

**PB95-963808
EPA/ROD/R02-95/254
February 1996**

**EPA Superfund
Record of Decision:**

**Anchor Chemicals Superfund Site,
Town of Oyster Bay, Nassau County, NY
9/29/1995**



DECLARATION FOR THE RECORD OF DECISION

SITE NAME AND LOCATION

Anchor Chemical Superfund Site

Town of Oyster Bay, Nassau County, New York

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) documents the U.S. Environmental Protection Agency's (EPA's) selection of the remedial action for the Anchor Chemical Superfund Site (the "Site") in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. §9601 et seq. and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300. This decision document summarizes the factual and legal basis for selecting the remedy for the Site. An administrative record for the Site, established pursuant to the NCP, 40 CFR 300.800, contains the documents that form the basis for EPA's selection of the remedial action, an index of which is appended to this document (see Appendix III).

The New York State Department of Environmental Conservation (NYSDEC) has been consulted on the planned remedial action in accordance with CERCLA §121(f), 42 U.S.C. §9621(f), and it concurs with the selected no further action remedy (see Appendix IV). A letter of concurrence from the NYSDEC is appended to this document.

DESCRIPTION OF THE SELECTED REMEDY

EPA, in consultation with the State of New York, has determined that the Anchor Chemical Superfund Site does not pose a significant threat to human health or the environment and, therefore, further remediation is not appropriate. This determination is based on the findings of the Remedial Investigation and the baseline Risk Assessment. The risks posed by the Site are within EPA's acceptable risk range and therefore do not pose a threat to human health or the environment.

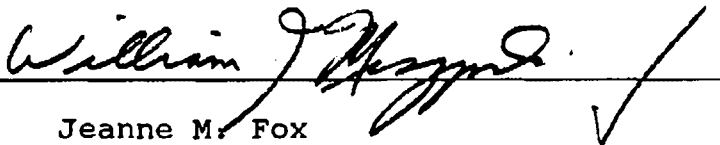
Although the risks posed by the Site contamination are within the acceptable risk range, four dry wells on Site are contaminated with chromium, lead, 1,1,1 trichloroethane (1,1,1-TCA) and other

volatile compounds (VOCs). Groundwater samples from several monitoring wells on Site also showed concentrations of chromium and 1,1,1-TCA, which were above MCLs. The contaminated soils and sediments from the dry wells will be removed in order to prevent further groundwater contamination. On September 15, 1995, K.B. Company, the owner of the property, was issued a unilateral administrative order and Anchor Lith/Kem-Ko and Chessco Industries, a former owner of Anchor Lith/Kem-Ko, were issued administrative consent orders by the EPA to remove the contaminated sediment and soil from the four dry wells (DWs), designated DW-2, DW-3, DW-6 and DW-8, in order to prevent further groundwater contamination. The excavated materials will be disposed of at a Resource Conservation and Recovery Act (RCRA) approved facility. Groundwater and soil samples will be collected at the Site and analyzed to assess the effectiveness of the removal action. Upon completion of the removal action, EPA will take no further action at the Anchor Chemical Superfund Site.

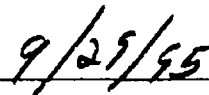
DECLARATION OF STATUTORY DETERMINATIONS

In accordance with the requirements of CERCLA, as amended, and the NCP, EPA, in consultation with the State of New York, has determined that the Anchor Chemical Superfund Site does not pose a significant threat to human health and the environment. Therefore, no remedial action is necessary.

Because this remedy will not result in hazardous substances remaining on-Site above health-based levels, the five (5) year review will not apply to this action.



Jeanne M. Fox
Regional Administrator



Date

**RECORD OF DECISION
DECISION SUMMARY**

**ANCHOR CHEMICAL SUPERFUND SITE
TOWN OF OYSTER BAY, NASSAU COUNTY, NEW YORK**

**United States Environmental Protection Agency
Region II
New York, New York**

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SITE NAME, LOCATION AND DESCRIPTION

The Anchor Chemical Superfund Site is located at 500 West John Street in the Village of Hicksville, Town of Oyster Bay, Nassau County, New York (see Figure 1). The surrounding area is predominantly industrial but also has recreational areas.

The Site is bordered to the west by a commercial property, to the south by West John Street and to the Northwest by Cantiague park, a 125 acre recreational facility. A groundwater recharge basin lies to the east of the Site.

The Site is approximately 1.5 acres in size and includes one 28,850 square foot, two-story building. The KoBar Company purchased the Site on September 30, 1964, and in the same year constructed the building for the Anchor Chemical Company. Before the building was constructed, the Site was used for agricultural purposes.

From 1964 to 1978, Anchor Chemical leased the Site from KoBar and began manufacturing, blending and storing chemicals for the graphic arts industry. The company operated two solvent mixing rooms and several container storage areas. In 1964, seventeen (17) underground storage tanks (USTs), which ranged in size from 500 to 4,000 gallons, were installed under the mixing room for Anchor Chemical (see Figure 2). The tanks were used to store chemicals and solvents, such as acetone, 1,1,1-trichloroethane, methylene chloride, 2-butoxyethanol and isopropyl alcohol. The chemicals were also stored in seven aboveground tanks, which ranged in size from 550 to 1,500 gallons. The aboveground tanks were removed from the Site in 1985.

In addition, there are 9 dry wells and one drain, which are located in the parking lot on Site (see Figure 2). The dry wells and drain were installed to collect rainwater run off and drainage from the building. Most of the Site is paved with asphalt. Liquid which collects in the dry wells infiltrates into the soil. None of the dry wells are connected to a sewer.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

In 1978, Anchor Chemicals was purchased by Chessco Industries and became known as Anchor/Lith Kem-Ko. Company operations were terminated in 1985. Since 1985, the following tenants have occupied the Site: from 1985 to 1988, Emery Worldwide Freight, a shipping company; from 1988 to 1992, J. D. Brauner, a furniture manufacturer; from 1992 to 1994, Distributors of America, a distributor of newspaper inserts; and from 1994 to present, Machinery Values, a machinery resale operation.

In 1977, the Nassau County Health Department (NCHD) discovered 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE) and

tetrachloroethene (PCE) in liquid samples near drywell 1, which is located north of the building in the parking lot (see Figure 2). In response, Anchor Chemical submitted a spill prevention plan to the NCDH.

In May 1981, the Nassau County Fire Marshall notified Anchor/Lith Kem-Ko that the 17 USTs on Site had not been registered with the Fire Marshall or tested for leaks. In subsequent testing of 14 of the 17 USTs, 5 tanks failed air over product tank tightness tests. The five tanks were decommissioned in 1983. The three remaining tanks, which were not tested in 1981, were tightness tested in 1982 and 1983, and one of these tanks failed the test. In 1982, the NCDH requested Anchor/Lith Kem-Ko to investigate the possibility of groundwater and soil contamination at the Site.

Three groundwater monitoring wells were installed in September 1982. Groundwater samples taken from the wells contained 24,000 parts per billion (ppb) of 1,1,1-TCA, 1,100 ppb of PCE, 350 ppb of dichloroethane, 170 ppb of chlorodibromomethane, 41 ppb of methylene chloride and 55 ppb of TCE. Soil samples, which were taken during the installation of one well (well number 1), revealed 490 ppb of methylene chloride and 22 ppb of 1,1,1-TCA.

In January 1983, the Site was included on the NYSDEC's list of hazardous waste sites in Nassau County. On June 10, 1986, the Site was added to the federal National Priorities List (NPL).

Subsequent monitoring of the Site by the PRP through 1991 has indicated a decrease in the concentration of contaminants in the groundwater.

On June 2, 1989, EPA issued an Administrative Order on Consent to the K.B. Company, the owner of the property and successor to Kobar, to undertake a remedial investigation/feasibility study (RI/FS) to determine the nature and extent of contamination at the Site and to evaluate options for cleanup. On August 3, 1989, EPA issued an Administrative Order to Chessco Industries, which required it to participate and cooperate with K.B. Company. EPA issued an Administrative Order to Anchor Lith-Kem Ko. on March 31, 1992, which also required it to participate and cooperate in the performance of the RI/FS. RI field work was completed in February 1995, and the RI report was compiled by the PRPs and submitted to the EPA in March 1995. The Risk Assessment was finalized by the EPA on June 2, 1995.

On September 15, 1995, K.B. Company, the owner of the property, Anchor Lith/Kem-Ko and Chessco Industries, a former owner of Anchor Lith/Kem-Ko, were ordered by the EPA to remove the contaminated sediment and soil from four on Site dry wells (DWs) designated DW-2, DW-3, DW-6 and DW-8. K. B. Company was issued a unilateral

administrative order, while Anchor Lith/Kem-Ko and Chessco industries were issued an administrative consent order for the removal work. A workplan for the drywell removal action was approved by EPA on September 28, 1995. The actual removal of the material from the drywells occurred on September 29, 1995.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

On August 19, 1991, EPA held a public meeting at the Hicksville Library to inform the community of its intent to oversee a remedial investigation of the Site. At the meeting, EPA provided a brief summary of the Site history, an overview of the federal Superfund process and summarized the RI work, which was to occur at the Site.

The RI report, Risk Assessment report, and the Proposed Plan for the Site were released to the public for comment on August 23, 1995. These documents have been made available to the public in the administrative record file at the EPA Docket Room in Region II, New York and the information repositories at the Hicksville Library. The notice of availability for the above-referenced documents was published in Newsday on August 23, 1995 and the Hicksville Illustrated News on August 25, 1995. The public comment period on these documents was held from August 23, 1995, to September 21, 1995.

On September 12, 1995, EPA and the New York State Department of Environmental Conservation (NYSDEC) conducted a public meeting at the Hicksville Library to inform local officials and interested citizens about the Superfund process, to review current and planned remedial activities at the Site, and to respond to any questions from area residents and other attendees.

Responses to the comments received at the public meeting and in writing during the public comment period are included in the Responsiveness Summary (see Appendix V).

SCOPE AND ROLE OF ACTION

This Record of Decision discusses EPA's selection of no further action for the Site. Based on the findings of the Remedial Investigation (RI) and EPA's baseline Risk Assessment, the risks at the Site are within the EPA's acceptable risk range; therefore, the Site does not pose a threat to the public or the environment.

Four dry wells on Site are contaminated with chromium, lead, 1,1,1 trichloroethane (1,1,1-TCA) and other volatile compounds (VOCs). Groundwater samples from several monitoring wells on Site also revealed concentrations of chromium and 1,1,1-TCA which were above MCLs. Contaminated soils and sediments from the dry wells will be removed in order to prevent further groundwater contamination. On

September 15, 1995, K.B. Company, the owner of the property, was issued an administrative order and Anchor Lith/Kem-Ko and Chessco Industries, a former owner of Anchor Lith/Kem-Ko, were issued an administrative consent order by the EPA to remove contaminated sediment and soil from four dry wells (DWs) designated DW-2, DW-3, DW-6 and DW-8. A workplan for the drywell removal action was approved by EPA on September 28, 1995. The actual removal of the material from the drywells is occurred on September 29, 1995. Excavated materials will be disposed of at a Resource Conservation and Recovery Act (RCRA) approved facility. Groundwater samples will be collected at the Site and analyzed to assess the effectiveness of the removal action.

SUMMARY OF SITE CHARACTERISTICS

The Remedial Investigation included: 1) inspection and closure of 12 USTs; 2) installation of four shallow and four deep groundwater monitoring wells; 3) three rounds of groundwater samples; 4) two rounds of soil samples from under the USTs; and 5) one round of sediment samples from nine dry wells, one drain and two cesspools.

Inspection and Closure of the Underground Storage Tanks

Figure 3 shows the arrangement of the tanks at the Site. As mentioned above, five of the 17 USTs on-Site (UST numbers 5, 6, 8, 11 and 15) were closed in 1983. Tank closure was performed by filling the USTs with concrete. In June 1991, as part of the RI, the remaining 12 USTs were also filled with concrete.

Groundwater

Eleven on-Site monitoring wells were sampled in April and November 1992. Two monitoring wells, MW-4 and MW-5S, were re-sampled in February 1995.

All of the wells sampled are screened in the Upper Glacial Aquifer. Monitoring wells MW-4, 5S, 6S and 7S are screened at 70 to 80 feet below land surface (BLS); the deeper wells, MWS-1D, 5D, 6D and 7D, are screened 100 to 120 feet BLS. Figure 3 shows the well locations.

The average depth to the water table at the Site is 50 to 60 feet. The following three water bearing geologic units underlay the Site: the Upper Glacial Aquifer, the Magothy Aquifer and the Lloyd Aquifer. The Upper Glacial and Magothy Aquifers are hydraulically interconnected. Water also flows from the Magothy to the Lloyd Aquifer; however downward movement is extremely slow because of a thick confining clay known as the Raritan Clay, which overlays the Lloyd Aquifer. All three aquifers serve as a source of drinking water for Long Island.

The direction of groundwater flow is to the southwest. This was determined by the NCDH in 1986 and confirmed during field testing in March and October 1992. In 1985 a Site investigation report, produced by Lockwood, Kessler and Barlett, a consultant hired by K.B. Company, the groundwater was reported to migrate at a rate of approximately 0.45 feet per day.

Organic contaminants were detected in each of the three sample rounds. 1,1,1-TCA was detected in MW-3 (8 ppb, April 1992), in MW-4 (3 ppb, November 1992) and in MW-5S (29 ppb, February 1995). Bis(2-ethylhexyl) phthalate was detected in MW-5S (65 ppb, April 1992) and MW-7S (160 ppb, November 1992). A number of unspecified organic compounds also were detected in groundwater samples from each of the monitoring wells.

Inorganic contamination was found in higher concentrations. Lead and chromium were detected in the groundwater at levels which exceeded both federal and state maximum contaminant levels (MCLs) for drinking water. Samples taken in April 1992 revealed chromium at 317 ppb and 227 ppb in shallow wells MW-2 and MW-3, respectively, and 132 ppb in deep well MW-1D. The November sample round revealed chromium at 1440 ppb in well MW-2 and 1150 ppb in well MW-3.

Lead was detected in shallow wells MW-2 and MW-3 at 74.7 ppb and 30.2 ppb, respectively, for the first round and 240 ppb and 71.5 ppb, respectively, for the second round. MW-5D revealed lead at 31.4 ppb and 40.4 ppb for the first and second rounds.

EPA and New York State MCL and action level concentrations exist for lead, chromium, 1,1,1-TCA and the total concentration of unspecified organic compounds. Water which has concentrations of lead, chromium and unspecified organic compounds which exceed MCL concentrations may not be safe for consumption. New York State MCLs for the contaminants detected in the groundwater are as follows: chromium - 50 ppb, 1,1,1-TCA - 5 ppb, bis(2-ethylhexyl)-phthalate - 50 ppb, and the total concentration of unspecified organic compounds - 100 ppb. The federal EPA MCLs are 200 ppb for 1,1,1-TCA and 100 ppb for chromium. No federal MCL has been established for unspecified organic compounds. For lead, EPA has established an action level of 15 ppb.

EPA believes that the elevated levels of lead, chromium, 1,1,1-TCA and unspecified organic compounds, which were detected in the groundwater, will decrease once the sediments from drywells 2, 3, 6, and 8 are removed. As indicated below, analysis of samples collected from sediments in these dry wells revealed high levels of lead and chromium.

Soil and Sediments

Minimal concentrations of organic chemical contamination were detected in the soil samples that were obtained from below the underground storage tanks.

Elevated levels of the following contaminants, however, were found in the sediment sample from DW 2: 1,1-DCA (1,600 ppb), 1,1,1-TCA (3,300 ppb), toluene (4,800 ppb), xylene (67,000 ppb) and bis(2-ethylhexyl) phthalate (27,000 ppb). Chromium (Cr) and lead (Pb) contamination were also detected in the sediment samples from DWs 2, 3, 6 and 8 at the following levels: DW 2 - Cr 463 ppm, Pb - 1,210 ppm; DW 3 - Cr 101 ppm, Pb 607 ppm; DW 6 - Cr 240 ppm, Pb 1,120 ppm; and, DW 8 - Cr 198 ppm, Pb 1,620 ppm. Finally, various unspecified organic compounds were detected in the sediments. The following levels (total concentrations) were detected: DW 2 - 1,302.5 ppm, DW 3 - 226.2 ppm, DW 6 - 26 ppm and DW 8 - 85.3 ppm.

Removal of soil and sediments from these dry wells should reduce the concentrations of chromium, lead, 1,1,1-TCA, bis(2-ethylhexyl)phthalate, and the total concentration of unspecified organic compounds in the groundwater. Soil and groundwater samples will be collected to confirm the effectiveness of the removal action.

Sediment samples from dry wells 1, 4, 5, 7 and 9 and the drain revealed levels which ranged from 81.3 ppm to 216 ppm for lead and 17.4 ppm to 71 ppm for chromium. These levels are not considered high enough by the EPA and the NYSDEC to have an adverse impact on the groundwater. Therefore, no excavation of the sediments from these dry wells or the drain will be required.

Finally, two cesspools (see Figure 2), which were abandoned in 1982, were sampled. One soil sample was collected from each cesspool. Trace levels of methylene chloride and two pesticides, dieldrin and methoxychlor, were detected.

SUMMARY OF SITE RISKS

Based upon the results of the RI, a baseline risk assessment was conducted to estimate the risks associated with current and future Site conditions. The baseline risk assessment estimates the human health and ecological risk which could result from the contamination at the Site if no remedial action were taken.

Human Health Risk Assessment

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario. Hazard

Identification--identifies the contaminants of concern at a site based on several factors such as toxicity, frequency of occurrence, and concentration. Exposure Assessment--estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed. Toxicity Assessment--determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response). Risk Characterization--summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site-related risks.

EPA conducted a baseline risk assessment to evaluate the potential risks to human health and the environment associated with the Site in its current state. The Risk Assessment focused on contaminants in the soil and groundwater which are likely to pose significant risks to human health and the environment. A summary of the contaminants of concern in the matrices sampled is provided in Table A.

EPA's baseline risk assessment addresses the potential risks to human health by identifying several potential exposure pathways by which the public may be exposed to contaminant releases at the Site under current and future land-use conditions. However, groundwater and soil exposures were only assessed for a future land use scenario. Groundwater at the Site is not currently used for consumption, so an evaluation of a present exposure scenario is not necessary. In addition, although risks were calculated for future residential development, the Site is zoned for light industry and is not expected to change.

The exposure pathways considered under future uses are listed in Table B. A total of four exposure pathways were quantitatively evaluated under possible on-Site future land-use conditions: ingestion of groundwater, inhalation of groundwater contaminants, incidental ingestion of soil, and dermal contact with soils. The reasonable maximum exposure for each pathway was evaluated. Two other exposure pathways were evaluated qualitatively: dermal contact with groundwater and inhalation of VOC emissions and soil particulates. Both pathways were expected to be less significant because of the short duration of exposures.

Under current EPA guidelines, the likelihood of carcinogenic (cancer-causing) and noncarcinogenic effects as a result of exposure to site chemicals, are considered separately. It was assumed that the toxic effects of the Site-related chemicals would be additive. Thus, carcinogenic and noncarcinogenic risks associated with exposures to individual compounds of concern were

summed to indicate the potential risks associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and safe levels of intake (Reference Doses, or RfDs). RfDs have been developed by EPA for indicating the potential for adverse health effects. RfDs, which are expressed in units of milligrams/kilogram-day (mg/kg-day), are estimates of daily exposure levels for humans which are thought to be safe over a lifetime (including sensitive individuals). Estimated intakes of chemicals from environmental media (e.g., the amount of a chemical ingested from contaminated drinking water) are compared to the RfD to derive the hazard quotient for the contaminant in the particular medium. The HI is obtained by adding the hazard quotients for all compounds across all media that impact a particular receptor population.

An HI greater than 1.0 indicates that the potential exists for noncarcinogenic health effects to occur as a result of site-related exposures. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. The reference doses for the compounds of concern at the Site are presented in Table C. A summary of the noncarcinogenic risks associated with these chemicals across various exposure pathways is found in Table D.

The results of the risk evaluation for the Site indicated a non-cancer risk for the ingestion of groundwater exposure scenario for future residents to be a Hazard Index (HI) of 3 (see Table d). The HI resulted from the presence of four metals: aluminum (HQ of 0.8), arsenic (HQ of 0.3), iron (HQ of 0.8) and manganese (HQ of 0.8). However, each of these metals affects a different target organ. Because the toxicologic effects of the metals are non additive, i.e. their toxic endpoints are different, the actual risk for the Site is probably less than an HI of 3. The HI for ingestion or dermal contact with subsurface soils by excavation workers is less than one.

Potential carcinogenic risks were evaluated using the cancer slope factors developed by EPA for the contaminants of concern. Cancer slope factors (SFs) have been developed by EPA's Carcinogenic Risk Assessment Verification Endeavor for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. SFs, which are expressed in units of (mg/kg-day)⁻¹, are multiplied by the estimated intake of a potential carcinogen, in mg/kg-day, to generate an upper-bound estimate of the excess lifetime cancer risk associated with exposure to the compound at that intake level. The term "upper bound" reflects the conservative estimate of the risks calculated from the SF. Use of this approach makes the underestimation of the risk highly unlikely.

The SF for the compounds of concern are presented in Table C. A summary of the carcinogenic risks associated with these chemicals across various exposure pathways is found in Table E.

The carcinogenic risk associated with a future Site resident ingesting groundwater was estimated to be 8×10^{-5} , which represents a probability of 8 people in 100,000 developing cancer as a result of consuming 2 liters of untreated groundwater from the Site for 350 days per year for 30 years. The carcinogenic risk for excavation workers ingesting subsurface soils and sediments was estimated to be 3×10^{-7} . EPA's acceptable cancer risk range is 10^{-4} to 10^{-6} . This represents a one-in-ten-thousand to one-in-a-million increased probability that an individual will develop cancer under the Site specific exposure conditions over a lifetime.

The risk evaluation for the Site indicates that the human health risks associated with the Site are within EPA's acceptable risk range. However, removal of the contaminated soil and sediments from dry wells 2, 3, 6 and 8 should further reduce the potential for future risks as a result of groundwater ingestion by future Site residents because elevated levels of aluminum, lead, arsenic and manganese were detected in the dry wells and are a probable source of contamination to the groundwater. Reducing or eliminating contamination to the groundwater, will also protect the Upper Glacial and the lower Magothy aquifer which serves as a sole source drinking water aquifer for Long Island. Finally, although lead and chromium did not contribute to the calculated risks, they were also detected at elevated concentrations in the sediments of the four dry wells and in groundwater samples above drinking water standards from monitoring wells MW-2, 3 and 5S.

Ecological Risk Assessment

A four-step process is utilized for assessing site-related ecological risks for a reasonable maximum exposure scenario: Problem Formulation--a qualitative evaluation of contaminant release, migration, and fate; identification of contaminants of concern, receptors, exposure pathways, and known ecological effects of the contaminants; and selection of endpoints for further study. Exposure Assessment--a quantitative evaluation of contaminant release, migration, and fate; characterization of exposure pathways and receptors; and measurement or estimation of exposure point concentrations. Ecological Effects Assessment--literature reviews, field studies, and toxicity tests, linking contaminant concentrations to effects on ecological receptors. Risk Characterization--measurement or estimation of both current and future adverse effects.

The Site is located in a primarily urban industrialized area. Except for a narrow strip of lawn and plantings, the Site is

entirely covered by the existing building or asphalt. There are no significant habitats present at the Site which could potentially support indigenous wildlife receptor species. The Site may however provide a habitat for various non-native species which have adapted to highly urbanized areas (e.g. rats, starlings and pigeons).

Aquatic habitats or wetlands are not present within the vicinity of the Site. Although ecologically significant areas are not known to be located in the vicinity of the Site, potential habitats include cemeteries, school grounds, and Cantiaque Park. The 125 acre Cantiaque Park includes a golf course and is likely to provide for a variety of wildlife species. However, because of the extensive development and lack of suitable vegetated habitats at the Site, potential receptor species which may inhabit the adjacent Cantiaque Park (e.g. various songbirds and small animals) are not expected to frequent the Site. Therefore, the Site poses no ecological risk.

Uncertainties

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis
- environmental parameter measurement
- fate and transport modeling
- exposure parameter estimation
- toxicological data

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the chemicals of concern, in the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the chemicals of concern at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the Risk Assessment

provides upper-bound estimates of the risks to populations near the Site, and it is highly unlikely to underestimate actual risks related to the Site.

Future land use and future use of public drinking water supplies are difficult to define. For this action, local zoning officials and Site documents including the RI report were consulted for information. Risk scenarios are based on land use and water supply estimates that would result in "reasonable maximum" exposures. The groundwater ingestion scenario may overestimate risk because it assumes that 1) private wells will be installed on or adjacent to the Site and will draw water from contaminated areas, or 2) contaminant concentrations detected in the on-Site monitoring wells will reach private residential wells.

More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the Risk Assessment Report.

STATE ACCEPTANCE

The State of New York concurs with EPA's selected no further action alternative pending successful completion of the drywell removal action. Their letter of concurrence is attached as Appendix IV.

COMMUNITY ACCEPTANCE

Community acceptance of the preferred remedy has been assessed in the Responsiveness Summary portion of this ROD, following review of all public comments received on the RI report and the Proposed Plan. All comments submitted during the public comment period were evaluated and are addressed in the attached Responsiveness Summary.

Comments on EPA's Proposed Plan for the Site were received from the public and the Nassau County Department of Health (DOH). The public commented on the following issues: the source of Site contaminants, Site related cancer incidence, the drywell removal action and deed restrictions for a future sale of the Site property. No specific objections were raised by the public on implementation of the Site remedy, i.e. removal of contaminated soil and sediments from four dry wells and no further action. The Nassau County DOH did not, however, think that the remedy was adequate and recommended that off Site groundwater monitoring be conducted in addition to the removal action.

EPA's specific responses to the comments concerning the Anchor Chemical Superfund Site Proposed Plan can be found in Appendix V.

SELECTED REMEDY

EPA has determined after reviewing the alternatives and public comments that no further action beyond the successful completion of the drywell removal action is the appropriate remedy for the Site because it best satisfies the requirements of CERCLA §121, 42 U.S.C. §9621, and the NCP's nine evaluation criteria for remedial alternatives, 40 CFR §300.430(e)(9).

An evaluation of all available data, the findings of the RI conducted at the Site, EPA's Risk Assessment, and other supporting data and documentation indicate that the Site risks are within EPA's acceptable risk range and that a no further action decision is protective of human health and the environment.

In addition, although groundwater sampling results indicate some occurrence of contaminants exceeding MCLs, the distribution of the contaminants indicated either off Site sources or localized contamination. Furthermore, the removal action conducted by the PRPs will remove any potential source of contamination to the groundwater. EPA believes that elevated levels of lead chromium, 1,1,1-TCA and unspecified organic compounds which were detected in the groundwater will decrease once the sediments from drywells 2, 3, 6 and 8 are removed.

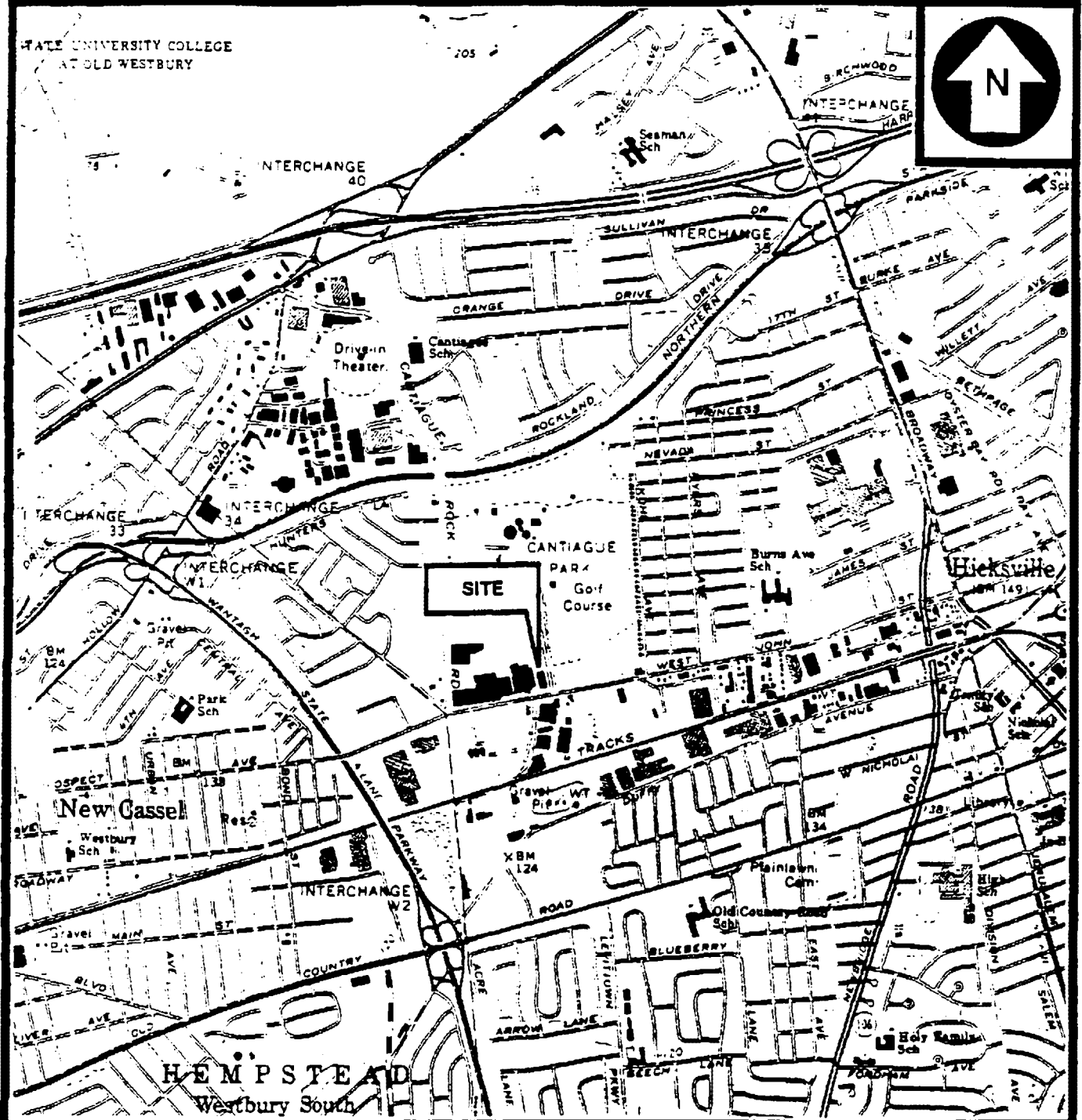
DOCUMENTATION OF SIGNIFICANT CHANGES

There are no significant changes from the preferred alternative presented in the Proposed Plan.

APPENDIX I

FIGURES

STATE UNIVERSITY COLLEGE
AT OLD WESTBURY



BASE MAP IS A PORTION OF THE FOLLOWING USGS 7.5' SERIES QUADRANGLE:
HICKSVILLE, NY, 1967; PHOTOREVISED 1979

0 1000 2000 3000



SCALE = feet

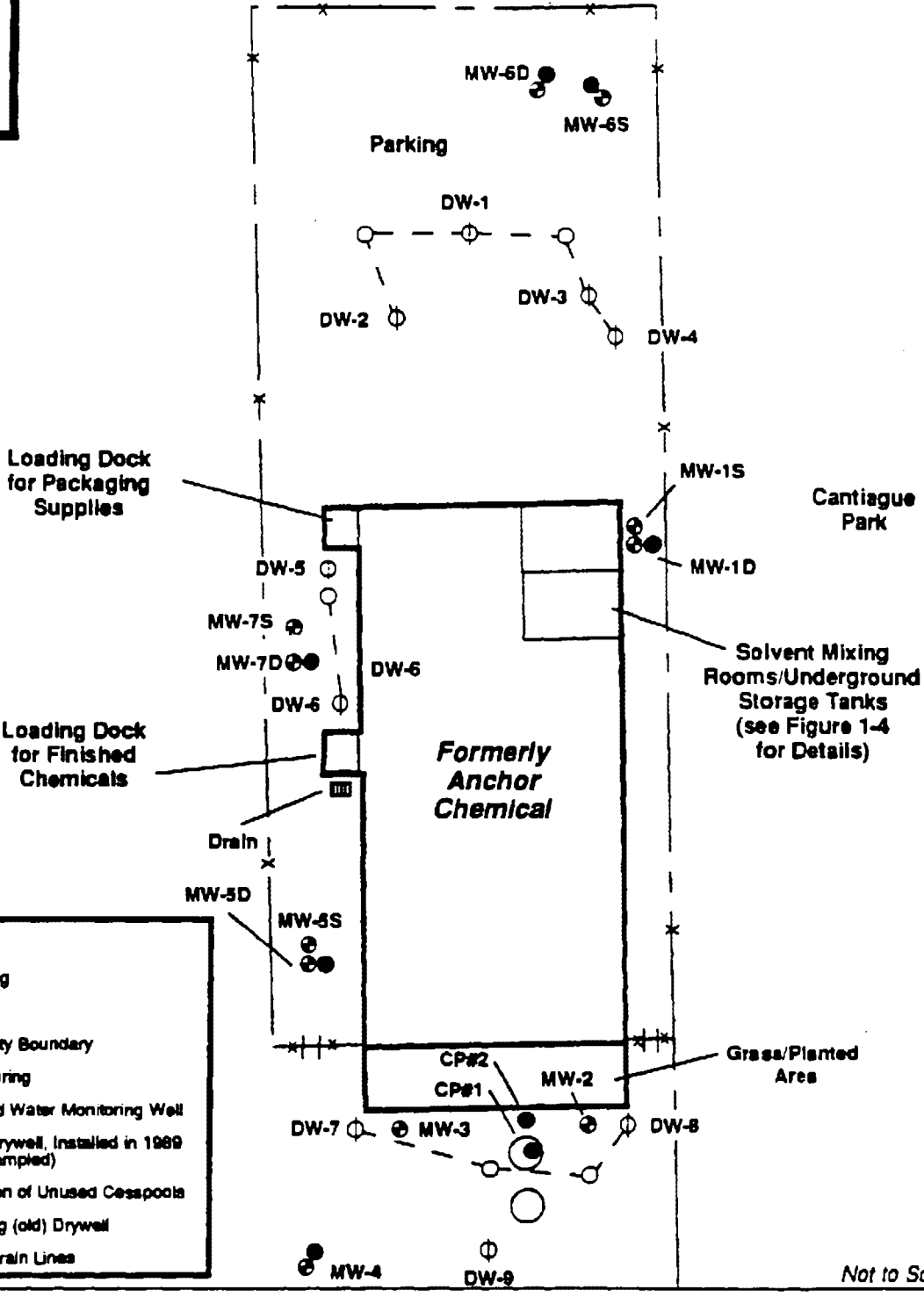


QUADRANGLE LOCATION

LOCATION MAP

ANCHOR CHEMICAL PROPERTY
HICKSVILLE, NEW YORK

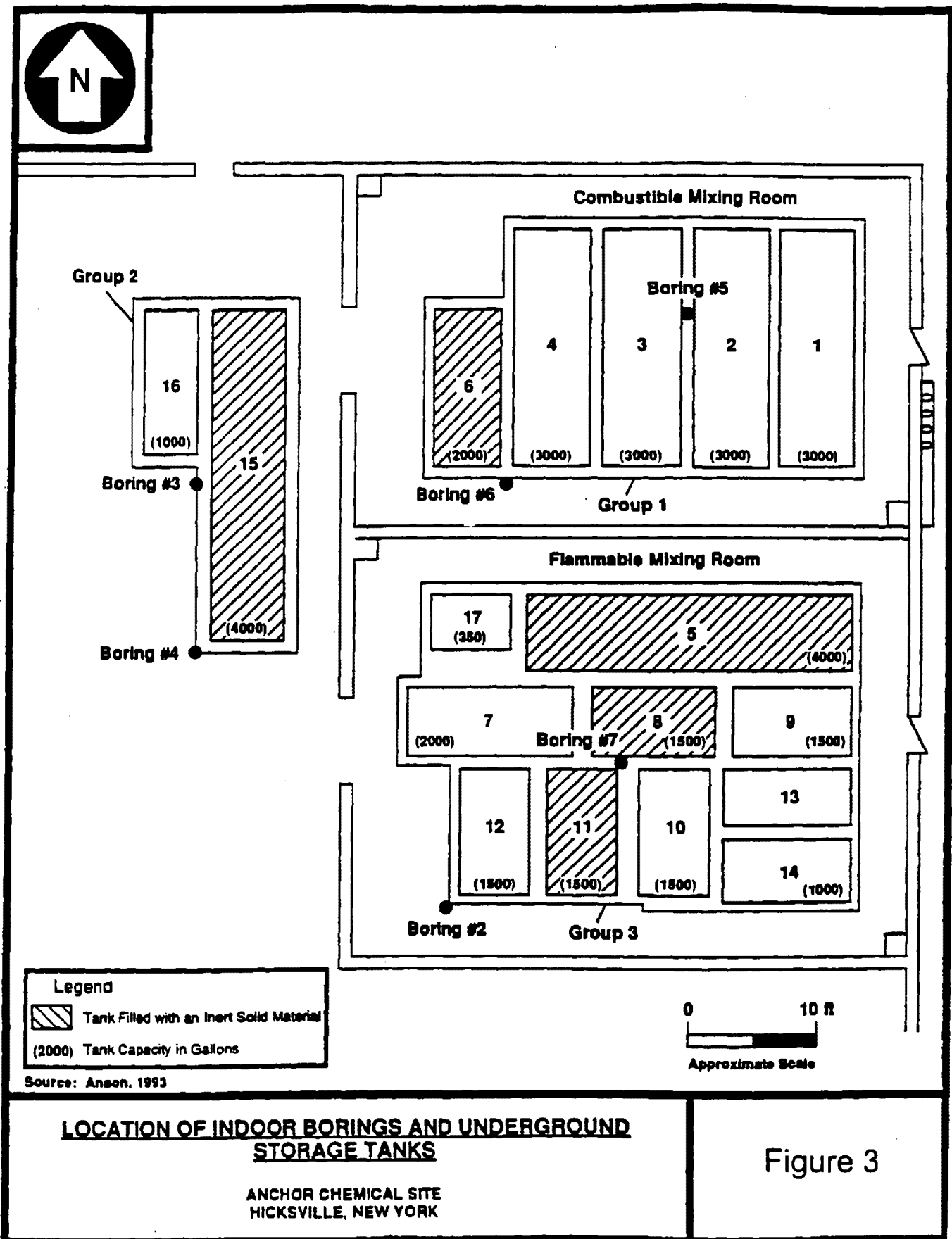
Figure 1



**APPROXIMATE GROUND WATER, SOIL, AND SEDIMENT
SAMPLING LOCATIONS**

ANCHOR CHEMICAL SITE
HICKSVILLE, NEW YORK

Figure 2



APPENDIX II

TABLES

TABLE A:

CONTAMINANTS OF CONCERN, FREQUENCY OF DETECTION, RANGE OF CONCENTRATIONS DETECTED, 95% UPPER CONFIDENCE LEVEL CONCENTRATION VALUES USED IN THE RISK ASSESSMENT

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE.

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE
 UNITS: all water analyses are ug/L; organic soils are ug/kg; inorganic soils are mg/kg.

TYPE-Ground Water

Class	Analyte	Num. Times Detected	Num. Samples Analyzed	Lowest Detected Conc.	Highest Detected Conc.	Highest Conc. Locat.	Arithmetic Mean Conc.	95 Pct. Upp. Conf. Limit	Lowest Observed Det. Limit	Highest Observed Det. Limit
VOCs	1,1,1-Trichloroethane	6	22	2.00	0.00	NW-1	3.60	4.13	9.00	10.00
	1,1-Dichloroethane	1	22	2.00	2.00	NW-56-II	3.61	4.21	9.00	10.00
	1,2-Dichloroethane (tot)	1	22	3.00	3.00	NW-56-II	3.66	4.23	9.00	10.00
	Acetone	1	22	150.00	150.00	NW-18-II	12.50	12.51	10.00	21.00
	Chloroethane	1	22	2.00	2.00	NW-18-II	4.06	5.27	10.00	10.00
SOLs	o-Methylphenol	1	22	3.00	3.00	NW-18-II	5.02	5.52	10.00	50.00
	Butylbenzylphthalate	7	22	1.00	2.00	NW-1D-II	4.75	7.13	10.00	50.00
	Chrysene	1	22	1.00	1.00	NW-7D-II	5.73	7.01	10.00	50.00
	Di-n-octylphthalate	3	21	1.00	3.00	NW-4-II	5.67	7.06	10.00	50.00
	Diethylphthalate	3	22	1.00	2.00	NW-18-II	4.55	5.57	10.00	10.00
	Fluoranthene	1	22	1.00	1.00	NW-7D-II	5.73	7.01	10.00	50.00
	Pyrene	3	22	1.00	3.00	NW-56-II	5.65	7.22	10.00	50.00
	bis(2-Ethylhexyl)phthalate	13	22	5.00	160.00	NW-7S-II	20.60	53.04	10.00	20.00
	Heptachlor epoxide	1	22	0.00	0.00	NW-18-II	0.03	0.03	0.00	0.00
	Heptachlor	1	22	0.00	0.00	NW-18-II	0.03	0.03	0.00	0.00
Pest/PCBs	Aluminum	17	22	310.00	53100.00	NW-3-II	6956.61	29941.17	190.00	520.00
	Arsenic	3	22	6.40	9.20	NW-3-II	2.37	3.09	2.00	10.00
	Barium	20	22	7.00	230.00	NW-3-II	57.94	130.00	3.00	19.20
	Cadmium	1	22	4.00	4.00	NW-7S	2.07	2.45	1.90	9.70
	Calcium	22	22	5000.00	50500.00	NW-5D-II	15060.61	20430.61	.	.
	Chromium	22	22	11.00	1440.00	NW-3-II	204.10	496.06	.	.
	Cobalt	3	22	10.50	29.30	NW-3-II	5.31	8.91	2.00	14.00
	Copper	17	22	26.00	179.00	NW-3-II	67.90	126.23	17.00	27.00
	Iron	22	22	450.00	40900.00	NW-3-II	6400.34	14695.15	.	.
	Lead	19	19	10.20	240.00	NW-3-II	40.66	66.40	.	.
	Magnesium	22	22	550.00	3070.00	NW-3-II	1740.95	2210.96	.	.
	Manganese	22	22	0.20	082.00	NW-3-II	91.42	151.15	.	.
	Mercury	5	22	0.06	0.20	NW-3	0.00	0.13	0.04	0.20
	Nickel	17	22	0.20	97.40	NW-18-II	30.66	61.22	7.90	10.00
	Potassium	19	22	1010.00	41500.00	NW-5D	5790.07	7523.74	1600.00	1960.00
	Sodium	22	22	2090.00	52500.00	NW-2-II	10529.55	30900.10	.	.
	Vanadium	6	22	6.00	72.40	NW-2-II	10.40	24.75	1.00	6.00
	Zinc	10	19	45.00	342.00	NW-5D-II	99.20	131.41	65.50	65.50

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE (CONTINUED).

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE

UNITS: all water analyses are ug/L; organic soils are ug/Kg; inorganic soils are mg/Kg.

TYPE-NW-6S and NW-6D/Ground Water

Class	Analyte	Num. Times Detected	Num. Samples Analyzed	Lowest Detected Conc.	Highest Detected Conc.	Highest Conc. Locat.	Arithmetic Mean Conc.	95 Pct. Upp. Conf. Limit	Lowest Observed Det. Limit	Highest Observed Det. Limit
NHAs	Butylbenzylphthalate	2	4	1.00	2.00	NW-6S-II	3.25	39.59	10.00	10.00
	Di-n-octylphthalate	1	4	1.00	1.00	NW-6S-II	4.00	57.96	10.00	10.00
	bis(2-Ethylhexyl)phthalate	2	4	5.00	6.00	NW-6S	7.50	21.34	10.00	20.00
Inorganics	Aluminum	2	4	353.00	663.00	NW-6S-II	387.75	2373.60	371.00	419.00
	Barium	4	4	7.00	75.70	NW-6S-II	40.70	2959.42	.	.
	Calcium	4	4	12400.00	24200.00	NW-6S-II	17450.00	28924.41	.	.
	Chromium	4	4	13.00	54.40	NW-6S-II	34.50	200.84	.	.
	Copper	2	4	33.00	79.80	NW-6S-II	33.83	1464.39	10.00	27.00
	Iron	4	4	450.00	1370.00	NW-6S-II	792.25	2025.63	.	.
	Lead	2	2	25.20	29.40	NW-6S-II	27.30	29.40	.	.
	Magnesium	4	4	1670.00	2760.00	NW-6S-II	2212.50	3089.16	.	.
	Manganese	4	4	20.90	92.00	NW-6D	53.58	270.84	.	.
	Nickel	2	4	20.90	22.00	NW-6D	12.96	375.63	7.90	10.00
	Potassium	4	4	2270.00	3010.00	NW-6D	3645.00	7596.05	.	.
	Sodium	4	4	10600.00	14000.00	NW-6S	12100.00	14331.60	.	.
	Zinc	3	3	40.00	97.00	NW-6S-II	79.73	354.00	.	.

SUMM. / STATISTICS FOR THE ANCHOR CHEMICAL SITE (CONTINUED).

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE
 UNITS: all water analyses are ug/L; organic soils are ug/Kg; inorganic soils are mg/Kg.

TYPE-Deep Subsurface Soils

Class	Analyte	Num. Times Detected	Num. Samples Analyzed	Lowest Detected Conc.	Highest Detected Conc.	Highest Conc. Locat.	Arithmetic Mean Conc.	95 Pct. Upp. Conf. Limit	Lowest Observed Det. Limit	Highest Observed Det. Limit
VOCs	2-Butanone	2	20	32.00	37.00	NW-7D(56-58')	0.70	10.77	10.00	21.00
SVOCs	bis(2-Ethylhexyl)phthalate	6	20	16.00	400.70	IB-6(40-42')	106.77	253.53	330.00	693.00
Pest./PCBs	Heptachlor	1	20	0.20	0.20	NW-7D(116-116)	4.49	7.66	0.00	16.00
Inorganics	Aluminum	20	20	290.00	2130.00	IB-3(30-34')	600.35	1150.63	.	.
	Arsenic	16	20	0.24	1.90	IB-1(15-17')	0.70	1.03	0.00	0.00
	Barium	11	19	0.02	12.30	IB-3(30-34')	3.04	6.91	0.00	3.10
	Cadmium	4	20	0.59	0.92	IB-3(35-39')	0.40	0.50	0.00	1.40
	Calcium	1	14	160.00	160.00	IB-1(15-17')	31.06	44.94	21.50	74.00
	Chromium	14	20	1.40	23.20	NW-7D(56-56')	0.19	5.61	2.90	4.50
	Cobalt	2	20	1.50	1.60	IB-3(30-30')	0.95	1.09	1.00	2.00
	Iron	19	19	695.00	9160.00	IB-3(35-39')	3114.26	4574.32	.	.
	Lead	13	17	0.62	2.10	NW-6D(60-62')	1.00	1.27	0.03	1.20
	Magnesium	16	16	7.50	473.00	IB-3(30-34')	124.79	379.05	.	.
	Manganese	20	20	7.20	93.30	IB-3(30-34')	30.34	69.67	.	.
	Nickel	1	19	1.50	1.50	IB-3(30-34')	1.02	1.40	0.20	2.40
	Potassium	3	20	91.50	220.00	IB-3(30-34')	156.21	245.63	90.00	420.00
	Selenium	1	20	0.70	0.70	NW-5D(115-117)	0.36	0.43	0.00	0.00
	Sodium	2	10	160.00	201.00	NW-7D(56-50')	106.17	517.23	14.00	990.00
	Vanadium	0	20	1.40	6.10	IB-3(35-39')	1.97	3.50	1.20	3.50
	Zinc	7	13	3.10	12.90	IB-3(35-39')	4.47	10.36	1.70	4.00

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE (CONTINUED).

SUMMARY STATISTICS FOR THE ANCHOR CHEMICAL SITE
 UNITS: all water analyses are ug/L; organic soils are ug/Kg; inorganic soils are mg/Kg.

TTPH-Sediments

Class	Analyte	Num. Times Detected	Num. Samples Analyzed	Lowest Detected Conc.	Highest Detected Conc.	Highest Conc. Locat.	Arithmetic Mean Conc.	95 Pct. Upp. Conf. Limit	Lowest Observed Det. Limit	Highest Observed Det. Limit
VOCs	1,1,1-Trichloroethane	1	10	3300.00	3300.00	DW-2	390.30	102396.91	5.50	1150.00
	1,1-Dichloroethane	1	10	1600.00	1600.00	DW-2	220.30	29740.35	5.50	1150.00
	Carbon Disulfide	2	10	5.00	21.00	DW-9	167.30	19739.46	5.50	2100.00
	Ethylbenzene	1	10	4000.00	4000.00	DW-2	540.30	205239.90	5.50	1150.00
	Toluene	6	10	5.00	4000.00	DW-2	571.63	801540.52	5.50	1100.00
	Total Xylenes	1	10	67000.00	67000.00	DW-2	6760.90	79976639.89	5.50	1150.00
BHA	2-Methylnaphthalene	1	10	3900.00	3900.00	DW-2	1301.90	2990.09	339.90	2999.70
	Benz(a)pyrene	2	10	500.00	1100.00	DW-0	1034.91	1900.94	339.90	2999.70
	Benz(b)fluoranthene	2	10	1000.00	2700.00	DW-0	1234.91	2400.21	339.90	2999.70
	Benz(k)fluoranthene	2	10	560.00	1700.00	DW-0	1092.91	2106.12	339.90	2999.70
	Benzoic Acid	1	10	73.00	73.00	DW-5	5412.90	65294.75	0720.00	14544.00
	Butylbenzylphthalate	6	10	40.00	5200.00	DW-2	1676.77	13690.72	1790.50	2999.70
	Chrysene	4	10	230.00	2000.00	DW-0	956.07	2370.16	339.90	2999.70
	Di-n-butylphthalate	3	10	73.00	2500.00	DW-2	1105.15	4062.60	1790.50	2999.70
	Fluoranthene	6	10	410.00	3400.00	DW-0	1151.07	2729.00	339.90	2999.70
	Indeno(1,2,3-cd)pyrene	1	10	1500.00	1500.00	DW-0	1131.92	2101.22	339.90	2999.70
	Naphthalene	1	10	9500.00	9500.00	DW-2	1941.90	5120.06	339.90	2999.70
	Phenanthrene	5	10	190.00	1500.00	DW-0	769.94	2040.05	339.90	2999.70
	Pyrene	5	10	34.00	4500.00	DW-0	1230.27	9106.62	1790.50	2999.70
	bis(2-Ethylhexyl)phthalate	3	10	11000.00	27000.00	DW-2	9410.00	60724.93	1000.00	12000.00
Pest/PCBs	4,4'-DDE	6	9	10.00	146.00	DW-2	42.44	479.35	6.00	9.44
	Dieldrin	6	9	16.00	106.00	DW-2	33.33	233.65	6.00	9.44
	Endrin	2	9	12.00	36.00	DW-2	0.95	17.27	6.00	12.00
	Heptachlor	7	9	7.50	126.00	DW-4	35.66	51.56	16.00	30.40
	alpha-BHC	1	9	103.00	103.00	DW-2	22.67	106.43	3.44	6.00
	beta-BHC	1	9	0.20	0.20	DW-9	3.09	4.40	3.44	6.00
	gamma-chlordane	2	9	3.40	29.00	DW-0	22.50	46.04	34.00	60.00
Inorganics	Aluminum	10	10	1610.00	11109.00	DW-0	4723.50	9376.31	.	.
	Antimony	3	10	9.00	12.00	DW-1	5.35	8.29	6.00	6.40
	Arsenic	9	10	0.79	3.70	DW-2	2.10	3.52	0.00	0.00
	Barium	10	10	9.70	99.20	DW-2	39.20	70.13	.	.
	Calcium	10	10	1300.00	22900.00	DW-3	10263.00	26509.34	.	.
	Chromium	10	10	17.40	463.00	DW-2	124.66	600.50	.	.
	Cobalt	0	10	3.10	11.30	DW-0	5.03	11.00	3.40	3.40
	Copper	10	10	0.30	266.00	DW-2	67.90	257.42	.	.
	Iron	10	10	3810.00	22700.00	DW-0	12444.30	20604.09	.	.
	Lead	10	10	01.30	1620.00	DW-0	562.33	2004.60	.	.
	Magnesium	10	10	930.00	16100.00	DW-0	5797.50	15315.92	.	.
	Manganese	10	10	51.45	109.00	DW-9	107.55	159.40	.	.
	Mercury	2	9	0.24	0.34	DW-7	0.11	0.22	0.10	0.10
	Nickel	10	10	4.70	21.50	DW-2	13.04	19.71	.	.
	Potassium	10	10	106.00	615.00	DW-6	333.10	853.01	.	.
	Sodium	6	6	447.00	1240.00	DW-0	766.00	1296.77	.	.
	Thallium	2	10	0.20	0.33	DW-2	0.16	0.20	0.20	0.30
	Vanadium	10	10	5.30	01.00	DW-0	20.25	92.46	.	.
	Zinc	10	10	24.60	1770.00	DW-2	306.00	1944.01	.	.

TABLE B:

EXPOSURE PATHWAYS CONSIDERED

ANCHOR CHEMICAL SITE: SUMMARY OF EXPOSURE PATHWAYS

Pathway	Receptor	TIME-FRAME EVALUATED		DEGREE OF ASSESSMENT		Rationale for Selection or Exclusion	Data Grouping
		Present	Future	Quant.	Qual.		
Ground Water							
Ingestion of Ground Water	Resident	No	Yes	X		Ground water is domestic and commercial water supply for Nassau County. Current exposure is not known to be occurring.	All ground water samples.
Inhalation of Ground Water Contaminants during Showers	Resident	No	Yes	X		Expected to be less significant than exposure via ingestion.	Same as above.
Inhalation of Contaminants that Volatilize from Ground Water and Seep into Basements	Resident	No	No			Depth to ground water, 60 feet, precludes exposure via this pathway.	
Dermal Contact with Ground Water	Resident	No	Yes		X	Expected to be less significant than exposure via ingestion and inhalation during showering.	
Soils and Sediments							
Incidental Ingestion of Soils	Excavation Worker	No	Yes	X		Entire site is paved, so current exposure to surface soil contaminant is not occurring. Exposure to site soils may occur during excavations for future site development.	All soil samples, including drywell and drain samples, collected to a depth of no more than 15 feet.
Dermal Contact with Soils*	Excavation Worker	No	Yes	X		Entire site is paved, so current exposure to surface soil contaminant is not occurring. Exposure to site soils may occur during excavations for future site development.	All soil samples, including drywell and drain samples, collected to a depth of no more than 15 feet.
Inhalation of VOC Emissions and Particulates from Soils	Excavation Worker	No	Yes		X	Expected to be less significant than exposure via ingestion and dermal contact.	

*Cadmium, PCBs, and dioxin only (if present).

TABLE C:

ORAL CHRONIC AND SUBCHRONIC TOXICITY VALUES

TOXICITY VALUES FOR CONTAMINANTS OF CONCERN AT THE ANCHOR CHEMICAL SITE

	CARCINOGENIC			CHRONIC	SUBCHRONIC
Chemical	Weight of Evidence Classification		Oral Slope Factor (mg/kg/day) ⁻¹	Chronic Oral RfD (mg/kg/day)	Subchronic Oral RfD (mg/kg/day)
Volatiles					
Carbon disulfide	-			1.00E-01 a	1.00E-01 b
1,1-Dichloroethane	C	a		1.00E-01 b	1.00E+00 b
Ethylbenzene	D	a		1.00E-01 a	1.00E+00 b
Toluene	D	a		2.00E-01 a	2.00E+00 b
1,1,1-Trichloroethane	D	a		9.00E-02 b	9.00E-01 b
Xylenes	D	a		2.00E+00 a	4.00E+00 b
BNAs					
Benzoic acid	D	a		4.00E+00 a	4.00E+00 b
Benzo(a)pyrene	B2	a	7.30E+00 a		
Benzo(b)fluoranthene	B2	a	7.30E-01 d		
Benzo(k)fluoranthene	B2	a	7.30E-01 d		
Benzylbutylphthalate	C	a		2.00E-01 a	2.00E+00 b
Bis(2-ethylhexyl)phthalate	B2	a	1.40E-02 a	2.00E-02 a	2.00E-02 b
4-Chloroaniline	-			4.00E-03 a	4.00E-03 b
Chrysene	B2	a	7.30E-02 d		
Diethylphthalate	D	a		8.00E-01 a	8.00E+00 b
Di-n-butyl phthalate	D	a		1.00E-01 a	1.00E+00 b
Di-n-octyl phthalate	-			2.00E-02 b	2.00E-02 b
Fluoranthene	D	a		4.00E-02 a	4.00E-01 b
Indeno(1,2,3-cd)pyrene	B2	a	7.30E-01 d		
2-Methylnaphthalene	-				
Naphthalene	D	a			
Phenanthrene	D	a			
Pyrene	D	a		3.00E-02 a	3.00E-01 b
Pesticides					
alpha-BHC	B2	a	6.30E+00 a		
beta-BHC	C	a	1.80E+00 a		
gamma-Chlordane (r)	B2	a	1.30E+00 a	6.00E-05 a	6.00E-05 b
4,4' DDE	B2	a	9.40E-01 a		
Dieldrin	B2	a	1.60E+01 a	5.00E-05 a	5.00E-05 b
Endrin	D	a		3.00E-04 a	3.00E-04 b
Methoxychlor	D	a		5.00E-03 a	5.00E-03 b
Inorganics					
Aluminum	D	c		1.00E+00 c	1.00E+00 e
Antimony	-			4.00E-04 a	4.00E-04 b
Arsenic	A	a	2.00E+00 f	3.00E-04 a	3.00E-04 b
Barium	-			7.00E-02 a	7.00E-02 b
Beryllium	B2	a	4.30E+00 a	5.00E-03 a	5.00E-03 b
Cadmium	B1	a		5.00E-04 a,g	5.00E-04 a
Chromium, total	-			8.76E-01 b	8.77E-01 b
Cobalt	-				
Copper	D	a		5.50E-02 c	5.50E-02 a
Iron	D	c		5.00E-01 c	5.00E-01 e
Lead	B2	a			
Manganese	D	a		5.00E-03 a,j	1.80E-01 b
Mercury	D	a		3.00E-04 b	3.00E-04 b
Nickel	A	a		2.00E-02 a,j	2.00E-02 b
Thallium	-			7.00E-05 b,k	7.00E-04 b,k
Vanadium	-			7.00E-03 b	7.00E-03 b
Zinc	D	a		3.00E-01 b	3.00E-01 b

- From IRIS.
- From IRLAST.
- Interim value from IRLAST.
- Oral slope factor for B(a)P used for PAHs classified as B2 carcinogens with the TEFs applied.
- Chronic RfD used as Subchronic RfD if no Subchronic value is available per RAGS.
- Arsenic oral slope factor derived from unit risk in IRIS.
- Cadmium RfD is for water; 1.0E-03 mg/kg/day is RfD for food.
- Value is weighted-average value of the Max and Td RfDs assuming 7 parts Td to 1 part Max.
- Manganese RfD is for water; RfD for food is 1.4E-1 mg/kg/day.
- Value is for nickel, soluble salts.
- Value is for Thallous oxide.

TABLE D:

NONCARCINOGENIC RISK ESTIMATES FOR EACH EXPOSURE PATHWAY AND
RECEPTOR ASSESSED.

**SUMMARY OF NONCARCINOGENIC HAZARD INDICES (HI)
ESTIMATED FOR THE ANCHOR CHEMICAL SITE**

Scenario	Receptor	Present/Future	Chronic HI^a
Ground Water			
Ingestion	Onsite and/or Adjacent Resident	F	$3 \times 10^{+0}$ *
Inhalation	Onsite and/or Adjacent Resident	F	$\frac{2 \times 10^{-4}}{3 \times 10^{+0}}$ *
Subsurface Soil and Sediments			
Ingestion	Excavation Worker	F	4×10^{-1b}
Dermal Contact	Excavation Worker	F	$\frac{4 \times 10^{-4b}}{4 \times 10^{-1}}$

^aChemical-specific risk assessment summary information is presented in the risk spreadsheets in Appendix B.

^bHI is based on Subchronic Protective Body Dose.

*Exceeds unity.

TABLE E:
CARCINOGENIC RISK ESTIMATES

**SUMMARY OF CARCINOGENIC RISK ESTIMATED FOR THE
ANCHOR CHEMICAL SITE**

Scenario	Receptor	Present/Future	Total Risk^a
Ground Water			
Ingestion	Onsite and/or Adjacent Resident	F	8×10^{-5} *
Subsurface Soil and Sediments			
Ingestion	Excavation Worker	F	3×10^{-7}

*Exceeds 10^{-6} risk

^aChemical-specific risk assessment summary information is presented in the risk spreadsheets in Appendix B.

APPENDIX III

ADMINISTRATIVE RECORD INDEX

ANCHOR CHEMICALS SITE
ADMINISTRATIVE RECORD FILE
INDEX OF DOCUMENTS

1.0 SITE IDENTIFICATION

1.1 Background - RCRA and Other Information

- P. 100001 - Map: "Property on West John Street", prepared by
100001 Holzmacher, McLendon & Murrell, prepared for Jerry
Spiegel Associates, April 18, 1967.

1.4 Site Investigation Reports

- P. 100002 - Letter to Mr. Norman H. Nosenchuck, Director,
100104 Division of Solid Waste, New York State Department
of Environmental Conservation, from Mr. Donald R.
Ganser, Project Manager, Woodward-Clyde
Consultants, Inc., re: Engineering Investigations
at Inactive Hazardous Waste Sites in the State of
New York, Phase I - Preliminary Investigation,
Anchor Chemicals, June 3, 1983. (Attached report:
untitled, prepared by Woodward-Clyde Consultants,
Inc., undated.)

3.0 REMEDIAL INVESTIGATION

3.2 Sampling and Analysis Data/Chain of Custody Forms

- P. 300001 - Letter to Ms. Dorothy Allen, Project Manager, U.S.
300321 EPA, Region II, from Mr. Dean Anson II, Co-
Facility Coordinator, Anson Environmental, re:
Disposal of Soil and Water, Anchor Chemical Site,
December 20, 1991. (Attached: 1. Report:
Quality Assurance Review, The Anchor Chemical
Project, prepared by Environmental Standards,
Inc., prepared for Anson Environmental, December
10, 1991. 2. Report: untitled, prepared by
Environmental Standards, Inc., undated.)

- P. 300322 - Letter to Ms. Dorothy Allen, Project Manager, U.S.
300510 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Enclosed data sheets for Anchor Chemical Site, February 4, 1992. (Attached: "Validated Data, All Drywells (First Sampling), undated.)
- P. 300511 - Letter to Ms. Dorothy Allen, Project Manager, U.S.
300609 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Enclosed data sheets for the composite soil samples, April 7, 1992. (Attached: "Section 2, Analytical Results", undated.)
- P. 300610 - Facsimile transmittal sheet to Ms. Dorothy Allen,
300615 U.S. EPA, from Mr. Dean Anson, Anson Environmental, Ltd., re: TCLP, CLP data validation soil composite, April 8, 1992. (Attached: 1. Letter to Ms. Fritzi Mazzola, Anson Environmental, from Mr. Donald J. Lancaster, Senior Quality Assurance Chemist, Environmental Standards, Inc., re: Quality assurance review of the data package for the TCLP analysis of Sample #1, #2, #3 (composite sample), March 25, 1992. 2. Report: Section 1: Quality Assurance Review, prepared by Mr. Donald J. Lancaster, Senior Quality Assurance Chemist, Environmental Standards, Inc., March 25, 1992.)
- P. 300616 - Letter to Mr. Tom Taccone, Project Manager, U.S.
300631 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Enclosed validated results for the first round of groundwater samples, July 24, 1992. (Attached: "Section 2, Analytical Results", undated.)
- P. 300632 - Letter to Mr. Tom Taccone, Project Manager, U.S.
300713 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Enclosed validated data from soil and groundwater samples, August 13, 1992. (Attached: "Composite Soil Sampling from Drums (Soil Originally Brought onto the Site to Sand the Parking Lot)", undated.)

- P. 300714 - Letter to Mr. Tom Taccone, Project Manager, U.S.
300726 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Enclosed validated data from groundwater samples, August 20, 1992. (Attached: Analytical results, undated.)
- P. 300727 - Letter to Mr. Jonathan Greco, Bureau of Eastern
300776 Remedial Action, Division of Hazardous Waste Remediation, Federal Projects Section, New York State Department of Environmental Conservation, from Mr. Dean Anson II, Anson Environmental Ltd., re: Disposal of soil cuttings, September 9, 1992. (Attached data, undated.)
- P. 300777 - Letter to Mr. Tom Taccone, Project Manager, U.S.
300789 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Request for a copy of validated data, September 17, 1992. (Attached: 1. Letter to Mr. Tom Taccone, Project Manager, U.S. EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Request for a copy of validated data, September 18, 1992. 2. Sampling information, undated.)
- P. 300790 - Letter to Mr. Tom Taccone, Project Manager, U.S.
300799 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Validated data from the soil samples taken from indoor borings #3 and 4, September 21, 1992. (Attached data, undated.)
- P. 300800 - Letter to Mr. Tom Taccone, Project Manager, U.S.
300820 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Sampling requirements and data, September 24, 1992. (Attached: "Drywell Sediment Sampling", undated.)
- P. 300821 - Facsimile transmittal sheet to Mr. Tom Taccone,
300825 U.S. EPA, from Ms. Fritzi Gros-Daillon, Anson Environmental, Ltd., re: Anchor Chemical - Well 1-S Installation Log, July 21, 1993. (Attached: Sampling information, undated.)

- P. 300826 - Facsimile transmittal sheet to Mr. Tom Taccone,
300829 Project Manager, U.S. EPA, from Mr. Dean Anson,
Anson Environmental, Ltd., re: Enclosed
corrected charts, November 3, 1993. (Attached:
1. Table 3-3, "Well Development Data", undated.
2. Table 4-6, "Indoor Borings, OVM Readings and
Samples Selected", undated. 3. Table 4-10,
"Specific Capacity Tests", undated.)
- P. 300830 - Letter to Mr. Thomas Taccone, Project Manager,
300847 U.S. EPA, from Mr. Dean Anson II, Co-Facility
Coordinator, Anson Environmental, Ltd., re:
Validated Results from Cesspool Sampling, Anchor
Chemical Superfund Site, November 10, 1993.
(Attached: 1. Report: Section 1: Quality
Assurance Review, prepared by Mr. LeRoy F.
Wenrick, Quality Assurance Chemist, Environmental
Standards, Inc., October 29, 1993. 2. A. Organic
Data, undated. 3. B. Inorganic Data, undated.)
- P. 300848 - Letter to Mr. Kevin Kubik, U.S. EPA, from Mr. Dean
300860 Anson II, Co-Facility Coordinator, Anson
Environmental, Ltd., re: Additional information
prepared by the data validator for the samples
analyzed from indoor borings #1 and #2, January 3,
1994. (Attached: 1. Report: Section 1: Quality
Assurance Review, prepared by Mr. William S.
Strohben, Jr., Quality Assurance Chemist,
Environmental Standards, Inc., March 2, 1992. 2.
"Section 6, Case Narratives and Chain-of-
Custodies", undated.)
- P. 300861 - "Completed Analysis Report, Anchor Chemical",
300862 March 31, 1995.
- P. 300863 - Letter to Ms. Alison Devine, Region II ARCS
300869 Project Officer, U.S. EPA, from Mr. Robert D.
Goltz, P.E., ARCS II Program Manager, CDM Federal
Programs Corporation, re: Letter Report, Summary
of Split Sampling Results of Soil and Groundwater
Samples, Anchor Chemical Site, Hicksville, New
York, June 15, 1995. (Attached report: Letter
Report, Summary of Split Sampling Results of Soil
and Groundwater Sampling, Anchor Chemical Site,
Hicksville, New York, prepared by CDM Federal
Programs Corporation, prepared for U.S. EPA, June
15, 1995.)

- P. 300870 - Facsimile transmittal sheet to Mr. Tom Taccone,
300871 U.S. EPA, from Mr. Dean Anson, Anson
Environmental, Ltd., re: Table 1-2, Anchor
Chemical, July 20, 1995. (Attached: Table 1-2,
"Volatile Organic Compounds Detected at
Quantifiable Concentrations in Groundwater at the
Anchor Chemical Site (concentrations in ug/L) (Roux
1991)", undated.)

3.3 Work Plans

- P. 300872 - Plan: Work Plan Remedial Investigation and
301139 Feasibility Study, Anchor Chemical Site,
Hicksville, New York, prepared by Roux Associates,
Inc., prepared for Spiegel Associates, May 4,
1990.
- P. 301140 - Plan: Project Operations Plan, Remedial
301309 Investigation, Anchor Chemical Site, Hicksville,
New York, prepared by Roux Associates, Inc.,
prepared for Spiegel Associates, April 10, 1991.
- P. 301310 - Plan: Work Plan, Remedial Investigation, Anchor
301490 Chemical Site, Hicksville, New York, prepared by
Roux Associates, Inc., prepared for Spiegel
Associates, April 10, 1991.

3.4 Remedial Investigation Reports

- P. 301491 - Guidance Document: Investigation of Contaminated
301656 Aquifer Segments, Nassau County, New York,
prepared by Nassau County Department of Health,
and Dvirka and Bartilucci, Consulting Engineers,
June 1986.
- P. 301657 - Letter to Ms. Dorothy Allen, Project Manager, U.S.
301700 EPA, Region II, from Mr. Richard G. Leland,
Rosenman & Colin, re: Forwarding enclosed "Tank
Closure Report", September 17, 1991. (Attached
report: Tank Closure Report, prepared by Roux
Associates, Inc., prepared for Spiegel Associates,
August 23, 1991.)

- P. 301701 - Letter to Ms. Dorothy Allen, Project Manager, U.S.
301789 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Enclosed "Quality Assurance Review, The Anchor Chemical Project" Report, April 22, 1992.
(Attached: 1. Letter to Mr. Dean Anson, Anson Environmental, from Mr. Rock J. Vitale, Quality Assurance Specialist/Principal, Environmental Standards, Inc., re: Enclosed "Quality Assurance Review, The Anchor Chemical Project" Report, April 16, 1992. 2. Report: Quality Assurance Review, The Anchor Chemical Project, prepared by Environmental Standards, Inc., prepared for Anson Environmental, April 16, 1992.)
- P. 301790 - Letter to Mr. Tom Taccone, ERRD/NYCSB2-W, U.S.
301803 EPA, from Mr. Arthur Block, Senior Regional Representative, Public Health Service, Agency for Toxic Substances and Disease Registry, Department of Health and Human Services, re: Revised Site Review and Update (SRU) for Anchor Chemicals/Lith Kem-Ko, Hicksville, Nassau County, NY, December 6, 1994. (Attached report: Site Review and Update, Anchor/Lith Kem-Ko, Hicksville, Nassau County, New York, prepared by The New York State Department of Health, November 16, 1994.)
- P. 301804 - Report: Volume 1, Remedial Investigation Report, Anchor Chemical Site, Hicksville, New York,
301967 prepared by Anson Environmental Ltd., prepared for K.B. Company, March 1995.
- P. 301968 - Report: Volume 2, Remedial Investigation Report, Appendix A - D, Anchor Chemical Site, Hicksville, New York,
302032 prepared by Anson Environmental Ltd., prepared for K.B. Company, March 1995.
- P. 302033 - Report: Volume 3, Remedial Investigation Report, Appendix E, Anchor Chemical Site, Hicksville, New York,
302170 prepared by Anson Environmental Ltd., prepared for K.B. Company, March 1995.
- P. 302171 - Report: Volume 4, Remedial Investigation Report, Appendix F - M, Anchor Chemical Site, Hicksville, New York,
302282 prepared by Anson Environmental Ltd., prepared for K.B. Company, March 1995.

- P. 302283 - Report: Remedial Investigation Report Supplement,
302318 Anchor Chemical Site, Hicksville, New York,
prepared by Anson Environmental Ltd., prepared for
K.B. Company, April 1995.
- P. 302319 - Letter to Mr. Arthur D. Sanders, President, K.B.
302633 Company, c/o Jerry Speigel Associates, Mr. Dean
Anson, Anson Environmental, and Richard G. Leland,
Esquire, Rosenman and Colin, from Ms. Carole
Petersen, Chief, New York/Caribbean Superfund
Branch II, U.S. EPA, re: Anchor Chemical Superfund
Site; Final Risk Assessment, June 2, 1995.
(Attached report: Final Risk Assessment, Anchor
Chemical Site, Hicksville, New York, prepared by
TRC Environmental Corporation, prepared for
Emergency and Remedial Response Division, U.S.
EPA, April 1, 1994.)

3.5 Correspondence

- P. 302634 - Letter to Ms. Dorothy Allen, Project Manager, U.S.
302698 EPA, Region II, from Mr. Dean Anson II, Co-
Facility Coordinator, Anson Environmental, and Mr.
Stanley Sucharski, Co-Facility Coordinator, Anson
Environmental, re: Field conditions requiring the
modification of the Project Operations Plan,
January 28, 1992. (Attached: 1. Marine Pollution
Control, Well Experience Log, Boring Logs; 2.
Boring Logs for MW-1D; 3. Description of Soil
Sample MW1-D (122"); 4. Resumes of Individuals who
Examined the Samples from MW-1D; 5. Drilling
Contractor Contacts, Telephone Conversation Logs;
6. Validated Laboratory Data; 7. Unvalidated
Laboratory Data.)
- P. 302699 - Letter to Mr. Bernard J. Bottomley, Director,
302703 Engineering and Administrative Services, Newsday,
from Mr. Dean Anson II, Anson Environmental, re:
Information about Drywell #2 at Anchor Chemical,
March 12, 1992. (Attached: 1. Letter to Mr. Art
Sanders, Spiegel Associates, from Mr. Bernard J.
Bottomly, Newsday, re: Anchor Chemical
information, February 14, 1992. 2. Letter to
Janette Payne, Esquire, Times-Mirror, from
Richard G. Leland, Esquire, Rosenman and Colin,
re: Anchor Chemical documents, February 5, 1992.)

- P. 302704 - Letter to Mr. Tom Taccone, Project Manager, U.S.
302704 EPA, Region II, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, re: Validated data for soil cuttings drummed during installation of the monitoring wells and the indoor borings, September 14, 1992.
- P. 302705 - Letter to Mr. Dean Anson, Anson Environmental,
302707 Ltd., from Ms. Carole Petersen, Chief, NY/Caribbean Superfund Branch II, U.S. EPA, re: Anchor Chemical Superfund Site; Second Round of RI Sampling; Format for Submission of RI Data, September 30, 1992. (Attached: "Risk Assessment Data Format Requirements", prepared by TRC Environmental Corporation, undated.)
- P. 302708 - Facsimile transmittal sheet to Ms. Dorothy Allen,
302709 U.S. EPA, from Mr. Dean Anson, Anson Environmental, Ltd., re: Anchor Chemical, April 30, 1993. (Attached letter to Ms. Dorothy Allen, Project Manager, U.S. EPA, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental Ltd., re: 120 drums of soil cuttings scheduled for removal on May 10th and 11th, April 28, 1993.)
- P. 302710 - Letter to Mr. Thomas Taccone, U.S. EPA, from Mr.
302711 Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Direction of Groundwater Flow, Anchor Chemical Superfund Site, June 21, 1993.
- P. 302712 - Letter to Mr. Thomas Taccone, U.S. EPA, from Mr.
302716 Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Direction of Groundwater Flow, Anchor Chemical Superfund Site, July 13, 1993. (Attached: 1. Map: "West John Street, Monitoring Well Location Plan, Hicksville, New York", prepared by Mr. Albert W. Tay, April 21, 1992. 2. Map: "West John Street, Monitoring Well Location Plan, Hicksville, New York", prepared by Mr. Albert W. Tay, April 21, 1992. 3. "Typical Leeching Pool Detail", undated.)

- P. 302717 - Letter to Mr. Arthur D. Sanders, President, K.B.
302726 Company, c/o Jerry Spiegel Associates, Richard G. Leland, Esquire, Rosenman and Colin, and Mr. Dean Anson, Anson Environmental, Ltd., from Ms. Carole Petersen, Chief, NY/Caribbean Superfund Branch II, U.S. EPA, re: EPA Comments on the Draft Remedial Investigation Report for the Anchor Chemical Superfund Site, August 5, 1993.
- P. 302727 - Letter to Mr. Thomas Taccone, Work Assignment
302729 Manager, U.S. EPA, Emergency and Remedial Response Division, from Mr. Andre Bridgett, Project Manager, TRC Environmental Corporation, re: Ground Water Flow Direction and Sampling Needs, August 24, 1993. (Attached map: "West John Street, Monitoring Well Location Plan, Hicksville, New York", prepared by Mr. Albert W. Tay, April 21, 1992.)
- P. 302730 - Letter to Mr. Thomas Taccone, Work Assignment
302732 Manager, U.S. EPA, Emergency and Remedial Response Division, from Mr. Andrew G. Hargens, TRC Geologist, TRC Environmental Corporation, re: Clarification of Observed Field Sampling Procedures, December 7, 1993.
- P. 302733 - Letter to Mr. Thomas Taccone, Project Manager,
302734 U.S. EPA, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Anchor Chemical Superfund Site, Cesspool Sampling Locations, February 15, 1994. (Attached map: "500 West John Street, Cesspool Sampling Locations", prepared by Anson Environmental, Ltd., undated.)
- P. 302735 - Letter to Mr. Tom Taccone, EPA Work Assignment
302736 Manager, U.S. EPA, Emergency and Remedial Response Division, from Ms. Susan W. Stoloff, Project Manager, TRC Environmental Corporation, re: Tentatively Identified Compounds 1,4-Dioxane and 2-Butoxyethanol, April 5, 1994.

- P. 302737 - Letter to Mr. Arthur D. Sanders, President, K.B.
302742 Company, c/o Jerry Spiegel Associates, Richard G. Leland, Esquire, Rosenman and Colin, Mr. Dean Anson, Anson Environmental, and S. Sucharski, Blasland, Bouck and Lee, from Ms. Carole Petersen, Chief, NY/Caribbean Superfund Branch II, U.S. EPA, re: EPA comments on the Revised Draft Remedial Investigation Report for the Anchor Chemical Superfund Site, May 6, 1994.
- P. 302743 - Letter to Mr. Tom Taccone, Project Manager, U.S.
302743 EPA, from Richard G. Leland, Esquire, Rosenman and Colin, re: EPA Comments on the Revised Draft Remedial Investigation Report for the Anchor Chemical Superfund Site, May 12, 1994.
- P. 302744 - Letter to Mr. Thomas Taccone, U.S. EPA, Region II,
302747 from Mr. Dean Anson II, Anson Environmental, Ltd., re: Responses to EPA May 6, 1994 Comments on the Revised Draft Remedial Investigation Report for the Anchor Chemical Superfund Site, May 31, 1994.
- P. 302748 - Letter to Richard G. Leland, Esquire, Rosenman and
302749 Colin, from James Doyle, Esquire, Assistant Regional Counsel, Office of Regional Counsel, U.S. EPA, re: Draft Remedial Investigation Report, Anchor Chemical Superfund Site, June 29, 1994.
- P. 302750 - Facsimile transmittal sheet to James Doyle,
302752 Esquire, U.S. EPA, from Richard G. Leland, Esquire, Rosenman and Colin, re: Enclosed letter regarding the draft remedial investigation report for Anchor Chemical Superfund Site, July 11, 1994. (Attached letter to James Doyle, Esquire, Assistant Regional Counsel, Office of Regional Counsel, U.S. EPA, Region II, from Richard G. Leland, Esquire, Rosenman and Colin, re: Draft Remedial Investigation Report, Anchor Chemical Superfund Site, July 11, 1994.)
- P. 302753 - Letter to Richard G. Leland, Esquire, Rosenman and
302754 Colin, from James Doyle, Esquire, Assistant Regional Counsel, Office of Regional Counsel, U.S. EPA, re: Issues at the Anchor Chemical Superfund Site, Hicksville, New York, July 18, 1994.

- P. 302755 - Letter to Mr. Thomas Taccone, New York/Caribbean
302807 Compliance Branch, U.S. EPA, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Remedial Investigation Report Revisions, Anchor Chemical Superfund Site, August 3, 1994. (Attached: "Anchor RI Response", July 1994.)
- P. 302808 - Letter to Mr. Marsden Chen, Section Chief, New
302812 York State Department of Environmental Conservation, Federal Project Section, and Mr. Thomas Taccone, Project Manager, U.S. EPA, Region II, from Helen Collier Mauch, Esquire, Rosenman and Colin, re: Enclosed memorandum prepared by Anson Environmental Ltd. setting forth the technical basis for request for no further action in connection with Tank 14, August 29, 1994. (Attached letter to Richard Leland, Esquire, Rosenman and Colin, from Mr. Dean Anson II, Anson Environmental, Ltd., re: Tank Investigation, Anchor Chemical Site, August 29, 1994.)
- P. 302813 - Letter to Mr. Arthur D. Sanders, President, K.B.
302817 Company, c/o Jerry Spiegel Associates, Richard G. Leland, Esquire, Rosenman and Colin, Mr. Dean Anson, Anson Environmental, and S. Sucharski, Blasland, Bouck and Lee, from Ms. Carole Petersen, Chief, NY/Caribbean Superfund Branch II, U.S. EPA, re: Anchor Chemical Superfund Site, EPA Comments on the Revised Draft Remedial Investigation Report, September 30, 1994.
- P. 302818 - Letter to Mr. Tom Taccone, New York/Caribbean
302818 Compliance Branch, U.S. EPA, from Mr. Dean Anson II, Co-Facility Coordinator, Anson Environmental, Ltd., re: Monthly Report for September, 1994, Anchor Chemical Superfund Site, October 4, 1994.
- P. 302819 - Letter to Mr. Thomas Taccone, Remedial Project
302821 Manager, U.S. EPA, from Ms. Susan E. Boone, Work Assignment Manager, CDM Federal Programs Corporation, re: Evaluation of Additional Proposed Soil Borings Upon Baseline Risk Assessment, Oversight of Expanded Remedial Investigation Activities, Anchor Chemical Site, Hicksville, New York, December 14, 1994.

- P. 302822 - Letter to Mr. Thomas Taccone, U.S. EPA, Region II,
302841 from Mr. Dean Anson II, Co-Facility Coordinator,
Anson Environmental, Ltd., re: Responses to EPA
September 30, 1994 Comments on Revised Remedial
Investigation Report, Anchor Chemical Site,
December 28, 1994. (Attached: Information
regarding the Anchor Chemical Site)
- P. 302842 - Letter to Mr. Fred Elsen, U.S. EPA, from Ms.
302842 Fritzi Mazzola Gros-Daillon, Anson Environmental,
Ltd., re: Analytical Standards for 1,4-Dioxane,
Anchor Chemical Superfund Site, Hicksville, New
York, January 13, 1995.
- P. 302843 - Letter to Mr. Thomas Taccone, Project Manager,
302843 U.S. EPA, NY/Caribbean Superfund Branch II, from
Helen Collier Mauch, Esquire, Rosenman and Colin,
re: Request to provide EPA's comments on the
revised remedial investigation report ahead of
schedule, January 30, 1995.
- P. 302844 - Letter to Helen Collier Mauch, Esquire, Rosenman
302844 and Colin, from James Doyle, Esquire, Assistant
Regional Counsel, Office of Regional Counsel, U.S.
EPA, re: Draft Remedial Investigation Report
Comment Letter, Anchor Chemical Superfund Site,
February 1, 1995.
- P. 302845 - Letter to Mr. Arthur D. Sanders, President, K.B.
302847 Company, c/o Jerry Spiegel Associates, Richard G.
Leland, Esquire, Rosenman and Colin, and Mr. Dean
Anson, Anson Environmental, from Ms. Carole
Petersen, Chief, NY/Caribbean Superfund Branch II,
U.S. EPA, re: Anchor Chemical Superfund Site, EPA
Comments on the Revised Draft Remedial
Investigation Report, February 21, 1995.
- P. 302848 - Letter to Mr. Thomas Taccone, U.S. EPA, Region II,
302848 from Mr. Dean Anson II, Anson Environmental, Ltd.,
re: Anchor Chemical Superfund Site, Supplemental
Report to RI, April 12, 1995.

6.0 STATE COORDINATION

6.3 Correspondence

- P. 600001 - Letter to Ms. Dorothy Allen, Eastern NY/Caribbean
600001 Section II, U.S. EPA, Region II, from Mr. Jonathan Greco, Federal Projects Section, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Disposal of Investigation Derived Soils, Anchor Lith Kem-ko Site, December 1, 1992.
- P. 600002 - Letter to Mr. Thomas Taccone, Western NY/Caribbean
600005 Section II, U.S. EPA, Region II, from Mr. Jonathan Greco, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Draft Remedial Investigation Report, Anchor Chemical Site, June 9, 1993.
- P. 600006 - Letter to Mr. Thomas Taccone, Western NY/Caribbean
600021 Section II, U.S. EPA, Region II, from Mr. Jonathan Greco, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Groundwater Flow Direction, Anchor Chemical Site, June 22, 1993. (Attached: Anchor Chemical Site information, undated.)
- P. 600022 - Letter to Mr. Jonathan Greco, Bureau of Eastern
600023 Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, from Mr. Thomas Taccone, Project Manager, Western New York Section II, U.S. EPA, re: NYSDEC's Comments on the Anchor Chemical Draft RI Report, August 12, 1993.
- P. 600024 - Letter to Mr. Tom Taccone, Western NY/Caribbean
600024 Section II, U.S. EPA, Region II, from Mr. Jonathan Greco, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Additional Groundwater Sampling, Anchor Lith Kem-Ko, October 5, 1993.

- P. 600025 - Letter to Mr. Tom Taccone, Western NY/Caribbean
600026 Section II, U.S. EPA, Region II, from Mr. Jonathan Greco, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Draft Final Remedial Investigation, Anchor Lith Kem-Ko, November 16, 1993.
- P. 600027 - Letter to Ms. Dorothy Allen, U.S. EPA, Region II,
600028 from Mr. Michael J. Hughes, Environmental Health Specialist II, Bureau of Toxic Substance Assessment, State of New York Department of Health, re: Preparation of a Site Review and Update (SRU) for the Anchor Lith Kem-Ko Site, January 21, 1994.
- P. 600029 - Letter to Mr. Thomas Taccone, U.S. EPA, Region II,
600029 from Mr. Jonathan Greco, Engineering Geologist I, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Dean Anson's May 31, 1994 Response to Comments on RI, Anchor Lith Kem-Ko Site, June 6, 1994.
- P. 600030 - Letter to Mr. Tom Taccone, Western NY/Caribbean
600030 Section II, U.S. EPA, Region II, from Mr. Jonathan Greco, Bureau of Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Future Actions at the Anchor Lith Kem-Ko Site, May 2, 1995.
- P. 600031 - Letter to Mr. Sal Ervolina, Director, Bureau of
600031 Eastern Remedial Action, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, from Ms. Carole Petersen, Chief, New York/Caribbean Superfund Branch II, U.S. EPA, re: Draft Proposed Plan, Anchor Chemical Site, June 9, 1995.
- P. 600032 - Letter to Ms. Kathleen Callahan, Director,
600032 Emergency and Remedial Response Division, U.S. EPA, Region II, from Mr. Michael O'Toole, Jr., Director, Division of Hazardous Waste Remediation, New York State Department of Environmental Conservation, re: Anchor Chemical Site, Proposed Plan, July 7, 1995.

10.0 PUBLIC PARTICIPATION

10.2 Community Relations Plans

- P. 1000001 - Letter to Ms. Cathy Moyik, Regional Project
1000033 Officer, Emergency and Remedial Response Division,
U.S. EPA, from Mr. Charles Feinberg, Regional
Manager, Alliance Technologies Corporation, re:
Revised Final Community Relations Plan, June 7,
1991. (Attached report: Community Relations
Plan, Anchor Chemical Site, Hicksville, Nassau
County, New York, Community Relations Support,
prepared by Alliance Technologies Corporation,
prepared for Emergency and Remedial Response
Division, U.S. EPA, June 6, 1991.)

10.6 Fact Sheets and Press Releases

- P. 1000034 - Fact Sheet: Superfund Program Fact Sheet, Anchor
1000041 Chemical Site, Hicksville, New York, EPA Begins
Remedial Investigation at the Anchor Chemical
Superfund Site, prepared by U.S. EPA, Region II,
August 1991.

APPENDIX IV

STATE LETTER OF CONCURRENCE

APPENDIX IV

STATE LETTER OF CONCURRENCE

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
50 Wolf Road, Albany, New York 12233



Michael D. Zagata
Commissioner

SEP 29 1995

Ms. Kathleen Callahan
Director
Emergency & Remedial Response Division
U.S. Environmental Protection Agency
Region II
290 Broadway
New York, NY 10007-1866

Re: Anchor Chemical Site ID No. 130018
Record of Decision

Dear Ms. Callahan:

The New York State Department of Environmental Conservation has reviewed the record of decision for the Anchor Chemical site. The Department concurs with the selected remedy of no further action as it is detailed in the above-referenced document.

If you have any questions, please contact Mr. Jonathan Grcco, of my staff, at (518) 457-3976.

Sincerely,

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

344n: Tom Taccione

Post-It® Fax Note	7671	Date	9/29/95	# of pages	1
To	K. Callahan/BMC/PA	From	Charles (Cordaro)		
Co./Dept.	E. PH	Co.	ES&C		
Phone #		Phone #	(518) 457-0730		
Fax #		Fax #	(518) 485-8404		

APPENDIX V

RESPONSIVENESS SUMMARY

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I. RESPONSIVENESS SUMMARY OVERVIEW

This Responsiveness Summary provides a summary of citizen comments and concerns and the responses by the U.S. Environmental Protection Agency ("EPA") to those comments regarding the Remedial Investigation (RI) and Risk Assessment Reports and Proposed Plan for the Anchor Chemical Superfund Site (the "Site"). All comments summarized in this document have been considered in EPA's final decision for selection of a no further action remedy for the Site.

EPA's public comment period, which started on August 23, 1995 and ended on September 21, 1995, provided interested parties with the opportunity to comment on the RI, Risk Assessment and Proposed Plan for the Site. A public meeting was held to discuss implementation of the Site remedy (*i.e.*, removal of contaminated soil and sediments from four drywells and no further action). The meeting was held at the Hicksville Public Library, in Hicksville, New York on September 12, 1995 at 7:00 p.m.

An evaluation of all available data, the findings of the RI conducted at the Site, EPA's Risk Assessment, and other supporting data and documentation indicate that the Site risks are within EPA's acceptable risk range and that a no further action decision is protective of human health and the environment.

Although the risks posed by the Site contamination are within the acceptable risk range, four dry wells on Site are contaminated with chromium, lead, 1,1,1 trichloroethane (1,1,1-TCA) and other volatile organic compounds (VOCs). Groundwater samples from several monitoring wells on Site also showed concentrations of chromium and 1,1,1-TCA, which were above MCLs. The contaminated soils and sediments from the dry wells were removed in order to prevent further groundwater contamination. The excavated materials will be disposed of at a Resource Conservation and Recovery Act (RCRA) approved facility. Groundwater and soil samples will be collected at the Site and analyzed to assess the effectiveness of the removal action. Upon completion of the removal action, EPA will take no further action at the Anchor Chemical Superfund Site.

During the public meeting, the local community reaction to the preferred alternative was, for the most part, favorable. However, there was a concern raised by the Nassau County Department of Health about the potential for contamination to affect public and private drinking water wells, which are downgradient from the Site. The nearest public supply well is approximately one mile downgradient. Also, the Site is in an area which is zoned for industry. According to the Nassau County Department of Buildings, the nearest area which is zoned for residential development is approximately one half mile

downgradient from the Site. Because of the large distances from the Site to the nearest public wells, any contamination which reaches the wells would be greatly reduced, such that any contaminants would be well below MCL levels.

II. BACKGROUND ON COMMUNITY INVOLVEMENT

During the course of the RI and Proposed Plan, EPA has sought to promote community awareness of activities at the Anchor Chemical Site through local newspaper articles, fact sheets, press releases, public notices and public information meetings.

EPA heard from only a few members of the community and local public officials. Public meetings were held in the Community Room of the Hicksville Public Library, Hicksville, New York on August 21, 1991, and September 12, 1995.

EPA's initiated its community relations efforts by developing a Community Relations Plan in October 1990, which included an outline of community concerns, required and suggested community relations activities, and a comprehensive list of federal, state, and local contacts. Site information repositories were established at EPA's Region II office in New York City and the Hicksville Library in the Town of Oyster Bay, New York.

To obtain public input on the RI and the proposed remedy, a public comment period was established from August 23, 1995, to September 21, 1995. A public notice appeared in Newsday on August 23, 1995, and in the Hicksville Illustrative News on August 25, 1995. The public meeting was held on September 12, 1995.

Approximately 15 people attended the meeting. The audience consisted of residents, and state and local government officials. A summary of the questions posed during the meeting is included in the following section.

III. COMPREHENSIVE SUMMARY OF COMMENTS AND RESPONSES

Public comments on the Proposed Plan received from August 23, 1995 through September 21, 1995 are summarized and addressed below. Section A summarizes the written comments received during the public comment period. Section B summarizes those comments received at the public meeting held on September 12, 1995.

A. SUMMARY OF EPA's RESPONSES TO WRITTEN COMMENTS

Comments from State Senator Carl L. Marcellino

Comment 1: Who has oversight responsibility for the round of groundwater samples after the drywell removal action is completed?

EPA Response: The U.S. Environmental Protection Agency, Region II.

Comment 2: Has the air quality issue been addressed? Also, what about asbestos contamination of the building?

EPA Response: Air quality monitoring was performed to determine the concentration of VOCs on Site during the field sampling portion of the Remedial Investigation. This included monitoring personal space as well as the ambient air around samples obtained. The monitoring did not reveal any problems.

Asbestos was not handled at the Site. However, there may be some asbestos in the building, which is currently being used as a warehouse for used machinery. In the event that the building is demolished, asbestos-containing material and debris would be regulated under the Clean Air Act. Any asbestos removal, would be the responsibility of the building owner.

Comments from the Nassau County Department of Health

Comment 1: The preferred alternative should be modified to include off-Site monitoring of wells to determine if groundwater contamination has migrated downgradient of the Site. The Site is located in close proximity to the Westbury Water District supply wells No. 12 and 12A.

EPA Response: EPA does not believe that off-Site groundwater monitoring is needed. District public water supply wells 12 and 12A are each approximately 1 mile downgradient from the Site. As contaminated groundwater moves off Site, the concentration of contaminants will decrease as the "plume" spreads out and diffuses. At a distance of one mile downgradient, the concentration of VOCs from the site should be well below the Maximum Contaminant Levels for drinking water. In addition, because the area in which the Anchor Site is located is zoned for industry, one would expect that other sources of contamination exist between the Site and any potentially affected wells. One would not be able to determine the separate contributions of other potential sources from the Anchor Site. In addition, the Nassau County Health Department periodically monitors public supply wells under existing programs, i.e., the Safe Drinking Water Act.

Comment 2: A private well survey should be performed to determine if any private supply or irrigation wells are present within one-half mile downgradient of the site. If residential private wells are located, water samples should be collected and analyzed for VOCs and metals.

EPA Response : According to the Zoning and Planning Examination Division of the Nassau County Department of Buildings, the nearest residential zone downgradient from the Site is located more than one-half mile in a downgradient direction from the Site. As such, no private well survey will be conducted. It should also be noted that the NYSDOH has a program where they can sample and analyze private wells in the vicinity of hazardous waste sites.

Comment 3: All drywell clean-outs should be performed using the requirements for potential vapor emissions which are outlined in a New York State Department of Health (NYSDOH) procedures manual.

EPA Response: EPA has reviewed the referenced requirements for responding to potentially harmful vapor emissions and will require that they be followed during the drywell removals.

Comment 4: Has the contamination from this Site reached the public drinking supply?

EPA Response : Groundwater at the Site flows to the southwest. The nearest public water supply wells are located 1.2 and 1.3 miles downgradient from the Site. No contamination has been traced in the public water supply system to the current contamination at the Anchor Chemical site. These wells are sampled periodically by the Nassau County Health Department. Groundwater contaminant concentrations identified at the Site would diffuse and significantly diminish by the time they reached (if they reached) the drinking wells. In addition, there may be other sources of contamination located between the Anchor Chemical site and the public supply wells, thereby precluding the specific identification of any contaminants detected.

B. SUMMARY OF EPA'S RESPONSES TO COMMENTS RECEIVED AT THE PUBLIC MEETING

Comment 1: EPA stated at the September 12, 1995 meeting that soils under tank #14 were sampled to determine the presence of 2-butoxyethanol. Since the contaminant was not detected at this location, where did it come from?

EPA Response : The presence of 2-butoxyethanol in the soil probably resulted from leaks and spills during Site operations. The compound does not occur naturally in soil.

Comment 2: At what point in the investigation process is it determined that the problem is at its worst in order to properly remediate, or has it dissipated before there is an opportunity to remediate?

EPA Response: In the case of the Anchor Chemical Site, the highest concentrations of contaminants have already occurred. Soil and groundwater samples collected from 1982 to 1985 showed higher concentrations of VOC contamination. Since the tanks were sealed, levels of contamination have been substantially reduced. This particular source of contamination to the groundwater has been eliminated, and any contamination in the groundwater has been mitigated.

Comment 3: Has a study been performed on the incidences of cancer in the area around the Site? Are there any figures available on whether the cancer rate is higher in this area because of Site operations or contamination?

Response: A representative of the Nassau County Health Department responded at the September 12, 1995, meeting by stating that the Department has a cancer registry for all cancer cases listed in the County or locally. While the County does not perform cancer assessments, the New York State Department of Health does. Such a study has been performed for this area. In sum, the results show that there are no elevated levels of cancer associated with this Site above what would be expected for this area.

Comment 4: Regarding removal of soils from the drywells, how deep and wide are the wells and how much soil is expected to be removed? Finally, what is/are the determining factor(s) to ascertain that the correct amount of soil has been removed?

EPA Response : Drywells at the Site are approximately 2 feet in diameter and extend to a depth of approximately 17 feet below land surface (BLS). EPA proposes to remove approximately 2 feet of soil from 4 pre-existing drywells. This should be about 2 feet below the bottom concrete ring of each drywell, or 19 ft BLS. The remaining soils and sediment will be sampled and analyzed for contamination. Sample data collected for the Remedial Investigation show that the contaminants are present in higher concentrations near the surface; concentrations diminished as samples were drawn from increasingly greater depths.

Ultimately, soils will be removed at a depth of approximately 19 feet BLS in such a fashion that it allows the drywell to remain structurally intact. (Excessive soil removal may cause the walls of the drywell to slump.) Groundwater samples will be taken 6-12 months after the removal action to confirm the effectiveness of the soil removal from the drywells.

Comment 5: While EPA proposes to remove soils below the concrete base of the drywells, what consideration is being given to the potential for contamination to reside in soils on the sides of the drywells?

EPA Response: Results of the Remedial Investigation show that contaminants are concentrated in the bottom of the drywells, rather than around the sides, because the native soils are porous and water percolates downward. EPA believes that most of the contamination has adhered to fine particles which have collected on top of the natural soil in the drywells. These particles wash into the drain and clog pores of the natural sand. These fine particles are typically receptor sites for contaminants. This theory is supported by the fact that samples at incremental depths into the native soil contained very low concentrations of contaminants.

Comment 6: Will the soil being removed from drywells pose a danger to neighbors of the Site?

EPA Response: Soil and sediment will be evacuated into a tank truck. Air monitoring will be conducted on Site during the removal operation. If harmful levels are detected, operations will be halted and corrective measures instituted before operations are resumed.

Comment 7: If, in the future, the property were to be purchased for residential use, would there be any notification that this was a Superfund site and is a record maintained for a certain period of years that acknowledges that this was a Superfund site?

EPA Response : After the drywell removals, EPA will propose that the Site be taken off the National Priorities List (NPL). The process of removing a site from the NPL includes public notice and input and the State has to concur with the proposal. If no contamination is detected after the removal action, EPA would most likely not require that a restriction be placed in the deed. In the event that known contamination remains, the law requires EPA to reevaluate the Site every 5 years if contamination would not allow for unlimited use and unrestricted exposure. EPA does not believe such a scenario will develop for the Anchor Chemical site. Also, see response to comment 9.

Comment 8: Reconfirming earlier discussions, if a contaminated site is cleaned up, there will be no documentation in the deed transaction? Does not real estate law require disclosure?

EPA Response: EPA is not aware of any such requirement; however New York State Real estate laws are not "applicable" requirements which EPA is required to consider in the site remedy selection

process. The clean up of this Site will allow for unlimited use and unrestricted exposure. In addition, when a Superfund site is cleaned up and deleted from the NPL, it is no longer considered a Superfund site and no such documentation should be required to protect human health.

Comment 9: Prospective buyers of the property should be made aware of the previous nature and extent of contamination at the site.

EPA Response: Once the drywell removal action is complete, EPA will propose that the Site be deleted from the National Priorities List (NPL). The EPA maintains a data base which contains a complete history of each NPL Site. The data base, which is called the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), is available to the public. A prospective buyer can contact EPA and request information on a site from the CERCLIS database.

Comment 10: Explain the dramatic increase in concentrations for inorganic compounds and Tentatively Identified Compounds (TICs) between the April 1992 and November 1992 sampling events (e.g., 317 to 1440 ug/l chromium).

EPA Response: A high degree of variability among results for specific compounds is to be expected from the small number of groundwater samples. EPA recognizes presence of these contaminants and the need to address the contamination.

Comment 11: Has the Hooker plant been cleaned up?

EPA Response: There is a Record of Decision for that Site to contain the contamination and to clean up the facility. However, there is a larger problem associated with the site: the fact that contamination has migrated off the property. Since the Hooker property is adjacent to the Grumman property and the Navy facility, there is a groundwater plume of contaminants emanating from these sites. The New York Department of Environmental Conservation is addressing this situation.

Comment 12: How many Superfund (EPA or State) sites are there in the area?

EPA Response: There are two Federal Superfund sites in Hicksville, New York. There are also 9 sites under state jurisdiction within a radius of approximately one mile of the Site.

C. REMAINING CONCERNS

At this time, there are two issues of concern which remain. First, the results of the soil and groundwater samples which will be taken to confirm the effectiveness of the drywell removals and secondly, the deletion of the Site from the NPL.

**RECORD OF DECISION FACT SHEET
EPA REGION II**

Site:

Site name: Anchor Chemical Superfund Site

Site location: Town of Oyster Bay, New York

HRS score: 37.2

Listed on the NPL: June 10, 1986

Record of Decision:

Date signed: September 29, 1995

Selected remedy: No Further Action

Lead:

EPA is the lead agency

Primary Contact: Thomas Taccone; telephone number (212) 637-4281

Secondary Contact: Kevin Lynch, Chief, Western New York Section II;
telephone number (212) 637-4287

Main PRPs: K.B. Contruction - tel. (212) 940-8700
Anchor/Lith Kem-Ko - tel. (901) 763-6851
Chessco industries - tel. (516) 822-9000

Waste:

Waste type: Chromium, lead, and volatile organic compounds

Waste origin: Releases and spills of chemical products

Estimated waste quantity: 15 cubic yards

Contaminated medium: Soil and sediments