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U.S. ENVIRONMENTAL PROTECTION AGENCY

APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS

Form
2C
EPA
NPDES

Consolidated Permits Program

I. OUTFALL LOCATION

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water

A. OUTFALL NUMBER (list)	B. LATITUDE			C. LONGITUDE			D. RECEIVING WATER (name)
	1. DEG.	2. MIN.	3. SEC.	1. DEG.	2. MIN.	3. SEC.	
20100, 20200,	44	47	0	92	53	30	Mississippi River
20300							Combined discharges enter at Mile Point 817 in Section 35,
Approximation from USGS-St. Paul Park							Township 27 North, Range 21 West, City of Cottage Grove,
quadrangle, Minn. 7.5 min. series (topographic)							Washington County

II. FLOWS SOURCES OF POLLUTION, AND TREATMENT TECHNOLOGIES

A. Attach a line drawing showing the water flow through the facility. Include sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

B. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUT-FALL NO (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT	
	a. OPERATION (list)	b. AVERAGE FLOW (include units)	a. DESCRIPTION	b. LIST CODES FROM TABLE 2C-1
20100			Screening	1 T
			Grit Removal	1 M
	Adhesives, resins and chemicals		Neutralization	2 K
	Polymeric films and extrusions	1915 gpm	Chemical Precipitation	2 C
	Hollow glass bubbles	(Phase 1)	Coagulation	2 D
	Abrasive materials		Flocculation	1 G
	Ceramic materials		Sedimentation	1 U
	Pressure sensitive tapes		Disinfection (sodium hypochloride)	2 H
			Discharge to Surface Water	4 A
			Gravity Thickening	5 L
			Belt Filtration	5 C
			Screening	1 T
			Neutralization	2 K
	Sanitary wastewater	300 gpm	Activated Sludge	3 A
	Adhesives, resins and chemicals	(Phase 2)	Sedimentation	1 U
			Disinfection (sodium hypochloride)	2 H
			Discharge to surface water	4 A
			Aerobic Digestion	5 A
			Gravity Thickening	5 L
			Belt Filtration	5 C
		Chemical precipitation	2 C	
		Screening	1 T	
		Neutralization	2 K	
Incinerator scrubber wastewater	800 gpm	Coagulation	2 D	
	(Phase 3)	Flocculation	1 G	
		Sedimentation	1 U	
		Discharge to surface water	5 C	
		Gravity Thickening	5 L	
		Belt Filtration	5 C	
20200	Noncontact cooling water	2675 gpm	Discharge to surface water	5 C
	Stormwater runoff			
20300	Combination of 20100 and 20200	5690 gpm	Discharge to surface water	5 C

OFFICIAL USE ONLY (effluent guidelines sub-categories)

Exhibit
1823
State of Minnesota v. 3M Co.,
Court File No. 27-CV-10-28862

c. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal <input type="checkbox"/> YES (complete the following table) <input checked="" type="checkbox"/> NO (go to Section III)								
1. OUTFALL NUMBER <i>(list)</i>	2. OPERATION(S) CONTRIBUTING FLOW <i>(list)</i>	3. FREQUENCY		4. FLOW				c. DURATION <i>(in days)</i>
		a. DAYS PER WEEK (SPECIFY AVERAGE)	b. MONTHS PER YEAR (SPECIFY AVERAGE)	a. FLOW RATE <i>(in mgd)</i>		b. TOTAL VOLUME <i>(specify with units)</i>		
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM AVERAGE	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

III. PRODUCTION

A. Does any effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?
 YES (complete Item III-B) NO (go to Section IV) *

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?
 YES (complete Item III-C) NO (go to Section IV)

C. If you answered "yes" to item III-B, list the quantity which represents an actual measurement of you level of production, expressed in the terms and units used in the applicable effluent guideline, and the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS <i>(list outfall numbers)</i>
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. <i>(specify)</i>	
N/A	N/A	N/A	N/A

IV. IMPROVEMENTS

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.
 YES (complete the following table) NO (go to Section IV-B)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION OF PROJECT	4. FINAL COMPLIANCE DATE	
	a. NO.	b. SOURCE OF DISCHARGE		a. REQUIRED	b. PROJECTED
N/A	N/A	N/A	N/A	N/A	N/A

b. optional: You may attach additional sheets describing any additional water pollution programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction
 MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

* Information addressing the potential applicability of effluent guidelines has been submitted to MPCA in correspondence dated November 27, 2000 and January 14, 2002.

V. INTAKE AND EFFLUENT CHARACTERISTICS

A, B, & C: See instruction before proceeding - Complete one set of tables for each outfall - Annotate the outfall number in the space provided.
NOTE: Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

D. Use the space below to list any of the pollutants listed in Table 2c3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
See Attachment A for list of compounds in Table 2C-3 that could possibly be found in Discharge 20100			

VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS

Is any pollutant listed in item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

YES (list all such pollutant below)

NO (go to Item VII-B)

See Attachment A

VII. BIOLOGICAL TOXICITY TESTING DATA

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years.

YES (identify the test(s) and describe their purposes below) NO (go to Section VII)

See "Effluent Toxicity Identification/Reduction Evaluation (TIE/TRE) for 3M Company's Cottage Grove Facility's "Outfall 20100" Plant Effluent" report, June 2001

VIII. CONTRACT ANALYSIS INFORMATION

Were any of the analyses reported in item V performed by a contract laboratory or consulting firm ?

YES (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below) NO (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (AREA CODE & NO.)	D. POLLUTANT ANALYZED (LIST)
Pace Analytical Services, Inc.	1700 Elm St. Suite 200 Mpls., Mn. 55414	(612) 607-1700	Priority Pollutants (and backup for all others)

IX. CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

A. NAME & OFFICIAL TITLE (type or print) K. E. Reed, Staff Vice President	B. PHONE NO. (area code & no.) (651) 778-4331
C. SIGNATURE <i>K. E. Reed</i>	D. DATE SIGNED 2/3/02

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS

EPA ID. NUMBER (copy from Item 1 of Form 1)
MND006172969

OUTFALL NO. 20100

V. INTAKE AND EFFLUENT CHARACTERISTICS (continued from page 3 of Form 2-c)

You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instruction for additional details.

1. POLLUTANT	2. EFFLUENT		3. INTAKE (optional)		B. NO. OF ANALYSES
	a. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION (2) MASS	c. LONG TERM AVG. VALUE (1) CONCENTRATION (2) MASS	d. NO. OF ANALYSES	
a. Biochemical Oxygen Demand (BOD)	19.0	456.0	11.9	349.0	102
b. Chemical Oxygen Demand (COD)	340.0	11285.0	137.0	4536.0	362
c. Total Organic Carbon (TOC)	8.3	199.2	NA	NA	4.0
d. Total Suspended Solids (TSS)	14.0	460.0	10.6	352.0	52
e. Ammonia (as N)	14.9	150.0	2.4	76.0	365
f. Flow	VALUE 4.7	VALUE 4.1	VALUE 3.5	MGD	VALUE
g. Temperature (winter)	VALUE 25.5	VALUE 21.3	VALUE 18.3	Deg. C	VALUE
h. Temperature (summer)	VALUE 40.5	VALUE 33.9	VALUE 28.8	Deg. C	VALUE
i. pH	MINIMUM 6.7	MAXIMUM 9			365

Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2-a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2-a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instruction for additional details and requirements.

1. POLLUTANT AND CAS NO. (IF AVAILABLE)	2. MARK "X"		3. EFFLUENT		4. UNITS		5. INTAKE (optional)			
	a. Believable present	b. Believe absent	a. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION (2) MASS	c. LONG TERM AVRG. VALUE (1) CONCENTRATION (2) MASS	d. NO. OF ANALYSES	(SPECIFY IF BLANK) CONCENTRATION	a. LONG TERM AVG. VALUE CONCENTRATION	b. NO. OF ANALYSES	
a. Bromide (24959-67-9)	X									
b. Chlorine, Total residual	X		ND	0.22	0.16	248	mg/l			
c. Color			The color of the wastewater discharge has not been quantified.							
d. Fecal Coliform	X		75	13	2.3	40	#/100 ml			
e. Fluoride (15984-48-8)	X		42		26.4	4	mg/l			
f. Nitrate-Nitrite (as N)	X		32.1		14.8	8	mg/l			

Bromine is present in chemicals used at the facility. Thus, the presence of Bromide (bromine ion) in the wastewater is possible, but has not been quantified.

1. POLLUTANT AND CAS NO. (IF AVAILABLE)	2. MARK "X"		3. EFFLUENT				4. UNITS (SPECIFY IF BLANK)		5. INTAKE (optional)		
	a. Believe present	b. Believe absent	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	(2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION	(2) MASS	c. LONG TERM AVG. VALUE (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. LONG TERM AVG. VALUE CONCENTRATION	b. NO. OF ANALYSES
g. Nitrogen, Total Organic (as N)	X										
h. Oil and Grease	X		8		4.6			3.2		52	lbs./day
i. Phosphorus (as P) (7723-14-4)	X		0.61	26.6	0.36	15.5	6.61	0.16		51	lbs./day
j. Radioactivity											
(1) Alpha, Total		X									
(2) Beta, Total		X									
(3) Radium, Total		X									
(4) Radium 226, Total		X									
k. Sulfate (as SO4) (14808-79-8)	X		1290					975		4	mg/l
l. Sulfite (as S)	X								Sulfite is present in chemicals used at the facility. Thus, the presence of Sulfite (sulfur ion) in the wastewater is possible, but has not been quantified.		
m. Sulfite (as SO3) (14285-45-3)	X								Sulfites are present in chemicals used at the facility. Thus, the presence of Sulfite ion in the wastewater is possible, but has not been quantified.		
n. Surfactants	X								Surfactants are used at the facility. Thus, their presence in the wastewater is possible, but has not been quantified.		
o. Aluminum, Total (7429-90-5)	X		0.2					0.06		8	mg/l
p. Barium, Total (7440-39-3)	X								Barium is present in chemicals used at the facility. Thus, its presence in the wastewater is possible, but has not been quantified.		
q. Boron, Total (7440-42-8)	X								Boron is present in chemicals used at the facility. Thus, its presence in the wastewater is possible, but has not been quantified.		
r. Cobalt, Total (7440-48-4)	X								Cobalt is present in chemicals used at the facility. Thus, its presence in the wastewater is possible, but has not been quantified.		
s. Iron, Total (7439-89-4)	X		2.7	110	0.81	36.6	15	0.39		105	lbs./day
t. Magnesium, Total (7439-95-4)	X		25.7	1624.2				23.6		8	mg/l
u. Molybdenum, Total (7439-98-7)	X								Molybdenum is present in chemicals used at the facility. Thus, its presence in the wastewater is possible, but has not been quantified.		
v. Manganese, Total (7439-96-5)	X		0.1					0.08		8	mg/l
w. Tin, Total (7440-31-5)	X								Tin is present in chemicals used at the facility. Thus, its presence in the wastewater is possible, but has not been quantified.		
x. Titanium, Total (7440-32-6)	X								Titanium is present in chemicals used at the facility. Thus, its presence in the wastewater is possible, but has not been quantified.		

PART C- If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4-g dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentration of 100ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instruction for additional details and requirements.

1. POLLUTANT AND CAS NO. (IF AVAILABLE)	2. MARK "X"		3. EFFLUENT		4. UNITS (SPECIFY IF BLANK)		5. INTAKE (optional)				
	a. Testing required	b. Believed present	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVG. VALUE (1) CONCENTRATION	(2) MASS	d. NO. OF ANALYSES	a. LONG TERM AVG. VALUE CONCENTRATION	b. NO. OF ANALYSES		
1M. Antimony, Total (7440-36-0)	X	X	436	14.18	125.3	4.7	19	lbs/day	NA	NA	NA
2M. Arsenic, Total (7440-38-2)	X	X	6	0.17	0.26	0.007	23	lbs/day	Below DL in 22 samples from 1996-2001		
3M. Beryllium, Total (7440-41-7)	X	X		Below detectable level (<5 ug/l) in 1 sample in 1996							
4M. Cadmium, Total (7440-43-9)	X	X	23.5	0.76	2.11	0.08	22	lbs/day	Below DL in 18 samples from 1996-2001		
5M. Chromium, Total (7440-47-3)	X	X	88	3.33	13.3	0.5	22	lbs/day	NA	NA	NA
6M. Copper, Total (7440-50-8)	X	X	25	0.92	5.57	0.2	23	lbs/day	NA	NA	NA
7M. Lead, Total (7439-92-1)	X	X	86	3.15	17.11	0.36	23	lbs/day	NA	NA	NA
8M. Mercury, Total (7439-97-6)	X	X	0.3	0.01	0.02	0	23	lbs/day	Below DL in 21 samples from 1996-2001		
9M. Nickel, Total (7440-02-0)	X	X	230	9.8	49.5	2.11	23	lbs/day	NA	NA	NA
10M. Selenium, Total (7782-49-2)	X	X	86.4	2.88	6.81	0.22	23	lbs/day	NA	NA	NA
11M. Silver, Total (7440-22-4)	X	X	18	0.76	2.52	0.11	22	lbs/day	NA	NA	NA
12M. Thallium, Total (7440-28-0)	X	X		Below detectable level (<5 ug/l) in 1 sample in 1996							
13M. Zinc, Total (7440-66-6)	X	X	100	30	200	8.1	1	lbs/day	NA	NA	NA
14M. Cyanide, Total (57-12-5)	X	X	70	NA	41.6		45	lbs/day	Below DL in 43 samples from 1996-2001		
15M. Phenols, Total	X	X	435	14.84	35.99	1.23	114	lbs/day	NA	NA	NA

DIOXIN	
2,3,7,8-Tetra-chlorodibenzo-P-Dioxin (1764-01-6)	NA

1. POLLUTANT AND CAS NO. (IF AVAILABLE) GC/MS FRACTION - VOLATILE COMPOUNDS	2. MARK "X"		3. EFFLUENT				4. LIMITS		5. INTAKE (optional)			
	a. Testing required	b. Believable	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE		(SPECIFY IF BLANK)		a. LONG TERM AVG. VALUE	b. NO. OF ANALYSES		
	present	absent	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	CONCENTRATION	MASS	CONCENTRATION	MASS		
1V. Acrolein (107-02-8)	X	X	Below detectable level (15 ug/l) in 36 samples from 1996-2001									
2V. Acrylonitrile (107-13-1)	X	X	Below detectable level (1 ug/l) in 42 samples from 1996-2001									
3V. Benzene (107-43-2)	X	X	1.2	0.1	NA	NA	0	0	ug/l	lbs/day	NA	NA
4V. Bis(chloromethyl) ether (542-88-1)	X	X	Compound not observed in 1 sample in 1995									
5V. Bromoform (75-25-2)	X	X	4		NA	NA	0	0	ug/l			Below DL in 43 samples from 1996-2001
6V. Carbon Tetrachloride (56-23-5)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001									
7V. Chlorobenzene (108-90-7)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001									
8V. Chlorodibromomethane (124-48-1)	X	X ²	1.9	0.06	NA	NA	0	0	ug/l	lbs/day		Below DL in 40 samples from 1996-2001
9V. Chloroethane (75-00-3)	X	X ²	1.6		NA	NA	0	0	ug/l	lbs/day		Below DL in 43 samples from 1996-2001
10V. 2-Chloroethylvinyl Ether (110-75-8)	X	X	Below detectable level (10 ug/l) in 42 samples from 1996-2001									
11V. Chloroform (67-66-3)	X	X	5.4	0.15	NA	NA	0.81	0.02	ug/l	lbs/day		
12V. Dichlorobromomethane (75-27-4)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001									
13V. Dichlorodifluoromethane (75-71-8)	X	X	Below detectable level (10 ug/l) in 42 samples from 1996-2001									
14V. 1,1-Dichloroethane (75-34-3)	X	X ²	2.3		NA	NA	0	0	ug/l	lbs/day		Below DL in 43 samples from 1996-2001
15V. 1,2-Dichloroethane (107-06-2)	X	X	200	6.51	NA	NA	43.93	1.4	ug/l	lbs/day		Below DL in 35 samples from 1996-2001
16V. 1,1-Dichloroethylene (75-35-4)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001									
17V. 1,2-Dichloropropane (78-87-5)	X	X	Below detectable level (1 ug/l) in 8 samples from 1995									
18V. 1,3-Dichloropropylene (542-75-6)	X	X	Below detectable level (1 ug/l) in 8 samples from 1995									
19V. Ethylbenzene (100-41-4)	X	X	5.8	0.21	NA	NA	0.41	0.02	ug/l	lbs/day		Below DL in 37 samples from 1996-2001
20V. Methyl Bromide (74-83-9)	X	X	72	1.98	NA	NA	2.54	0.07	ug/l	lbs/day		Below DL in 40 samples from 1996-2001
21V. Methyl Chloride (74-87-3)	X	X	1.1	0.04	NA	NA	0.02	0	ug/l	lbs/day		Below DL in 43 samples from 1996-2001

1. POLLUTANT AND CAS NO. (IF AVAILABLE)	2. MARK "X" a. Testing required b. Believed present	3. EFFLUENT			4. UNITS			5. INTAKE (optional)			
		a. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION (2) MASS	c. LONG TERM AVERAGE VALUE (1) CONCENTRATION (2) MASS	(SPECIFY IF BLANK) CONCENTRATION	b. MASS	d. NO. OF ANALYSES	a. LONG TERM AVG. VALUE CONCENTRATION	b. NO. OF ANALYSES		
GC/MS FRACTION - VOLATILE COMPOUNDS (continued)											
22V. Methylene Chloride (75-09-2)	X	X	140	5.97	NA	NA	15.59	0.66	40	ug/l	Below DL in 25 samples from 1996-2001
23V. 1,1,2,2-Tetra-chloroethane (79-34-5)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001								
24V. Tetrachloro-ethylene (127-18-4)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001								
25V. Toluene (108-88-3)	X	X	37	1.37	NA	NA	5.4	0.2	41	ug/l	Below DL in 25 samples from 1996-2001
26V. 1,2-Trans-Dichloroethylene (156-60-5)	X	X	Below detectable level (2 ug/l) in 20 samples from 1996-2001								
27V. 1,1,1-Trichloroethane (71-55-6)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001								
28V. 1,1,2-Trichloroethane (79-00-5)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001								
29V. Trichloro-ethylene (79-01-6)	X	X	12		NA	NA	0.42		42	ug/l	Below DL in 40 samples from 1996-2001
30V. Trichloro-fluoromethane (75-69-4)	X	X ²	6.9		NA	NA	0.16		43	ug/l	Below DL in 42 samples from 1996-2001
31V. Vinyl Chloride (75-01-4)	X	X	Below detectable level (1 ug/l) in 44 samples from 1996-2001								
GC/MS FRACTION - ACID COMPOUNDS											
1A. 2-chlorophenol (95-57-8)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
2A. 2,4-Dichlorophenol (120-83-2)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
3A. 2,4-Dimethylphenol (105-67-9)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
4A. 4,6-Dinitro-Cresol (534-52-1)	X	X	Below detectable level (20 ug/l) in 4 samples from 1995								
5A. 2,4-Dinitrophenol (51-28-5)	X	X	Below detectable level (20 ug/l) in 22 samples from 1996-2001								
6A. 2-Nitrophenol (88-75-5)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
7A. 4-Nitrophenol (100-02-7)	X	X	Below detectable level (20 ug/l) in 22 samples from 1996-2001								
8A. P-Chloro-M-Cresol (59-50-7)	X	X	Below detectable level (5 ug/l) in 20 samples from 1996-2001								
9A. Pentachlorophenol (87-86-5)	X	X	Below detectable level (2 ug/l) in 22 samples from 1996-2001								
10A. Phenol (108-95-2)	X	X	Below detectable level (5 ug/l) in 20 samples from 1996-2001								
11A. 2,4,6-Trichlorophenol (88-06-2)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								

CONTINUED FROM PAGE V-5

1. POLLUTANT AND CAS NO. (IF AVAILABLE) GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS	2. MARK "X" a. Testing required b. Believe present c. Believe absent	3. EFFLUENT		4. UNITS		5. INTAKE (Optional)		
		a. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION (2) MASS	c. LONG TERM AVRG. VALUE (1) CONCENTRATION (2) MASS	d. NO. OF ANALYSES	(SPECIFY IF BLANK) CONCENTRATION	a. LONG TERM AVG. VALUE CONCENTRATION	b. NO. OF ANALYSES
1B. Acenaphthene (83-32-9)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
2B. Acenaphthylene (208-96-8)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
3B. Anthracene (120-12-7)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
4B. Benzidine (92-87-5)	X	Below detectable level (50 ug/l) in 21 samples from 1996-2001						
5B. Benzo (a) Anthracene (56-55-3)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
6B. Benzo (a) Pyrene (50-32-8)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
7B. 3,4-Benzofluoranthene (205-98-2)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
8B. Benzo (ghi) Perylene (191-24-2)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
9B. Benzo (k) Fluoranthene (207-08-9)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
10B. Bis (2-Chloroethoxy) Methane (111-91-1)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
11B. Bis (2-Chloroethyl) Ether (111-44-4)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
12B. Bis (2-Chloroisopropyl) Ether (102-60-1)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)	X	Below detectable level (5 ug/l) in 21 samples from 1996-2001						
14B. 4-Bromo-phenyl Phenyl Ether (101-35-3)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
15B. Butyl Benzyl Phthalate (65-68-7)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
16B. 2-Chloronaphthalene (91-58-7)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
18B. Chrysene (218-01-8)	X	Below detectable level (5 ug/l) in 21 samples from 1996-2001						
19B. Dibenzo (a,h) Anthracene (53-70-3)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
20B. 1,2-Dichlorobenzene (95-50-1)	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001						
21B. 1,3-Dichlorobenzene (541-73-1)	X	Below detectable level (5 ug/l) in 21 samples from 1996-2001						

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1. POLLUTANT AND CAS NO. (IF AVAILABLE)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	Testing required	a. Believe present b. Believe absent	a. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION (2) MASS	c. LONG TERM AVG. VALUE (1) CONCENTRATION (2) MASS	d. NO. OF ANALYSES	(SPECIFY IF BLANK) CONCENTRATION	b. MASS	a. LONG TERM AVG. VALUE CONCENTRATION	2. MASS ANALYSES	B. NO. OF ANALYSES
CGMS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)											
22B. 1,4-Dichlorobenzene (105-46-7)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
23B. 3,3'-Dichlorobenzidine (91-94-1)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
24B. Diethyl Phthalate (84-66-2)	X	X ²	23	NA	0.82	20	ug/l				Below DL (5 ug/l) in 19 samples from 1996-2001
25B. Dimethyl Phthalate (131-11-3)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
26B. Di-N-Butyl Phthalate (84-74-2)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
27B. 2,4-Dinitrotoluene (121-14-2)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
28B. 2,6-Dinitrotoluene (121-14-3)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
29B. Di-N-Octyl Phthalate (117-84-0)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
30B. 1,2-Diphenylhydrazine (as Azo-benzene) (122-66-7)	X	X	Below detectable level (5 ug/l) in 19 samples from 1996-2001								
31B. Fluoranthene (206-44-0)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
32B. Fluorene (86-73-7)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
33B. Hexachlorobenzene (118-74-1)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
34B. Hexachlorobutadiene (87-68-3)	X	X	Below detectable level (5 ug/l) in 18 samples from 1996-2001								
35B. Hexachlorocyclopentadiene (77-47-4)	X	X	Below detectable level (5 ug/l) in 21 samples from 1996-2001								
36B. Hexachloroethane (67-72-1)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
37B. Indeno (1,2,3-cd) Pyrene (193-39-5)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
38B. Isophorone (78-59-1)	X	X	Below detectable level (5 ug/l) in 20 samples from 1996-2001								
39B. Naphthalene (91-20-3)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
40B. Nitrobenzene (98-95-3)	X	X	Below detectable level (5 ug/l) in 22 samples from 1996-2001								
41B. N-Nitrosodimethylamine (62-75-9)	X	X	Below detectable level (10 ug/l) in 13 samples from 1996-2001								
42B. N-Nitrosodi-N-Propylamine (621-64-7)	X	X	Below detectable level (5 ug/l) in 21 samples from 1996-2001								

1. POLLUTANT AND CAS NO. (IF AVAILABLE)	2. MARK "X" Testing required a. Believe present b. Believe absent	3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
		a. MAXIMUM DAILY VALUE (1) CONCENTRATION (2) MASS	b. MAXIMUM 30 DAY VALUE (1) CONCENTRATION (2) MASS	c. LONG TERM AVRG. VALUE (1) CONCENTRATION (2) MASS	d. NO. OF ANALYSES	(SPECIFY IF BLANK) CONCENTRATION	b. MASS	a. LONG TERM AVG. VALUE CONCENTRATION	2. MASS	B. NO. OF ANALYSES
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)										
43B. N-Nitro-sodiphenylamine (86-30-8)	X		Below detectable level (5 ug/l) in 21 samples from 1996-2001							
44B. Phenanthrene (85-01-9)	X		Below detectable level (5 ug/l) in 22 samples from 1996-2001							
45B. Pyrene (129-00-0)	X		Below detectable level (5 ug/l) in 22 samples from 1996-2001							
46B. 1,2,4-Trichlorobenzene (120-82-1)	X		Below detectable level (5 ug/l) in 22 samples from 1996-2001							
GC/MS FRACTION - PESTICIDES										
1P. Aldrin (309-00-2)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
2P. a-BHC (319-84-6)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
3P. b-BHC (319-84-7)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
4P. g-BHC (58-89-8)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
5P. d-BHC (319-86-5)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
6P. Chlordane (57-74-9)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
7P. 4,4'-DDT (50-29-3)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
8P. 4,4'DDE (72-55-9)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
9P. 4,4-DDD (72-54-8)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
10P. Dieldrin (60-57-1)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
11P. a-Endosulfan (115-29-7)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
12P. b-Endosulfan (115-29-7)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
13P. Endosulfan Sulfate (1031-07-8)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
14P. Endrin (72-20-8)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
15P. Endrin Aldehyde (7421-93-4)	X		Below detectable level (1 ug/l) in 1 samples from 1996							
16P. Heptachlor (76-44-8)	X		Below detectable level (1 ug/l) in 1 samples from 1996							

1. POLLUTANT AND CAS NO. (IF AVAILABLE) GC/MS FRACTION - PESTICIDES (continued)	2. MARK "X"		3. EFFLUENT				4. UNITS		5. INTAKE (optional)		
	Treating (required)	a. Believe present	b. Believe absent	a. MAXIMUM DAILY VALUE (1) CONCENTRATION	b. MAXIMUM 30 DAY VALUE (2) MASS	c. LONG TERM AVRG. VALUE (1) CONCENTRATION	(2) MASS	CONCENTRATION	b. MASS	a. LONG TERM AVG. VALUE CONCENTRATION	b. NO. OF ANALYSES
17P. Heptachlor Epoxide (1024-57-3)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
18P. PCB-1242 (53469-21-9)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
19P. PCB-1254 (11097-69-1)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
20P. PCB-1221 (11104-28-2)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
21P. PCB-1232 (11141-16-5)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
22P. PCB-1248 (12672-29-6)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
23P. PCB-1260 (11096-82-5)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
24P. PCB-1016 (12674-11-2)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							
25P. Toxaphene (8001-35-2)	X		X	Below detectable level (1 ug/l) in 1 samples from 1996							

Footnotes to Form 2C, Table V

- 1 Tests have shown that on average, nitrites account for about half of this value. Given that about 80% of the cation distribution in the discharge is sodium, sodium nitrite is a component of the discharge.
- 2 Although detected in a small percentage of samples taken, knowledge of the chemicals and processes used at the facility support the belief that this chemical is not a normal constituent of the discharge.

Attachment A

List Of Compounds From Table 2C-3 That Could Be Present In Discharge 20100

The following compounds are listed in table 2C3 and are used at the 3M Cottage Grove site. Therefore, they could possibly find their way into the plant's wastewater. And if not removed by the wastewater treatment facility, could be contained in the treated wastewater discharge.

Acetaldehyde
Allyl alcohol
Allyl chloride
Amyl acetate
Butyl acetate
Cyclohexane
Diethyl amine
Dimethyl amine
Epichlorohydrin
Ethylene diamine
Formaldehyde
Methyl methacrylate
Phosgene
Propylene oxide
Resorcinol
Styrene
Triethylamine
Vanadium
Vinyl Acetate
Xylene

Of the compounds listed above, formaldehyde, vinyl acetate and xylene are routinely tested for either as a priority pollutant or as an additional compound. The results of that testing at outfall 20100 were as follows:

Compound	Total Number of Samples	Number of Samples Above Detection Limit	Maximum Concentration	Average Concentration
Formaldehyde	36	13	2100 ug/l	371 ug/l
Vinyl acetate	20	1	42 ug/l	NA
Xylene	39	15	81 ug/l	24.87 ug/l

All of the materials in the list above are substances or components of substances that are currently used at the 3M Cottage Grove Center.

Attachment B

**Other Compounds Detected During Testing
January 1996 – October 2001
Outfall 20100**

Compound	Max Conc (ug/l)	Avg conc (ug/l)	# of Samples	# of Detects	Believed Present	Believed Absent
1,2-dibromoethane	85	48	10	3	X	
Acetone	3000	753	21	19	X	
Carbon disulfide	7.9	NA	20	1		X*
Cobalt	47	23.6	20	5	X	
Ethanol	120	NA	1	1	X	
Formaldehyde	2100	371	36	13	X	
Iodomethane	3.7	NA	10	1		X*
Methanol	3700	2358	44	10	X	
Methyl ethyl ketone	1400	313	20	6	X	
Methyl isobutyl ketone	1.7	NA	19	1	X	
Perfluorooctanoic acid	267	216	3	3	X	
Perfluoroheptanoic acid	19	14	3	3	X	
Perfluorohexanoic acid	32	29	3	3	X	
Perfluorobutyric acid	643	346	3	3	X	
Perfluorooctane sulfonate	384	262	3	3	X	
Perfluoroheptane sulfonate	12	NA	3	1	X	
Perfluorohexane sulfonate	12	11	3	3	X	
Perfluorobutane sulfonate	138	64	3	3	X	
Tetrahydrofuran	220	200	2	2	X	
Vinyl acetate	42	NA	20	1		X*
Xylenes	81	24.87	39	15	X	

* Although detected in a small percentage of samples taken, knowledge of the chemicals and processes used at the facility support the belief that this chemical is not a normal constituent of the discharge.

Attachment C

**Tentatively Identified Compounds (TIC)
Outfall 20100
August 2000 – August 2001**

TIC	Approximate Concentration (ug/l)	Sample Type	# of Samples	# of Detects
amine - type unknown	88	24-hr Composite	5	1
1-(2-butoxyethoxy) ethanol	61	24-hr Composite	5	1
1,4-dioxane	15	Grab	5	2
2,4,4-trimethyl-1-pentene	7	Grab	5	1
1,1,2-trichloro-1-propene	38	24-hr Composite	5	1
2-(2-butoxyethoxy) ethanol	1300	24-hr Composite	5	1
2-chloroethyl methyl ether	5	Grab	5	2
2-fluoro-6-nitrophenol	76	24-hr Composite	5	2
2-methyl-2-propanol	240	Grab	5	1
2-propanol, 2-methyl	50	Grab	5	5
alpha-methylstyrene	108	24-hr Composite	5	1
cycloalkene - type unknown	274	24-hr Composite	5	1
cyclopentane	75	24-hr Composite	5	1
diisopropyl ether	9	Grab	5	3
dimethyl ether (CAS#115-10-6)	4	Grab	5	1
1,1'-oxybis ethane	14	24-hr Composite	5	2
2-(2-butoxyethoxy) ethanol *	1125	24-hr Composite	5	2
1-(2-butoxyethoxy) ethanol *	319	24-hr Composite	5	1
ethanol CAS#112-34-5	56	24-hr Composite	5	1
ethanol CAS#124-17-4	925	24-hr Composite	5	1
ethanol CAS#2315-61-9	712	24-hr Composite	5	2
n-butanol	130	Grab	5	2
ketone - type unknown	143	24-hr Composite	5	1
1-chloro-octadecane	4	Grab	5	1
2-fluoro-4-nitro phenol	30	24-hr Composite	5	1
tetrahydro-1,1 thiophene	86	24-hr Composite	5	1

* Other alkylphenol ethoxylates of varying molecular weights were detected at varying concentrations, but all less than 50 ug/l. These compounds were analyzed using HPLC/MS with methods that were developed by 3M and validated according to FDA Guidance for Industry Document-Bioanalytical Method Validation.