

PITNEY HARDIN, KIPP & SZUCH
163 Madison Avenue
CN 1945
Morristown, New Jersey 07960-1945
(201) 267-3333

Attorneys for Plaintiff
Diamond Shamrock Chemicals Company

----- x

DIAMOND SHAMROCK CHEMICALS COMPANY,	:	SUPERIOR COURT
	:	OF
Plaintiff,	:	NEW JERSEY
	:	CHANCERY DIVISION:
-against-	:	MORRIS COUNTY
THE AETNA CASUALTY AND SURETY	:	DOCKET NO. C-3939-84
COMPANY, et al.,	:	
	:	
Defendants.	:	
	:	
-----	:	x

PLAINTIFF'S STATEMENT OF INDISPUTABLE
MATERIAL FACTS WITH RESPECT TO SECOND
TIER MOTIONS

Introductory Statement

Plaintiff Diamond Shamrock Chemicals Company ("Diamond") hereby respectfully submits to the Court the indisputable material facts that support Diamond's cross-motions for partial summary judgment on the "Second Tier Motions" and that require denial of defendants' motions on those same issues.

Summary of Indisputable
Material Facts

Diamond did not intend the dioxin contamination that occurred at its former manufacturing plant at Lister Avenue in Newark and several locations in the vicinity. Diamond was not aware that dioxin contamination was occurring or had occurred until June 1983 when it was so informed by the NJDEP and the EPA. Prior to 1965 when dioxin was detected in the process stream for manufacturing the herbicide 2,4,5-T, Diamond did not know that dioxin was present in the plant or its effluents. Of the several products manufactured at the Lister Avenue plant, 2,4,5-T was the only product whose manufacture involved a process that generated dioxin -- an unintended impurity. When Diamond was told that dioxin was present, its concern about the chemical was based on the likelihood that it was the cause of a skin condition (chloracne) suffered by workers at the plant, not because it had any reason to believe that dioxin might be an environmental hazard. Every former Diamond employee who testified on the issue denied having any knowledge that what was occurring within the confines of the plant was having any adverse effect upon the environment or persons outside the plant. Concern in the scientific community about dioxin as a possible environmental contaminant arose in 1970 and thereafter -- after Diamond had ceased all 2,4,5-T

manufacturing operations and had closed the Lister Avenue plant for business reasons.

While the plant was operating, Diamond had in place non-spill and housekeeping rules that were specifically directed toward protecting workers from the chloracne-causing agent at the plant. These rules were enforced. Diamond also had a preventive maintenance program at the plant which included an annual shutdown period for maintenance work. The plant was inspected at least annually by Aetna, and Aetna's engineers were assigned the task of attempting to pinpoint the cause of the chloracne -- and they were no more successful than Diamond in doing so.

As set forth in Diamond's accompanying Memorandum of Law, the comprehensive general liability policies at issue here provide coverage unless the insurance company defendants can meet their burden of showing either that the dioxin contamination was an intended result of an intentional act or that Diamond knew that such contamination was "substantially certain to follow" from an intentional act. On the facts summarized above (which are fully supported by the record and not subject to reasonable dispute), the defendants cannot possibly meet their burden (and, we submit, should long since have conceded the point).

The indisputable facts also show that the sole purpose of Diamond's expenditures with respect to the Lister Avenue plant site is to prevent further possible environmental contamination through off-site migration of dioxin, whether by wind, water, flooding or other means. Defendants cannot meet their burden of showing that the "owned property" exclusions in their policies have any application here.

Whether the expenditures at issue constitute "damages" is more a question of law than of fact. However, the indisputable facts show that to the extent they expressed views on this matter, defendants admitted that remedial costs are covered by general comprehensive liability policies. Diamond's conduct and statements have been fully consistent with the view that the expenditures at issue here are covered by the policies issued by defendants.

Defendants' suggestion that these expenditures were "ordinary business expenditures" misses the mark both logically and legally. The indisputable facts show that Diamond, faced with imminent enforcement proceedings by the NJDEP and EPA, had no choice but to enter into the Administrative Consent Orders. By Executive Order issued June 2, 1983, New Jersey's Governor had already declared that a possible environmental hazard existed at the plant site. If Diamond had not acted -- and

acted quickly -- the Governmental agencies would have themselves moved in, at greatly increased cost to Diamond and to its insurers.

Defendants' suggestion that there was no "occurrence" here because dioxin cannot be shown to have caused any actual harm is totally insupportable. There is ample evidence developed to support the view that dioxin may constitute an environmental hazard. New Jersey's Governor, the NJDEP, and the EPA were not compelled to wait for scientific finality on this issue. They concluded that there was sufficient scientific evidence to warrant declaring the presence of dioxin at the Lister Avenue plant to be a threat to New Jersey's environment and to the health of its citizens. Their action, taken on the basis of this threat, reflected a legislative and social concern that waiting for scientific finality on matters like these poses an unacceptable social risk. This fact of dioxin contamination, the action the Governmental agencies took to deal with the perceived risks that it posed, and the expenditures that Diamond has made and may be compelled to make constitute "sums which [Diamond] shall [or has] become legally obligated to pay as damages because of bodily injury or property damage . . . caused by an occurrence" under the policies at issue.

Defendants' Purported Statement of
Facts Should Be Rejected By The Court

Many of the "facts" proffered by defendants, both in their Statement and in their several Memoranda, have no support in the record, are frequently contradicted by the record (including even the very portion of the record that defendants cite) and for the most part have nothing whatsoever to do with dioxin, the manufacture of 2,4,5-T (the only Diamond chemical manufacturing process that generated dioxin), effluents from that process stream or dioxin contamination at the Lister Avenue plant. In short, defendants' purported Statement of Facts is almost entirely either inaccurate or irrelevant or fails to cite facts "material" to the issues before the Court.

Defendants' factual assertions pay no attention to the time when events occurred and employ the false logic of 20-20 hindsight. For example, although dioxin in minute quantities was not detected in Diamond's 2,4,5-T process stream until 1965 (and was even then regarded only as a suspected acne-causing agent not otherwise detrimental to the environment), defendants argue as if dioxin were known by Diamond to constitute an environmental hazard from the time Diamond acquired the Lister Avenue plant from Kolker in 1951. Although defendants describe certain deficiencies in the plant's construction, they virtually ignore Diamond's modernization

efforts (including the complete 1960 reconstruction of the building where TCP was produced) and Diamond's extensive efforts to reduce the extremely small amount of dioxin in its process stream, efforts that began as soon as dioxin was detected in 1965. Defendants frequently fail to specify the product or effluent to which they refer; their favorite word, "contaminant," is rarely further identified even though the only "contaminant" at issue here is dioxin.¹ The Lister Avenue plant made several products and by-products, among them, DDT, 2,4,5-T, 2,4-D and muriatic acid; only 2,4,5-T contained the dioxin impurity. References to accidental spills, leaking pumps, or floors susceptible to corrosion rarely, if ever, are tied to that product.

1 See, e.g., defendants' assertion in their "Expected or Intended" Brief (p. 6) that "Diamond knew how to neutralize its process wastes . . . and continuously refused to take any actions to remediate or neutralize the effects of the contaminants for economic reasons" (emphasis in the original). First, as demonstrated by the testimony cited by defendants, this reference has nothing to do with dioxin, but refers to "chlorophenols." The words "dioxin" and "contaminant" do not appear. The former employee in question testified that he was not even aware of the presence of dioxin in Diamond's process stream during the time he was employed by Diamond. Second, as shown herein, there was no contemporaneously apparent "effect" of any discharge of any effluent from the Lister Avenue plant. Defendants do not cite to any such "effect." Chloracne was a condition affecting some workers that existed within the plant only. Third, no technology to "neutralize" dioxin existed in 1969, and it is doubtful that such technology exists today.

The New Jersey Spill Act was passed in 1976 and CERCLA in 1980. Prior to that time there were no statutes that imposed upon a company that had caused contamination in the past (whether intentionally or unintentionally) the responsibility for remediation costs. Out of context snippets of testimony by former employees in Diamond's insurance department and former employees of brokers pertaining to earlier periods of time and other issues to the effect that Diamond's insurance policies do not cover injunctive relief are irrelevant to the issues before the Court here, including whether CERCLA and Spill Act remediation costs are covered by the policies at issue.

Identification of Witnesses
Whose Testimony Is Referred To

The material that follows contains many references to testimony given by a number of former Diamond employees and others. We believe it will be useful to the Court to identify those individuals at the outset of this presentation:

John Burton
(Testimony excerpts appear
in Exhibit 1 hereto)²

Plant Manager, Newark
Plant, 1951-Feb. 20, 1960.

2 The exhibits hereto are incorporated by reference in the accompanying affidavit of Michael P. Tierney, Esq. ("Tierney Aff't").

Raymond Guidi (Testimony excerpts appear in Exhibit 2 hereto)	Assistant Plant Manager, Newark Plant, 1955 or 1956 to March 1960. Plant Manager, 1960 to 1963.
Francis Kennedy (Testimony excerpts appear in Exhibit 3 hereto)	Employed at Newark Plant, 1953-1968. Engineering, 1953-1956; Plant Purchasing (maintenance), 1956-1958. Design Engineer, 1958-1960. Technical Superintendent, Operations Superintendent, 1960-63. Plant Manager, 1963-1968.
Robert Chonoles (Testimony excerpts appear in Exhibit 4 hereto)	Plant Manager, Newark Plant, 1968-1969.
Martin Heisele (Testimony excerpts appear in Exhibit 5 hereto)	Process development, safety engineering, Newark Plant, 1958-1963; assistant to pro- duction manager, Newark Plant, 1967.
Harry S. Weiner (Testimony excerpts appear in Exhibit 6 hereto)	Operations Manager, Diamond Chlorinated Products Division (included Newark), 1958-1963.
J. H. Perkins (Testimony excerpts appear in Exhibit 7 hereto)	Diamond research department, 1955-1963. Development ana- lyst, Corporate Development Department, Cleveland, Ohio, 1964-1966.
James J. Lukes (Testimony excerpts appear in Exhibit 8 hereto)	Manager of Engineering, Cen- tral Engineering Dept., 1959-1963. Manager of Indus- trial Chemicals Division, 1963-1972.
Richard McBurney, M.D. (Testimony excerpts appear in Exhibit 9 hereto)	Medical doctor employed by Diamond. Medical director of Diamond, 1972 to mid 1970's. Vice President of Health & En- vironmental Affairs, 1977 to 1983.

L. A. Wolfskill, Ph.D. (Testimony excerpts appear in Exhibit 10 hereto)	Wood and Clyde Associates. Expert witness for Diamond.
M. F. Catania (Testimony excerpts appear in Exhibit 11 hereto)	Director of Office of Regula- tory Services, N.J.D.E.P.; 1982-1986. Deputy Commis- sioner, 1986 to present.
Fred Angley (Testimony excerpts appear in Exhibit 12 hereto)	Vice President of the Casualty Department at Alexander & Alexander. Joined Alexander & Alexander in September 1977.
Otto Kaufmann (Testimony excerpts appear in Exhibit 13 hereto)	Underwriter at Aetna in the Special Risks Department (then National Accounts office), 1952-1977. Manager, 1952-1977.
Robert Kloiber (Testimony excerpts appear in Exhibit 14 hereto)	Aetna Account Analyst, Na- tional Accounts Department, 1978-1984.
Donald Wright (Testimony excerpts appear in Exhibit 15 hereto)	Manager, National Accounts Dept., Aetna, 1977-1981.
Homer Smith (Testimony excerpts appear in Exhibit 16 hereto)	Plant Engineer, Lister Avenue Plant, 1966-1969.
Gordon Steward (Testimony excerpts appear in Exhibit 17 hereto)	Process Engineer, Lister Avenue Plant 1965-66. Techni- cal Supt. 1966 - August 1968. Acting Plant Manager 1968 - December 1969.
Conrad W. Giles (Testimony excerpts appear in Exhibit 41 hereto)	Broker, Alexander & Alexander, Inc., 1943-1981.

DIAMOND'S STATEMENT OF THE
INDISPUTABLE MATERIAL FACTS

(1) The Newark Dioxin Claims (Complaint, ¶ 10 et seq.) involve dioxin contamination of Diamond's former Lister Avenue plant and several locations in the vicinity of the plant. No other "contaminant" or "pollutant" is involved. The original complaint in this action was filed in September 1984. Diamond's First Amended and Supplemented Civil Action Complaint is annexed to defendants' Statement of Facts as Exhibit 1. Paragraph 4 of that document recites:

"This action seeks a declaration pursuant to N.J.S.A. 2A:16-50 et seq. of the rights and duties of Diamond and its insurers under the Policies in respect of claims against Diamond for bodily injury and property damage allegedly caused by a family of compounds referred to as dibenzo-paradioxins ('dioxin') allegedly created in the manufacture of 2,4,5-T and other chemicals at Diamond's Newark Plant."

No other alleged contaminant is referred to in the Complaint.

Exhibit 18 hereto contains the following documents reflecting that the discovery of dioxin contamination at the Lister Avenue plant site in June 1983 gave rise to the insurance coverage dispute before the Court.

(i) Executive Orders Nos. 40, 40A, 40B, 40C and 40D signed by Governor Thomas Kean on June 2, 1983, June 14,

1983, June 17, 1983, June 29, 1983 and October 19, 1983, respectively, reciting that dioxin had been detected at the 80 Lister Avenue plant site and various locations in the vicinity; that dioxin is "a substance known to be highly toxic to humans," and that the NJDEP had reached the preliminary conclusion that a "potential hazard exists to the public health because of the possibility of transportation of contaminated substances off the described premises into immediately surrounding areas";³ invoking the Governor's emergency powers and directing the Commission of the NJDEP to take all necessary measures to "fully and adequately protect the health, safety and welfare of the citizens of this State from any actual or potential threat or danger which may exist . . ." Executive Order No. 40 gave the Commissioner of the DEP the following powers:

"The powers granted to the Commissioner of Environmental Protection hereby shall include, but not be limited to, the power to use, seize, impound, quarantine, restrict access to, or require the vacating of, or the making of modifications or improvements, temporary or permanent, to any real or personal property which in his judgment is reasonably

3 That the transport of dioxin off the plant site and buildings by natural forces such as wind, flooding, and/or heavy rain remains a threat, is supported by the testimony of Diamond's expert, Anthony Wolfskill, Ph.D., pp. 46-47, 60-62, 174-175 (Exh. 10).

required to abate the emergency caused by the possible presence of dioxin and the consequent threat to public health and welfare, as described above."

(ii) A notice dated June 13, 1983 from the EPA to Diamond stating:

"The EPA hereby requests that you immediately report to the EPA, Region II, at the address and telephone number indicated below, those removal activities, in conformance with 42 U.S.C. § 9601(23), which you have performed and/or those removal activities which you plan to perform immediately, to prevent, correct, clean up, minimize or mitigate the above-described release and/or threatened release.

"You are hereby notified that upon your failure to perform immediate and proper removal activities with regard to the above-described release and/or threatened release, EPA, pursuant to 42 U.S.C. § 9604, may perform such removal activities, and EPA will hold you liable for all costs of removal and for damages for injury to, destruction of, or loss of natural resources, including the reasonable costs of assessing such injury, destruction, or loss."

(iii) A letter dated June 16, 1983 from the EPA to Diamond.

(2) Dioxin was created in minute quantities as an unintended impurity in the manufacture of the herbicide 2,4,5-T, one of several products manufactured at the Lister Avenue plant.⁴ Prior to 1965 Diamond did not know that dioxin

⁴ Chemicals and by-products manufactured at the Lister Avenue plant from 1951-1969 included: 2,4-D;

was generated in the 2,4,5-T manufacturing process and lacked the analytical capability to detect dioxin in the concentrations of several parts per million in which it was ultimately found to be present in the 2,4,5-T process stream. The dioxin impurity was formed in the manufacture of TCP, an intermediate chemical in the manufacture of 2,4,5-T. There is no evidence that dioxin was formed in manufacturing any other chemical product at the Lister Avenue plant. 2,4,5-T was manufactured by Diamond at the Lister Avenue plant from 1951 to mid-1969.

(i) Defendants concede that dioxin was created in the manufacture of the TCP chemical intermediate of 2,4,5-T (Defendants Statement, p. 5) and do not assert that it was created elsewhere in Diamond's manufacturing process. See also Kennedy 61, 68-69 (Exh. 3); Wolfskill 53 (Exh. 10).

(ii) Diamond did not know prior to 1965 that dioxin was present in its 2,4,5-T process stream or that dioxin was the cause of an industrial form of acne that affected some, but not all, workers in the plant. Diamond's former employees who were questioned by defendants on this

(Footnote continued from preceding page)

Hexachlorobenzene, DDT, 2,4,5-T, and "cable compound". Kennedy 12 (Exh. 3). Low strength muriatic acid was also produced. Id. at 131-132.

subject denied knowing that dioxin was present in Diamond's 2,4,5-T process stream prior to 1965: Burton 184, 357 (Exh. 1); Heisele 80-81 (Exh. 5); Guidi 160-162 (Exh. 2); Kennedy 150-151 (Exh. 3).

John Burton, plant manager from 1951-February 20, 1960, testified that he learned that dioxin was the chloracne causing agent in 2,4,5-T sometime in 1960 after he left Diamond's employ. Burton 80-82, 243, 357 (Exh. 1). Mr. Burton expressly testified that he did not pass on this information to anyone at Diamond. Id. at 136.

(iii) Diamond lacked the analytical ability to detect dioxin in concentrations of several parts per million which were ultimately found to be present in Diamond's 2,4,5-T process stream. Guidi 88 (Exh. 2); Kennedy 150-151 (Exh. 3); Burton 240, 273-75 (Exh. 1). There is no contrary evidence.

(iv) Defendants have proffered no evidence that there was an industrial capability to detect dioxin in concentrations of parts per billion in or before 1969 although the alleged environmental hazard at the 80 Lister Avenue site is based upon the presence of dioxin in concentrations of parts per billion. Wolfskill p. 75 (Exh. 10).⁵

5 A Diamond memorandum dated March 25, 1965 from E.L. Chandler to John Cort (Exh. 21) states that at that time Dow

(v) That dioxin was in every sense an "unintended" impurity prior to 1965 cannot be disputed since its existence in Diamond's 2,4,5-T process stream was unknown. Even after its presence was detected in 1965, dioxin was not an "intended" impurity. It was Diamond's goal from 1965 on to reduce the dioxin in its process streams from approximately 20 parts per million to less than one part per million -- then the threshold level of detectability. Kennedy 159 (Exh. 3). See also, the documents contained in Exhibit 29.

(vi) 2,4,5-T was manufactured by Diamond at the 80 Lister Avenue plant from 1951 to 1969. Diamond closed the Plant in 1969 for economic reasons. Guidi 172 (Exh. 2).

(3) 2,4,5-T was a herbicide approved by the United States Department of Agriculture for domestic agricultural use throughout the entire time it was manufactured by Diamond. See Using Phenoxy Herbicides Effectively, U.S.D.A., May 1962, Exh. 19. See also, Exh. 34 and Guidi II-91 (Exh. 2). It was manufactured by a number of companies in the period 1950-1970.

(Footnote continued from preceding page)

Chemicals had no confidence in its ability to detect dioxin in concentrations smaller than one part per million.

See, Dioxins, Industrial Environmental Research Laboratory, Natural Technical Information Service, United States Department of Commerce, Nov. 1980 ("Dioxins") (Exh. 20, pp. 92-93, 100-102) and was still produced in significant quantities in this country up to and including at least 1978. Id. 83, 92, 98. See also Exh. 34, p. 34031. It was a component of Agent Orange that was used in Vietnam up to and including 1970.

(4) It is now believed that all 2,4,5-T contained some dioxin in minute quantities as an unintended impurity. Dioxins at 78-83. See also, Tschirley, "Dioxin," Scientific American, Feb. 1986, Exhibit 117 to Defendants' Statement of Facts. It is now also believed that many other chemicals derived from TCP or other chlorinated phenols contained dioxin as an unintended impurity (id.) See also, Dioxins, at 93-98 (Exh. 20).

(5) Dioxin was not detected as being present in Diamond's 2,4,5-T until 1965.

(i) In 1965 the Dow Chemical Company called a conference of domestic manufacturers of 2,4,5-T and identified dioxin as the agent that had been causing chloracne among workers in plants making 2,4,5-T. Dow stated that dioxin was present in Diamond's TCP (the chemical intermediate of 2,4,5-T in the manufacture of which dioxin was

created) in concentrations of 10-30 parts per million.⁶ Dow provided a technological process for the identification of dioxin in concentrations of parts per million to Diamond and others that attended the conference (id.). The foregoing is reflected in the two contemporaneous memoranda dated March 25, 1965 and March 30, 1965, respectively, by Francis Kennedy (then manager of the Lister Avenue plant) and by E.L. Chandler (then employed as a member of Diamond's "Technical Services" in Cleveland, Ohio), both of which are in Exhibit 21 hereto. See also, Kennedy 150-156 (Exh. 3). As is made clear in Kennedy's notes, the only concern voiced by Dow with respect to dioxin was chloracne. As Kennedy noted, Dow had performed medical tests of its employees and found no evidence that chloracne was symptomatic of any more serious condition affecting the liver or other organs of the body:

"Five of their more severe cases were submitted to extensive testing, which included open(?) liver biopsy; porphyrins; standard metabolic tests; kidney, thyroid, lung and

6 In manufacturing 2,4,5-T and other products of which 2,4,5-T was an ingredient or an intermediate, the concentration of dioxin would be constantly reduced as other substances were added to the TCP. Guidi 99-100 (Exh. 2). The higher dioxin concentrations noted by Dow in Diamond's 2,4,5-T process (20-30 parts per million) were in the earlier stages of manufacture (phenates); the lesser concentrations (10 parts per million) were further along in the production process (2,4,5-T acid). Id., p. 2.

heart functions. In all cases, all of these tests showed normal functioning of the organs involved."

Chandler is deceased. At his deposition Kennedy confirmed that the only concern about dioxin voiced at the 1965 Dow meeting was that it was the cause, previously unknown, of chloracne affecting workers in plants that manufactured 2,4,5-T. Kennedy 156 (Exh. 3). Kennedy testified that the only concern he ever had about dioxin was that it caused chloracne among workers in the plant. Id. at 182-183, 232-233, 326.

(ii) There are a few documents among the hundreds of thousands that Diamond produced to defendants indicating that others, including a German manufacturer of 2,4,5-T, as early as 1957, had believed or suspected that dioxin was the chloracne causing agent in 2,4,5-T. Some of those documents suggested that the formation of dioxin could be eliminated by maintaining the temperatures of the TCP reaction below 155 degrees centigrade. Other contemporaneous documents, however, suggested that other compounds such as "diphenyl ethers" were the cause of chloracne.⁷ As noted above, Diamond did not then have the analytical

⁷ Several such documents are contained in Exhibit 22 hereto.

capability to confirm the presence of dioxin, and as noted below, Diamond's efforts to test the temperature hypothesis failed to confirm that temperature affected the creation of the undetected chloracne causing agent. From Diamond's viewpoint, the information in these documents provided no more than grounds for suspecting that dioxin might be the unknown chloracne causing agent. Burton 82-83, 179-180, 184, 234, 357 (Exh. 1). In 1960 J. T. Perkins, a Diamond process engineer in Diamond's Painesville, Ohio Research Department, was engaged in work on the redesign of the TCP manufacturing process after the explosion of the TCP reactor in 1960 caused by a runaway reaction having nothing to do with the presence of dioxin. Perkins 12-14 (Exh. 7). Perkins speculated that the chemistry in the TCP reaction could produce secondary side reactions that would result in the formation of a molecule that he drew, but did not name. His drawing appears to be of a dioxin molecule and was labeled "suspected chloracnegen." Memorandum dated June 27, 1960 from Perkins to Borrer and others, p. 7 (included in Exh. 23 hereto). Perkins testified that he had only a "suspicion" at the time. Perkins 50-52, 55-59 (Exh. 7).⁸ It was

⁸ As was the case with many of Diamond's plant and scientific personnel, Dr. Perkins did not recall even hearing the term dioxin until the 1970's. Perkins 24 (Exh. 7). See also, Lukes 44, 62-63 (Exh. 8).

also his opinion when the new process was developed that an additional and intended benefit of the safer TCP manufacturing process was that it was less likely to produce the unknown chloracne causing agent. Id. at 31-32. He expressed the view in contemporaneous memoranda that the temperature of the reaction could be increased above 175 degrees after a certain time since the chemicals necessary for the secondary side reaction would not then be present. Memorandum dated January 11, 1961 from Perkins to Borrer and others, pp. 2,3 (contained in Exh. 23 hereto).

(6) Even after Diamond was able to detect dioxin in the minute quantities in which it existed, Diamond believed Dioxin to be nothing more than the cause of the chloracne that affected many workers in the Lister Avenue plant. Kennedy 182-183, 232-233, 326 (Exh. 3). Not all workers contracted chloracne. Burton 49-50, 260-263, 347 (Exh. 1); Kennedy 307 (Exh. 3). Many different chlorophenols manufactured in this country caused chloracne; it was not unique to Diamond or to 2,4,5-T. Burton 253 (Exh. 1); Heisele 22, 123-124 (Exh. 5); Guidi 170 (Exh. 2).

(7) Prior to the time that dioxin was identified in 1965 as the cause of the chloracne in the Lister Avenue plant,

Diamond expended considerable time, money and effort to attempt to identify the source of the unknown cause of the affliction, including the testing of samples from various portions of the process streams, vents, and other portions of the plant by an outside laboratory specializing in such matters. Burton 83-84, 136-137 (Exh. 1); Guidi 45-47, 166-169 (Exh. 2); Heisele 100-101 (Exh. 5); Kennedy 236-237 (Exh. 3). Recourse to available scientific literature by Diamond in 1955 proved fruitless. Burton 71-72 (Exh. 1). Aetna, too, commenced to review the literature at the time in connection with the chloracne problem at the Lister Avenue plant and was similarly unsuccessful. Letters dated July 8, 1955 and July 15, 1955 contained in Exh. 24 hereto. Several of Diamond's competitors had the same problem and conferences were held in a joint effort to attempt to eliminate it. Burton 136-137 (Exh. 1). Diamond experimented with process modifications (including variations in the reaction temperature in an effort to identify the source of and to reduce or eliminate chloracne. Burton 61, 83-84, 173 (Exh. 1); Heisele 99-100 (Exh. 5). The efforts to identify the source of chloracne were not successful Burton 86 (Exh. 1); Guidi 45-47 (Exh. 2); 168-169; Heisele 100 (Exh. 5); Kennedy 236 (Exh. 3); Knutsen 10 (Exh. 48). Experiments with reaction temperature variations continued to at least 1963, but were inconclusive. Burton 112, 411 (Exh. 1); Guidi , 75-76, II-57

(Exh. 2). A selection from the large number of documents reflecting these efforts are contained in Exhibit 24 hereto.

(8) In 1955, in response to the first outbreak of chloracne at the plant,⁹ additional non-spill mechanisms and housekeeping rules were put into effect. Because whatever was in the chemicals might adversely affect workers who came into contact with it, the workers observed the rules. Burton 50-51, 265-266, 370-371 (Exh. 1). The floors in the TCP area were kept clean. Id. at 297-298. Once Diamond recognized the chloracne problem in 1955, spills of chemicals in the 2,4,5-T process stream would have been "unusual." Burton 255-256 (Exh. 1). "Everybody was, for their own protection, quite cautious" Id. These measures appeared to be effective and by 1960 chloracne, while still present, appeared to be abating. Id. at 49-50, 259; Knutsen 10 (Exh. 48). Copies of the rules, manuals, etc. are contained in Exhibit 25 hereto.¹⁰

9 There had been one prior outbreak of Chloracne in 1951. This, however, was believed to be the result of an impurity in TCB, a raw material in the TCP reaction. Burton 251-252 (Exh. 1).

10 See Memorandum dated April 23, 1959 from P.J. Koskey to J. Burton and others, "Safety Instructions: 2,4,5-T Acidification and Centrifuging", stating, inter alia: "All product spills to be cleaned up promptly The operating area is to be kept clean and washed down, to avoid tracking material throughout other parts of the plant Any leakage in equipment shall be reported to foreman promptly to avoid product loss and promote good housekeeping."

Not all workers contracted chloracne. See Burton 251, 259-262 (Exh. 1); Kennedy 307 (Exh. 3). Several of the former Diamond plant employees who testified did not contract chloracne and most believed they avoided it as a result of good personal hygiene. Heisele 18, 147 (Exh. 5); Guidi 84-85 (Exh. 2); Kennedy 307 (Exh. 3). Monsanto was of the same view (memorandum dated July 25, 1955 from Burton to Gleissner in Exhibit 33 hereto), as was the State of New Jersey Department of Health. (Letter dated February 27, 1963 contained in Exhibit 26 hereto).

(9) Following the first outbreak of chloracne at the Lister Avenue plant, the floors of the TCP building were replaced and repitched to facilitate washing down possible spills. Burton 265-267 (Exh. 1). In 1960 the TCP building was completely reconstructed, so that, among other things, the flooring was of modern construction and did not thereafter require patching. Smith 52-53 (Exh. 16). The "old" building (repeatedly referred to in defendants' papers) was destroyed in an explosion on February 20, 1960.

(10) In addition to changing the chemical process and adding many equipment safety features when its TCP building was rebuilt in 1960 (Heisele 14-17 (Exh. 5)), Diamond improved its hygienic facilities to further reduce or moderate the

incidence of chloracne in accordance with the medical thinking of the time. Heisele 145 (Exh. 5); Guidi 30-31 (Exh. 2). Prior to 1965 Diamond also engaged a physician to treat its workers for skin problems, modified its hiring practices for the Lister Avenue plant to avoid hiring those believed to be more susceptible to chloracne (Guidi 131-132, Exh. 2), called in the New Jersey Department of Health and the United States Public Health Service to assist Diamond in attempting to solve the chloracne problem and, in 1963, partially removed the roof on the T-acid building to facilitate ventilation.¹¹ See Guidi 82-85, II 113-119, 139-142 (Exh. 2). Diamond also arranged for periodic medical testing of its employees to ensure that the skin condition was not symptomatic of more serious conditions. Guidi 137-138 (Exh. 2); Kennedy 231-232 (Exh. 3). See documents included in Exhibit 27 hereto.

11 Among the misstatements of the record by defendants is their misquotation at p. 12 of their "Statement of Facts" of a recommendation made by the New Jersey State Department of Health. Defendants purport to quote a recommendation that the "old production building be removed as soon as possible" (emphasis added) and state: "Of course, Diamond did not remove the building." Reference to the document cited, Defendants' Exhibit 50, reveals that the key word is "renovated," not "removed." As stated in Kennedy's July 25, 1963 memo (in Exhibit 27 hereto), extensive renovations were made to the building. (The building in question is the T-acid building; the TCP building had been completely reconstructed in 1960.) Kennedy reports that the U.S.P.H.S. officer was "very pleased" with the renovation.

(11) Engineers employed by Aetna, the primary insurance carrier, visited the plant at various times prior to 1965 in an effort to identify the cause or source of chloracne, but none of Aetna's experts could identify dioxin (or anything else) as the cause. Aetna's engineers conducted stack emission tests and tests of the air in the plant. See also, paragraph 28, infra. One concern of Aetna and Diamond was to reduce worker compensation claims due to chloracne. Documents demonstrating the foregoing are contained in Exhibit 28 hereto.

(12) Once dioxin was identified in 1965 as the cause of the chloracne in the Lister Avenue plant, Diamond immediately commenced experimentation on methods to reduce even the minute levels (several parts per million) in which dioxin was found in Diamond's 2,4,5-T process stream. Kennedy 157-159 (Exh. 3). It was believed that dioxin did not constitute a long term threat, even with respect to chloracne, and that "everything else would be accomplished" if dioxin was removed from the 2,4,5-T process stream. Id. at 173. Experiments with filters, solvents and dilution methods proved unsuccessful. Documents reflecting these extensive experiments are contained in Exhibit 29 hereto. See also, Kennedy 269-270 (Exh. 3). As reflected by Exhibit 29, after September, 1967, every drop of TCP manufactured by Diamond passed through a carbon adsorption tower. Although the effort to reduce the level of dioxin in

the 2,4,5-T process did not uniformly achieve the goal of reducing the presence of dioxin to one part per million, Diamond's manufacturing records show that it did achieve that goal from time to time and succeeded, overall, in reducing the levels of dioxin in the process stream. Guidi 163 (Exh. 2); Kennedy 181 (Exh. 3). See also, the documents contained in Exhibit 30 hereto.

(13) At no time did anyone employed by Diamond believe that dioxin (or, prior to 1965, the unknown impurity that was causing chloracne) did or could cause any condition other than chloracne to workers in the plant, or did or could cause any harm or consequence to the environment or to persons outside the plant. The testimony of the Diamond plant managers, the medical doctor Diamond assigned to evaluate the extent of the problem, and other employees is unequivocal on this point. Burton 259-261 (Exh. 1); Kennedy 324, 326, 193, 272-273 (Exh. 3); McBurney 124, 128-129 (Exh. 9); Heisele 152 (Exh. 5); Guidi 160-162, II 73-74, II 119-125 (Exh. 2); Chonoles 100, 162-163 (Exh. 4). See also Knutsen 10-11 (Exh. 48).

(14) Although chloracne was treated as a serious matter by Diamond, it did not appear to pose a serious health threat to the workers. Because Dr. Jacob Bleiberg, not a

Diamond employee, who was treating the workers for their skin conditions believed that chloracne might be associated with a more serious ailment, porphyria, commencing in 1963 and continuing until the plant closed, workers were provided periodic urine tests to determine whether porphyria was present. McBurney 109-110 (Exh. 9). At Dr. Bleiberg's suggestion (and with Diamond's concurrence) two men afflicted with severe chloracne were hospitalized for tests. Dr. Bleiberg concluded that porphyria was present and published his results. (Documents reflecting the foregoing are contained in Exhibit 31 hereto.) Diamond's own doctor, Richard McBurney, M.D., did not participate in the examinations, but he did not take issue with Bleiberg's finding of porphyria. Dr. McBurney advised Diamond's management that chloracne and porphyria were "self-limited and reversible." See memorandum dated June 7, 1963, Exh. 31. See also, Guidi 41, II 124-125 (Exh. 2). Porphyria is a profound disease where victims experience severe abdominal pain and appear ill. McBurney 93, 96-97 (Exh. 9). Dr. McBurney met with the Lister Avenue workers. They did not appear to him to exhibit signs of serious illness. McBurney 53, 99-100 (Exh. 9). He also reviewed the medical records of the two workers who had been hospitalized for tests. Id. at 102-103. At no time did Dr. McBurney correlate chloracne with any more serious type of ailment. Id. at 122.¹²

12 In 1968, at Dr. Bleiberg's suggestion, Diamond invited the USPHS to conduct detailed medical examinations at the

(Footnote continued on next page)

Neither Dr. McBurney nor Diamond's management believed that chloracne led to permanent harm. McBurney 77-80 (Exh. 9); Weiner 156-157 (Exh. 6). The workers did not regard chloracne as a substantial health problem. They did not refuse to work at the plant. Guidi 129-130, II 124-125 (Exh. 2). For the foregoing reasons, there was no consideration given to closing the plant. Weiner 156-159 (Exh. 6); McBurney 77-80 (Exh. 9). Dr. McBurney believed that Diamond had "enlightened management" and that it was concerned about the well-being of its workers. Id.

(15) The only effluents from the Lister Avenue plant that are likely to have contained even minute quantities of dioxin were those containing extremely small quantities of unreacted TCP or small quantities of 2,4,5-T.¹³ These

(Footnote continued from preceding page)

plant of present and former employees including several who had been examined in 1963 by Dr. Bleiberg. The USPHS report, among the documents pertaining to this study contained in Exhibit 31 hereto, pp. 2, 9, 18, 20 and 22, found no serious conditions among the participants, could not replicate Dr. Bleiberg's earlier findings of porphyria, and found the chloracne situation to be improving. See also Chonoles 142-143, 164, 166 (Exh. 4).

13 According to Burton, discharges of 2,4,5-T process effluents to the river were "relatively minor in amount." Burton 192-193; 330, 332 (Exh. 1). Even with hindsight, could not testify with certainty that any dioxin was discharged to the river. Id. at 184.

effluents consisted almost entirely of process waste water. The TCP and 2,4,5-T included in the process waste water contained dioxin measurable only in parts per million. Other effluents referred to by defendants such as muriatic acid (diluted hydrochloric acid) or "diphenols" (2,4-D) are irrelevant to this litigation. As reflected in documents produced to defendants and marked by them as deposition exhibits, but not referred to in their motion papers, one offending substance was 2,4-D which unlike 2,4,5-T had a particularly strong odor and was readily detectable on the surface of the river. The statute allegedly violated was N.J.S.A. 58:14-7, 8 which appears to address discharges that offend the senses of sight and smell, i.e., "sewage, waste matter, article or substance of any kind which creates odors, gases or fumes . . . or results in the presence of oil or grease on the surface of the Passaic River." Dioxin was undetectable. Contrary to the assertion that Diamond was able to hide its river discharges from the inspectors, the records of the Passaic Valley Sewerage Commission ("P.V.S.C.") show they knew of discharges to the river prior to the time Diamond connected to the sewer in September 1956. No alleged violations were noted thereafter or are cited by defendants. A Special Report to the Commissioners by the P.V.S.C. inspectors dated September 4, 1956 states:

"Diamond Alkali Co., 80 Lister Avenue., Newark, N.J.

"The above company has been cooperating with us in every way. They have completed a piping program which empties their industrial waste into the sanitary sewer. Their deck area has been thoroughly cleaned up and nothing but cooling and condenser water now goes to the river. Repeated inspections have shown no violations." (Emphasis added.)

Thus, it appears that all discharges were to the sewer by 1956. This was confirmed by the testimony of all but one of the Diamond former employees who testified about the subject. They recall no discharges to the river after 1956 other than muriatic acid and cooling water. Heisele 151 (Exh. 5); Guidi 67-69 (Exh. 2); Kennedy 131-134 (Exh. 3).¹⁴ There is no dispute that all 2,4,5-T process effluents went to the sewers by 1961, after reconstruction of the TCP reaction building. Heisele 151 (Exh. 5). Documents supporting the foregoing are contained in Exhibit 32 hereto.¹⁵

14 Although John Burton initially testified that the sewer connection in 1956 was solely to the 2,4-D process line and not to the 2,4,5-T process line, he retracted that testimony when defendants inadvertently showed him a contemporaneous document that contradicted his testimony. Burton 208, 228 (Exh. 1). Defendants' assertion that Diamond intentionally violated regulations pertaining to sewer discharges, is not supported by any citation to regulations or to any findings of violations. As shown by the documents included in Exh. 32, it was the P.V.S.C. that urged Diamond to cure its alleged statutory violation by discharging to the sewer that which allegedly constituted a violation when discharged to the river.

15 Discharges of 2,4-D effluent into the Delaware River by another chemical manufacturer (Defendants' Statement,

(Footnote continued on next page)

(16) Defendants' assertion that Diamond was an "intentional polluter" with respect to 2,4,5-T process waste discharges is based on the testimony of a single witness -- all others denied that intentional pollution occurred. Heisele 151 (Exh. 5); Guidi 69-70 (Exh. 2). Contemporaneous documents (contained in Exhibit 32) written by that witness and the P.V.S.C. in 1956, however, show that the witness professed ignorance of the pollution statute at that time and that he provided his written signed disclaimer that any statutory violation had occurred after he was furnished with a copy of the statute. These contemporaneous documents, obtained from and constituting official records of the P.V.S.C. and marked by defendants as exhibits, are the best evidence of what occurred in 1956 -- not testimony 30 years after the event by one witness who is contradicted by several other witnesses and supported by none.

(17) Diamond's release to the river, sewer or atmosphere of minuscule quantities of dioxin constituted neither intentional nor unintentional "pollution." Up to 1965

(Footnote continued from preceding page)

p. 8) of course have nothing to do with this case. 2,4-D, unlike 2,4,5-T, is an especially odiferous chemical, and the City of Philadelphia obtained its drinking water from the Delaware River. Burton 226 (Exh. 1).

Diamond's discharge of dioxin was of a substance it could not see or detect, in quantities too small for it to measure, and which had no known deleterious effect upon the environment. Indeed, dioxin was unknowingly present in a product that was approved by the U.S.D.A. to be dispersed into the environment in substantial quantities. The unknown impurity was identified and measured in 1965, but still had no known deleterious environmental effect in the extraordinarily small quantities in which it was present in Diamond's 2,4,5-T process stream. The concept of what constitutes a "pollutant" or "pollution" developed gradually. During the times at issue here, statutory prohibitions, e.g. N.J.S.A. 58:14-7, 8, were directed chiefly to what offended the senses of sight and smell. The concept of "polluting" by discharging an apparently benign effluent to a sewer at the request of the sewer authorities is novel.¹⁶

(18) Diamond's discharging effluents containing trace amounts of dioxin to the Passaic River prior to 1956 and to the sewer commencing in 1956 and venting extremely small quantities suspended in vapors of 2,4,5-T or its intermediate to the atmosphere were in keeping with the state of the art in

16 Burton did not believe the discharges to the Passaic River would be "toxic" to humans unless they were ingested. He did not list 2,4,5-T or its intermediates as among the more highly "toxic" chemicals as so defined. Burton 191-192 (Exh. 1).

industry at the time. This is particularly so of the effluents containing dioxin since as late as 1969 dioxin in such small quantities was not generally believed to constitute a threat to the environment. As noted above, it was the P.V.S.C. that requested Diamond to discharge its chemical effluents into the sewer. John Burton's April 4, 1960 memorandum on "River Contaminants" (Exhibit 23 to Defendants' Statement of Facts), points out that the river was "seriously contaminated by other industries." See also Burton 199 (Exh. 1). Discharging waste chemicals to the sewer "was like the 55 mile per hour speed limit"; it was "common practice." Id. at 201, 278.¹⁷

(19) In the 1950's and 1960's industrial standards regarding the discharge of small quantities of chemicals onto the ground and the discharge of relatively large quantities of effluents containing apparently benign process wastes that were not offensive to the senses into rivers and harbors were

17 Burton did not necessarily give the word "contamination" an invidious connotation. To him it meant effluent containing "chemicals of any kind", whether "toxic" or not. Burton 190-191 (Exh. 1).

Defendants have evidently confused the "sump pit" referred to at pages 10 and 13 of their Statement with a different settling basin. Because the sump pit they describe did not discharge to the sewer or anywhere else (as is plain from the testimony annexed as defendants' Exhibit 36), a high concentration of non-volatile dioxin in that pit is to be expected.

markedly different from industrial standards prevalent today. Today's standards are dictated by legislative directives and the threat of sanctions that did not exist in the 1950's and 1960's. L. Anthony Wolfskill, Ph.D. was engaged by Diamond for this litigation to perform an analysis and render opinions on several subjects pertinent to the "expected or intended" and "owned property" issues. A copy of Dr. Wolfskill's report (without exhibits) is annexed hereto in Exhibit 33. His conclusions are set forth in the following passage from his report:

"It is the author's opinion that the manufacturers at this plant would not have expected to consider incidental escape of organic compounds onto the ground or into groundwater or surface water to give rise to environmental damage. In addition, it is the author's opinion that this plant was operated in accordance with standard, or typical, industry practice with respect to discharges of contaminants to the soil, groundwater and surface water.

"During the period that this plant was operated by Diamond personnel (1951-1969), it was common practice in the manufacturing community of this country to disregard incidental chemical spills. Cleanups and operational safeguards were generally motivated by worker safety and economic value of products, not environmental damage. This was because it was not generally recognized in this time period that environmental damage would occur from the incidental releases of organic compounds and other chemicals. High volume discharge of visible waste streams into the surface water of rivers, streams and harbors; and significant releases of contaminants to the atmosphere were the primary environmental concerns during this period. In this regard, it should be noted that the plant hooked up to the industrial sewer in 1956 and

operated under an air permit which regulated amount of air emissions. In a telephone discussion, Mr. Lubetkin [former Chief Engineer of the Passaic Valley Sewerage Commission] indicated that the 80 Lister Avenue Plant did not have serious enforcement actions for discharges to the river or sewer, based on his recollections.

"During the period 1958 through 1969 (and later), the author was in graduate school, or teaching at the Massachusetts Institute of Technology (MIT), and consulting at various manufacturing facilities around and outside the U.S. His professional field was civil engineering including soil mechanics and groundwater seepage. This is the field today that is concerned with environmental assessment and remediation of chemical contaminants in the environment. Today, in the curriculae of engineering schools and in the professional consulting practice for industry, the environmental assessment and remediation of chemical contaminants forms a major part of the activity. Before 1969, in the author's experience, this awareness was not present in schools nor in practice. In short, the soil and groundwater contamination issue was not taught to engineers in school nor was it a major concern at the plants.

"General public and regulatory concern for small chemical releases to soil and groundwater began in the mid 1970's. Federal legislation requiring monitoring, measuring, controls and remedial actions was passed in the late 1970's and is continuing to be promulgated. The knowledge and sensitivity that small, but frequent, chemical releases can result in significant damage to the environment has generally been developed since 1970. Prior to this period the standard concept regarding small releases was that 'Dilution is the Solution'. This 'rule' has been refuted in the past several years."

Defendants have advanced no evidence to contradict Dr. Wolfskill's conclusions.¹⁸

¹⁸ Defendants did not retain an expert on this subject. They did retain a firm of consulting engineers who rendered a

(Footnote continued on next page)

Dr. Wolfskill also testified, based on his 25 years of experience (Wolfskill 118 (Exh. 10)) and his physical inspection of the Lister Avenue plant (id. at 125) that the plant operated in accordance with the standards of the times. He did not find anything that would not normally be found at a chemical plant. Id. at 82-83, 26-27, 30-31. He hypothesized that the dioxin contamination occurred over 20 years as the

(Footnote continued from preceding page)

report "for the purpose of assessing potential points of release of dioxin (2, 3, 7, 8 - TCDD)-containing material from the facility into the environment," but that report was expressly stated to be based solely upon a review of deposition transcripts and documents produced by Diamond in this litigation. (A copy of the letter transmitting their report is contained in Exhibit 33 hereto.) The report does no more than purport to summarize testimony and documents -- which are themselves the best evidence of what they say. Defendants have not proffered it to the Court in support of their motions.

In Exhibit 40 to their Statement of Facts, defendants have cited Burton's testimony with respect to the "old" (pre-1960) TCP building that "on balance . . . I think that it was not up to par for those times." That tentative reflection, 30 years after the fact, is not probative of industrial standards or the extent of Diamond's conformity thereto. In 1955, in a contemporaneous writing, Burton asserted that the Lister Avenue plant was "in good enough shape and . . . not the prime cause of the [chloracne] trouble." July 25, 1955 Burton to Gleissner, p. 3, (contained in Exhibit 33 hereto). In his testimony Burton was unable to differentiate between the Lister Avenue plant and other plants in terms of housekeeping. Id. at 135. He referred to the repitching of the floors in the TCP building in 1955, for example, as "standard operating procedure." Id. at 31.

result of spills, leaks and "drips." Id. at 81-82, 156. These, however, were not considered problems in the 1950's and 1960's. Id. at 129-130.

(20) Diamond did make improvements to its 2,4,5-T production facilities over time to reduce worker exposure to the product. Subsequent to 1954, it modified the process to eliminate a step which required the shovelling of sodium TCP crystals. Burton 37-38 (Exh. 1). Heisele was in charge of safety at the Newark plant from the time of the 1960 explosion to approximately year-end 1962. Heisele 142-143 (Exh. 5). He testified that after the 1960 reconstruction there were no points in the TCP production process where the employees could be exposed to vapors or TCP or sodium TCP in liquid or solid form. He recalled no open vats or vessels in the TCP line. Id. at 39-40. Weiner, who was Diamond's Operations Manager for the Chlorinated Products Division from 1958-1963 (Exh. 6 at 31-32), testified that in rebuilding the TCP unit in 1960, Diamond made sure that "waste recovery was up to the latest standards", that drainage was proper, that air ventilation was included in the design, and that the release of gases or vapors would be properly scrubbed. Id. at 164-166, 177-178. Care was taken "to design it so that there was no jeopardy to the surroundings of the environment." Id. at 86.

(21) Discharges to the river, sewer and through venting are not, in any event, claimed by defendants to be the cause of the alleged contamination of the plant property or of the other nearby locations.

(22) It was not until 1970 that a general awareness developed that dioxin might constitute an environmental hazard and pose a health threat other than as a cause of chloracne to workers in plants manufacturing 2,4,5-T. The development of that concern is set forth in 43 Fed. Register, No. 149, August 2, 1978, at 34033 (Exhibit 34 hereto.) The pronouncement set forth in the Federal Register was the establishment by the E.P.A. of a "Rebuttable Presumption Against Registration and Continued Registration of Pesticide Products [including herbicides] Containing [2,4,5-T] and its Salts." Although there were earlier efforts to establish such a rebuttable presumption in 1970, it was overturned by the courts (*id.*). The E.P.A.'s "position document" commencing at p. 34029 of Exh. 34 contains a "summary of scientific evidence relating to rebuttable presumption" that constitutes a compendium of scientific articles on dioxin and 2,4,5-T and its effects on animals and possible effects on humans. As the Court will observe, there are very few articles dated earlier than 1969. The pre-1969 articles that address "toxic effects on humans" (p. 340050) are limited to a discussion of chloracne and porphyria.¹⁹

¹⁹ The article discussing porphyria was written by Dr. Jacob Bleiberg on the basis of his 1963 examination of workers

(23) Diamond had a maintenance department at the Lister Avenue plant, a safety program, and safety and maintenance regulations specifically crafted to deal with the fact that a chemical or chemicals in the plant were causing chloracne. Kennedy 317-318, 247-248 (Exh. 3). In addition to the documents contained in Exh. 25, see Heisele's "Safety Procedures Manual" dated June 1960 (Exhibit 35 hereto). That document, distributed widely throughout the plant (p. 2), contains, inter alia, forms in which foremen were required to report "Housekeeping Conditions to Correct", (p. 4).²⁰ The

(Footnote continued from preceding page)

in the Lister Avenue plant contained in Exh. 31. As noted above, in 1969, the United States Public Health Service conducted detailed medical examinations of present and former plant employees, could not confirm Dr. Bleiberg's findings, and noted a decrease in the severity of chloracne. Exh. 31 at 2, 9, 18, 20 and 22. That study was published in 1971 and is noted elsewhere in the "position document" contained in Exh. 34 (reference no. 77).

20 At page 8 of the Safety Procedures Manual, the following appears:

"6. CLEANLINESS

- a. Changes of clean clothes and protective creams are provided for all personnel. These, along with a thorough shower by all personnel at the end of the work day are required to maintain freedom from skin irritations.

(Footnote continued on next page)

Lister Avenue plant was not large and foremen were physically in the units observing operations and equipment at all times. Kennedy 301-302 (Exh. 3). In addition, Diamond had an annual maintenance program during which operations were shut down for

(Footnote continued from preceding page)

7. HOUSEKEEPING

- a. Good housekeeping is an essential part of continued safe operation. All litter and debris of any kind must be discarded in a receptacle.
- b. Operating personnel are responsible for cleaning up any chemical spill in their area and for maintaining their equipment and area in a clean, orderly fashion.
- c. Maintenance men are responsible for cleaning up at the end of a job, being sure to discard all litter they have made, and returning all supplies and equipment not used back to the storeroom."

The record belies defendants' suggestions that Diamond operated its chemical manufacturing processes with no regard for human safety. For example, at page 5 their Statement asserts that the TCP autoclave was "designed to permit releases continuously into the atmosphere through a pipe leading out the side of Diamond's main process building toward the Passaic River." In fact, the pipe in question led from a rupture disk, a safety device that was designed to discharge only in the case of a runaway reaction that could otherwise result in an explosion killing or injuring workers. Burton 188 (Exh. 1); Heisele 56 (Exh. 5). The manhole in the TCP reactor referred to at page 6 of defendants' Statement could not emit fumes because it was closed during operations. TCP was made under pressure of 400 PSI, and "everything was very tight." Burton 33 (Exh. 1).

a period of weeks for maintenance and repair. Heisele 56 (Exh. 5); Kennedy 144 (Exh. 3); Guidi 60-61 (Exh. 2). There was a policy and program for periodic inspection of storage and process tanks. Heisele 75 (Exh. 5). From at least 1955 on, inventories were taken of materials in all storage and process tanks and equipment. Shortages due to leaks would have been noted, as well as any large leaks in above-ground tanks. See "Operating Instructions 2, 4, 5-Trichlorophenol," 7/29/55, p. 19; Exhibit 36 hereto. See also, Guidi 62, II 95-96 (Exh. 2); Kennedy 285-286 (Exh. 3).²¹ Undoubtedly, leaks and spills occurred at the Lister Avenue plant as they did at any chemical plant, but the documentary evidence and testimony

21 Unlike any of the defendants' experts, Diamond's expert, Wolfskill, spent considerable time at the plant in 1983-1984. Wolfskill 125 (Exh. 10). He testified that the TCP storage tanks were not buried in the ground, but were inside the plant, set above a concrete floor which was drained to a sump in case of spills. Id. at 153-154. He further testified that while certain types of spillage (e.g. wash waters when equipment was cleaned) might be "planned", environmental contamination under such circumstances would be "accidental." Id.

Defendants' reference to the TCP intermediate storage tank (Statement p. 11) illustrates their disregard for the facts. While the tank was beyond economical repair, it had been "removed from the system some months ago except for its use as an overflow catch tank" (October 1968 "Operating Comments Technical" (defendants' Exh. 44)), and the Operating Comments Technical for November 1968 (id.) shows the tank was to be removed entirely because it "presents both a safety and pollution hazard," showing that Diamond was sensitive to environmental matters -- not the contrary, as defendants contend.

shows that they were not tolerated or permitted to persist. No witness who testified could recall any major leaks or discharge of TCP or 2,4,5-T. Kennedy 80, 94 (Exh. 3); Heisele 131 (Exh. 5); Guidi 63-67 (Exh. 2); Burton 212 (Exh. 1); Chonoles 59-62, 159-160 (Exh. 4); Lukes 109 (Exh. 8); Weiner 102-103 (Exh. 6); Steward 36-37 (Exh. 17).

(24) There is no contention that any contaminants were dumped or buried at the plant site or locations in the vicinity at issue here, and all witnesses who were questioned about those practices denied that they took place. Burton 278-279 (Exh. 1); Kennedy 140, 201-202 (Exh. 3); Chonoles 74-76 (Exh. 4); Heisele 85; Guidi 28 (Exh. 5); Steward 221 (Exh. 17). Moreover, there is no evidence that Diamond intentionally permitted 2,4,5-T, its intermediary TCP, or any waste product containing TCP or 2,4,5-T to spill or run out onto the ground of the plant site. The evidence shows that it was not Diamond's routine business practice to permit or leave unattended spills of materials known to constitute an environmental or safety hazard or to deliberately discharge such materials from its plant. Kennedy 44, 48-49 (Exh. 3); Heisele 129, 142-143 (Exh. 5). For example, none of the operating areas in the TCP production facility was particularly prone to leakage. Heisele 129 (Exh. 5). Because TCP was "not a very aggressive compound as far as corrosion is concerned," piping in the TCP

area had to be replaced less frequently than in other areas. Kennedy 300-301 (Exh. 3). Chonoles (Plant Manager from mid-1968 to mid-1969) could recall no special maintenance problems regarding 2,4,5-T except failure in certain glass lined vessels, exposing the steel. He specifically could not recall whether leaks developed or the failures were discovered before leaks occurred. Chonoles 42-45, 47-49 (Exh. 4). (The occasional spills and leaks referred to in defendants' papers are unspecific as to product involved.) Guidi, Assistant Plant Manager during 1956-1960 and Plant Manager during 1960-1963 (Exh. 2 at 16-17, 24) testified that he believed the plant was well run and well maintained. Id. 63-64, 164. Burton, Plant Manager from 1951 until February 1960, testified that the floors in the TCP area were kept clean. Exh. 1 at 297-298. Although "housekeeping" was a problem with chemical plants generally, Burton could not recall such problems at the Lister Avenue plant. Id. at 135. Diamond's Dr. McBurney, who visited the plant on several occasions to assess whether cloracne was associated with more serious ailments (McBurney Exh. 37), testified that the Lister Avenue plant was "a very clean operation" "as far as chemical plants go . . . unusually well run." Id. at 48-49. He testified that, although there were areas where the workers could come into contact with chemicals, "that was the state of the art at that time." Id. at 50.²²

22 The reference at page 10 of defendants' Statement to "discoloration" on the floor of the plant is misleading. The

(Footnote continued on next page)

(25) No Diamond employee and no expert engaged by either side has been able to identify precisely how the plant and other locations in the vicinity (other than the riverbed and sewer) became contaminated with dioxin. See Guidi 166-169 (Exh. 2). Defendants' experts and plaintiff's experts are no doubt correct in asserting that it is likely that dioxin escaped slowly over time as the result of incidental or accidental leaks and spills that occurred during the course of "routine operations." However, that is not the same as showing that leaks or spills were "routine" or that Diamond expected or intended that dioxin contamination would occur as a consequence of such routine operations.

(26) The statutes obliging Diamond to prevent further off-site migration of dioxin were not enacted until 1976 (New Jersey Spill Compensation and Control Act) and 1980 (CERCLA). Prior to that time no statute addressing previously created environmental hazards contained a section including as damages the costs of preventing further environmental contamination.

(Footnote continued from preceding page)

testimony they cite refers to a single observation by one individual who testified that it was "not serious" and that he could not identify the chemical causing it (defendants' Exh. 38).

(27) It was not until June 1983 that the NJDEP and the EPA asserted that dioxin in concentrations measured in parts per billion (the concentration levels found on sites at issue in this litigation) constitutes an environmental threat. The Lister Avenue plant was closed in 1969, and the property was sold by Diamond in 1971.

(28) From at least 1951 until the closing of the plant in 1969, the Lister Avenue plant was inspected by Aetna. The plant's "Safety Procedures Manual" (Exh. 36, p. 3) states that inspections by Aetna were "bi-monthly." Heisele, the plant's safety officer recalls that these inspections were made. Heisele 141 (Exh. 5); Kennedy 325-326 (Exh. 3); Chonoles 67, 147 (Exh. 4); Smith 144-145 (Exh. 16). Aetna provided Diamond's workmans' compensation insurance, including that for chloracne claims. Exhibit 37 hereto.²³ See also Weiner 129 (Exh. 6). Neither Aetna nor any Governmental agency --i.e., neither the New Jersey Department of Health, the P.V.S.C. nor the USPHS -- advised Diamond that the chloracnegen or dioxin was causing or might cause an environmental hazard until June 1983. Aetna never excluded the Lister Avenue plant from

23 The Aetna internal memorandum (Exh. 37) reveals that Aetna viewed the Lister Avenue plant as a "problem plant," and that Aetna obtained reinsurance specifically to cover its exposure on the Lister Avenue plant.

coverage on the basis of the purported maintenance deficiencies, "pollution" or "contamination" that defendants now contend were open and notorious.

(29) The expenditures for which Diamond seeks a declaration of its rights in this litigation are solely related to preventing off-site migration of dioxin. Exhibit 33, p. 8. Otherwise it would have been enough for Diamond to have put up a chain-link fence and hired a guard.

(30) Diamond had no choice but to comply with the requests of the regulatory authorities. The authorities had stated their intention to undertake their own studies and containment efforts with no input from Diamond as to the scope of such efforts and no opportunity for Diamond to attempt to control costs if Diamond did not comply. See Catania 13-27 (Exh. 11).

(31) Diamond's conduct has been consistent with its belief that response costs are covered under its liability policies.

(i) Illinois v. Diamond. The only significant environmental clean-up litigation in which Diamond was involved prior to the instant action was brought by the State of Illinois in 1979 seeking, inter alia, to have Diamond clean up

pesticide contamination of streambeds, related drainage tiles and a municipal storm sewer emanating from its former plant at Atlanta, Illinois. (Exhibit 38 hereto, complaint, pp. 11-31.) By letter dated October 18, 1979 (also in Exhibit 38) Diamond gave prompt notice thereof to Aetna, requesting that "[i]n accordance with the terms of our policy would you please protect our interests by filing an answer."²⁴ By letter dated November 29, 1979 Aetna responded, declining coverage solely on the basis of the pollution exclusion (Exh. 38). By letter dated December 11, 1979 (Exh. 38), Diamond disagreed with Aetna's declination, stating

"While we recognize that discharges of the nature referred to in the suit have to be sudden and accidental before coverage applies, it may well be that the original problem occurring in March, 1975 was a sudden and accidental spill. . . ."

In response to Diamond's second letter, Aetna's local claim office supervisor investigated the circumstances further, concluding that, "if subsequent information points to a continued contamination as the result of the spill in March of 1975, we could conceivably have coverage as the loss could be considered a result of an 'occurrence' under definitions and the General Liability Policy Package." (Exh. 38, Pittman Memo

24 Diamond also gave notice to its excess insurers. Exhibit 38, Doc. no. D005005171.

to File, 12/18/79, p. 2 -- doc. no. D001005168). Nonetheless, the local Aetna Claim Manager

"indicate[d] that he just wants us to sit tight at this time and wait for the next action to come from the insured and should be in the form of additional evidence if they wish us to consider retracting our declination of coverage." Id.

When Diamond subsequently forwarded to Aetna a copy of the amended complaint in the State's action, Aetna's local claim office responded that insofar as the amended complaint requested injunctive relief it did not fall within the policy's definition of "property damage" (Exhibit 38, pp. D001005169-5170). However, the Aetna Claims Manager also stated that "it would appear as if there would only be coverage under the General Liability Policy should the Court award 'other and further relief' only as a result of 'property damage' as defined in the policy, not as a punitive (sic) monetary award for a violation of water standard or a violation of the Environmental Protection Agency guidelines." Doc. no. D001005170.

(ii) Coverage for Injunctive Relief. Defendants make much of testimony by Diamond's former risk manager and by a former broker that "injunctive relief" is not covered under comprehensive general liability insurance policies. However, this testimony was addressed not to the facts here, but to

litigation arising out of the alleged discharge by Diamond of mercury into the Tennessee River from Diamond's plant at Muscle Shoals, Alabama (see memo dated June 2, 1971 (Exh. 39 hereto)). In that instance, too, Diamond gave notice to Aetna and its excess insurers. Id.; see also letter dated February 22, 1971 in Exhibit 39. The relief sought by the United States in the mercury case included strictly prospective injunctive relief, ordering Diamond to cease discharging mercury into the navigable waters of the United States or tributaries thereof. Although the Complaint also sought mandatory relief requiring Diamond to "eliminate any continuing consequences from defendant's previously unlawful discharges of mercury or mercury compounds," the Government's focus was upon reducing future discharges to an acceptable level. To that end, after the action was filed Diamond entered into a stipulation with the Government which limited Diamond's discharges to no more than eight ounces of mercury per day in the process effluent from its plant. This limitation was expressly recognized not to apply to "isolated cases of accidental discharges resulting from loss of power or the malfunctioning of equipment or from any other happening or event beyond the control of Diamond." (Exhibit 40 hereto.) The distinction between strictly prospective injunctive relief and mandatory relief requiring Diamond to make expenditures to remedy past contamination was

recognized by Diamond's former broker, Conrad W. Giles, at his deposition in this action:

"Q. See the reference on page 2 of Greening Exhibit 9 for identification, to actions seeking injunctive relief.

A. Yes.

Q. Do you have a recollection that that was discussed with the Aetna in terms of coverage?

A. It might have been, I think -- it might have been discussed. The conclusion probably was 'not covered'.

Q. Why do you say that was probably the conclusion?

A. Because injunctive relief generally is not the type of thing you would cover in a legal liability policy. You are stopping somebody from doing something, I presume, in an injunction." Giles 154-55 (Exh. 41).

Q. Sir, in discussing with Mr. Tierney injunctive relief, and the fact that injunctive relief to your understanding is not covered under liability policies, you talked in terms of stopping someone from doing something. Do you recall that?

A. That's what injunction is in my understanding.

Q. Do you also understand that an injunction can include compelling someone to do something as well as stopping them from doing something?

A. I'm not a lawyer so -- no, I did not." Id. at 168-69.

(iii) E.I.L. Coverage. Along with numerous other insureds in the early 1980's, Diamond explored the short-lived availability of so-called environmental impairment liability ("E.I.L.") insurance. This E.I.L. coverage, which originated in

the London market, purported to cover whatever the standard CGL pollution exclusion excluded. This was the basis on which Alexander & Alexander presented E.I.L coverage to Diamond. Angley 134, 138-39 (Exh. 12). Diamond ultimately decided not to purchase such E.I.L coverage, in part because it believed that the same coverage was already provided by its comprehensive general liability policies. Id. at 139-40. Fred Angley, Alexander & Alexander's E.I.L insurance expert, had a similar understanding of the pollution coverage available under CGL policies. When asked in the context of a manuscript policy form he worked on for Diamond (which in this respect was not intended to be broader than the standard CGL form) whether pollution of neighboring property caused by seepage from a pipe due to faulty maintenance was covered, Angley testified:

"A. I'm just trying to -- I think the policy -- I would say that there would still be coverage for that.

"Q. There would be?

"A. Yes. I would have to amend what I said before.

"Q. Where would the accident be?

"A. Again, we are coming down to interpreting the particular situation. If there was no -- there was no intent on the part of the insured to -- there was nothing in the policy that would exclude faulty maintenance that I'm aware of, so anything that would result from faulty maintenance, so long as it was not intended or expected." Angley 83 (Exh. 12).

(32) Aetna's construction of its own policies supports diamond's position on coverage for response costs.

(i) Coverage for Restitutionary Claims By Governmental Agencies. In the late 1960's Diamond discussed with Aetna the extent to which Aetna's policies covered the cost of removing the wreck of one of Diamond's barges from a navigable waterway. Memorandum dated May 11, 1967 (Exhibit 42 hereto). See also Kaufman 13-14 (Exh. 13). After consultation with Aetna's Home Office Research & Development Division, the underwriter on Diamond's account quoted Aetna's position to be that if the watercraft exclusion were deleted (as it was in Diamond's policies),

"'if the government has incurred the removal expense to restore the channel to its navigable condition and a claim is made against the insured for such expenses, this expense, together with the claim for damages because of the blockage while it existed will be covered.'" Letter dated June 8, 1967 in Exhibit 42 hereto.

Aetna took a similar approach on a gasoline pollution cleanup claim by another insured in 1984. Aetna's insured gave notice that the State of New York had filed suit against it to recover the State's expenditures to clean up groundwater contamination from gasoline that had leaked from the insured's storage tanks. Exhibit 43, Doc. no. D001006609 and Doc. no. D001006630, p.2. The Aetna policy provided coverage for "all sums the insured

legally must pay as damages because of bodily injury or property damage to which this insurance applies caused by an accident" and defined accident to include "continuous or repeated exposure to the same conditions resulting in bodily injury or property damage the insured neither expected nor intended." Id., Doc. no. D001006614, p. 1. The policy excluded "property damage caused by the dumping, discharge or escape of irritants, pollutants or contaminants. This exclusion does not apply if the discharge is sudden and accidental." Id., Doc. no. D001006614, p. 2. Aetna's Home Office Senior Claim Analyst expressed the view that the "cost of cleanup may very well be an item of property damage and not subject to the pollution exclusion if, in fact, the accident was sudden." Id., Doc. no. D001006623. The local Aetna Claim Supervisor responded: "I agree the cost of cleanup would be covered if the occurrence was sudden and accidental." Id., doc. no. D001006625. Finally, Aetna's Home Office Hazardous Waste Claim Analyst, Robert Kloiber, agreed with this view:

"A. If it could be determined that the accidental spill, for example, was sudden and accidental and unforeseen, unintended, and there was resultant damage, then I would agree with the statement that for all intents and purposes it would be covered." Kloiber II 146 (Exh. 14).

(ii) Waste Disposal Coverage. In March 1979 Diamond inquired whether an engineering inspection report from Aetna

which commented upon waste disposal at a Diamond facility meant that Aetna believed its policies covered waste disposal claims. Letter dated March 23, 1979, contained in Exhibit 44 hereto. Although Aetna never fully responded to Diamond's inquiry, its partial responses indicate that such coverage may be provided:

"Until there is a waste disposal claim or suit no one can tell with certitude what the coverage will be, if any." Letter dated April 24, 1979 (in Exhibit 44 hereto).

* * *

"I suppose dispersal of waste materials is not sudden and accidental in most cases. There is always the question of foreseeability. Coverage is possible. No doubt you and the Insured can identify instances when coverage would be afforded." Letter dated May 23, 1979 (in Exhibit 44 hereto).

(33) Aetna renewed Diamond's coverage throughout the 1970s and early 1980s despite awareness of potential environmental exposures from Diamond's operations.

(i) Throughout the thirty-three years that Aetna provided primary and in part excess comprehensive general liability insurance to Diamond, Aetna continually evaluated the risks of loss inherent in Diamond's operations in determining whether to continue to issue policies to Diamond. As early as 1973 Aetna's Engineering Department was aware of pollution problems at Diamond's facilities. Memorandum dated January 4,

1973 and January 10, 1983 (in Exhibit 45 hereto). Aetna recognized that the nature of Diamond's operations were "so complex, there was a permanent chance for unpleasant surprises," but that "this was probably true of any large chemical company." Memorandum dated November 4, 1974, p. 3 (in Exh. 45 hereto).

(ii) In recommending renewal as of February 1, 1980, Aetna's Claim Analyst commented at length on pollution claims:

"Pollution claims arising out of the insured's plant operations in the Houston area continue to be of great concern to both the insured and the Aetna. * * * We handle most of these air pollution claims under a non-waiver. The insured has reluctantly gone along with this based on the 'sudden and accidental concept'. If the pollution is to be expected, coverage is then very doubtful. This key to this is it must be 'unintended'. If one expects and does nothing then there is no coverage. There appears to be a continuous emission arising out of the premises on a daily basis. Examples are chlorine and daconil. The insured is in the process of settling many of these claims." Memorandum dated September 13, 1979 p. 5 in Exhibit 46 hereto; emphasis supplied.

In 1980, after an article in the Wall Street Journal called attention to "mishandling of toxic wastes [by Diamond] in Painesville, OH," Aetna nevertheless decided to renew the Diamond account, noting as a renewal objective "will follow up with the team on dumpsite locations and chemicals." Memorandum dated February 21, 1980, pp. 2, 4 (in Exh. 46 hereto). Indeed, Aetna renewed Diamond's primary and excess coverage each year until this action was instituted.

(34) On December 31, 1985 Diamond and Marisol, Inc. executed a settlement agreement and release which agreed to the transfer and sale of the 80 Lister Avenue site to Diamond. Exh. 47 hereto.

Dated: November 24, 1987

PITNEY, HARDIN, KIPP & SZUCH
Attorneys for Plaintiff
Diamond Shamrock Chemicals Company

By:



James C. Pitney
Dennis R. LaFiura

Of Counsel:

James F. Kelley
W.E. Notestine
Edward J. Masek
MAXUS ENERGY CORPORATION
717 North Harwood Street
Dallas, Texas 75201
(214) 922-2000

- and -

William E. Hegarty
Marshall Cox
Leonard A. Spivak
Michael P. Tierney
Peter F. Lake
CAHILL GORDON & REINDEL
(a partnership including
professional corporations)
80 Pine Street
New York, New York 10005
(212) 701-3000