

UNITED STATES DISTRICT COURT FOR
THE NORTHERN DISTRICT OF WEST VIRGINIA

U. S. DISTRICT COURT
FILED AT PARKERSBURG, W. VA.

BARBARA CANTWELL CHRISTMAN,
et. al.,

Plaintiffs,

v.

AMERICAN CYANAMID COMPANY,

Defendant.

MAY 17 1972

THOMAS F. STAFFORD, CLERK

Civil Action
No. 80-0024-P

DEFENDANT AMERICAN CYANAMID COMPANY'S
SECOND SUPPLEMENTAL NONCONFIDENTIAL RESPONSES TO
PLAINTIFFS' FIRST INTERROGATORIES

Pursuant to Federal Rule of Civil Procedure 33, defendant provides the following Second Supplemental Responses to Plaintiffs' First Interrogatories.^{*/} Defendant also reasserts objections 1, 3, 4, 5, 6 and 7 of its First and Second Objections to Plaintiffs' First Interrogatories to the extent they apply to the material now being provided for the first time. A copy of these objections is attached hereto.

1. With respect to American Cyanamid Company state:

....

(e) The name(s), and business address, and title(s) of each chief operating officer of the company since 1970; indicating for each the dates of tenure in such position;

Answer: From January 1, 1970 to December 31, 1975, Cyanamid's Chief Executive Officer was C.D. Siverd, Wayne, New Jersey. From January 1, 1976 to the present, Cyanamid's Chief Executive Officer has been J.G. Affleck, Wayne, New Jersey.

*/ Assisting in the compilation of material used in the preparation of the responses to Plaintiff's First Interrogatories were: J.C. Caporossi, R.J. Clay, W. Fead, G.E. Mercer, P. Shopene, J. Tobin, D.C. Wagner, C. Ballard and C. Johnson.

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(f) The name(s), business address, and title(s) of each person chiefly responsible for the operations of defendant's Willow Island, West Virginia facility (the "Willow Island facility"), since 1970, indicating for each the dates of tenure in such positions;

Answer: From January 1, 1970 to June 15, 1978, Mr. Ralph J. Clay, was the Plant Manager at the Willow Island facility. Mr. Jack E. White, has been the Plant Manager of the Willow Island facility from June 16, 1978 to present.

2. With regard to defendant's Willow Island facility:. . .

(c) For each such department, list each job and describe briefly the tasks and functions performed in each such job. In each instance, state whether a line of progression exists, and, if so, list jobs in ascending order;

Answer: The job listing for the Power/Effluent Department Buildings should read as follows:

Power/Effluent Department

Buildings 65/73/97

Job Title

Labor
Coal Equipment Helper
Coal Equipment Operator
Boiler Operator Helper
Effluent Operator
Effluent Day Operator
Utility Operator
Power Facilities Attendant
Relief Operator
Powerhouse Operator

The normal line of progression for the above listed departments is step-wise from one job title to the next higher job title in accordance with the provisions of the Working Agreements between the Company and the Union. All jobs are listed in ascending order.

Note: In the Power/Effluent Department only job titles are used. There are no job classifications.

(d) For each year since 1965, state separately the number of male employees and the number of female employees employed in each department identified in response to Interrogatory No. 2(a);

(d)

<u>Year</u>	<u>Department</u>	<u>Employees</u>	
		<u>Male</u>	<u>Female</u>
1965	Special Chemicals	67	
	Pigments	55	
	Melamine	41	
	Aureomycin	22	
	Catan	31	
	Catalyst	34	
	Stores	16	
	Power/Effluent	19	
	Maintenance	126	
	Utility Pool*	6	
1966	Special Chemicals	80	
	Pigments	59	
	Melamine	30	
	Aureomycin	27	
	Catan	29	
	Catalyst	36	
	Stores	19	
	Maintenance	136	
	Power/Effluent	20	
	Utility Pool*	8	
1967	Special Chemicals	87	
	Pigments	62	
	Melamine	39	
	Aureomycin	27	
	Catan	29	
	Catalyst	33	
	Stores	19	
	Power/Effluent	19	
	Maintenance	141	
	Utility Pool*	8	
1968	Special Chemicals	90	
	Pigments	61	
	Melamine	30	
	Aureomycin	24	
	Catan	41	
	Catalyst	27	
	Stores	22	
	Power/Effluent	22	
	Maintenance	134	
	Utility Pool*	12	

*Does not constitute a department as defined in 2(a).

(d) Year	Department	Employees	
		Male	Female
1969	Special Chemicals	94	
	Pigments	60	
	Melamine	28	
	Aureomycin	24	
	Catan	28	
	Catalyst	28	
	Stores	22	
	Power/Effluent	19	
	Maintenance	147	
	Utility Pool*	9	
1970	Special Chemicals	102	
	Pigments	63	
	Melamine	29	
	Aureomycin	24	
	Catan	28	
	Catalyst	26	
	Stores	24	
	Power/Effluent	19	
	Maintenance	158	
	Utility Pool*	10	
1971	Special Chemicals	53	
	Pigments	61	
	Melamine	26	
	Aureomycin	23	
	Catan	25	
	Catalyst	22	
	Stores	19	
	Power/Effluent	19	
	Maintenance	149	
	Utility Pool*	12	
1972	Special Chemicals	92	
	Pigments	60	
	Aureomycin	25	
	Catan	25	
	Catalyst	24	
	Stores	20	
	Power/Effluent	19	
	Maintenance	165	
	Utility Pool*	17	
1973	Special Chemicals	116	
	Pigments	66	
	Aureomycin	23	
	Catan	24	
	Catalyst	16	
	Beta Naphthol Complex	12	
	Stores	25	
	Power/Effluent	24	
	Maintenance	184	
	Utility Pool*	12	
1974	Special Chemicals	103	5
	Pigments	67	10
	Aureomycin	21	
	Catan	25	
	Catalyst	18	5
	Beta Naphthol Complex	21	
	Stores	29	
	Power/Effluent	28	

*Does not constitute a department as defined in 2(a).

(d) Year	Department	Employees	
		Male	Female
1975	Maintenance	198	
	Utility Pool*	22	
	Special Chemicals	101	13
	Pigments	54	8
	Aureomycin	23	
	Catan	24	
	Catalyst	8	
	Beta Naphthol Complex	37	
	Stores	27	
	Power/Effluent	28	
	Maintenance	225	
	Utility Pool*	13	2
1976	Special Chemicals	68	6
	Pigments	66	9
	Aureomycin	24	
	Catan	25	
	Catalyst	23	5
	Beta Naphthol Complex	44	
	Stores	29	
	Power/Effluent	27	
	Maintenance	240	1
	Utility Pool*	12	3
1977	Special Chemicals	89	7
	Pigments	61	8
	Aureomycin	23	
	Catan	25	
	Catalyst	15	6
	Beta Naphthol Complex	45	
	Surfactants	9	
	Stores	30	
	Power/Effluent	22	
	Maintenance	204	
	Utility Pool*	16	1
1978	Special Chemicals	90	7
	Pigments	57	8
	Aureomycin	24	
	Catan	25	
	Catalyst	23	6
	Beta Naphthol Complex	45	
	Surfactants	9	
	Stores	30	
	Power/Effluent	23	
	Maintenance	205	
	Utility Pool*	17	1
1979	Special Chemicals	78	3
	Pigments	38	6
	Aureomycin	29	
	Catan	21	
	Catalyst	12	4
	Beta Naphthol Complex	47	
	Surfactants	8	
	Stores	32	1
	Power/Effluent	21	
	Maintenance	228	
	Utility Pool*	9	6

*Does not constitute a department as defined in 2(a).

(d) Year	Department	Employees	
		Male	Female
1980	Special Chemicals	88	6
	Pigments	24	4
	Aureomycin	27	1
	Catan	20	
	Catalyst	15	5
	Beta Naphtol Complex	6	
	Surfactants	8	
	Stores	30	
	Power/Effluent	21	
	Maintenance	196	
	Utility Pool*	15	4
1981	Special Chemicals	61	7
	Pigments	21	3
	Aureomycin	24	2
	Catan	21	
	Catalyst	24	6
	Beta Naphtol	34	
	Surfactants	9	
	Stores	23	
	Power/Effluent	19	
	Maintenance	170	
	Utility Pool*	1	
1982 **	Special Chemicals	77	7
	Aureomycin	24	2
	Catan	21	
	Catalyst	26	6
	Beta Naphtol	35	
	Surfactants	9	
	Stores	23	
	Power/Effluent	20	
	Maintenance	161	
	Utility Pool*	1	

(e) For each department identified in response to Interrogatory No. 2(a), describe briefly any changes in the nature of its operations and in the products produced since 1965.

Answer: The information contained in the response to Interrogatory 2(e), except for information regarding the Stores, Power/Effluent and Maintenance Departments is confidential material

*Does not constitute a department as defined in 2(a).

**These figures are through March 31, 1982.

that is subject to the provisions of the Protective Order governing discovery in this action.^{*/}

Objection: For the years 1965 through 1974, see Objection

1. Since 1975, the answer is as follows:

Stores Department

- 1) Building 77 previously housed Central Maintenance and the Stores Department. In October 1978, Central Maintenance moved and Stores now occupies the entire building.
- 2) In November 1977, installed new flammable storage facility for drummed material.
- 3) The plant refuse is delivered to landfill by outside contractor rather than plant employees. (February 1980)

Power/Effluent Department (Buildings 97, 73 and 65)

- 1) Installation of a third final clarifier in the secondary waste water treatment plant. (June 1977).
- 2) Installation of a 4,000 H.P. electric driven centrifugal air compressor to increase capacity and save energy. (August 1979).
- 3) Installation of electrostatic precipitators on each of the two coal fired boilers to reduce particulate emissions. (July 1975).

^{*/} The response to Interrogatory 2(e), except for information regarding the Stores, Power/Effluent and Maintenance Departments, is contained in a separate document that is filed under seal with the Court, pursuant to the Court's order of December 31, 1980.

Maintenance Department

There has been no change in the nature of operations since 1975 although in October 1978 a physical change occurred when Central Maintenance moved into a new plant facility dedicated solely to the maintenance function.

3. Identify every woman who has held a position in production and maintenance ("P&M") at the Willow Island facility since 1965 and trace the employment history for each from 1965 to the present indicating:

- (a) Each job and department in which she has been/is employed;
- (b) The dates during which each such job was held;
- (c) The reason for termination or transfer, if any.

Answer:

From 1965 to the present, the following women have held positions in production and maintenance at the Willow Island facility:

Jacqueline F. Armstrong
Mary J. (Hescht) Carpenter
Lona C. Carr
Barbara K. (Cantwell) Christman
Martha M. Clark
Denise L. (Masters) Cline
Patty A. (Price) Corbin
Karen R. Crites
Janet D. Denning
Barbara D. Elmore
Diana (Lou) Mullenix Haddox
Nancy (O) R. (Murphy) Hardman
Norma (Jean) N. Heflin
Betty L. Henthorn
Edna W. Hescht
Lorena Iowa M. Hescht
Iris W. (Braden) Hoover
Anna Jane Maston Huff
Melanie A. Hutchinson
Mary A. (Cook) Jenkins
Sharon M. Johnson
Shirley S. Lamp
Carolyn S. (Hurst) Lowe
Donna L. Martin
Mary A. Martin
Linda S. Matheny
Linda K. Moore
Jacqueline S. Northrop
Linda S. Nuhfer

Nancy S. Pratt
Hannelore P. Richardson
Joyce P. (Brookover) Richardson
Phyllis Mae Richardson
Betty (D) J. (Moler) Riggs
Lola J. Rymer
Carolyn Darlene Sheets
Mary C. Weekley
Opal B. Whitehair

The employment history information requested by these subsections can be obtained from the white work history sheets (Document Nos. 40,000 to 40,056) that have been produced by Cyanamid.

6. For each chemical listed or identified in response to Interrogatories Nos. 4 and 5, and from 1975 to the present:

. . .

(f) For each test or procedure described in response to Interrogatory No. 6(e), identify each individual since 1975 responsible for administering the test or procedure or gathering the data.

Answer: The following personnel were responsible for either acquiring samples or sample analysis:

*No longer with the company

MNB = Mononitrobenzene	Hg = Mercury	DMA = Dimethylaniline
Al = Aniline	Pb = Lead	ONA = O-Nitroaniline
Bz = Benzene		DMS = Dimethylsulfate

9. Identify separately, in accurate medical terminology, all medical procedures or physical condition tests administered to

male P & M employees and applicants, and to female P & M employees and applicants at the Willow Island facility at any time since 1970 and for each such test or procedure:

Answer: Since 1970, the following medical procedures have been or were administered to all applicants for employment regardless of sex.

1. Complete health history.
2. Complete family history.
3. Complete systemic review.
4. Complete physical examination.
5. Posteroanterior chest X-ray.
6. Audiogram.
7. Pulmonary function assessment.
8. Electrocardiogram.
9. Visual acuity.
10. Complete blood count.
11. Complete urinalysis.
12. SMA-12 chemical screen (discontinued as of March 31, 1980).
13. Serological test for syphilis.
14. Mercury urinalysis (serum creatinine).*/
15. Blood lead level.*/

In addition, pursuant to the OSHA lead standard, serum creatinine tests were administered to P & M employees prior to assignment to the Pigments Department. Blood lead levels of P & M employees in the Pigments Department were also monitored every other month (see paragraph (ii) of Answer to Interrogatory 8). This monitoring antedated the OSHA Lead Standard but, from the effective date of this standard until such monitoring ceased in February 1980, the program was conducted in accordance with

*These tests are performed only on applicants for certain positions.

the OSHA Standard. (The blood lead levels of two employees in the maintenance department continue to be monitored every six months.) Finally, a mercury urinalysis, referred to in No. 14 supra, is performed every six months on P & M employees assigned to the Catalyst Department, and a serum bilirubin test is administered to employees prior to assignment to jobs involving occupational exposure to benzene.

(a) Identify the person(s) who administered the tests or procedures:

Answer: Blood samples are taken and all medical procedures are administered by the staff of the medical department. (See response to Interrogatory 10).

(b) Describe each such test and state defendant's purpose in administering it;

Answer: The purpose of conducting the tests and procedures is to establish the ability of the applicant, or of the employee (see (c) infra), as the case may be, to perform the work in question without undue hazard to his or her health, and to establish a baseline of normalcy for that individual to which future health evaluations may be compared. As indicated above, certain tests or procedures have been required by OSHA standards.

The tests and procedures may be described as follows:

1. Complete health history: a listing of past diseases and/or injuries, surgical procedures, hospitalizations, etc.
2. Complete family history: a review of the health history of parents, grandparents, siblings, spouse, and children.
3. Complete systemic review: a review of signs and symptoms of bodily systems.
4. Complete physical examination: self explanatory.

5. Posteroanterior chest X-ray: self explanatory.
6. Audiogram: a test of auditory acuity.
7. Pulmonary function assessment: a measurement of forced vital capacity and forced expiratory volume.
8. Electrocardiogram: 12 lead EKG.
9. Visual acuity: a vision test using a Snellen chart or mechanical testing apparatus.
10. Complete blood count: a hemoglobin, hematocrit, white blood cell - red blood cell differential.
11. Complete urinalysis: albumin, specific gravity, sugar, microscopic examination.
12. SMA-12 chemical screen: 12 tests performed on a blood sample of the employee: calcium, inorganic phosphate, glucose, BUN, uric acid, cholesterol, total protein, albumin, total bilirubin, alkaline phosphate, LDH and SGOT and SGPT.
13. Serological test for syphilis: self explanatory.
14. Mercury urinalysis: a measurement of urinary mercury level.
15. Blood lead level: a measurement of blood lead level.

(c) Identify the group of employees to whom each test was administered and state the frequency with which each such test or procedure was administered;

Answer: Since 1970 all Cyanamid employees have been offered a periodic health evaluation on a voluntary basis. The content of the periodic evaluation is identical to the preplacement examination with the following exceptions:

1. No serologic test for syphilis.
2. No electrocardiogram if under age 40.
3. No serum creatinine or blood lead level if not occupationally exposed to lead as defined by the OSHA lead standard.

This evaluation is offered annually to those 40 years of age and over and biannually to those under 40.

In addition, beginning in 1979 all P & M employees, regardless of age, who were occupationally exposed to lead as defined in the OSHA lead standard were given annual physicals as required by that standard.

(d) Describe in detail (i) the manner in which the tests or procedures were administered, (ii) the manner in which the results of samples were analyzed, and (iii) identify any outside consultant or laboratory involved in the administration or analysis of each such test or procedure;

Answer: d(i), (ii) The tests or procedures were administered and the results were analyzed in the following manner:

1. Complete health history: a form completed by the applicant and reviewed by a doctor.
2. Complete family history: a form completed by applicant and reviewed by a doctor.
3. Complete systemic review: done by a doctor as part of physical.
4. Complete physical examination: done by a doctor.
5. Posteroanterior chest X-ray: a film taken by a nurse and read by a physician.
6. Audiogram: administered in sound-proof room and the results are given to a doctor.
7. Pulmonary function assessment: patient exhales into a Vanguard 500 Pulmonary Function machine and the results are given to a doctor.
8. Electrocardiogram: a standard EKG; the results given to a doctor.
9. Visual function: a measurement of near vision, distance, depth, etc. using a mechanical testing apparatus and/or charts.

10. Complete blood count: a sample of blood is drawn and sent to Willow Island plant laboratory for performance of indicated tests.

11. Complete urinalysis: obtain a sample and administer microscopic analysis and test with Ames Co. Reagent Strip-N-Multistix.

12. SMA-12 chemical screen: a sample of blood was drawn and sent to General Consultants Medical Laboratory (see response to Interrogatory 9(d)(iii) for analysis).

13. Serological test for syphilis: a sample of blood is drawn and sent to Marietta Memorial Hospital Laboratory (see response to Interrogatory 9(d)(iii) for analysis).

14. Mercury urinalysis: a sample is obtained and sent to Willow Island plant lab for measurement of mercury content.

15. Blood lead level: a sample of blood was drawn and lead content measured in the Willow Island plant lab using the atomic absorption method.

(iii) SMA-12 was done by General Consultants Medical Laboratory, Parkersburg, West Virginia. The serological test for syphilis is done by the Marietta Memorial Hospital Laboratory.

(e) State whether employees were informed about the results of each such test or procedure and, if so, describe the manner by which they were informed (e.g., by letter, posting of results, personal communication, etc.) and the specific nature of the information which was provided;

Answer: Employees are informed of results of examination by summary interview with examining physician and, since 1979, by written report as well.

The written report of the physical examination provides the employee with the results of the physical examination, chest X-ray, hearing test, laboratory tests, pulmonary function test, electrocardiogram and other tests, as appropriate, as well as comments by the examining physician. The specific information provided to an employee by written report or during the summary interview with the examining physician varies with each employee depending upon the results of the examination and related tests.

Mercury urine results are posted. The results of blood lead monitoring are also posted and each employee is informed of the results of his or her test in writing. The specific information provided is the level of mercury and lead in the urine and blood respectively.

(f) State the time period during which each test or procedure was in use and, if discontinued, state the reason for discontinuation;

Answer: All tests and procedures have been in use since 1970, with the following exceptions:

1. Complete blood count since 1977. Prior to that time only a hematocrit and hemoglobin.
2. SMA-12 was in use from 1977 until March 31, 1980. It was discontinued at the direction of Dr. R.M. Clyne because the tests were not developing information as useful as was anticipated when they were instituted.
3. Serum Creatinine since 1979.
4. Preemployment blood lead level - terminated in 1980 because of the termination of handling lead containing compounds at Willow Island.
5. Blood lead monitoring of P & M employees discontinued in 1980 because of the termination of handling lead containing compounds at Willow Island.

6. Annual physicals required by the OSHA lead standard, 1979-80.

7. Pulmonary function assessment has been conducted since 1979.

(g) Identify fully each person responsible for the decision to administer each such test or procedure and the decision to discontinue the use of any such procedure;

Answer: Robert M. Clyne, M.D., the Corporate Medical Director, was responsible for procedures 1 through 14 from January 1, 1970 to March 31, 1981. Since April 16, 1981, Dr. H.M.D. Utidjian, M.D. has been responsible now for medical procedures that are currently conducted. As indicated above, certain tests and procedures have been conducted pursuant to requirements of the Occupational Safety and Health Administration of the U.S. Department of Labor.

Defendant does not know who was specifically responsible for instituting Test 15 as it was instituted prior to the tenure of any of the present physicians of the Central Medical Department. In more recent years, this test was done in compliance with the OSHA Standard for Occupational Exposure to Lead.

The SMA-12 Test was discontinued at the direction of Dr. R.M. Clyne because tests were not developing information as useful as was anticipated when they were instituted. The preemployment blood lead level and blood lead monitoring of P&M employees was discontinued because of the termination of handling lead containing compounds at Willow Island.

(h) For each person identified in response to Interrogatory No. 9(g), state his/her professional qualifications and experience;

Answer: (1) Dr. Clyne is a graduate physician who is certified by the American Board of Internal Medicine. He is a

member or fellow of many professional organizations. He is a recognized expert in occupational medicine and has been engaged in such practice since 1948.

(2) Dr. Utidjian is a graduate of the University of London School of Medicine and is certified in occupational medicine by the American Board of Preventive Medicine. He has practiced occupational medicine for many years both in the United States and abroad. In addition, he is a member or fellow of many professional organizations.

(i) Identify any documents describing or explaining each such test or procedure, and any documents containing instructions as to the administration of each test or procedure.

Answer: See answer to (b). See also answer to Interrogatory 8, (i)(a).*/ In addition the following documents, to which reference was made in other parts of this interrogatory, describe or explain the enumerated tests and procedures.

1. Preplacement/Reemployment Health Evaluation. (Interrogatory 9(d), Item 1).

2. Periodic Health Evaluation (Interrogatory 9(c)).

3. Initial Hearing Conservation Evaluation (Interrogatory 9(d), Item 6).

4. Monitoring Audiometry (Interrogatory 9(c)).

5. Directions for Use of the Miller Prediction Quadrant (Interrogatory 9(d), Item 7).

6. Titmus Vision Tester (Interrogatory 9(d), Item 9).

*/ A copy of the document identified in Interrogatory 8(i)(a), the Corporate Medical Program of American Cyanamid, Chapter VI, Physical Examinations, has been copied by plaintiffs pursuant to Plaintiffs' First Request for Production of Documents. Therefore, no further identifying information needs to or will be provided.

All documents are standard forms and are in the custody of the Willow Island Medical Department, Ms. Patricia Shopene, nurse.

10. Identify each person employed or retained, full-or part-time, in a medical capacity at the Willow Island facility, and for each:

(a) State his/her professional qualifications and experience;

(b) Describe the nature of his/her employment (full-time, part-time, contractual, etc.).

Answer:

John D. Lyons, M.D. - Full-time Physician; 11 years experience in medical practice.

Richard R. Hille, M.D. - Part-time physician; 28 years of experience in medical practice (left the employ of Cyanamid in April 1981).

Kenneth E. Owen, M.D. - Part-time physician; 24 years experience in medical practice (left the employ of Cyanamid in April 1981).

Patricia Shopene, R.N., BSN, COHN - Full-time nurse; 27 years experience in nursing.

Lois Holpp, R.N. - Part-time nurse; 20 years experience in nursing (left employ of Cyanamid in June 1980).

Betty Wickenhofer, R.N. - Full-time nurse; 35 years experience in nursing.

15. With respect to the Willow Island facility, state separately for each year from 1965 to the present the number of men and the number of women:

(a) Who applied for employment in entry-level or unskilled production positions;

Answer:

Information is not available for 1965-1972. For 1973-82, the figures are:

(a)

<u>Year</u>	<u>Men</u>	<u>Women</u>
1973	475	6
1974	693	202
1975	638	98
1976	1315	198
1977	868	141
1978	886	154
1979	579	116
1980	133	35
1981	114	15
1982*	80	10

These figures include applicants for entry level labor and service worker positions. The service worker category may include applicants for guard as well as entry level maintenance positions.

Information on applications for temporary summer employment is available only for the years 1980 and 1981:

<u>Year</u>	<u>Men</u>	<u>Women</u>
1980	60	24
1981	14	4

(b) Whose applications indicated an interest in employment in any position;

Answer: The information requested is available only from 1978-1982 for applicants for full-time positions and from 1980-1981 for applicants for temporary summer positions.

*These figures are through March 1982.

Permanent Positions:

<u>Year</u>	<u>Men</u>	<u>Women</u>
1978	177	23
1979	168	26
1980*	44	4
1981**	37	8
1982	36	2

(c) Whose applications did not specify the kind of employment sought.

Answer: The information requested is available only from 1978-1982 for applicants for full-time positions and from 1980-1981 for applicants for temporary summer positions.

Permanent Positions:

<u>Year</u>	<u>Men</u>	<u>Women</u>
1978	59	2
1979	46	5
1980***	9	0
1981	3	3
1982	2	0

16. State separately for each year from 1965 to the present the number of men and the number of women hired into entry-level or unskilled P & M positions.

*The applications of thirty-one men and seven women who applied only for summer employment in 1980 indicated an interest in any position.

**The applications of six men and one woman who applied only for summer employment in 1981 indicated an interest in any position.

***The applications of two men and two women who applied only for summer employment did not specify the kind of employment sought.

Answer:

<u>Year</u>	<u>Permanent Positions</u>		<u>Temporary*/ Positions</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
1965	37	0	22	0
1966	52	0	67	0
1967	43	0	6	0
1968	34	0	8	0
1969	14	0	13	0
1970	24	0	50	0
1971	0	0	0	0
1972	11	0	4	0
1973	76	0	55	0
1974	59	26	34	0
1975	28	5	0	0
1976	58	6	44	0
1977	40	1	135	0
1978	85	0	38	0
1979	11	2	17	0
1980	0	0	0	0
1981	0	0	0	0
1982**	0	0	0	0

17. Describe each requirement for employment in any P&M position at the Willow Island facility in effect at any time since 1965, including without limitation, education, experience, minimum height and weight requirements, and for each:

(a) State the job(s) for which each requirement was imposed;

Answer:

Since 1965, there have been five basic requirements that are common to all entry and nonentry level P&M jobs. These requirements are:

- (1) Completion of an American Cyanamid employment application;
- (2) Completion of a general personnel (intelligence) and mathematics test;
- (3) Completion of a pre-employment physical examination;

*This category includes summer employment.

**These figures are through March 1982.

(4) Possession of high school diploma or G.E.D.; and

(5) The ability to satisfy the job requirements of the job as detailed in Cyanamid's response to Interrogatory 2(c) and Attachment A.

There are two additional requirements for employment as a mechanic. First, mechanics 1st, 2nd and 3rd class must be able to perform a high grade of mechanical work in their specified areas that is commensurate with their classifications; and second, mechanics should own a minimum set of hand tools for the specific group and classification to which they are assigned.

Advancement into higher level or nonentry level positions is governed by the seniority (Article 26) and promotion (Article 27) provisions of the Working Agreement with Local 3-499 of the Oil, Chemical & Atomic Worker International Union.

(b) State the time period during which each requirement was in effect;

Answer: All requirements described in subsection (a) were in effect from 1965 to the present unless indicated otherwise in the response to Interrogatory 17(c).

(c) If any requirement has been discontinued or modified, describe in detail the nature of the change in the requirement and the reason for each such change;

Answer: Requirement Nos. (2) and (4) were eliminated totally in early 1970 because they were not considered as necessary requirements for P & M positions.

(d) Identify all documents which describe, define, or refer in any manner to any of the requirements.

Answer: (1) Application for Employment, American Cyanamid Company;

(2) Cyanamid Personnel Policy Memorandum #13; General Corporate Medical Policy Concerning Physical Examinations;

(3) Job Specifications, Maintenance and Construction: Willow Island Plant. (See Attachment A to Cyanamid's Confidential and Non Confidential Responses to Interrogatory 2.)

18. Describe the process for selecting applicants for P & M employment at the Willow Island facility since 1970, and:

(a) Describe any standards or criteria applied in making selections;

(b) Identify all individuals responsible for hiring in the plant and in each department and describe the nature of his/her role in the selection process;

(c) State whether applicants are interviewed and, if so, describe under what circumstances interviews are conducted, and identify the person(s) who conducts the interviews;

(d) Identify any documents containing, defining, or describing standards or criteria for such employment and any documents containing instructions about the manner by which applicants are to be considered, interviewed or selected.

Answer: Since 1970, the answer is as follows:

(a), (c) All applicants for employment must complete a Cyanamid employment application. Since 1974, applications submitted by minority and women applicants have been placed in separate files to help meet affirmative action goals and to aid in the preparation of affirmative action plans and equal employment opportunity reports.

Applicants are selected for interviews from the current applications on file. Selection is based on the content of the application and its completeness, the ability of an applicant to do the job based on prior experience as shown in the application, and the applicant's location and availability. Consideration also is given to affirmative action goals to ensure equal

opportunity in employment. Applicants under age 18 must have a work permit and are not normally hired for production and maintenance jobs.

All applicants are not interviewed. The applicants who are selected for interview normally are interviewed by two people from the Personnel Department and by a Superintendent of the department into which they may be hired. The interviewers assess an applicant's ability to perform the job and consider criteria such as maturity, force and confidence, alertness and enthusiasm, thought organization, and speech. After consultations between all interviewers, an employment decision is made.

Persons conducting interviews:

Paul K. Cooper	French L. Wagner
Glenn E. Mercer	John E. Knapp
Carl D. Johnson	Burl D. Hewitt
Donald C. Wagner	William E. Lucas
David W. Ayre	Charles H. Carroll
Zeb V. Morgan	James R. Kirby, Jr.
Gene R. Kunkle	Howard A. Shriver
Richard F. Beidler	Kenneth R. Calebaugh
Franklin L. Tetrick	John L. Whitacre
James L. Noe	William G. Fox
Robert A. Grant	Robert L. Hayes
Carroll C. Buckley	Charles E. Little
Robert A. Johnson	Robert B. Danielson
Carlton A. Buttrey	Charlie M. Ballard
James S. Marchese	Ruth D. Heilman
Robert L. Bailey	Ray R. Wiggins
Franklin G. Lamp	John T. Fries
Thomas M. Meadows	Warren C. Epperly
Donald E. Danielson	William D. Israel
John C. Robertson	

(b) (i) Selection of applicants and arrangement of appropriate interviews: Paul K. Cooper and Ruth D. Heilman;

(ii) Coordination of final approval of selection process: Glenn E. Mercer; Donald C. Wagner; Carl D. Johnson.

(d) American Cyanamid Company Employment Application; American Cyanamid Company Interview Summary; Memo from J.E. White to Department Heads, Equal Employment Opportunity Statement and similar memoranda from Willow Island Affirmative Action Plans which have been produced in response to Plaintiffs' request for

Production 15; American Cyanamid Company Personnel Policy
Memorandum 9, August 15, 1978.

19. (a) State whether defendant has at any time since 1970 advertised, solicited, or recruited in any way for employees in P & M positions at its Willow Island facility. (b) If so, describe each method of advertisement or recruitment and its purpose. (c) Identify the individual(s) responsible for adopting and implementing the program. (d) Identify any publications used.

Answer: Since 1970, the answer is as follows:

In 1974, the Willow Island Plant sought employment applications for production positions from females in the facility's labor market area. Plant management solicited prospective employees by contacting the West Virginia Department of Employment Security and West Virginia schools and community agencies. The purpose of these efforts was to increase the number of female applicants.

In January 1974 and May 1978, the Willow Island Plant recruited industrial mechanics by using classified display advertising in the following newspapers: Marietta Times, Marietta, Ohio; Parkersburg News, Parkersburg, W. Va.; Parkersburg Sentinel, Parkersburg, W. Va.; St. Marys Oracle, St. Marys, W. Va.; Tyler Star News, Sistersville, W. Va.; Charleston Gazette, Charleston, W. Va. (1974 only); Charleston Daily Mail, Charleston, W. Va. (1974 only); and Wheeling News Register, Wheeling, W. Va. (1974 only).

The Willow Island Plant Manager, R.J. Clay, American Cyanamid Company, Willow Island, W. Va., was responsible for adopting and implementing the programs described above.

20. State whether defendant contends that sex is or has been at any time since 1965 a bona fide occupational qualification ("bfoq"), as that term is used in 42 U.S.C. § 2000e-2(e)(1), for any P & M position at its Willow Island facility and, if so:

(a) Identify each position for which sex has been considered a bfoq and in each instance state the reason why sex has been deemed to be a bfoq;

(b) If sex is no longer considered a bfoq for any such position, state the date on which defendant's policy changed and the reason for each such change;

(c) Identify each person responsible for the decision to consider sex a bfoq for any position or the decision to abandon or modify any such policy;

(d) Identify all documents relating in any fashion to the decision to treat sex as a bfoq or to the decision not to treat sex as a bfoq.

Answer: Yes.

(a) - (d) See responses to Interrogatories 25 through 27. For example:

(a) See, e.g., Responses to Interrogatories 25(a), (d)(iv)-(v).

(b) See, e.g., Responses to Interrogatories 25(e)(v)-(vi), 25(k).

(c) See, e.g., Response to Interrogatory 25(g), nos. 1-6.

(d) See, e.g., Responses to Interrogatories 25(f), (i), (k) and documents produced in response to Requests 1, 2(a) and 2(b) of Plaintiffs' First Request for Production of Documents.

21. State whether defendant is a party to any contracts with any agency of the federal government and, if so:

(a) State whether any such contracts are exempt from federal nondiscrimination rules and regulations;

(b) State whether any agent(s) of the federal government have ever conducted an investigation of defendant's employment practices to determine whether defendant is in compliance with nondiscrimination rules and regulations;

(c) State whether defendant has ever been advised by any agent of the federal government that defendant should employ a greater number of women employees in P & M positions in order to comply with nondiscrimination rule and principles.

Answer: Yes.

(a) No

(b) Yes

(c) No

22. If the answer to Interrogatory No. 21(b) or (c) is yes:

(a) State each location where the investigation(s) occurred and the dates during which such investigation(s) occurred.

Answer:

(a) Investigations of the Willow Island Plant, Willow Island, West Virginia occurred on:

(1) November 12-14, 1974 (Investigation 1);

(2) March 23, 1979 to August 15, 1979

(Investigation 2). However, several of these charges, which relate to the medical protection policy, are still pending. See interrogatory 36;

(3) March 29, 1979 to October 17, 1979

(Investigation 3);

(4) March 27, 1981 - August 25, 1981

(Investigation 4).

(b) Identify the agency responsible for the investigation and identify the individuals who conducted the investigation.

Answer:

(1) Investigation 1: United States Atomic Energy Commission, Oak Ridge Operations, P.O. Box E, Oak Ridge, Tennessee 37830; Mr. Joseph M. Michael, Facility Compliance Officer, Contract Compliance Office, Southeast Area.

(2) Investigation 2: Equal Employment Opportunity Commission, Pittsburgh Area Office, 1000 Liberty Avenue, Room 2038A, Pittsburgh, Pennsylvania 15222; Mr. Bruce Baigin, Supervisor, Mr. Paul F. Southworth, III, Compliance Officer, Equal Employment Opportunity Commission, Pittsburgh Area Office.

(3) Investigation 3: United States Department of Labor Occupational Safety and Health Administration, Philadelphia Branch Operations Review Office, Mall Building, Philadelphia, Pennsylvania 19106; Arthur Johannes, Edward J. Monahan, Operations Review Office Investigators, Philadelphia Area Office.

(4) Investigation 4: Equal Employment Opportunity Commission, Philadelphia District Office, 127 North Fourth Street, Philadelphia, Pennsylvania 19106; Joan D. Gmitter, Equal Opportunity Specialist, Philadelphia District Office.

(c) Identify all documents, including correspondence, relating in any way to any such investigation, to the results of any investigation, or to any statement made by any federal official to the effect that defendant should employ more women in P & M positions.

Answer: In lieu of identifying each document, and pursuant to Plaintiff's Definition No. 3 to these Interrogatories, all

responsive documents that are not privileged have been produced pursuant to Requests for Production Nos. 6 and 16. Documents that are privileged have been identified pursuant to the Court's March 24, 1982 order.

(d) State whether any meetings were held with regard to defendant's employment practices or investigations thereof and, if so, state the date of each such meeting, identify all participants, describe the purpose and nature of the meeting, and identify any documents pertaining in any fashion to any such meeting.

Answer:

(1) One meeting was held in Investigation 1. It was held on November 14th at the Willow Island Plant. In attendance were Joseph Michael of the United States Atomic Energy Commission and Ralph Clay, Donald Wagner, and Glenn Mercer all representatives of Cyanamid. The parties discussed the recommendations and suggestions made by Mr. Michael following his compliance review investigation of the plant. All documents that are not privileged which pertain to this meeting have been produced in response to Request for Production No. 16.

(2) In Investigation 2, the following meetings were held:

(i) On May 14, 1978, a meeting was held between the Pittsburgh Area office of the EEOC and representatives of American Cyanamid Company. The representatives from American Cyanamid were Lee Long, Jr. Marilyn Martin J.S. Tobin, William Fead, Donald Wagner and Joseph Caporossi. The meeting was held to enable the EEOC to engage in further factfinding. All documents pertaining to this meeting have been produced in response to Request for Production No. 16.

(ii) On August 15, 1979, a meeting was held between Paul Southworth of the Pittsburgh Area Office of the EEOC and the following representatives from American Cyanamid: Lee Long, Jr., Marilyn Martin, William Fead and Donald Wagner. The parties met for the limited purpose of discussing a 1977 industrial hygiene study conducted in the Pigments Department at the Willow Island plant. (See response to Interrogatory 26, Part II, 2.) Documents pertaining to this meeting have been produced in response to Request for Production No. 16.

(3) In Investigation 3, the following meetings were held:

(i) On April 24, 1979, Edward J. Monahan and Arthur Johannes of the Department of Labor (Philadelphia Branch) met with the following representatives from American Cyanamid: Marilyn Martin, Donald Wagner, Joseph Caporossi, and Dr. R.M. Clyne. The meeting was held to discuss complaints filed against American Cyanamid pursuant to section 11(c) of the Occupational Safety and Health Act of 1970. Documents pertaining to the meeting have been produced in response to Request for Production No 6.

(ii) On July 3, 1979, a meeting was held between Edward J. Monahan and Arthur Johannes of the Department of Labor and the following representatives from American Cyanamid: Marilyn Martin, Glenn Mercer, Carl Johnson, and Donald Wagner. The meeting was a continuation of the investigation concerning complaints filed against American Cyanamid pursuant to section 11(c) of the OSH Act. Document, pertaining to this meeting have been produced in response to Request for Production No. 6.

(4) No meetings were held in Investigation 4.

(e) Describe in full any actions undertaken by defendant in response to investigations or suggestions made by federal officials about defendant's employment practices and identify each person responsible for such actions.

Answer:

(1) Investigation 1: On January 3, 1975, R.J. Clay, the Willow Island Plant manager sent a letter to Joseph M. Michael detailing the action that American Cyanamid had or would take in response to the investigation. This letter has been produced pursuant to Request 16. The Willow Island Plant Manager, R.J. Clay, and the Industrial Relations Superintendent, G.E. Mercer, were responsible for this action.

(2) Investigation 2: The Pittsburgh Area Office never reached a determination. The EEOC's Office of Policy Implementation in Washington, D.C., instructed the Pittsburgh Area Office to forward the investigation record to it. Several charges relating to the medical protection policy are still pending. See Interrogatory 36.

(3) Investigation 3: On October 17, 1979, the Department of Labor informed American Cyanamid that it was closing the file on the section 11(c) charges.

(4) Investigation 4: The Philadelphia Office of the EEOC terminated its investigations and issued right to sue letters on August 25, 1981.

23. Identify all documents reflecting, containing or describing any affirmative action plans, policies, or programs undertaken by defendant at any time since 1965.

Answer:

In lieu of individual identification and, in accordance with definition 3 of Plaintiffs' Interrogatories, all documents regarding the Willow Island plant that are responsive to this interrogatory and that are not privileged have been produced pursuant to Request for Production 15. Documents that are privileged have been identified pursuant to the Court's March 24, 1982 order.

24. Identify any documents reflecting or relating in any way to the absence of women in P & M positions and to a decision to hire women into those positions at any time since 1965.

Answer:

Any documents responsive to this interrogatory have been produced in the response to Interrogatory 23 and Requests for Production 15 and 16.

25. State whether defendant has ever adopted any policy the result of which was the exclusion of all employees of one sex, or all fertile employees of one sex, from certain types of employment. If so:

* * *

(c) Identify each chemical substance to which defendant's policy would limit the exposure of affected employees.

Answer: The policy limits the exposure of affected employees to the following substances:

Hydrazine sulfate

Hydrazine hydrate

Lead

Methotrexate

Thio-TEPA

(d) List each location at which defendant implemented such a policy, and for each:

Answer: Defendant implemented the policy at Willow Island.

As to other locations, see Objection 5.

(i) Describe the policy in detail;

Answer: See answer to Interrogatory 25(a).

(ii) State the date it was first announced;

Answer: Willow Island -- January 30, 1978.

(iii) State the date it was implemented;

Answer: The Medical Protection Policy was implemented with respect to applicants for employment at Willow Island on or about September 16, 1977. As of January 30, 1978, the date the policy was announced to employees at Willow Island, women of childbearing potential were not permitted to bid on jobs affected by the Medical Protection Policy at that facility. On October 2, 1978, two women of childbearing potential were transferred out of affected jobs in the pigments department at Willow Island.

(iv) Identify each department and job affected by the policy;

(v) For each such department and job, identify each chemical substance to which affected employees' exposure would be limited by operation of the policy;

Answer: (1) At the time the policy was adopted and announced at Willow Island, it affected all jobs in Special Chemicals, Pigments, Catalyst, Beta Naphthol, Catan, Stores, and Maintenance. In these departments, the exposure of affected employees to the following chemicals would have been limited:

- a. Special Chemicals: aniline, nitrobenzene, benzene, dimethyl sulfate, o-nitroaniline, and dimethylaniline
- b. Pigments: lead and its compounds
- c. Catalyst: mercury
- d. Beta Naphthol: aniline
- e. Catan: aniline, benzene, nitrobenzene
- f. Stores: aniline, nitrobenzene, benzene, dimethylsulfate, o-nitroaniline, dimethylaniline, lead and its compounds, and mercury
- g. Maintenance: aniline, nitrobenzene, benzene, dimethylsulfate, onitroaniline, dimethylaniline, lead and its compounds and mercury

In addition, jobs in the janitors' department were affected insofar as restrictions were placed on the work assignments of female employees of childbearing potential to limit their exposure to aniline, benzene, o-nitroaniline, dimethylaniline, nitrobenzene, dimethylsulfate, lead and its compounds, and mercury.

(2) The information contained in this subparagraph of the response to Interrogatories 25(d)(iv), (v) is confidential material that is subject to the provisions of the Protective Order governing discovery in this action.^{*/}

(3) As finally implemented in October, 1978, the policy affected only the Pigments Department, and all jobs therein, at Willow Island. The only chemical to which exposure was limited was lead and its compounds.

(vi) Specify the number of employees, broken down by sex, who were affected by the operation of

^{*/} Subparagraph (2) of the response to Interrogatories 25(d)(iv), (v) is contained in a separate document that is filed under seal with the Court pursuant to the Court's order of December 31, 1980.

the policy, and the precise manner in which each was affected (e.g. transfer, termination, sterilization, etc.).

Answer: As of January 30, 1978, 16 female employees of childbearing potential were precluded from bidding into those departments affected by the policy identified in subparagraph (1) of the response to Interrogatories 25(d)(iv), (v). As of July 1, 1978, nine females of childbearing potential would have been affected by the policy had it been completely implemented in its original form. When the policy was completely implemented, nine female employees of childbearing potential were precluded from bidding into jobs in the Pigments Department or being assigned to work as janitors in that department. Two of these employees were transferred out of that department in October, 1978. No female employees were terminated at Willow Island. Defendant is unable to state whether the policy had any effects other than those enumerated above.

(e) List each location at which defendant announced its intention to adopt such a policy, and for each:

Answer: Defendant announced its intention to adopt such a policy at Willow Island. As to other locations, see Objection 5.

(i) Describe the policy in detail as originally announced or adopted;

Answer: See answer to Interrogatory 25(a).

(ii) Identify each department and job which would have been affected by the policy in its original form;

(iii) For each such department and job, identify each chemical substance to which affected employees' exposure would have been limited if the policy had been implemented in its original form;

Answer: See subparagraphs (1) and (2) of the response to Interrogatories 25(d)(iv), (v).

(iv) Specify the number of employees, broken down by sex, who would have been affected if the policy had been implemented in its original form;

Answer: As of January 30, 1978, 16 female employees of childbearing potential would have been affected by the policy. As of July 1, 1978, nine female employees of childbearing potential would have been affected by the policy if it had been completely implemented in its original form.

(v) State whether defendant implemented the policy, or implemented it in the same form as originally announced; and if not, state the date on which defendant decided to abandon or otherwise modify its original policy, and the date on which it announced that decision to its employees;

Answer: Actions were taken to implement the policy as originally announced in January of 1978. See response to Interrogatory 25(d)(iii). However, the policy as originally announced was not completely implemented; specifically, there were no reassignments of female employees pursuant to the policy in its original form. The policy was modified in August, 1978, and implemented in that form in October, 1978. These modifications of the policy were announced to employees at Willow Island in September, 1978.

(vi) State the reason for each such modification.

Answer: The Occupational Exposure Review Committee narrowed the list of substances to which exposure of women of childbearing potential would be restricted and revised some of the exposure limits contained in the policy. The revised list includes those substances which have the most clearly documented evidence of fetotoxicity in the medical and scientific literature or in information in possession of the defendant. The policy was also modified to expressly provide that females affected by it were to be reassigned and that none were to be terminated, and to authorize temporary rate retention for those females reassigned pursuant to it. There was no modification in the purpose of the policy.

* * *

(h) State whether any meetings were held with regard to any such policy and, if so, state the dates of such meetings, identify all participants, identify all documents referring to or reflecting each meeting, and describe the purpose and nature of each meeting;

Answer: See Objection 5.

(1) Meetings of the Executive Committee/Office of the Chairman. See Answer to Interrogatory 25(f), Document Nos. 2, 10, 13, 15 and 23; Interrogatory 25(i), Doc. No. 1; and Interrogatory 25(g), Item 6. According to Document Nos. 2, 10, 13, 15 and 23 identified in response to Interrogatory 25(f), all members of the Executive Committee or Office of the Chairman, (see Answer to Interrogatory 25(g), Item 6), attended all meetings except as follows: G. Russell absent on September 12, 1977; G. Sella absent on April 10, 1978; G. Sella, Jr. and W. Liffers absent on June 26, 1978; J. Affleck and W. Liffers absent on August 28, 1978. In addition, J. Wyer, W. Taylor, Director of

Investor Relations; Dr. J. Tobin, Assoc. Corporate Medical Director; and E.J. Dean, Jr., Corporate Director of Labor and Industrial Relations, attended the relevant portion of the April 10, 1978 meeting. W. Brown, G. Bywater, and J. Wyer attended the relevant portion of the August 28, 1978 meeting. All members of the Executive Committee were in attendance at the September 7, 1976 meeting. (In September 1976, Mr. J. Bourland (retired) was a member of the Executive Committee and Mr. G. Sella, Jr. was not. Otherwise, see Answer to Interrogatory 25(g), (Item 6(a)).

(2) Meetings of the Occupational Exposure Review Committee. See Answers to Interrogatory 25(f), Document No. 22 (a-i), and Interrogatory 25(g), Item 5. According to the above documents, all members of the OERC attended all meetings except as follows: W. Brown absent on April 11, 1979; H. Kiltie absent on May 24, 1979; and C. Shaffer absent on September 11, 1979. In addition, J. Caporossi attended the OERC meetings of December 15, 1978, December 13, 1979, and March 22, 1979.

(3) In addition to the above, informal meetings were held among defendant's health professionals regarding the policy. The dates of and participants in all such meetings are not known to defendant.

Note: The dates and the nature and purposes of the meetings identified in subsections 1 and 2 of the response to Interrogatory 25(h) are stated in the synopses of the documents identified therein.

(i) Identify all documents, including without limitation each scientific study or experiment, relied upon by defendant in deciding to announce, adopt, modify, abandon or implement any such policy;

Answer: See Objections 5, 6, and 7.

(1) The introduction to Part II and Sections A-D of this response should read:

II. Scientific Studies or Experiments:

Defendant objects to this interrogatory as imposing an unduly onerous and inordinate burden insofar as it requests identification of each scientific study or experiment relied on in connection with the adoption, modification, abandonment or implementation of the policy.

Without waiving this objection, the following constitute some of the pertinent medical and scientific studies, experiments and literature relied on by defendant in adopting and implementing the policy with respect to those substances identified in response to Interrogatory 25(c). In addition to those references identified below, Cyanamid, in its Second Response to Request 1(h) of Plaintiffs' First Request for Production of Documents, has made available a considerable number of additional studies or experiments relied on in connection with the policy.

See Response to Interrogatory 25(f) regarding the custodians of such documents.

A. Methotrexate

1. Berry, C.L.: Transient Inhibition of DNA Synthesis by Methotrexate in the Rat Embryo and Fetus. J. Embryol. Exp. Morphol. 26:469-474 (1971).
2. Freedman, H.L.; Magagnini, A. and Glass, M.: Pregnancies Following Chemically Treated Choriocarcinoma. Am. J. Obstet. Gynecol. 83:1637-1641 (1962).
3. Hole, H.; Choi, G.H. and Spahlinger, B.: Effects of Methotrexate on the Chromosomes of a Human Fetus In Vivo. Geburtshilfe Frauenheilkd 35(7):538-543 (1975).
4. Junge, W.D.; Kyank, H.; Pelz, L. and Buettner, H.H.: Pregnancy After Previous Methotrexate Treatment - Chromosomal Analysis of the Mother and Child. Zentralbl Gynaekol 95(32):1126-1129 (1973).
5. Kaung, D.T. and Swartzendruber, A.A.: Effect of Chemotherapeutic Agents on Chromosomes of Patients with Lung Cancer. Dis. Chest. 55(2):98-100 (1969).
6. Melnyk, J.; Duffy, D.M. and Sparkes, R.S.: Human Mitotic and Meiotic Chromosome Damage

Following In Vivo Exposure to Methotrexate.
Clin. Genet. 2(1):28-31 (1971).

7. Minnich, V.; Smith, M.E.; Thompson, D. and Kornfeld, S.: Detection of Mutagenic Activity in Human Urine Using Mutant Strains of Salmonella Typhimurium. Cancer 38(3):1253-1258 (1976).
8. McClain, R.M. and Siekierka, J.J.: Placental Transfer of Methotrexate in Rats. Toxicol. Appl. Pharmacol. 33:168 (1975).
9. Schinzel, A. and Schmid, W.: Are Cytogenetic Studies on Lymphocyte Cultures of Exposed Persons a Valid Mutagenicity Test. Data on 67 Patients Treated with Cytostatic Drugs. Mutat. Res. 38:126 (1976).
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12. Van Thiel, D.H.; Ross, G.T. and Lipsett, M.B.: Pregnancies After Chemotherapy of Trophoblastic Neoplasms. Science 169(3952):1326-1327 (1970).
13. Wilson, J.G.: Embryotoxicity of the Folic Antagonist Methotrexate. Anat. Rec. 166:398 (1970).
14. Zachariae, H.: Is Methotrexate Mutagenic? Hautarzt 27(2):90 (1976).
15. Bendict, W.F.; Baker, M.S.; Haroun, L.; Choi, E. and Ames, B.N.: Mutagenicity of Cancer Chemotherapeutic Agents in the Salmonella/Microsome Test. Cancer Res. 37(7)Pt.1: 2209-2213 (1977).
16. Fischer, P.; Vetterlein, M.; Phol-Ruling, J. and Kepler, P.: Cytogenetic Effects of Chemotherapy and Cranial Irradiation on the Peripheral Blood Lymphocytes of Children with Malignant Disease. Oncology 34(5):224-228 (1977).
17. Hausbrandt, F.: Side-Effects and Sequelae of Drug Treatment in Oncology. Krebsgeschehen 9(5):114-118 (1977).
18. Kroner, T.H. and Tschumi, A.: Conception of Normal Child During Chemotherapy of Acute Lymphoblastic Leukemia in the Father. Br. Med. J. 1:1322-1323 (1977).

B. Thio-TEPA

1. Nishimura, H.; Terada, M. and Yasuda, M.: Mitigated Teratogenicity of Thio-TEPA in the Gold Thio-glucose Obese Mice. Anat. Rec. 154(2):479 (Feb. 1966).
2. Murphy, M.L.: Effects of Alkylating Agents on Embryonic Development. AMA J. Dis. Child. 94:536 (1957).
3. Wyrobek, A.J. and Bruce, W.R.: Chemical Induction of Sperm Abnormalities in Mice. Proc. Natl. Acad. Sci. USA 72(11):4425-4429 (1975).
4. Malashenko, A.M. and Surkova, N.I.: Mutagenic Effect of Thio-TEPA in Laboratory Mice. V. Influence of Female Genotype on Realization of Dominant Lethal Mutations Induced in the Spermatids of Males. Genetika 11(1):105-111 (1975).
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12. Semenov, K.H. and Malashenko, A.M.: Search for Translocation Heterozygous Female Mice Among the Progeny from Males Subjected to Chemical Mutagen (Thio-TEPA) Exposure. Tsitol. Genet. 11(5):454-456 (Sept.-Oct. 1977).

C. Lead

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2. Criteria for a Recommended Standard . . . Occupational Exposure to Inorganic Lead. U.S. Department of Health, Education, and Welfare, Public Health Service, Health Services and Mental Health Administration, National Institute for Occupational Safety and Health (1972).
3. Lead Salts. WHO International Agency for Research on Cancer, IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man, Vol. 1:40-50 (1972).
4. Lancranjan, I.; Popescu, H.I.; Gavanescu, O.; Klepsch, I. and Serbanescu, M.: Reproductive Ability of Workmen Occupationally Exposed to Lead. Arch. Environ. Health 30:396-401 (Aug. 1975).
5. O'Riordan, M.L. and Evans, H.J.: Absence of Significant Chromosome Damage in Males Occupationally Exposed to Lead. Nature 247:50-53 (1/4/74).
6. Schmid, E. and Bauchinger, M.: Chromosome Analysis in Mammalian Cells After Exposure to Lead In Vitro and In Vivo. Mutat. Res. 21:48 (1973).
7. Chaube, S.; Swinyard, C.A. and Nishimura, H.: A Quantitative Study of Human Embryonic and Fetal Lead with Considerations of Maternal-Fetal Lead Gradients and the Effect of Lead on Human Reproduction. Teratology 5(2):253 (1972).
8. Hilderbrand, D.C.; Der, R.; Griffin, W.T. and Fahim, M.S.: Effect of Lead Acetate on Reproduction. Amer. J. Obst. Gyn. 115(8):1058-1065 (1972).
9. Schwanitz, G.; Lehnert, G., et al.: Chromosomal Injury Due to Occupational Lead Poisoning. Germ. Med. Monthly XV:738-746 (Dec. 1970).
10. Lead. WHO Environmental Health Criteria 3, Geneva (1977).
11. Plechaty, M.M.; Noll, B. and Sunderman, F.W., Jr.: Lead Concentrations in Semen of Healthy Men Without Occupational Exposure to Lead. Ann. Clin. Lab. Sci. 7(6):515-518 (Nov.-Dec. 1977).
12. Crosby, W.H.: Lead-Contaminated Health Food - Association with Lead Poisoning and Leukemia. JAMA 237(24):2627-2629 (6/13/77).

13. Lead Standard, issued by Occupational Safety & Health Administration of Department of Labor, November 14, 1978. Section 1910.1025, Federal Register Volume 43, No. 220, pages 53007-53014.
14. Part 1910, Occupational Safety & Health Standards, Federal Register Volume 44, No. 50, pages 14554-14555, March 13, 1979.

D. Hydrazine Hydrate and Hydrazine Sulfate

1. Krop, S.: Toxicology of Hydrazine. Arch. Indust. Hyg. & Occupat. Med. 9:199-204 (1954).
2. Sax, N.I.: Dangerous Properties of Industrial Materials, Fourth Edition, p. 283 and p. 814.
3. IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man. WHO International Agency for Research on Cancer, Vol. 4, pp. 127-136 (1974).
4. Lee, S.H. and Aleyassine, H.: Hydrazine Toxicity in Pregnant Rats. Arch. Environ. Health 21:615-619 (Nov. 1970).
5. Poulson, E. and Robson, J.M.: The Effect of Amine Oxidase Inhibitors on Pregnancy. J. Endocrin. 27:147-152 (1963).
6. Greenhouse, G.: Evaluation of the Teratogenic Effects of Hydrazine, Methylhydrazine, and Dimethylhydrazine on Embryos of *Xenopus Laevis*, the South African Clawed Toad. Teratology 13(2):167-177 (1976).
7. Gold, J.: Use of Hydrazine Sulfate in Terminal and Preterminal Cancer Patients: Results of Investigational New Drug (IND) Study in 84 Evaluable Patients. Oncology 32:1-10 (1975).
8. Ochoa, M.; Wittes, R.E. and Krakoff, I.H.: Trial of Hydrazine Sulfate (NSC-150014) in Patients with Cancer, Cancer Chemotherapy Reports Part 1, Vol. 59(6) (Nov.-Dec. 1975).
9. Bresler, S.E.; Kalinin, V.L. and Perumov, D.A.: Inactivation and Mutagenesis on Isolated DNA. II. Kinetics of Mutagenesis and Efficiency of Different Mutagens. Mutation Research 5:1-14 (1968).
10. Rohrborn, G.; Propping, P. and Busemaier, W.: Mutagenic Activity of Isoniazid and Hydrazine in Mammalian Test Systems. Mutation Res. 16:189-194 (1972).
11. Grafe, A.; Lorenz, R. and Vollmar, J.: Testing the Mutagenic Potency of Chemical Substances in a Linear Host-Medicated

- Assay. I. Experimental Microbiological Basis. Mutation Research 31:205-216 (1975).
12. Ozalpan, A.: Morphological and Physiological Effects of Hydrazine Hydrate Upon Mammalian Cells In Vitro. Istanbul Univ. Fen. Fak. Mecm., Seri. B 38(1-4):111-131 (1973).
 13. Hydrazine, Sulfate. Registry of Toxic Effects of Chemical Substances: 469 (1977).
 14. Hydrazine. Registry of Toxic Effects of Chemical Substances: 463 (1977).
 15. Hydrazine, Monohydrate. Registry of Toxic Effects of Chemical Substances: 468 (1977).
 16. Hydrazine, Skin. Occupational Standards, published by the Bureau of National Affairs, Inc., Washington, DC: 53 (7/7/78).
 17. Hydrazine and Derivatives. Occupational Diseases, U.S. Department Health, Education and Welfare, National Institute Occupational Safety and Health, pages 296-298 (June 1977).

(2) The introduction to Sections E and F, Samples of General References and Specific References, should read:

Agan, without waiving the foregoing objection, the following constitutes a sample of the medical and scientific studies and experiments of which defendant was aware and of which it considered, that pertain to such other substances as were included in the policy as adopted in September 1977. Practically all of these documents, plus a considerable number of additional references which were considered by defendant's health professionals in connection with the policy, have been made available to plaintiffs for inspection and copying pursuant to Request 1(h) of their First Request for Production of Documents, and the balance will be made available.

(3) Section E should read as follows:

E. Samples of General References

1. Dangerous Properties of Industrial Materials
H. Irving Sax
Van Nostrand Reinhold Co. 1968
2. Criteria for a recommended standard
Occupational Exposure to Inorganic Lead
NIOSH 1972 V-3 & 4

3. Criteria for a recommended standard
Occupational Exposure to Inorganic
Mercury NIOSH 1973
4. Toxicologic Information - Cyanamid
Organophosphate Pesticides
Third Edition
R.M. Clyne, M.D. and C.B. Shaffer, M.D.,
American Cyanamid Company
5. Pathophysiology of Gestation
N.S. Assali
Academic Press 1972
6. "Gravid Women at Work"
A.W. Diddle
Journal of Occupational Medicine 12(1)
1970
7. "Chemicals in Human Teratogenesis and
Transplacental Carcinogenesis"
J.F. Fraumeni
Pediatrics 53:807 1974
8. Industrial Hygiene and Toxicology
Second Edition
F. Patty
Interscience 1949

(4) The following note should be added at the
conclusion of Section F, Specific References:

Note: Cyanamid has made practically all of the documents identified in Section II available to plaintiffs for inspection and copying in response to Request 1(h) of Plaintiffs' First Request for Production, and the balance will be made available. Insofar as plaintiffs have copies of those documents or had or will have an opportunity to copy them, the provision of synopses is unnecessary and would constitute an unduly onerous and inordinate burden on defendant. Regarding the custodians of these documents, see Response to Interrogatory 25(f).

(j) Identify all documents describing, containing, reflecting or referring in any way to the policy as adopted, announced, modified, abandoned, or implemented or to the decision to undertake any other course of action with regard to any such policy at any location;

Answer: See Objections 5, 6, and 7. The following documents pertain to the policy with respect to Willow Island:

1. Statements read to female production workers at meetings in January, February, April and September 1978.
January-February statements prepared by Mr. D.C. Wagner; April

statement prepared by Mr. D.C. Wagner and Mr. G.E. Mercer; and September statement prepared by Mr. D.C. Wagner.

Synopsis: See Interrogatory 32(e).

2. Letter from G. Mercer to J. Sole, President, Local 3-499, OCAW, re Grievance No. 78-25. December 5, 1978.

Synopsis: Discusses results of fourth step grievance meeting.

3. Letter from J. Sole to G. Mercer, January 8, 1980.

Synopsis: Withdraws grievance No. 78-25 and request for arbitration.

4. Willow Island Plant: Statement of Position on Female Production Worker Policy. Prepared by Mr. R.J. Clay (June 9, 1978).

Synopsis: Reviews actions pertaining to policy.

5. Two pages undated and unsigned summarizing implementation of the policy at Willow Island. Prepared by unknown author (January - October 1978).

6. Memorandum from J. White to H. Van Hartesveldt: Female Production Workers. September 28, 1978.

Synopsis: Timetable for Implementation of policy.

(k) With respect to the policies actually implemented, as identified in response to Interrogatory 25(d), state whether any such policy has been changed or revised in any fashion since its implementation, and if so:

(i) Describe each change or revision in detail;

(ii) Identify each person who participated in the decision to change or revise the policy, and describe his/her role in the decisionmaking process;

(iii) State the reason for the change or revision;

(iv) Identify all documents describing or relating to the change or revision or to the decision to make the change or revision.

Answer: (i-iv):

See Objections 5, 6, and 7.

(1) The policy was modified as stated in the answer to Interrogatories 25(e)(v), (vi). The modification was proposed by the OERC and was approved by the Office of the Chairman. The reason for the modifications are stated in response to Interrogatory 25(e)(vi). Relevant documents are: Minutes of meetings of the OERC on July 19, 1978, August 4, 1978, and August 21, 1978; Minutes of the August 28, 1978 meeting of the Office of the Chairman; Memorandum from W. Brown to Division Presidents: Female Production Workers, August 28, 1978; and Memorandum from Dr. Clyne to Division Presidents: Female Production Workers, August 23, 1978.

(2) The OERC deleted diamox from the list of substances within the policy. Although diamox is a teratogen under certain circumstances, it was concluded that given the levels of exposure at defendant's facilities, there was little practical possibility of teratogenic effects occurring. The relevant document is the Minutes of the December 15, 1978 meeting of the OERC.

(3) The policy was also modified to explicitly include females working in laboratory jobs. This modification was approved by the Office of the Chairman. Relevant documents are:

Memorandum from Dr. Clyne: Laboratory Use of Embryotoxic Chemicals, November 23, 1977. Synopsis: With specified precautions, laboratory use should be within stated limits.

Memorandum from Dr. Clyne to Division Presidents: Female Production Workers, August 23,

1978. Synopsis: Policy applies to laboratory and production workers.

(4) Levels of exposure were established for purposes of implementing the policy. Relevant documents are:

Memorandum from Dr. Clyne: Implementation of My Memo of 9/16/77 (Female Production Workers), October 12, 1977. Synopsis: Establishes exposure limits for substances within the policy.

Memorandum from Dr. Clyne to Full and Part-Time Physicians: Clarification of Exposure Limits Re: Female Production Workers, November 23, 1977.

Synopsis: Restates exposure limits to include ceiling limits in addition to the eight-hour time weighed averages.

(5) The policy was amplified in September, 1979 to incorporate reference to the level of lead in blood in assessing the exposure of women of childbearing potential to lead. Relevant documents are: Minutes of OERC meeting, September 7, 1979 (see response to Interrogatory 25(f), Item 22(i)); Memorandum from W. A. Fead to OERC, August 16, 1979 (see response to Interrogatory 25(f), Item 24).

* * *

26. With regard to each chemical identified in response to Interrogatory No. 25(c), (d)(v), or (e)(iii), state whether defendant has ever conducted, planned, commenced or obtained the results of any study or experiment on the effects of any such chemical on the health or physical condition of humans, animals, or the offspring of either, or on defendant's ability (both technical and economic) to reduce the level of employees' exposure to such chemical. If so: . . .

(c) State the date on which the study or experiment was or will be commenced and the date or projected date of completion; . . .

Answer: Part I: Studies or experiments on the effects on the health or physical condition of humans, animals or the offspring of either.

Defendant objects to this interrogatory on grounds of relevance insofar as it requests information as to whether "defendant has ever conducted, planned, commenced, or obtained results of any stud[ies] or experiment[s]" (Emphasis supplied). See Objection 1.

Without waiving the foregoing objection, defendant states that it did not plan, conduct, or commence any studies or experiments in connection with the policy at issue regarding the chemicals identified in Interrogatories 25(c), d(v), and (e)(iii) and that it has not conducted, planned or commenced any studies or experiments regarding the fetotoxicity of substances in use at Willow Island. However, defendant's health professionals (included in the Response to Interrogatory 27) were generally aware of the results of studies or experiments pertaining to fetotoxicity. Defendant's health experts also obtained the results of such studies or experiments as identified in response to Interrogatory 25(i) and as produced under Request 1(h) of Cyanamid's Second Response to Plaintiffs' First Request for Production of Documents. The actions taken in response to these studies or experiments are identified in the responses to, e.g.,

Interrogatories 25(a), 25(e)(vi), 25(h)(2), and 25(k)(i-iv). Defendant does not know the dates that the studies or experiments identified in response to Interrogatory 25(i) were commenced or completed. Finally, insofar as defendant has made the studies referred to above available to plaintiffs for inspection and copying pursuant to Request 1(h) of Plaintiffs' First Request for Production of Documents, defendant objects to the provision of any additional identifying information as imposing an unduly onerous and inordinate burden.

Part II: Defendant's ability to reduce the level of employees' exposure:

See Objection 5.

Defendant also objects to this interrogatory as being irrelevant and burdensome insofar as it requests information regarding every such study. Without waiving this objection, the following studies, as determined by Jack E. White, are representative of those conducted, planned, commenced or obtained by defendant as regards the Willow Island facility. . . .

1. (b-c, f): On July 1, 1976, Dr. J. L. Noe, then Superintendent of the Pigments Department, submitted a report entitled "Program for Reduction of Airborne Lead-Chromium."

(a, d): The report was in response to a visit to the Pigments Department by W.V. Andresen, J. Keller, and E. Siepp, representatives of the Corporate Industrial Hygiene Department and ECD. The report summarized recommendations for reducing airborne lead and chromium dust that resulted from

that visit. However, the report noted that Mr. Andresen, Corporate Industrial Hygienist, commented that even when all recommendations were carried out it was doubtful that the proposed threshold limit value (TLV) for lead dust could be realized.

(e): The recommendations were studied and implemented where feasible.

2. (b-c, f): Study conducted by J.C. Caporossi and C.S. Hellings, American Cyanamid Industrial Hygiene Department. Report, Industrial Hygiene Evaluation Chrome Pigments, Willow Island, April 1977.

(a, d): The study was conducted to estimate the lowest feasible TWA exposures to lead and chromate and to determine whether such exposures could comply with proposed NIOSH chrome and OSHA lead standards. The study identified major sources of lead and chrome dust; evaluated existing process equipment and engineering controls; considered modifications in such equipment and controls; and estimated employee exposure given such modifications. The study concluded that implementation of process modifications and feasible engineering controls could not alone attain the TWA's of the proposed NIOSH and OSHA standards.

(e): A related study to determine the costs of certain process modifications was subsequently conducted. See 4 infra. No other action was taken in response to this study.

3. (b, c, f): In 1977 Dr. James Noe, then Superintendent of the Pigments Department, and Mr. James Boersma, Department Engineer, conducted

a study to determine the cost of reducing exposure levels using feasible engineering controls. The study was completed in the Fall of 1977.

(a, d): The study was conducted with reference to the findings contained in the April 1977 Report by Caporossi and Hellings, discussed supra. The study considered process modifications in the Pigments Department which could have reduced airborne levels of lead and chrome. The capital costs of the proposed modifications were estimated to be approximately \$950,000.

(e): The study was discussed with management and a decision was made to defer action on the modifications discussed in the report.

4. (b, c, f): On December 28, 1978, Dr. James Noe presented a report on Estimates for Lead Chromate Modernization. Mr. E. Carman, Mr. J. Boersma, and Mr. J. Foy also participated in the study. (a-d): The report considered five alternatives regarding the Pigments Department: economically feasible engineering controls for the existing facility and processes; technically feasible retrofit of the facility; construction of a new plant; stopping manufacture of all inorganic pigments; and stopping manufacture of only lead pigments. The cost of the lesser modifications represented by the economically feasible engineering controls alternative was estimated to be \$177,000. Although implementation of these engineering controls would have reduced exposure levels, the airborne lead levels would have remained well above the final 50 mcg/M3 OSHA standard. The cost of the technically feasible

retrofit of the plant was estimated to be from \$2,660,000 to \$3,435,000. Again, airborne lead levels would have been reduced but not to the level required by the final OSHA standard. The construction of a new plant was estimated to cost from \$5,500,000 to \$6,275,000 with the same results as the other alternatives regarding the final OSHA lead standard.

(e): No action was taken on the basis of the report.

5. (b-c, f): Mr. C.S. Hellings, Corporate Industrial Hygienist submitted a report dated May 14, 1979 entitled "Plant Visit - Pigments Department."

(a, d): The report focused on the dust collection and exhaust ventilation systems in the Pigments Department, Buildings 85 and 86, and discussed methods of improving dust control at several work stations. Mr. Hellings stated that "It must be understood that although implementation of the recommended system changes should reduce airborne levels at these operations, it will not reduce TWA levels for lead and chrome to OSHA permissible limits."

(e): The study was discussed and no action was taken.

6. (b-c, f): On February 12, 1979, Dr. J.L. Noe, then Superintendent of the Pigments Department, prepared a memorandum entitled "Lead Chromate Presscake." See also Memorandum from L.D. Holder to G.W. Busch, "Estimate for Wet Chromate Presscake," February 23, 1979.

(a, d): The memorandum considered the effect that a switch from dry pigment to presscake sales would

have on airborne lead levels and the cost of such a switch.

(e): No action was taken.

7. (b-c, f): On February 28, 1979, Dr. J.L. Noe, then Superintendent of the Pigments Department, submitted a report entitled "Preparation of Lead Nitrate at Chicago."

(a, d): The report considered the feasibility and cost of shipping lead nitrate from the Chicago plant to Willow Island in order to reduce lead dust at Willow Island.

(e): The proposal was considered impractical, and no action was taken.

8. (a-e): Defendant also obtained the results of two studies commissioned by OSHA regarding the feasibility, cost of compliance and economic impact of the proposed OSHA lead standard of 100 mcg/M3 in the lead industry as a whole and, specifically, in the lead pigments industry.

(i) "Preliminary Technological Feasibility, Cost of Compliance and Economic Impact of the Proposed OSHA Standard for Lead." John Short & Associates, Inc., Salt Lake City, Utah, December, 1976.

The study concluded that "it is very questionable that the pigment manufacturing industry can immediately meet the proposed [100 mcg/M3] standard by engineering controls." The consensus of pigment manufacturers surveyed in the study was that the proposed standard could not be met by engineering controls alone.

No actions were taken in response to this study.

(ii) "Technical Feasibility, Cost of Compliance, and Economic Impact Assessment of the Proposed Lead Standard for Selected Industries. D. B. Associates, Inc., Salt Lake City, Utah, February, 1977. This study substantiated the findings of the Short Associates study and provided additional detail as follows:

- (a) Of 101 air samples taken in the lead pigment manufacturing industry by OSHA, 79% showed exposure levels in excess of 200 mcg/M3.
- (b) Evaluation of exposure levels obtained by OSHA and NIOSH, and those reported by several companies

indicate that about 90 percent of the workers were exposed to levels in excess of the proposed permissible level of 100 mcg/M3. The remaining 10 percent were at or below the proposed action level. Additionally, the report states that the environmental data . . . indicate that most stages of inorganic lead pigment manufacture have not reduced airborne levels to or below 100 mcg/M3. It appears that the best available engineering controls may reduce the levels in the work place to or below 200 mcg/M3, but the use of other techniques . . . will be necessary to meet the proposed standard in some work operations.

With regard to the lead industry as a whole, this study concluded that "the installation of engineering controls does not ensure compliance with the proposed permissible limits. Indeed, it is our opinion that a number of operations will not be able to achieve the permissible limit with technically feasible engineering controls alone."

No actions were taken in response to this study.

Furthermore, Cyanamid, in response to Request 2(c) of Plaintiffs' First Request for Production of Documents, has produced all other such studies regarding its Willow Island facility of which it is aware and which relate to substances which were included in defendant's medical policy and which were in use at that facility.

27. With regard to each chemical identified in response to Interrogatory No. 25(c), (d)(v) or (e)(iii), state whether defendant has at any time since 1974 consulted directly or indirectly with, or retained, or obtained in any fashion the opinion or research of any expert with regard to the effects of any such chemical on the health or physical condition of humans, animals, or the offspring of either, or on defendant's ability (both technical and economic) to reduce the level of employees' exposure to such chemical. If so:

(a) Identify each expert, state his/her area of expertise including the chemical about which s/he was consulted, and his/her professional qualifications and experience;

(b) State the date(s) on which defendant originally consulted or otherwise sought information from each;

(c) Describe what, if any, actions each such expert undertook in response to defendant's inquiry;

(d) Describe in detail the opinions, if any, given by each such expert in response to defendant's inquiry.

(e) Identify all documents relating to the consultation or stating, describing, containing or relating in any way to the opinions expressed by each such expert.

Answer: See Objection 1. Since 1975 the answer is as follows:

Defendant has and continues to employ experts in the fields of industrial medicine, toxicology, and industrial hygiene. The following list identifies some of these experts and summarizes their professional qualifications and experience:

1. Dr. Robert M. Clyne, M.D.:

(a) Education: M.D. Cornell University 1943.

(b) Employment Experience:

1948-1967: American Cyanamid Company, Staff Physician, Assistant to Medical Director, Assistant Medical Director, Director of Employee Health 1967-1981: American Cyanamid Company, Corporate Medical Director.

(c) Other: Certification: American Board of Internal Medicine 1952.

Fellow: American College of Physicians; American Academy of Occupational Medicine; Industrial Medical Association (now American Occupational Medical Association); American College of Preventive Medicine.

Member: Board of Directors American Occupational Medical Association.

2. Dr. John S. Tobin, M.D.

(a) Education: M.D. Temple University School of Medicine 1952; University of Michigan School of Public Health (1954-55 -- Post graduate).

(b) Employment Experience:

Medical Director, Detroit Diesel-Allison Division,

General Motors Corp.

Assistant Director of Medical Services, International Harvester Co.

Director of Health and Safety, Agricultural
Chemicals Division FMC Corp.

Medical Director, Sayreville Complex, NL
Industries, Inc.

1975 to date: Assistant and subsequently
Associate Corporate Medical Director,
American Cyanamid Co.

(c) Other:

Fellow: American Occupational Medical
Association; American Academy of Occupational
Medicine; American College of Preventive
Medicine.

Member: American Academy of Chemical
Toxicology; American Industrial Hygiene
Association.

Clinical Associate, Dept. of Community and
Preventive Medicine, University of Illinois,
1963-68.

Clinical Associate Professor of Medicine
CMDNJ - New Jersey Medical School, August
1980 present.

3. Joseph C. Caporossi

(a) Education:

Yale University School of Medicine, M.P.H. in
Environmental Hygiene. 1970.

(b) Employment Experience:

1965-1968: Industrial Hygienist and Safety
Methods Engineer, United Technologies Corp.,
Pratt & Whitney Aircraft.

1970 - Present: American Cyanamid Company.

- Supervisor, Safety and Industrial Hygiene
- Corporate Industrial Hygiene Safety
Specialist
- Director of Safety and Industrial Hygiene
Department.

(c) Other:

Membership: American Chemical Society;
American Industrial Hygiene Association;
American Public Health Association,
Occupational Health Committee of Society of
Organic Chemical Manufacturers'
Association.

4. Dr. Edward W. Cantrall

(a) Education:

University of Illinois, Ph.D. Organic
Chemistry 1957.

Fairleigh Dickenson University, M.B.A.
Industrial Management

(b) Experience:

1957 - Present: American Cyanamid Company

- Research Chemist, Lederle Laboratories
- Sr. Research Chemist, Lederle Laboratories
- Technical Director, Fine Chemicals Dept.
- Director, Preclinical Development, Lederle Laboratories
- Director, Environmental Services Division
- Assistant Director, Chemical Research Division

(c) Other:

Memberships: American Chemical Society;
Chemical Society (London); Pharmaceutical
Manufacturers Association, R&D Section.

5. Dr. Harriet Kiltie, M.D.

(a) Education:

Glasgow University, Glasgow Scotland, U.K.

1957. Employment Experience:

1964 - Present: American Cyanamid Company,
Lederle Laboratories

- Medical Editor, Medical Communication
- Associate Director, Clinical Pharmacology
- Group Director, Central Nervous System
Clinical Research
- Director, Medical Development
- Medical Director

6. Dr. John Noble

(a) Education M.S. Mammalian Physiology, Utah State University, 1956.

Ph.D. Pharmacology, University of Chicago School of Medicine, 1959.

Employment Experience:

1960-Present: American Cyanamid Company, Lederle Laboratories

- Research Pharmacologist, Department of Chemical Pharmacology Research
- Research Group Leader, Department of Pharmacological Research
- Head, Department of Toxicology Evaluation, Toxicology Research Section
- Director, Toxicology Research Section
- Director of Toxicology Research, Medical Research Division
- Research Director and Director of Toxicology, Medical Research Division.

Other:

Memberships: Society of Toxicology; Pharmaceutical Manufacturers Association; New York Academy of Sciences; American Association for the Advancement of Science; American Public Health Association.

Adjunct Professor of Pharmacology, Howard University School of Medicine 1976-present.

7. Dr. C. Boyd Shaffer (retired)

(a) Education: Ph.D. Princeton University 1941.

Employment Experience:

1952-80: American Cyanamid Company

- Chief Industrial Toxicologist, Central Medical Department
- Director of Environmental Health, Central Medical Department
- Director of Toxicology, Central Medical Department
- Director of Corporate Toxicology, Environmental Services Division

(c) Other:

Memberships: American Industrial Hygiene Association; American Society of Pharmacology and Experimental Biology and Medicine; Society of Toxicology (President 1962-63, Distinguished Fellow Award 1980).

Editor, Toxicology and Applied Pharmacology, 1965-67.

Adjunct Associate Professor of Environmental Medicine, Department of Environmental Medicine, New York University Medical Center, 1959-80.

Committee on Toxicology, National Academy of Sciences - National Research Council, 1969-75.

8. Mr. W.V. Andresen (Retired)

(a) Education: B.S. Chemical Engineering, Newark College of Engineering 1936.

(b) Work Experience:

1935-79: American Cyanamid Company

- Chemical Engineer
- Industrial Hygienist, Organic Chemical
- Industrial Hygienist, Corporate Offices
- Chief Industrial Hygienist
- Director, Occupational and Environmental Services, Corporate Medical Department

(c) Other:

Memberships: American Industrial Hygiene Association; American Board of Industrial Hygienists.

These experts have reviewed the potential effects on the fetus of substances such as those identified in response to Interrogatory Nos. 25(c), d(v), and (e)(iii). They have concluded that women of childbearing potential should not be assigned to jobs in which they would be exposed to Lead,

Methotrexate, Thio-TEPA, Hydrazine Sulfate and Hydrazine Hydrate where exposure to these substances is above levels that could be harmful to the fetus. The documents pertaining to the opinion of defendant's experts have been identified in response to Interrogatories 25(f), (i), and (j).

Defendant has not retained any outside experts in connection with the formulation or implementation of this policy. The various experts employed by defendant do have contacts with professional colleagues who have expertise in this field. In addition, defendant, through these employees, has obtained and considered the published opinions of outside experts in this field. (See Answer to Interrogatory 25(i)).

In addition defendant consulted with and obtained opinions from the following outside researchers:

- (1) (a) Dr. Graziano and Dr. Piomelli. Defendant consulted these doctors about lead.
- (b) August 27, 1979.
- (c) Their opinions were obtained by Dr. R.M. Clyne and informed further discussions of the policy.
- (d), (e) See Document No. 20012.
- (2) (a) Dr. Herbert Needleman. Defendant consulted Dr. Needleman about lead.
- (b) February 1979.
- (c) The opinions of Dr. Needleman were obtained by Dr. R.M. Clyne and informed further discussions of the policy.
- (d), (e) See Document 20042, 20045, 20147, 20333.

28. With regard to each chemical identified in response to Interrogatory No. 25(c), (d)(v), or (e)(iii), state whether defendant has, at any time since 1974, implemented any policies or procedures in any of its facilities designed to lower the exposure of employees to any such chemical. If so for each chemical for which such a policy or procedure has been implemented:

- (a) Describe in detail the policy or procedure, and its purpose;
- (b) State each location where it has been implemented;

- (c) State the dates during which the policy or procedure was in operation at each location;
- (d) Describe in detail the results of the operation of the policy or procedure;
- (e) Identify all documents describing or relating to any such policy or procedure, its implementation, and its results.

Answer: See Objections 1, 5, 6, and 7.

Without waiving these objections, defendant asserts that the information provided in response to Interrogatory 30 Part IB, regarding its Willow Island facility, is representative of the types of efforts made with regard to other substances at defendant's various facilities. The purpose of these policies and procedures was to reduce the level of exposure to lead through improvement in industrial safety and hygiene. In addition, the policy at issue in this case had the effect of lowering the exposure of female employees of child-bearing potential to lead at Willow Island.

29. State whether defendant has at anytime since 1975 met, corresponded, submitted comments, requested waivers, testified, or communicated in any other fashion with officials of the United States Occupational Safety and Health Administration (OSHA) about any policy identified in response to Interrogatory No. 25, or about OSHA's proposed or final standard for occupational exposure to lead. If so:

- (a) Describe each such communication in detail, indicating with particularity the nature and purpose of each;
- (b) Identify all persons who were present at any meetings or who participated in conversations, telephonic or otherwise, and identify all

documents containing, describing or relating to each instance;

(c) State the date(s) on which each such communication occurred.

Answer: * * * The following note should be added to the end of the answer to Interrogatory 29:

Note: For documents describing or relating to the listed communications see Response to Request 6 of Plaintiffs' First Request for Production of Documents and documents copied or otherwise produced pursuant to that request. Defendant therefore objects to providing any additional identifying information with respect to such documents as being unnecessary and unduly burdensome.

30. To the extent not provided in response to Interrogatory No. 28, describe specifically what efforts, if any, defendant has undertaken since 1974 to reduce the level of employee exposure to lead in the Pigments Department of its Willow Island facility and what efforts it has undertaken to comply with the OSHA standard regulating occupational exposure to lead (43 Fed. Reg. 52952), and identify all documents describing or relating to any such effort.

Answer: See Objection 1.

Part I and Part II should be amended to read:

Part I: Efforts to reduce employee exposure to lead in the Pigments Department at Willow Island since 1975.

A. The following engineering controls have been implemented at Willow Island since January, 1975, (other efforts had, of course, been undertaken prior to that time):

1. Employee clean-up station; vacuum system.
2. Central vacuum (consisted of two systems; one for yellow and orange and one for green).
3. Dust collector and operating ductwork (for Green bagger and blender).

4. Dust collector and ventilation ductwork (for Yellow drumming hood).
5. Screw conveyor (from dust collector to Green blender).
6. Modifications to dust collector duct (Green dust collector discharge).
7. Exhauster (replacement for dust collector).
8. Replacement motor for vibrator.
9. Replace Exhaust Enclosure (Litharge).
10. Airslide Conveyors (for large Yellow dust collector).
11. Sump Pump (beneath lead towers).
12. Separate circuit for dust collector vibrator.
13. Ventilation ductwork (on Green Make Tubs).
14. Vacuum cleaner (for warehouse 86).

B. The following administrative procedures and controls have been implemented or in effect since 1975. With the exception of those documents specifically identified in this Part IB, all documents referred to in the response to this interrogatory have been produced for inspection and copying, and have been copied by plaintiffs, pursuant to Plaintiffs' First Request for Production of Documents. Defendant therefore objects to providing any additional identifying information with respect to those documents which have been copied by plaintiffs as being unnecessary and unduly burdensome. All documents are maintained at the Willow Island facility.

1. New Employee Safety Indoctrination Program.
Safety Indoctrination of New and Returning Employees. C.A. Buttrey, author.

Synopsis: Outlines program for safety indoctrination of new and returning employees.

2. Monthly and Bi-monthly Safety and Hygiene Programs. See Document Nos. 00135-00407.^{*/}
3. Special Review Program, for employees with high blood lead, or who fail to follow procedures or do not have clean habits. See documents produced in response to Request 19,^{**/} Respondent's Exhibit R-10.
4. Annual issuance of Lead Chromate and Lead Nitrate Hazard Sheets. See Document No. 01147.
5. Training on Correct Care of Respirators.
6. Issuance of Work Habits Handbook. See Document No. 01127.
7. Job Safety Analyses re Lead Products. See Document Nos. 00061-69.
8. Film "The Way to Life", on need, purpose, and operation of respiratory protection program.
9. Color Slide Presentation, Respirator Fitting, Monitoring, Housekeeping, and Total Hygiene Care. See documents produced in response to Request 19, Respondent's Exhibit R-18.
10. Instructions on Hazards of Handling Lead. See documents produced in response to Request 19, Respondent's Exhibits R-30-34.
11. Training re Lead Chromates Hazards and Hygiene. See documents produced in response to Request 19, Respondent's Exhibit R-29.
12. Housekeeping film.

^{*/} Document numbers refer to documents produced for inspection and copying, and which have been copied by plaintiffs, pursuant to Plaintiffs' First Request for Production of Documents.

^{**/} Request 19 of Plaintiffs' First Request for Production of Documents.

13. New Employees Orientation Program, see Document Nos. 00942-45, which included:
 - a. Issuance of Chrome Pigment Hygiene Rules. See Document No. 00036.
 - b. General Hygiene and Safety Information for Lead Chromate Pigments, Molybdate Orange, Chrome Yellow and Chrome Green. See Document Nos. 00035, 00952.
 - c. Instruction on Selection and Use of Respirators. See Document No. 00039.
 - d. Employee Lead Chromate Information Program. See Document Nos. 00946.
 - e. Pigments Department, General Safety Rules and Regulations. See Document Nos. 00038-00040.
 - f. New Employee Orientation Program, Pigments Department. See documents produced in response to Request 19, Respondent's Exhibit R-12.
14. Industrial Housekeeping Training Program. Safe Practices Series, Leaders Guide, Industrial Housekeeping. Prepared by E.I. duPont Corp.
Synopsis: Materials for leaders of Industrial Hygiene Training Program.
15. Personal Safety Equipment Inspection Program. See documents produced in response to Request 19, Respondent's Exhibit R-20.
16. Inorganic Pigments Department Respiratory Protection Program. See Document Nos. 01122, 01410, 01411, 00952, 00958-60, and documents produced in response to Request 19, Respondent's Exhibit R-18.

17. Industrial Hygiene Manual - Safety Standard No. 6 -- Respiratory Protection.
18. See also Answer to Interrogatory Nos. 6(c) (iv), and (e) regarding lead and its compounds.
19. Defendant also monitored employee blood lead levels. See answer to Interrogatory 8. The results of this program were utilized to insure that employee exposure remained within acceptable levels.

All documents are maintained at the Willow Island facility.

Part II. Compliance with OSHA Lead Standard, 43 Fed. Reg. 52952.

See Objections 5, 6 and 7. The Willow Island facility was in compliance with OSHA standards by the utilization of engineering controls, administrative controls, and protective equipment program.

Documents relating to defendant's effort to comply with the above cited OSHA standard include:

1. Memoranda from Mr. G.R. Kunkle to Mr. F. Brown: Lead Exposure Standard Compliance Program; April 9, 1979; May 8, 1979; May 31, 1979; July 12, 1979; August 2, 1979; August 21, 1979; September 10, 1979; and October 2, 1979.

Synopsis: Summarizes status of compliance efforts at Willow Island.

2. Memorandum from Dr. R.M. Clyne to All Divisional Presidents and Directors, All Plant Managers and All Plant Physicians: Revised--New Standard for Lead. December 21, 1978.

Synopsis: Summarizes medical surveillance aspects of Lead Standard.

3. Memorandum from Dr. J.S. Tobin to Full and Part Time Physicians, Plant Managers, Distribution Center Managers: OSHA Lead Standard. March 20, 1979.

Synopsis: Summarizes occupational health aspects of the Standard.

4. Memorandum from J.S. Tobin, M.D. to Distribution: OSHA Lead Standard Partial Stay. March 5, 1979.

Synopsis: Notifies distributees of sections of order pertinent to Cyanamid's medical program.

5. Memorandum from G.R. Koehler to W.A. Fead: OSHA Lead Standard. November 17, 1978.

Synopsis: Notes issuance of OSHA Lead Standard and summarizes provisions regarding permissible exposure limits.

6. Memorandum from W.A. Fead to H.C. Gaffney and J.E. White: New Lead Standard -- Effective February 1, 1979. January 11, 1979.

Synopsis: Summarizes provisions of Standard regarding respirators and protective clothing.

7. Memorandum from J.L. Noe to C.A. Buttrey, E.C. Carman, R.E. Greenleaf, R.W. Hagy, B.D. Hewitt, J.E. Knapp, F.G. Lamp, and G.E. Mercer: Compliance with OSHA Lead Standard. January 30, 1979.

Synopsis: Sets out program for compliance with Standard.

8. Memorandum from G.R. Kohler to Distribution: OSHA/Lead Standard. March 7, 1979.

Synopsis: Notes granting of partial stay of the Standard and outlines sections of Standard effective March 1, 1979.

9. Lead and Lead Products Handling Training Program. C.A. Buttrey. July 26, 1979.

Synopsis: See Document No. 01160.

Cyanamid has now identified all documents of which it is aware relating to its efforts to comply with OSHA Lead Standard at its Willow Island facility during the period in which lead compounds were in use at that facility. Documents relating to efforts to comply with that Standard after the closing of the Pigments Department at Willow Island are not relevant to this litigation.

32. With regard to any policy, identified in response to Interrogatory 25, adopted, announced, or implemented at the Willow Island facility:

(a) Describe in detail the manner by which the policy was made known to employees, and the date of each and every meeting which was held to discuss the policy.

Answer: The policy was made known to employees by either individual or group meetings with management.

The dates of such meetings were:

January 30, 1978
January 31, 1978
February 1, 1978
February 2, 1978
February 7, 1978
April 12, 1978
April 17, 1978
April 18, 1978
July 10, 1978
July 12, 1978
July 20, 1978
September 22, 1978
September 25, 1978

* * *

(e) Describe in detail all information made available to employees about the policy.

Answer: At the January and February 1978 meetings, the employees were informed of the policy and of its purpose. (See Answer to Interrogatory 25(a).) At the April, 1978 meetings, the employees were informed that reassignments pursuant to the policy were being deferred to enable affected employees to bid or to request transfers to other jobs. At the July meetings, employees were informed that final implementation of the policy was being postponed until September, 1978. At the September 1978 meetings, although certain changes had been made in the list of suspected embryotoxic chemicals, lead and its compounds continued to be within the policy. The employees were therefore told that women of childbearing potential would not be permitted to remain in or be assigned to the Pigments Department. Two women in the Pigments Department were told that they would be moved to the janitors/utility pool and that rate retention would apply for 90 days.

33. State whether the lead pigment area of the Pigments Department at the Willow Island facility is still in operation and, if not . . .

(b) Identify each person who participated in any fashion in the decision to discontinue those operations, and describe his/her role in the decision;

Answer: The following were involved in discussions that led to closure of the Pigments Department in 1980:

1. J.G. Affleck, W.A. Liffers, G.J. Sella, Jr.: Identifying information already provided.

These individuals constitute the Office of the Chairman. They also attended the Organic Chemicals Division Business Plan Review, October 25, 1979.

2. G.A. Forlenza: President, Organic Chemicals Division (OCD) until November, 1979, at which time he resigned from the company.

As president of OCD, he was its Chief Executive Officer, and he attended the OCD Business Plan Review, October 25, 1979.

3. G.P. Bywater: Previously identified. In 1979, he was Group Vice President of Chemicals which included OCD. He chaired the OCD Business Plan Review, October 25, 1979.

4. G.D. Sterling: President, OCD, Wayne, N.J. 07470.

He became president of OCD, November, 1979, and as such was Chief Executive Officer of OCD. Prior to that, he was Vice President Marketing, OCD. He also attended the OCD Business plan Review, October 25, 1979.

5. J.C. Burns: Director of Manufacturing and Engineering, Shulton, Inc. Int'l, Clifton, N.J. 07015.

In late 1979, he was Vice President Manufacturing, OCD, and he attended the OCD Business Plan Review, October 25, 1979.

6. F.W. Armstrong: Director, Corporate Development and Planning Division, Wayne, N.J. 07470.

He held the same position in 1979. He served as Secretary to OCD Business Plan Review, October 25, 1979.

7. J.S. Salsbury: Director, Scientific Affairs, Wayne, N.J. 07470.

He was director of Chemical Research Division in 1979 and he attended the OCD Business Plan Review, October 25, 1979.

* * *

(d) Identify all documents containing, describing or relating to each and every study, report, investigation, appraisal or review of any kind of the Pigments Department at Willow Island and any documents relating to the discontinuation of parts of that department;

Answer:

1. Memorandum, F. W. Armstrong to G. P. Bywater, October 25, 1979, concerning organic chemicals Business Plan Review.
2. Memorandum, M.A. Taylor to unspecified recipients, July 23, 1979, concerning lead chromates at Willow Island.
3. Memorandum, J.L. Noe to J.E. White, December 28, 1978, concerning lead chromate production.
4. Memorandum, unsigned and undated, concerning 1980-1984 organic chemicals business plan. Maintained in the Organic Chemicals Division management files, G.D. Sterling, President.
5. Page, undated and unsigned, from 1978-1982 organic chemicals business plan. Maintained in the Organic Chemicals Division management files, G.D. Sterling, President.
6. Two pages, undated and unsigned, from 1976-1980 business plan. Maintained in the Organic Chemicals Division management files, G.D. Sterling, President.

7. Memorandum, A.B. Battistini to G.M. Ruhf, August 27, 1979 concerning chromate pigments.
8. Memorandum, G.W. Busch to "regional managers," October 15, 1975, concerning lead chromate production.
9. Memorandum, D.M. McGarrity to G.M. Ruhf, August 16, 1979 concerning chromate pigments.
10. Memorandum, M.A. Taylor to W.A. Fead, August 6, 1979, concerning lead chromate commercial considerations.
11. Memorandum, H.A. McKenzie to B.R. Putman, December 8, 1975, concerning lead chromate pigments.
12. Memorandum, J. Ludden to H.A. McKenzie, October 24, 1975, concerning lead chromate pigments.
13. Memorandum, C.H. Calder to J. Ludden, October 14, 1975, concerning lead chromate pigments.
14. Memorandum, to file, H.A. McKenzie, September 25, 1975, concerning lead chromate - Willow Island.
15. Memorandum, to file, T.B. Worsham, Jr. to H.A. McKenzie, September 16, 1975, concerning plans for inorganic pigments business.
16. Memorandum, J. Ludden to Executive Committee, September 29, 1975, concerning lead chromate pigments.
17. Two memoranda, M.A. Taylor to unspecified recipients, August 17, 1979, concerning lead chromates.

Note: Because all of the documents identified in response to this interrogatory have been produced to and copied by plaintiffs, defendant objects to the provision of synopses as unnecessary and unduly burdensome.

34. Identify all documents contained in defendant's personnel files or any other files on each of the plaintiffs who is employed by defendant.

The following note should be placed after the description of the documents in defendant's file that contain information about each of the plaintiffs employed by the defendant:

Note: Mr. G.E. Mercer is the custodian of the insurance and personnel files. Ms. P. Shopene is the custodian of the medical files.

Given that plaintiffs have the personnel files of the identified individuals in their possession, defendant objects to providing any additional identifying information regarding the documents listed in response to this interrogatory as unnecessary, vexatious and unduly burdensome.

36. Identify each person who has ever filed a complaint of sex discrimination against defendant in any federal, state or local government agency or in any court, or a union grievance charging sex discrimination, and indicate for each:

- (a) The date of the complaint or grievance;
- (b) The nature of the injury charged;
- (c) If not a grievance, the agency, or court in which it was filed;
- (d) The present status of the claim;
- (e) The disposition of the claim, if any.

Answer: The following individuals at the Willow Island plant who are not parties to the case have filed sex discrimination charges against American Cyanamid Company.

Mary Weekley:

- (a) March 1, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charges to the EEOC's Office of

Policy Implementation in Washington, D.C. where charges relating to the medical protection policy are still pending.

Norma Heflin:

- (a) February 24, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charges to the EEOC's Office of Policy Implementation in Washington, D.C. where charges relating to the medical protection policy are still pending.

Diana Haddox:

- (a) February 20, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charges to the EEOC's Office of Policy Implementation in Washington, D.C. where charges relating to the medical protection policy are still pending.

Lona Carr:

- (a) February 10, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charge to the EEOC's Office of Policy

Implementation in Washington, D.C. where charges relating to the medical protection policy are still pending.

Edna Hescht:

- (a) February 10, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charges to the EEOC's Office of Policy Implementation in Washington, D.C. where charges relating to the medical protection policy are still pending.

Mary Alice Jenkins:

- (a) February 14, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charges to the EEOC's Office of Policy Implementation in Washington, D.C. where charges relating to the medical protection policy are still pending.

Iris Braden:

- (a) February 11, 1978;
- (b) Sex discrimination and invasion of privacy;
- (c-e) West Virginia Human Rights Commission which dismissed the complaint in November 1978 and referred it to the Equal Employment Opportunity Commission, Pittsburgh Area Office. That office referred the charges to the EEOC's Office of

Policy Implementation in Washington, D.C. The Office of Policy Implementation issued a Notice of Right to Sue.

37. With regard to any announced, adopted or implemented policy described in response to Interrogatory No. 25, state whether such policy was at any time the subject of negotiations or collective bargaining with any union. If so, . . .

(d) Identify all documents, including without limitation, correspondence and minutes of meetings, which describe, reflect or relate in any fashion to such negotiations;

Answer: See Objection 5.

(d) (1) Working Agreement between Oil, Chemical & Atomic Workers International Union, Local 3-499 and the Willow Island Plant of the American Cyanamid Company, Willow Island, West Virginia, effective July 20, 1977; sets forth the basic agreement covering rates of pay, hours of work, and other conditions of employment to be observed between the parties during the life of the Working Agreement.

(2) Minutes of meeting between the Company representatives and the Union representatives; prepared and maintained by the Company, and dated January 30, 1978. These minutes record, in brief, the discussion between the parties relative to the medical protection policy and its implementation. This document has been produced to and copied by the plaintiffs. The author is identified on the document; that person is also the custodian.

Attachment A

(1) Power/Effluent Department, Buildings 65/73/97 --

Page 1 of this section should be amended to read:

Labor

Performs various cleaning tasks as assigned on a daily basis. These jobs include, but are not limited to, sweeping floors, dusting handrails, emptying trash cans, and shovelling up spilled coal around coal handling equipment. Does other work as assigned.

Coal Equipment Helper

Assists the Coal Equipment Operator as directed in all phases of coal unloading and storage. Relieves the Coal Equipment Operator as instructed. Does miscellaneous cleaning and general utility work in the Power Department.

Coal Equipment Operator

Operates the coal equipment consisting of traveling conveyor, cross conveyor, bucket elevator, belt conveyer, coal crusher, apron conveyer, magnetic separator, car shaker, two car pullers, and coal sampling grinder.

Boiler Operator Helper

Operates Power House equipment, including pumps, crushers, fans and feeders.

Effluent Operator

Operates waste water and acid waste treatment plant. Checks and mixes all chemicals as needed, receives and assists in unloading of raw materials, maintains necessary records, and collects samples as required.

Effluent Day Operator

Assists in operating waste water and acid waste treatment systems. Performs regular sampling, handling of materials and transporting of special samples to laboratories.

(2) Maintenance Department, Buildings 77/84 -- Add the following to Page 2 after "Mechanic First Class".

Painter - First Class

Performs a high grade of Class I painting work in all phases of painting, plastering and wood finishing.

Painter - Second Class

Performs a high grade of Class II painting work in all phases of painting, plastering and wood finishing.

Mechanic - Third Class

Performs a high grade of Class III mechanical work in all phases of mechanical maintenance, repair and construction.

Mechanic - Second Class

Performs a high grade of Class II mechanical work in all phases of mechanical maintenance, repair and construction.

Mechanic - First Class

Performs a high grade of Class I mechanical work in all phases of mechanical maintenance, repair and construction.

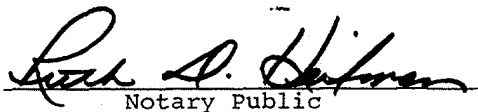
AFFIDAVIT

The undersigned, being first duly sworn states as follows:

My name is Jack E. White. I am the Plant Manager of American Cyanamid Company's ("Cyanamid") Willow Island, West Virginia, plant. Except with respect to the responses to those interrogatories identified in the accompanying affidavit of Dr. H. M. D. Utidjian, the information in the foregoing Defendant American Cyanamid Company's Second Supplemental Nonconfidential Responses to Plaintiffs' First Interrogatories is based on my own personal knowledge, or on the records and files and knowledge of personnel in appropriate Cyanamid offices and departments. I am informed and believe that the matters stated in those answers are true, and on that basis, I aver that they are true to the best of my knowledge, information and belief.


JACK E. WHITE

Sworn to before me this 6 th day
of May, 1982


Notary Public

N41711.01

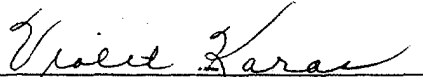
AFFIDAVIT

The undersigned, being first duly sworn, states as follows:

My name is H. M. D. Utidjian. I am Corporate Medical Director of American Cyanamid Company. The information in the foregoing Defendant American Cyanamid Company's Second Supplemental Nonconfidential Responses to Plaintiffs' First Interrogatories 9, 25(c), (e)(vi), (h), (i), (j), (k), 26, 27, 28, and 29 is based on my own personal knowledge, or on the records and files and knowledge of personnel in appropriate Cyanamid offices and departments. I am informed and believe that the matters stated in those answers are true, and on that basis, I aver that they are true to the best of my knowledge, information and belief.


H. M. D. Utidjian, M.D.

Sworn to before me this 5 th day
of May, 1982.


Notary Public

VIOLET KARAS
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires October 2, 1993

N41711.02

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Defendant American Cyanamid Company's Second Supplemental Nonconfidential Responses to Plaintiff's First Interrogatories, including Defendant's First and Second Objections to those interrogatories, was this 10th day of May, 1982, mailed, first class postage prepaid, to counsel for plaintiffs:

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