11701, 11758, 11735, and 11762. Senator Levy wrote the NYSDOH Commissioner on behalf of a constituent concerned over apparent excess of lung and other cancers in area. The study will be completed in approximately 18 months.

Q88. If you know there is contamination at the Basin, why not get rid of it?

A. The decision as to whether or not an Inactive Hazardous Waste Disposal Site should be remediated is based on many factors. These factors are discussed in the Feasibility Study and the PRAP. The Department considers the quantity and concentration of hazardous waste and the risk associated with the site. The Basin is not a continuing source of groundwater or surface water contamination nor is the risk due to a reasonable exposure scenario unacceptable. The cost of filling in the basin or removing the sediments is very high. Given that the Basin does not pose an unacceptable risk as is, the selected remedy is protective of human health and the environment.

Q89. Who makes the ultimate decision regarding the proposed remedial action plan?

A. The Commissioners or their designees of the NYSDEC and NYSDOH.

Q90. Is there an appeal process if the community does not like the final selected remedy?

A. Yes. Please see the response to comment Q40.

Q91. Does the public have a voice in the DEC's plans?

A. Absolutely. The Department is very interested in receiving input from the community regarding all aspects of the Remedial Action Program. It is our responsibility and legal obligation to inform the public and solicit comments from the public regarding the work being done at all inactive hazardous waste sites.

Q92. Why is the DEC holding a public meeting if the DEC has already decided on a remedy?

A. The Department *had not* decided on a remedy at the time of the public meeting. The Department holds public meetings to solicit input from the public about the remedial process. The Department, after evaluating various options, tentatively identifies a remedy and then proposes it to the public using written fact sheets, the Proposed Remedial Action Plan document, and a public meeting. After the meeting, the Department examines the public's concerns and opinions and then makes the decision regarding the remedial action in conjunction with the NYSDOH. There have been many instances in which the Department has changed the remedy based on public input or opposition.

Q93. What will happen if Fairchild goes bankrupt?

A. The likelihood of that happening is very small. However, if it were to happen, the Department would most likely pick up the costs for monitoring and repairing the fence.

Q94. How does a deed restriction work?

A. The deed restriction is language placed in the deed which remains there in perpetuity unless certain conditions are met. The deed restriction on the ORB will not allow a change in use of the site unless approved by the Department. The deed restriction will be removed if the basin is filled in under the auspices of the Department.

Q95. The deed restriction would limit development at the site. Would the DEC have to approve of development? What would the Department approve of or disapprove of?

A. The Department would approve the filling in the Basin by a reputable business entity. All applicable regulations must be adhered to when the Basin is filled in.

Q96. If someone bought the property, could they fill it in and build on it?

A. Yes. As stated in comments above, the Department would still have jurisdiction over the filling operation and would ensure that it was filled with appropriate materials.

Q97. What are the other remedial options?

A. There are several options outlined in the Feasibility Study. The options range from taking no action, to removing the contaminated sediment, to filling in the Basin. The options that involve removing contaminated material or filling in the Basin are very expensive, each option costing many millions of dollars.

Q98. Who will maintain the fence? Who will take care of the vegetation?

A. Fairchild will pay for the maintenance of the fence. The vegetation will only be cut if it is damaging the fence. Some vegetation is desirable in that it blocks the view of the basin from the road and it keeps surficial soil from blowing around.

Q99. Will the Basin be guarded 24 hours per day?

A. No.

Q100. How frequently would the fence be inspected?

A. The fence will be inspected six times per year on March 1, May 1, June 1, July 1, September 1, and December 1 of each year.

Q101. How long will it take to get the fence fixed?

A. Fairchild will be required to fix the fence within 15 days of inspection.

Q102. How tall will the fence be?

A. The fence will be six feet high.

Q103. If we see someone in the Basin, who should we call? Can the DEC set up a specific phone number to call if a community member sees a hole in the fence?

A. If trespassers are seen in the basin, it is appropriate to call the police. The Department will not be setting up a specific phone number for the fence but community members may call the Department if breaches in the fence are evident. The Department has a group of technical staff dedicated to the long term operation and maintenance of hazardous waste sites. Problems with the fence will be referred to that group by calling the NYSDEC at 1-800-342-9296.

Q104. Should the signs on the fence be bilingual?

A. Yes. The signs on the fence will be in English and Spanish.

Q105. The fence will not keep people out.

A. The Department understands and acknowledges that the fence will not keep every individual out of the basin at all times. This was taken into account when the health risk assessment was done. The health risk assessment assumes that teenagers will periodically visit the site (32 times per year). The assessment indicates that this exposure does not pose an unacceptable health risk. The fence and posted signs, while not guaranteeing that the site will not be accessed by trespassers, should reduce the number of visits to the site. Fairchild replaced portions of the fence in the spring of 1996 to reduce the likelihood of trespassing, but it may still occur. It should also be noted that the risks from other hazards such as drowning are far greater.

Q106. If there is no danger from the site, why bother putting a fence around it?

A. The risk assessment was done assuming that people would enter the site on occasion as described above. The risks from the site are not unacceptable assuming that site access is somewhat restricted and people are there infrequently. However, the risk level may increase to an unacceptable level if site access is totally unrestricted. Also, it is prudent to fence the Basin to avoid other hazards such as drowning.

Q107. Has the Town of Babylon been informed of this proposal? Does the Town of Babylon have any comments?

A. Yes. The Town of Babylon made extensive comments on the PRAP. Those comments and the Department's responses are contained in this Responsiveness Summary.

Q108. When was the data about the depth of the Basin collected?

A. September, 1988.

Q109. Are 1988 and 1993 results valid? Date collected in 1988 (depth data) and 1993 (RI data) cannot be valid today.

A. The data is valid. The 1988 depth measurements were taken using a fathometer which is a very common reliable method for measurement of depth. The groundwater samples taken in 1993 were taken using a protocol accepted by the Department using methods that are always used by the Department. Rigorous QA/QC was also performed to ensure the validity of the samples. Groundwater data collected in 1993 is valid for making the purpose of selecting a remedial action in 1996. Fairchild stopped discharging into the Basin back in the early 1980s. Any contamination due to Fairchild would be decreasing over time. Therefore, the concentration of contamination in the groundwater due to Fairchild would, if anything, have decreased between 1993 and today. If the concentration was to increase, it would be due to off-site sources.

Q110. Did the DEC take separate samples (split samples) when Fairchild was sampling the Basin in 1993?

A. The NYSDEC did not take split samples from the consultant. The consultant did however perform full quality control/quality assurance on the analysis that verified the validity of the sample results.

Q111. Was cadmium found? Is that a problem?

A. Cadmium was not found above standards in groundwater, surface water, or surface soil. Cadmium was found above soil clean-up objectives in the sediment in the Basin. There is very little chance for human exposure to the sediments and therefore, the cadmium levels are not an unacceptable risk.

Q112. Where is the contamination in wells 6S and 6D coming from?

A. The Department does not know where the contamination is coming from. It was not present in the wells in earlier sampling in 1988. This indicates that it is coming from upgradient and is not due to Fairchild's activities.

Q113. Is the contamination in the Upper Glacial Aquifer or the Magothy?

A. The contamination from the ORB is in the Upper Glacial Aquifer.

Q114. Children and adults fish in the Basin. Has this issue been addressed? If so, how?

A. The maintenance of the perimeter fence and posting of signs which warn individuals that hazardous constituents are present on site will reduce the possibility of illegal trespass by people who may attempt to fish at the site.

Q115. There are three hazardous waste sites associated with Fairchild.

A. That is incorrect. There are two sites listed on the NYS Inactive Hazardous Waste Disposal Site Registry associated with Fairchild Republic: Fairchild Republic Old Recharge Basin, Site No. 152004 (the subject site) and the Fairchild Republic Main Plant, Site No. 152130.

Q116. Why are there two inactive hazardous waste sites instead of only one?

A. Both the Fairchild Main Plant and the ORB were listed on the New York State Inactive Hazardous Waste Disposal Site Registry as one site in December 1983. In August 1989 the Department split the site into two sites, listing each separately on the Registry. The Department decided that it would be logistically easier to handle the two areas separately because of the different nature of the contamination and their distance from one another.

Q117. Fairchild has delayed this project for a long time so that they could have it delisted and develop it.

A. The Department's remedial program was first developed in 1983. New York was the first state in the nation to develop such a program to cleanup inactive hazardous waste sites. Unfortunately, sites where investigations were started during this early period did take a longtime to investigate. Techniques for investigation and remediation were not developed. Legal precedents and procedures were not developed. All of these things had to be developed concurrently with the remedial process. Fairchild signed a legal consent order with the Department in March, 1992 to perform the RI/FS. The amount of time that it took to complete these projects is not unusual. The Department cannot speak for Fairchild's motives.

Q118. It is unconstitutional to require citizens (i.e., taxpayers) to clean up hazardous waste sites.

A. Superfund law has been challenged in court and those challenges have been unsuccessful. Superfund cleanups are legal and constitutional.

Q119. How can a citizen get a well installed south of the site?

A. The Department does not intend to install any more wells to investigate this site. There is no need to install wells to the south of the site. Groundwater flow direction varies from one area to another for many different reasons. Part of the logic of locating monitoring wells is to determine groundwater flow direction. In the area of the ORB and the Fairchild Main Plant, the groundwater has been found to flow to the south-southeast. Monitoring wells were not placed due south of the ORB as we would not expect to find any contaminants related to the ORB in that direction.

Q121. *How is the fact sheet developed and distributed?*

A. The fact sheet is a standard method the Department uses to communicate with community members about inactive hazardous waste sites. The Department composes the fact sheet about a month prior to mailing it out. The most-up-to-date information as possible is included in the fact sheet as well as site history and the future Department plans regarding the site. The Department's Citizen Participation Specialist delineates an area surrounding the site for the mailing list. Fairchild's consultant mails the fact sheet to the people in this area designated by the Department.

Q120. The DEC should talk to people that used to work at the Main Plant to find out what happened there.

A. At several public meetings for the Main Plant and ORB we specifically requested that people who may have knowledge regarding waste disposal practices at Fairchild share that information with Department representatives. That is a very useful source of information.

Q121. I called the DEC two years ago and my call was not returned, why not?

A. The Department does make every effort to return phone calls of concerned citizens.

APPENDIX B
FAIRCHILD REPUBLIC OLD RECHARGE BASIN (#152004)
ADMINISTRATIVE RECORD

Groundwater Quality in the Vicinity of the Storm-water Sump, February 1984, Geraghty and Miller.

Phase II Hydrogeological Investigation, Volumes I & II, April 1988, Geraghty and Miller.

Hydrogeologic Investigation of the Old Recharge Basin, December 1989, Geraghty and Miller.

Work Plan for the RI/FS Study of the Old Recharge Basin, Volumes I, II, & III, April 1992, Geraghty and Miller.

Fairchild Old Recharge Basin Revised Data Validation Report, June 1993, Eder Associates.

Old Recharge Basin Remedial Investigation Report, Volumes I, II, & III, September 1995, Eder Associates.

Old Recharge Basin Final Baseline Risk Assessment Report, May 1995, Eder Associates.

Old Recharge Basin Final Feasibility Study Report, September 1995, Eder Associates.

Letter from S. Dewes, NYSDEC to C. Graff, Eder Associates, Re: Fairchild Republic Old Recharge Basin Remedial Investigation/Feasibility Study Report and Health Risk Assessment, September 14, 1995.

Letter from J. P. Crua, NYSDOH to S. Dewes, NYSDEC, Re: Health Risk Assessment Revisions, July 14, 1996.

FIGURE AI
LOCAL INACTIVE HAZARDOUS WASTE SITES