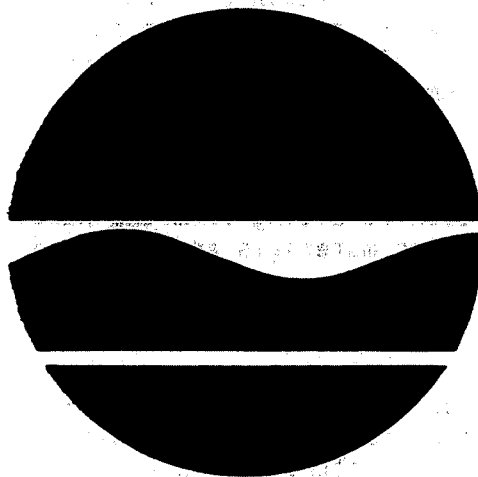


NEW YORK STATE PESTICIDE STORAGE SITES PROJECT

Cherry Plain Site, Region 4
Lowville Site, Region 6
Brownville Site (No. 623005)
Three Rivers Site (No. 734018)
Oak Orchard Site (No. 819012)
West Almond Site (No. 902010)

DECISION DOCUMENT



March 1991

Prepared By

NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road, Albany, New York 12233
THOMAS C. JORLING, Commissioner

MAY 26 2004

DECLARATION FOR THE DECISION DOCUMENT

PROJECT NAME AND SITE LOCATIONS

New York State Pesticide Storage Sites Project

- * Cherry Plain, Rensselaer County, Region 4
- * Lowville, Lewis County, Region 6
- * Brownville (No. 623005), Jefferson County, Region 6
- * Three Rivers (No. 734018), Onondaga County, Region 7
- * Oak Orchard (No. 819012), Genesee County, Region 8
- * West Almond (No. 902010), Allegany County, Region 9

STATEMENT OF PURPOSE

The New York State Department of Environmental Conservation was granted Interim Status permits by the U.S. Environmental Protection Agency to operate these facilities as Storage Facilities under the Resource Conservation Recovery Act (RCRA). Now that storage activities have ceased, 40 CFR part 265 and 6 NYCRR Part 373-3 require certain actions be taken to properly close the facilities, including preparation, submission and agency approval of Closure Plans documenting remedial actions to be taken to address any consequential contamination remaining at each site.

ASSESSMENT OF THE SITES

Residual pesticide contamination resulting from the handling and storage of pesticides exists in the building materials and surrounding soils to varying degrees at each of these sites.

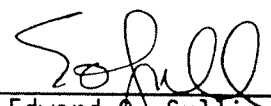
SELECTED REMEDIES

Site-specific remedies were designed for each of these facilities based on detailed sampling carried out at each. These remedies meet the approval of the New York State Department of Health, all appropriate program groups within the New York State Department of Environmental Conservation, including the Bureau of Pesticides, and are detailed in the text of the Decision Document which follows.

DECLARATION

The selected remedies are designed to be protective of human health and the environment, are designed to comply with applicable State environmental quality standards and are cost effective.

3-28-91
Date



Edward O. Sullivan
Deputy Commissioner
Office of Environmental Remediation

DOE A S 101

I. PROJECT HISTORY

Beginning in the early 1970's, the Bureau of Pesticides within the New York State Department of Environmental Conservation (NYSDEC) accepted for storage unwanted or unusable pesticides from farmers, homeowners and small businesses. Many pesticides were collected following State or Federal bans on their use or possession. These materials were stored in six storage sites around the State. This collection program was terminated, and the six sites had all waste pesticides removed for disposal, by the spring of 1983. (A need was perceived at this time for a continued storage capacity, so one facility, at Lowville, remained active, accepting waste pesticides until 1989).

Starting in 1983, the Bureau of Pesticides began its attempt to meet the regulatory requirements for closure of these facilities, five of which were permitted as RCRA Interim Status Treatment, Storage, Disposal Facilities (TSDF). One site, Brownville, was never permitted. Part of the closure process for a TSDF (under 40 CFR Part 265 and 6NYCRR Part 373-3) requires preparation by the site owner of a Closure Plan which must be approved by NYSDEC. The Closure Plans for these sites must detail methods to be used to remediate any residual pesticide contamination present.

The Bureau of Pesticides attempted, with its own staff, to prepare a Closure Plan for each of the five sites requiring them, based on the data from a small number of samples they collected. By 1986, after many iterations of Closure Plan submission, review and revision, the Bureau of Pesticides had received approval for three of the five necessary Closure Plans. Unable to proceed, they requested in 1986 that the Division of Hazardous Waste Remediation (DHWR) complete the project.

II. DHWR INVOLVEMENT

In order to characterize the nature and extent of residual pesticide contamination present in the buildings and surrounding soils at these sites, DHWR determined that reliable sampling data was necessary. A project was designed in which a sampling program, called a Site Characterization Study (SCS), would be conducted at each site. Closure Plans would be prepared for the sites which still needed them and the existing Closure Plans would be improved based on the new data. Once all the Closure Plans were approved, the closure tasks contained in them would undergo detailed Design, and contract documents required to bid a cleanup contract would be prepared.

In early 1987, a Request for Proposals was prepared by DHWR to procure an engineering consulting firm to carry out the services described above. Four firms responded and after a detailed review of proposals, Blasland and Bouck Engineers was chosen as the consultant for the Pesticide Storage Sites project. In early 1988, a contract between NYSDEC and Blasland and Bouck Engineers was executed.

The scope of services to be provided by the consultant includes: Work Plan preparation for SCS's at five of the sites (Lowville excluded due to continued pesticide storage;) conducting of an SCS at each site, which includes as necessary: concrete and wood building material sampling, soil sampling, surface water and sediment sampling, ground-water sampling and spring water sampling, to determine the type and extent of residual pesticide contamination; preparation of SCS Reports summarizing for each site the study conducted, the data generated and recommended cleanup actions; preparation of two new and three revised Closure Plans based on the new SCS data; revision of Closure Plans as required until each is approved by the RCRA Program Support Section in NYSDEC; development of Design and preparation of bid documents for the closure work necessary at each site; and upon amendment of the contract, oversight of closure and remedial action implementation. The cost of consultant services provided under this contract is \$626,225.

III. PRESENT STATUS

Site Characterization Studies have been completed and SCS Reports have been written, revised and approved for the five sites which required them. SCS Reports were reviewed and commented upon by the New York State Department of Health (NYSDOH), the NYSDEC Regional Offices, the NYSDEC Bureau of Pesticides and the NYSDEC Divisions of Hazardous Waste Remediation, Hazardous Substances Regulation, Water and Fish and Wildlife.

The SCS Reports each concluded with the consultant's recommendation for cleanup work to be carried out to remediate contamination detected at each site. In each SCS Report the consultant's recommended closure remedy was based on a approximate but very conservative human health risk assessment. The remedies vary for each site and include such work as removal and disposal of contaminated soil, removal and disposal of contaminated wood and other porous building materials, scarifying of concrete surfaces, and sealing of concrete and wood surfaces containing trace contaminants with several coats of urethane paint. Disposal of contaminated soil, wood and porous building materials as hazardous waste may be affected by recently promulgated Land Disposal Restrictions. NYSDEC's consulting engineer is now investigating whether incineration of these materials will be required.

There are no standards or guidance values for permissible levels of pesticides in soils or other solid media available from New York State or the federal government. Therefore, remedy decisions for these sites, which in the SCS Reports were made based on informal human health risk assessments, needed independent verification of appropriateness. To do this, a series of meetings were held between NYSDEC and the NYSDOH Bureau of Environmental Exposure Investigation. Site remedies were evaluated in these working sessions by examining the levels of contaminants detected and the media in which they were present, along with such factors as proximity of the facility to sensitive environments, anticipated type of use and level of use of the facility after remediation, persistence and other properties of the detected pesticides, etc. Human health issues focused on occupational exposure of NYSDEC Operations personnel, who may in some cases use remediated areas for future equipment storage. Because of their very rural settings, opportunities for other types of human exposure are limited.

These joint NYSDEC/NYSDOH meetings concluded with final agreement on the cleanup work necessary to remediate the contamination detected at each site. The remedies chosen are formulated to be protective of human health and the environment. In most cases, these remedies are similar or identical to those recommended in the SCS Reports by the consultant. The remedies were formally written up for each site and presented to the health risk assessment experts at NYSDOH, who after detailed review, approved them. This led to final approval by NYSDOH of all the remedies, which were then sent to all parties involved in review of the SCS Reports. Their concurrence, including that of the Bureau of Pesticides, made these remedy choices final.

The approved remedies for the five sites addressed have now been sent to Blasland and Bouck Engineers, the NYSDEC consultant. The Lowville facility, which did not have an SCS conducted due its extended use for pesticide storage, has now been emptied, with pesticides shipped away for disposal. It will have to be addressed independently from the other five sites. (See the following section on the Lowville Site.) Blasland and Bouck is presently using the approved remedies as the basis for its preparation of RCRA Closure Plan for four of the remaining sites: one to be written from scratch and three to be revised to reflect the newly formulated remedies. The fifth site, Brownville, was never permitted as a RCRA TSDF and therefore does not require a Closure Plan. Instead, Blasland and Bouck is presently using the approved Brownville Site remedy as the basis for the preparation of a detailed Design of the remedy and the bid documents needed to procure a contractor for cleanup. Design and bid documents will also be prepared for the other four sites when their Closure Plans have been approved.

IV. FUNDING

The present consultant contract with Blasland and Bouck encompasses all work necessary prior to actual cleanup activities at the sites. The scope of this contract is detailed above in the section on DHWR Involvement. The cost of this contract is \$626,225. The funding source for this contract is the Capital Projects Fund. It was determined at the outset of this project that the use of New York State Superfund monies would be inappropriate because the contamination at these sites is the result of New York State activities.

The cost of carrying out the cleanup of each of these sites can only be estimated at this time. When bidding begins for the necessary work tasks, more accurate cost figures be available. However, money has been allocated to this project for carrying out cleanup five of these sites. (Again, Lowville will be dealt with independently due to the very recent removal of pesticides). Monies totaling \$2.3 million have been procured for use beginning in fiscal year 91/92 to cleanup the five sites. The funding source for this work is also the Capital Projects Fund.

V. SCHEDULE

Future work on this project is expected to proceed as follows: Blasland and Bouck Engineers, now preparing Closure Plans from the remedies provided by the NYSDEC, will submit the Closure Plans, when completed, to the RCRA Program Support Section in the Division of Hazardous Waste Substance Regulation for approval. These submissions are expected to begin in April 1991. After review and comment by the RCRA Program Support Section, revision and resubmittal by Blasland and Bouck, the Closure Plans should be approved. Approval can be expected to come by September 1991. Blasland and Bouck will then prepare Design and Bid Documents for the work at each site and will assist NYSDEC in the review of bids received during procurement of contractor(s). The Design and Bid Documents should be approved in late fall 1991, with contractor procurement beginning immediately afterward. Contract execution and the start of cleanup work should take place by February 1992.

Cherry Plain Site

Location - This facility is located near the Cherry Plain State Park in the Capital District State Wildlife Management Area. The NYSDEC Cherry Plain Field Headquarters contains the building used for pesticide storage, several other buildings used by NYSDEC Operations personnel and a caretaker's residence. The buildings are in the Town of Berlin, Rensselaer County, Region 4. The area is very rural, with the only residence in greater than a one mile radius being that of the caretaker.

Description - A 30' x 18' woodframe building on a concrete slab was designed specifically for pesticide storage and built in 1979. From 1979 to 1983 all pesticide handling and storage took place in this building - called Building 1. In 1983, all pesticides stored at Cherry Plain were shipped away for disposal.

Prior to 1979, some pesticide containers were stored in the center two bays of a four bay open-front garage structure, called Building 2. The total area of the two bays utilized is approximately 20' x 25'. Containers rested on the concrete slab floor in these bays. After 1979, these containers were transferred to the designed storage building.

Regulatory Status - This facility was formerly listed on the NYS Registry of Inactive Hazardous Waste Sites but was delisted by Region 4 prior to the start of this project. The facility is permitted as a RCRA Interim Status Storage Facility and, therefore, requires submission and approval of a Closure Plan to meet regulatory requirements. A Closure Plan has been previously prepared and approved for the Cherry Plain Site. This Closure Plan will be revised based on the data collected in the recent Site Characterization Study. The new Closure Plan will be submitted for review and approval to the RCRA Program Support Section in NYSDEC, and will detail the remedial actions described in the Remedy section below.

Site Characterization Study - The following is a summary of the sampling carried out at the Cherry Plain Site during the SCS. Every sample was analyzed for the same five parameters listed for the Brownville Site: EPA SW-846 Methods 8080, 8140, 8150, 8250 and EP Tox.

Waste: Particles of a black waste material were found on the ground surface along the west side of Building 1. The total volume of this tar-like substance is very small and its areal extent is less than six square feet. A sample taken of this material detected 0.72 ppm of alpha-BHC in the 8080 analysis and 1.4 ppm of anthracene in the 8250 analysis.

Soil: 24 soil samples were analyzed from the area surrounding Building 1, concentrating on the area around the main building entrance. The sampling area was divided into twelve 10' x 10' grid squares from which two samples were analyzed: a composite of soil grabbed at four locations at the surface (0" - 6") and a composite from the four locations at a depth of 12" - 18". Results: the highest contaminant concentration detected in the soil by 8080 analysis was 0.71 ppm of Endrin, and by the 8150 analysis was 1.1 ppm of Dicamba. The other analysis methods did not detect significant soil contaminants.

Surface Water: The two springs, south and northeast of Building 1 were sampled during the SCS with three total compounds detected. In the spring to the south, 0.13 ppm of BHC was detected (by method 8080), and in the spring to the northeast, 0.085 ppm of BHC was detected, as well as 0.080 ppm of 2,4,5-T (by method 8150). These springs were resampled by NYSDEC in the Fall of 1990 for method 8080 and 8150 analysis only. Two compounds: 2,4,5-T and 2,4-DB were detected at concentrations of 0.00012 ppm and 0.00303 ppm respectively in the spring south of the building, and at 0.0001 ppm and 0.00263 ppm respectively in the spring northeast of the building.

Building 1: Four core samples were analyzed, one from each of the walls. Each of these samples was a composite of one set of 1/4-inch wood cores per 50 square feet of wall or ceiling surface area. The concrete slab floor was known to be slightly contaminated. **Results:** The highest contaminant concentration detected in the building structure by the 8080 analysis was 9.9 ppm of 4,4'- DDT; by the 8150 analysis was 0.25 ppm of 2,4-D; and by the 8250 analysis was 0.63 ppm of benzoic acid. Contaminants were not detected by the other analysis methods.

Building 2: Four wipe samples from the concrete floor of this garage were analyzed. Each wipe covered 100 square centimeters. **Results:** The highest contaminant concentration detected in the concrete floor by the 8080 analysis was 1.2 ug/cm² of Endosulfan; by the 8150 analysis was 0.92 ug/cm² of 2,4-D; and by the 8250 analysis was 0.0035 ug/cm² of naphthalene. Contaminants were not detected by the other analysis methods.

Remedy - No standards exist for pesticide concentrations in these media. Therefore, the following cleanup work, determined necessary for this site, was developed by NYSDEC and NYSDOH based on potential human health and environmental risks.

Waste: The unknown waste material on the west side of Building #1 plus 12 inches of soil below the waste will be removed and disposed of as hazardous. The excavated area will then be backfilled with a clean soil cover.

Soil: No remediation of other soils adjacent to the storage building is necessary.

Surface Water: No remediation of surface water will be required.

Building #1: Interior wood surfaces of the structure will be sealed with two coats of a urethane-based wood paint to remove any possible air or direct contact exposure to these surfaces. Contents of the building, including the glass crusher, will be disposed of as hazardous. The concrete floor of the building will be sealed with two coats of a urethane-based concrete paint to remove any possible air or direct contact exposure to this surface.

Building #2: The garage structure requires no remediation. The concrete floor in the two affected bays will be sealed with two coats of urethane-based concrete paint to remove any possible air or direct contact exposure to this surface.

Lowville Site

Location - This site is located at the NYSDEC Lowville Sub-office and Maintenance Center on Route 26A in the Town of Lowville, Lewis County, Region 6. The area is rural, with the nearest residences approximately one half mile south, in the community of Dadville.

Description - Pesticide storage took place in a 16' x 20' wood frame building, on a concrete slab, with a 5' x 8' attached loading dock. The building was designed and built in 1980 specifically for the storage of pesticides. It was used for this purpose from 1980 until 1983, when pesticides were shipped for disposal. Hazardous material samples, confiscated hazardous waste and other materials were accepted and stored in the building after this date, however, and the building was not permanently emptied until approximately 1990.

Regulatory Status - This facility was permitted as a RCRA Interim Status Storage Facility, and therefore requires submission and approval of a Closure Plan to meet regulatory requirements. No approvable Closure Plan has ever been submitted for this site. This site is not on the NYS Registry of Inactive Hazardous Waste Sites.

Closure Status - At the outset of this project, the Lowville building still contained hazardous materials, and the Bureau of Pesticides expressed interest in retaining storage capacity at this location. Therefore, no Site Characterization Study was carried at the site, and Lowville was not generally considered part of the project scope. Subsequently, the building was emptied and the decision was made to close the facility after all.

NYSDEC's consulting engineer for the project has therefore prepared a draft Closure Plan for Lowville which was written without the benefit of analytical sampling data, but instead used the experience gained from the studies conducted and remedies chosen for the other sites. This draft Closure Plan will not be immediately submitted for review and approval, although it is likely to be found acceptable. NYSDEC staff using a standby laboratory or the NYSDEC Laboratory will sample soil and building materials at the site to verify the appropriateness of closure activities proposed in the draft Closure Plan.

Brownville Site (No. 623005)

Location - This facility is located within the NYSDEC Brownville Maintenance Center in the Town of Brownville, Jefferson County, Region 6. The building itself is found approximately two miles west of the Village of Brownville on Game Farm Road, at its intersection with Cemetery Road. The area is semi-rural, with few residences within one-half mile.

Description - Pesticide storage took place in one 25' x 30' ground floor room in a 40' x 60' two-story building which had been built as a farmhouse. Other ground floor rooms are being used by NYSDEC Operations personnel for equipment storage and upstairs contains NYSDEC sign painting and sign storage areas. The storage room has bare wood floorboards, and the walls and ceiling are covered variously with fiberboard, tarpaper and exposed insulation. The building has no basement. The floor joists are supported approximately two feet above the soil under the building.

The facility was used for the storage of pesticides from 1972 to 1980. During this time, one spill, of 10-20 gallons of a sodium arsenate solution was known to have occurred.

Regulatory Status - This site is listed on the New York State Registry of Inactive Hazardous Waste Sites. The Brownville Site was never permitted as a RCRA Storage Facility. Therefore, no Closure Plan will need to be prepared. The remedies described below will instead be used for the purpose of preparing the design specifications and bid documents needed to procure a contractor for cleanup.

Site Characterization Study - The following is a summary of the sampling carried out at the Brownville Site during the SCS. Every sample was analyzed for: Organochlorine Pesticides (EPA SW-846 Method 8080), Organophosphorus Pesticides (EPA SW-846 Method 8140), Chlorinated Herbicides (EPA SW-846 Method 8150), Base/Neutral Extractables (EPA SW-846 Method 8250), and EP Toxicity - Metals only (EPA SW-846 7000 Series).

Outdoor Soils: Ten soil samples were analyzed from a 500 square foot area of soil outside the access door to the storage room. The sampling area was divided into 10' x 10' grid squares from which two samples were analyzed: a composite of soil grabbed at four locations at the surface (0"-6") and a composite from the four locations at a depth of 12" - 18". **Results:** The only compounds present above background in soil samples were detected in the 8080 analysis. The highest concentration detected in the soil samples was 0.45 ppm of 4,4'-DDT.

Building: Five composite core samples were analyzed, one from each of the walls and the ceiling. Each of these samples was a composite of 100-150 1/4 inch cores taken from the various materials making up that surface (wood, pressboard, homosite material, etc.). The floor was known to be contaminated. **Results:** The highest concentrations detected with each analytical method were: 8080- 4.3 ppm of 4,4'-DDT; 8140-0.16 ppm of phorate; 8150-0.047 ppm of 2,4-D; 8250-6.1 ppm of fluoranthene; EP Tox-11 ppm of arsenic.

Subfloor Soils: Soil was sampled directly below the area of the floor where the known spill of sodium arsenate took place. No contaminants were detected.

Remedy - No standards for pesticide concentrations in these media exist. Therefore, the following cleanup work, determined necessary for this site, was developed by NYSDOH and NYSDEC based on potential human health and environmental risks.

Outdoor Soils: No action is needed regarding soils which surround the storage building.

Building: Inside the storage building itself, the room in which pesticides were stored will have the following work carried out: 1) Floor boards will be removed and disposed of as hazardous. If reuse of the room is desired, Region 6 may chose to replace the floor boards. 2) Homosite and fiberboard wall and ceiling panels, tar paper wall covering and exposed insulation will be removed and disposed of as hazardous. If reuse of the room is desired, insulation and wall coverings can be replaced.

Subfloor Soils: Soil will be removed from spill area below cut-out floor boards in an 18 inch deep cylinder, 3 feet in radius around the center of the spill. This soil should then be disposed of as hazardous.

Three Rivers Site (No. 734018)

Location - This site is located at the NYSDEC Three Rivers Field Headquarters, within the NYSDEC Three Rivers Wildlife Management Area. The buildings are found on West Igloo Road and East Igloo Road, north of Potter Road in the Town of Lysander, Onondaga County, Region 7. The area is very rural with no residences within 1 mile of the buildings where pesticide storage took place.

Description - Pesticide storage took place in two of the fourteen 30' x 60' concrete bunkers on-site. These bunkers were formerly used for munitions storage by the U.S. Army. They are built with thick concrete walls and ceilings and are set into the ground, with earth built-up around the outside walls on three sides. The fourth side has large barn-type doors with a gravel imbedded clay ramp driveway that slopes down to the doors. The first building, called Bunker 8, was used for receiving, repackaging and storing pesticides. Along the length of its interior walls are six inch wide, six inch deep drainage channels designed to carry condensation from the walls out through drain holes on either side of the barn doors. The other building, called Bunker 3, has a 12' x 22" room partitioned inside it. This small room is the only part of Bunker 3 used for pesticides activities. After its use was initiated, in the late 1970's, the small room in Bunker 3 was used to receive and repackage pesticides, and Bunker 8 was then used for storage only. The ceiling and back wall of this room are wood, one side wall is fiberboard, and the front wall, floor and other wall are concrete. In all, pesticide activities took place at Three Rivers from the early 1970's until 1983.

Regulatory Status - This facility was permitted as a RCRA Interim Status Storage Facility, and therefore, requires submission and approval of a Closure Plan to meet regulatory requirements. No approvable Closure Plan has ever been prepared for this site. A Closure Plan will be prepared based on the data collected in the Site Characterization Study, and will be submitted for review and approval to the RCRA Program Support Section within NYSDEC. It will detail the remedial actions described in the remedy section below. This site is on the NYS Registry of Inactive Hazardous Waste Sites.

Site Characterization Study - The following is a summary of the sampling carried out at the Three Rivers Site during the SCS. Every sample was analyzed for the same five parameters listed for the Brownville Site: EPA SW-846 Methods 8080, 8140, 8150, 8250 and EP Tox.

Soil: At Bunker 8, 24 soil samples were collected from a 1200 square foot area in the ramped driveway and drainage ditch in front of the building doors, and at Bunker 3, 16 soil samples were collected from an 800 square foot area in its driveway and drainage ditch. The sampling areas were divided into 10' x 10' grid squares from which two samples were analyzed: a composite of soil grabbed from four locations at the surface (0"-6") and a composite of soil from the same four locations at a depth of 12" - 18".

Results: The highest contaminant concentrations detected in soil by the 8080 analysis were 1.5 ppm of 4,4'-DDD outside Bunker 3, and 330 ppm of 4,4'-DDT outside Bunker 8. The highest concentrations detected in soil by the 8140 analysis were 3.2 ppm of phorate outside Bunker 3, and 0.81 ppm of phorate outside Bunker 8. For

the 8150 analysis, the highest concentrations were 2.4 ppm of 2,4,5-T outside Bunker 3, and 1.9 ppm of Dicamba at Bunker 8. Many contaminant compounds were detected by the 8250 analysis outside both bunkers. The highest concentration at Bunker 3 was 880 ppm of phenanthrene, and at Bunker 8 was 61 ppm of phenanthrene.

Bunker 3: 1/4-inch core samples were collected from porous building materials in the bunker and were composited into four samples for analysis: one from the small storage room's walls and ceiling, one from the interior of the large barn door accessing the remainder of the bunker, and two from the wooden ceiling joists in the remainder of the bunker.

Results: Contaminants were detected not only in the small room used for pesticide storage but in the remainder of this bunker as well. In the 8080 analysis, Alpha-BHC was detected in the storage room at 1.2 ppm and in the bunker ceiling at 1.5 ppm. In the 8140 analysis phorate was detected in the storage room at 0.25 ppm, and in the bunker ceiling at 0.29 ppm. In the 8150 analysis, most contaminants were detected in the storage room, the highest being 1.3 ppm of 2,4,5-T. In the 8250 analysis, the only detected contaminant was 3.3 ppm of benzyl alcohol in the storage room. The concrete surfaces in this bunker, especially in the small room, are assumed contaminated.

Bunker 8: 1/4-inch core samples were collected from porous building materials in the bunker and were composited into four samples for analysis: one from the wooden components of the front gable, one from the rear gable, and two from the wooden ceiling joists.

Results: Many contaminant compounds were detected by the 8080 analysis in Bunker 8 including 17 ppm of chlordane and 16 ppm of 4,4'-DDT. The 8140 analysis detected one compound in one sample: 0.29 ppm of phorate. The highest contaminant concentration detected in the 8150 analysis was 0.59 ppm of 2,4,5-T. No other contaminants were detected in the remaining analysis. The concrete surfaces in this bunker are assumed to be contaminated.

Groundwater: Three 2-inch diameter monitoring wells were installed adjacent to Bunker 8. Two were placed downgradient of the bunker and one upgradient. Each was constructed of PVC with a five foot screen installed from a depth of 5-8 feet to a depth of 10-13 feet.

Results: Each well was sampled on two occasions. No contaminants were detected by any of the analytical methods, in any of the wells, in either sampling event.

**Surface Water/
Sediment:**

In the wetland area to the east of Bunker 8, across East Igloo Road, samples were taken of surface water and sediment at two locations along the length of the surface water channel that meanders through the marsh.

Results: No contaminants were detected by any of the analytical methods in the surface water or sediment at either location.

Remedy - No standards for pesticide compounds in these media exist. Therefore, the following cleanup work, determined necessary for this site, was developed by NYSDOH and NYSDEC, based on potential human health and environmental risks.

Soil: All soil in the full width and length of the gravel driveways in front of Bunker #3 and Bunker #8 will be excavated to a depth of two feet, and disposed of as hazardous. This amounts to a total estimated volume of 250 cubic yards of excavated soils. The bottom of the excavation will be sampled to verify completeness of removal. The excavation will be backfilled with clean soil.

Buildings: The walls and floors inside both Bunker #8 and Bunker #3 will be detergent washed with high pressure water rinse. All rinse water will be collected and disposed of as hazardous. The walls and floors will then be sampled to determine the effectiveness of the wash. The roofs of the bunkers will then be collapsed into the structures and the structures filled with clean soil up to grade.

**Groundwater,
Surface Water,
and Sediment:** No remediation of these resources will be required.

Oak Orchard Site (No. 819012)

Location - This facility is located at NYSDEC's Oak Orchard Operations Center, within the Oak Orchard State Wildlife Management Area. The storage building stands in a field off Albion Road in the Town of Oakfield, Genesee County, Region 8. The area is very rural, with one residence within a one mile radius of the storage building.

Description - A 16' x 20' wood frame building on a thick concrete pad was used to store pesticides at this site. The building stands two hundred feet back from Albion Road, alone in an overgrown meadow. It has a large garage door and a personnel door.

The building was used for pesticide storage from 1971 through 1983. In 1974 the building became full and the pesticides were packaged for disposal. They were removed on December 9, 1975. By 1979 the building was full again, and pesticides were packed for disposal and removed May 3, 1983.

Regulatory Status - This facility was permitted as a RCRA Interim Status Storage Facility, and therefore, requires submission and approval of a Closure Plan to meet regulatory requirements. A Closure Plan has been previously prepared and approved for the Oak Orchard Site. This prior plan was based on a small amount of questionable data and will therefore be revised and resubmitted based on the data received in the recent Site Characterization Study. The new Closure Plan will be submitted for review and approval to the RCRA Program Support Section within NYSDEC. It will detail the remedial actions described in the remedy section below. This site is on the NYS Registry of Inactive Hazardous Waste Sites.

Site Characterization Study - The following is a summary of the sampling carried out at the Oak Orchard Site during the SCS. Every sample was analyzed for the same five parameters listed for the Brownville Site: EPA SW-846 Methods 8080, 8140, 8150, 8250 and EP Tox.

Soil: Six soil samples were analyzed from a 300 square foot area of soil outside the garage door and the personnel door to the building. The sampling area was divided into 10' x 10' grid squares from which two samples were analyzed: a composite of soil grabbed at four locations at the surface (0"-6") and a composite from the four locations at a depth of 12"-18". **Results:** The highest contaminant concentration detected above background in the 8080 analysis was 0.32 ppm of dieldrin; in the 8150 its analysis was 0.0098 ppm of 2,4,5-TP; and in the 8250 analysis, the greatest concentration was 1.1 ppm of fluoranthene. No contaminants were detected above background by the other analytical methods.

Building: One sample was analyzed from the porous interior building material at Oak Orchard. The sample was a composite from 1/4 inch wood cores collected at two locations from each wall: one set of wood cores per 50 square feet of wood wall surface. Based on past sampling, the concrete slab floor was assumed contaminated and was not resampled.

Results: The highest contaminant concentration detected in the 8080 analysis was 1.2 ppm of 4,4'-DDT; in the 8140 analysis it was 0.19 ppm of phorate; in the 8150 analysis 0.27 ppm of 2,4-D; and in the 8250 analysis it was 2.9 ppm of Benzo (k) fluoranthene.

Remedy- No standards for pesticide concentrations in these media exist. Therefore, the following cleanup work, determined necessary for this site, was developed by NYSDOH and NYSDEC, based on potential human health and environmental risks.

Soil: No remediation of soils adjacent to the storage building is necessary.

Building: The wood frame structure of the facility will be disassembled and disposed of as hazardous. The concrete floor slab of this building will be decontaminated by scarification with all dust and debris collected for disposal as hazardous. Decontamination will precede structure removal to facilitate dust control. A small number of representative wipe samples will be collected after decontamination of the slab to verify success.

West Almond Site (No. 902010)

Location - This site is located at the NYSDEC West Almond Maintenance Center, north of County Route 2A in the Town of West Almond, Allegany County, Region 9. The two buildings used for pesticide storage are north of the caretaker's residence and operations shop, in the area formerly used for tree nursery and pole treatment activities. The area is very rural, with no residences other than that of the caretaker, with a one mile radius.

Description - Pesticide storage at the West Almond Site took place in a 20' x 40' wood frame and siding building, and a 15' x 15' addition to another building. The wood building is known as the "peeler building" from its former use for bark peeling when West Almond was involved in forestry and wood product activities. The other storage area is a small room attached, but without access to, the old wood treatment plant. This room called Building 1, has a wooden loading dock which leads up to its access door. From 1979 until 1983, Building 1 was used to receive and repackage pesticides. The peeler building, called Building 2, was used only for the storage of sealed drums. All pesticides were shipped away for disposal in 1983.

Regulatory Status - This facility was permitted as a RCRA Interim Status Storage Facility, and therefore, requires submission and approval of a Closure Plan to meet regulatory requirements. A Closure Plan has been previously prepared and approved for the West Almond Site. This plan was based on a small amount of questionable data and will therefore be revised and resubmitted based on data received in the recent Site Characterization Study. The new Closure Plan will be submitted for review and approval to the RCRA Program Support Section within NYSDEC. It will detail the remedial actions described in the remedy section below. This site is on the NYS Registry of Inactive Hazardous Waste Sites.

Site Characterization Study - The following is a summary of the sampling carried out at the West Almond Site during the SCS. Every sample was analyzed for the same five parameters listed for the Brownville Site: EPA SW-846 Methods 8080, 8140, 8150, 8250, and EP Tox.

Soil: 18 soil samples were analyzed from areas of soil totaling 900 square feet, outside the access doors to the two storage buildings. Included was the soil under the loading dock at Building 1. The sampling area was divided into 10' x 10' grid squares from which two samples were analyzed: a composite of soil grabbed from four locations at the surface (0"-6") and a composite of soil from the same four locations at a depth of 12"-18".

Results: Several compounds were detected in the soils outside Building 1, all in the 8080 analysis. The highest contaminant concentration detected was 0.11 ppm of Endosulfan. Outside Building 2, only two compounds were detected, both in the 8080 analysis, both at a concentration of 0.017 ppm. They were Alpha-BHC and Endosulfan.

Building 1: 1/4-inch cores were taken from the light weight homosite materials making up the walls and ceiling of this room, and were composited into one sample for analysis. The concrete floor and cinder block knee wall in the room were not sampled, due to previous data showing them to be only slightly contaminated. The wooden loading dock outside Building 1 was also sampled by collecting 1/4-inch wood cores from its top surface and compositing them into one sample for analysis. **Results:** The highest contaminant concentration detected in the 8080 analysis was 0.28 ppm of 4,4'-DDT for the building materials and was 3.7 ppm of 4,4'-DDT for the loading dock. The highest contaminant concentration detected in the 8140 analysis was 0.46 ppm of malathion in the building materials. No 8140 compounds were detected in the loading dock. In the 8150 analysis, the highest contaminant concentrations were 0.20 ppm of 2,4-D in the building materials and 2.3 ppm of 2,4-D in the loading dock. The highest contaminant concentration in the 8250 analysis was 5.1 ppm of Di-n-butylphthalate. No 8250 compounds were detected in the loading dock.

Building 2: 1/4-inch wood cores were collected from sixteen locations on the walls and six locations on the floor to obtain one composite sample from the building walls and one composite sample from the building floors. **Results:** The only contaminant detected in the 8080 analysis was heptachlor, at 0.03 ppm in the floor sample. In the 8150 analysis, the highest contaminant concentrations detected were 830 ppm of Dicamba in the floor, and 0.075 ppm of 2,4,5-T in the walls.

Remedy - No standards for pesticide concentrations in those media exist. Therefore, the following cleanup work, determined necessary for this site, was developed by NYSDOH and NYSDEC, based on potential human health and environmental risks.

Soil: No remediation of soils adjacent to pesticide storage buildings is necessary.

Building #1: The wooden loading dock will be removed and disposed of as hazardous.

Porous interior wall and ceiling panels will be removed and disposed of as hazardous. If reuse of the room is desired, Region 8 may chose to replace those.

The concrete floor and cinder block knee wall will be sealed with two coats of urethane-based concrete paint to remove any possibility of air or direct contact exposure from those surfaces.

Building #2: Interior wood surfaces of the storage room will be sealed with two coats of urethane-based wood paint to remove any possible air or direct contact exposure to these surfaces.