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DU PONT
ESTABLISHED 1802
E. I. DU PONT DE NEMOURS & COMPANY
INCORPORATED
P.O. Box 1217
PARKERSBURG, W. VA. 26102

POLYMER PRODUCTS DEPARTMENT

June 13, 1989

Mr. William R. Packard, Manager
Lubeck Public Service District
P.O. Box 700
Washington, West Virginia 26181

Dear Mr. Packard:

This letter is in response to your April 21, 1989 request for assistance in replying to a request of the West Virginia Public Service Commission for groundwater analytical data that might be available from Du Pont.

We wish to point out that Jim Cox, the former Lubeck Public Service District (LPSD) Manager, made the initial contact late in 1986 to offer to sell the wells to Du Pont in order to reduce the expense of relocating LPSD to a larger well area to meet forecast demand. After careful study, Du Pont agreed to purchase the wells to obtain additional process water and real estate. The added real estate will provide areas for future plant expansion and reduce potential public exposure in the event of plant emergencies. As you know, it is not unusual for Du Pont to purchase adjoining properties to provide a buffer zone and create additional expansion possibilities.

Our test well 27 (see map on Attachment 1) is the closest plant well to the LPSD wells. We have been sampling this well monthly and performing on-site analyses for the parameters shown on Attachment 2, which presents the results since July 1986. We have similar data going back into the 1970s.

We recently (October 6, 1988) sampled well 27 for Appendix IX constituents (40CFR264) in anticipation of federal requirements under the 1984 amendments to the Resource Conservation and Recovery Act. These analyses were performed by a contract laboratory. The results are shown on Attachment 3 for compounds detected in well 27. Compounds tested for and not detected, or below method detection level, are shown on Attachment 4. Two compounds listed on Attachment 3 appear to be analytical artifacts (methylene chloride and methyl ethyl ketone). Resamples were taken for these two compounds and tested at two laboratories. The results (Attachment 5) indicate that Laboratory A had a problem with laboratory contamination and the compounds are not in the aquifer.

RJZ006598

In addition to the above results, we have performed analyses for ammonium perfluorooctanoate (FC-143) in LPSD water taps from 1984 to 1988, and from well 27 in 1988. FC-143 is a surfactant purchased from 3M and used in plant processes. The nine samples we have tested show concentrations of 1.0 to 2.2 micograms per liter (parts per billion). At these very low concentrations, it has no known toxic effects in humans. We have noted accumulations of FC-143 in the blood of workers who had the potential for exposure by inhalation and skin contact; but there have been no adverse effects on employee health. The presence of this surfactant in the aquifer was reported to Region III U.S. EPA, and the West Virginia Division of Water Resources on June 5, 1985 in the "Solid Waste Management Unit Survey" in "Section B-4 on Anaerobic Digestion Ponds".

If you have any questions, please call Art Huston on 863-4271.

Very truly yours,

H. V. Bradley
Works Manager

/hcw
Attachments

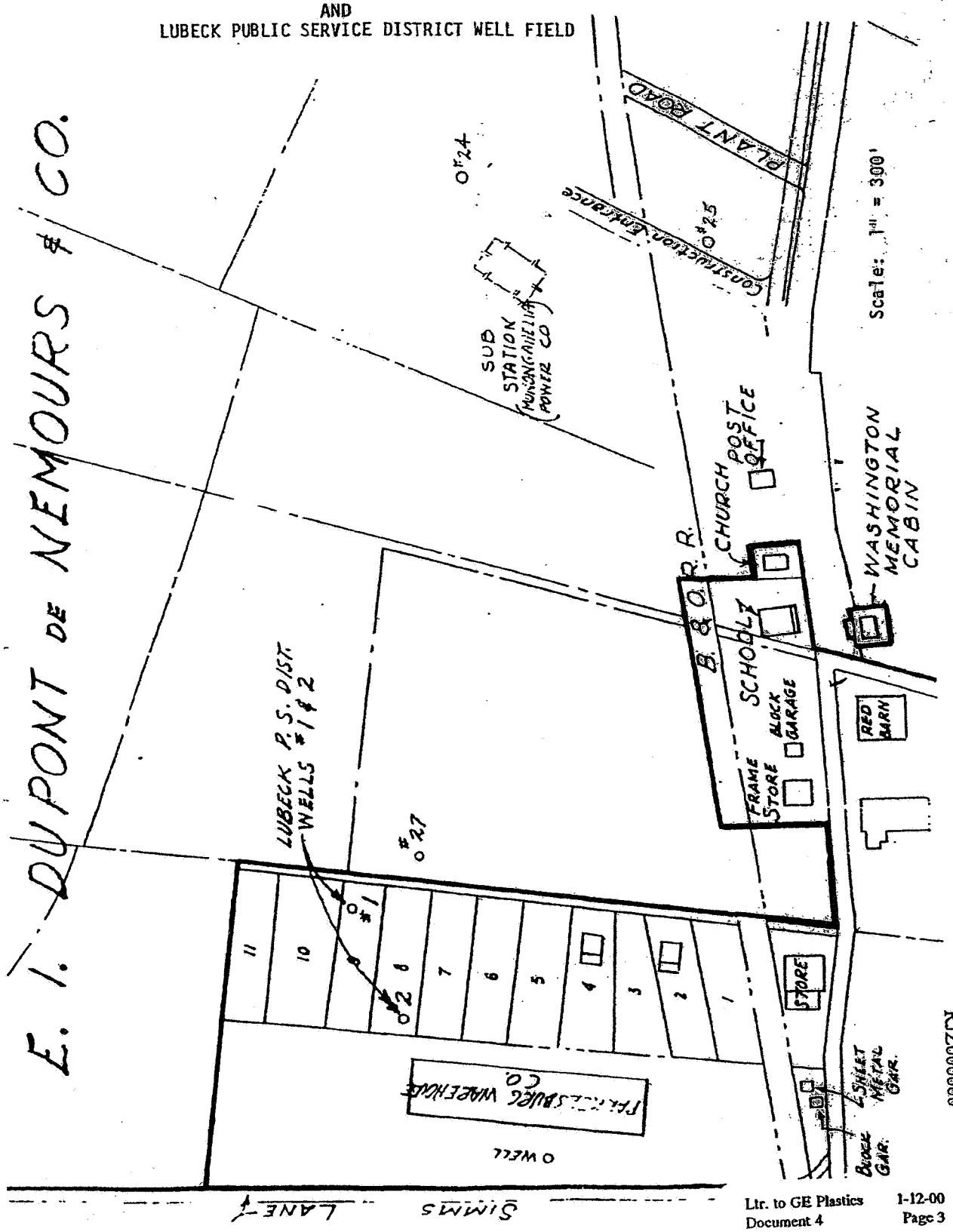
#1690

RJZ006599

EID078835

LOCATION OF DU PONT WELL 27
AND
LUBECK PUBLIC SERVICE DISTRICT WELL FIELD

ATTACHMENT 1



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POWER DIVISION

WATER DATA

(mg/l)*

* unless otherwise noted

TEST WELL #27

DATE	pH - Standard Units	Chloride	T. Org. Carbon	B.O.D.	T.D. Solids	T.S. Solids	C.O.D.	Color - APHA	Manganese	Hardness	Iron	M.O. Alk.	Sulfate	Turbidity - NTU	Odor - ORSANCO
7-30-86	7.57	43	1		137		8		203		131	27	27	NONE CLW #1	
8-21-86	7.49	44	4		230		8		170		191	14	27	#1	
9-24-86	7.52	43	0		265		30		182		136	20	32	#1	
10-29-86	7.49	44	1		180		17		190		136	10	25	NONE #1	
11-12-86	7.54	43	2		211		4		190		140	20	18	MUSTY	
12-10-86	7.55	43	0		184				174		138	10	20	NONE	
1-29-87	7.62	48	1		110		34		170		129	41	32	NONE	
2-27-87	7.57	45	0.4		205		5		207		124	20	30	NONE	
3-31-87	7.40	42	1		208		0		164		140	31	42	#1 MUSTY	
4-23-87	7.40	41	2		213		0		201		152	26	2.7	NONE	
5-29-87		WATER LEVEL LOW WOULD NOT PUMP.													
6-26-87	7.79	42	2		260		8		226		164	69	66	NONE #1 TURBIDITY	
7-31-87	7.20	37	2		362		7		235		196	69	44		
8-26-87	7.60	43	0.6		296		0		285		202	73	30	NONE	
9-30-87	7.50	41	0		399		30		305		197	188	85	NONE	
10-30-87	7.30	42	0		344		5		326		191	61	21	NONE	
11-24-87	7.50	43	2		278		18		260		185	73	36	#1 TURBIDITY	
12-29-87	7.35	43	2		386		5		289		196	57	33	NONE	
1-29-88	7.50	40	0		358		5		313		214	65	15	NONE	
2-24-88		SAMPLER PUMP WILL NOT WORK.													
3-15-88	7.40	41	2		395		12		276		181	61	72	NONE	

ATTACHMENT 2
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POWER [illegible] ISION

WATER DATA

(mg/l)*

* unless otherwise noted

TEST WELL #27

DATE	pH - Standard Units	Chloride	T. Org. Carbon		B.O.D.	T.D. Solids	T.S. Solids	C.O.D.	Color - APHA	Manganese	Hardness	Iron	M.O. Alk.	Sulfate	Turbidity - NTU	Odor - ORSANCO			
4-12-88	7.50	45	1		419			0		289		193	77	15	NONE				
5-20-88	7.50	42	2		376			5		309		211	93	15	NONE				
6-28-88	7.30	46	1					7		280		213	47	31	NONE				
7-29-88	7.40	47	3.3		320			20		300		211	58	10	NONE				
8-30-88	7.50	36	1		476			20		322		292	55	5	NONE				
9-27-88	7.40	42	0		415			20		313		194	78	17	NONE				
10-18-88	7.20	39	0		368			10		272		222	109	25					
11-29-88	7.30	41	1		490			5		324		184	116	2.3	0				
12-29-88	7.10	37	0		372			10		304		186	109	2.5	0				
1/17/89	7.40	43	0		411			5		300		188	101	6.5	0				
2/14/89	7.20	44	7		322			10		308		188	101	32	NONE				
3/28/89	7.50	34	1		490			5		300		214	77	4.3	NONE				
4/14/89	7.20	42	3		281			5		329		200	82	3.5	NONE				

ATTACHMENT 2
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ATTACHMENT 3

APPENDIX IX - ANALYSES OF WELL 27

COMPOUNDS DETECTED

Compound	Well 27
Chloroform	3.59 ug/l
Methylene Chloride	24.9 ug/l
Methyl Ethyl Ketone	25.4 ug/l
Aluminum	230 ug/l
Barium	78 ug/l
Boron	60 ug/l
Iron	2400 ug/l
Manganese	21 ug/l
Zinc	58 ug/l
Nitrate as N	2.2 mg/l
Gross Beta	.6 pCi/l
Radium 226	.1 pCi/l
Radium 228	1.8 pCi/l
Color Apparent	7 Co/Pt
Nitrogen Total Organic	.4 mg/l
Sulfite as S03	2 mg/l

NOTES: ug/l = micrograms per liter = parts per bilion (ppb)
mg/l = milligrams per liter = parts per million (ppm)
pCi/l = pico Curies per liter
Co/Pt = platinum cobalt color units

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APPENDIX IX - ANALYSES OF WELL 27

COMPOUNDS NOT DETECTED

Acetonitrile
Acrolein
Acrylonitrile
1,4-Dioxane
Ethyl cyanide
Isobutyl alcohol
Methacrylonitrile
N-Nitrosopyrrolidine
Pyridine
Benzene
Methyl bromide
Carbon disulfide
Chloroethane
Chlorobenzene
2-Chloro-1,3-butadiene
Methyl chloride
3-chloropropene
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
Dibromomethane
1,4-Dichloro-2-butene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,2 Trans-dichloroethylene
1,1-Dichloroethylene
1,2-Dichloropropane
cis-1,3-Dichloropropylene
trans-1,3-Dichloropropylene
Chlorodibromomethane
Dichlorobromomethane
Ethyl methacrylate
Iodomethane
Methyl methacrylate
Pentachloroethane
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethylene
Carbon tetrachloride
Toluene
Bromoform
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethylene
Trichlorofluoromethane
1,2,3-Trichloropropane
Vinyl chloride
Acetone
Ethylbenzene
2-Hexanone
Methyl-iso-butyl ketone
Styrene
Vinyl acetate
m-Xylene
o+p-Xylenes
Acetophenone
2-Acetylaminofluorene
4-Aminobiphenyl
Aniline
Aramite
Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(a)pyrene
bis(2-Chloroethoxy)methane
bis(2-Chloroethyl) ether
bis(2-Chloroisopropyl)ether
bis(2-Ethylhexyl)phthalate
4-Bromophenyl phenyl ether
Butyl benzyl phthalate
2-sec-Butyl-4,6-dinitrophen
p-Chloroaniline
p-Chloro-m-cresol
2-Chloronaphthalene
2-Chlorophenol
Chrysene
Acenaphthene
Acenaphthylene
Anthracene
Benzo(ghi)perylene
Benzo(k)fluoranthene
Fluorene
Phenanthrene
Pyrene
2-Nitrophenol
o-Cresol
m+p-Cresols
Diallate
Dibenzo(a,h)anthracene
Di-n-butyl phthalate
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4,Dichlorobenzene

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APPENDIX IX - ANALYSES OF WELL 27

COMPOUNDS NOT DETECTED

3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Diethyl phthalate
Dimethoate
p-Dimethylaminoazobenzene
7,12-Dimethylbenzo(a)anthra
3,3'-Dimethylbenzidine
a-a-Dimethylphenethylamine
2,4-Dimethylphenol
Dimethyl phthalate
m-Dinitrobenzene
4,6-Dinitro-o-cresol
2,4-Dinitrophenol
2,4-Dinitrotoluene
2,6-Dinitrotoluene
Di-n-octyl phthalate
Diphenylamine
N-Nitrosodi-n-propylamine
Ethyl methanesulfonate
Fluoranthene
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Isodrin
Hexachlorophene
Hexachloropropene
Indeno(1,2,3-c,d)pyrene
Isosafrole
Methapyrilene
3-Methylcholanthrene
Methyl methanesulfonate
Naphthalene
1,4-Naphthoquinone
1-Naphthylamine
2-Naphthylamine
p-Nitroaniline
Nitrobenzene
4-Nitrophenol
4-Nitroquinoline-N-oxide
N-Nitrosodiphenylamine
N-Nitrosodi-n-butylamine
N-Nitrosodiethylamine
N-Nitrosodimethylamine
N-Nitrosomethylethylamine
N-Nitrosomorpholine
N-Nitrosopiperidine
5-Nitro-o-toluidine
Pentachlorobenzene
Pentachloronitrobenzene
Pentachlorophenol
Phenacetin
Phenol
m-phenylenediamine
o-phenylenediamine
p-phenylenediamine
2-Picoline
Pronamide
Safrole
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
Tetraethyldithiopyrophospha
o-Toluidine
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
0,0,0-Triethyl phosphorothi
sym-Trinitrobenzene
Benzyl alcohol
Dibenzofuran
Isophorone
2-Methylnaphthalene
o-Nitroaniline
m-Nitroaniline
4-Chlorophenyl phenyl ether
Aldrin
Chlordane
Chlorobenzilate
4,4'-DDD
4,4'-DDE
4,4'-DDT
Dieldrin
Endosulfan I
Endosulfan II
Endosulfan sulfate
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Alpha-BHC
Beta-BHC

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APPENDIX IX - ANALYSES OF WELL 27

COMPOUNDS NOT DETECTED

Gamma-BHC
Delta-BHC
Kepone
Methoxychlor
Toxaphene
Thionazin
Disulfoton
Methyl parathion
Parathion
Phorate
Famphur
2,4-D
2,4,5-T
2,4,5-TP (Silvex)
Aroclor 1242
Aroclor 1254
Aroclor 1260
Aroclor 1248
Aroclor 1232
Aroclor 1221
Aroclor 1016
Antimony
Arsenic
Beryllium
Cadmium
Chromium
Cobalt
Copper
Lead
Mercury
Molybdenum
Nickel
Selenium
Silver
Thallium
Tin
Titanium
Vanadium
Phenolics, Total
Cyanide, Total
Fecal Coliform
Surfactants (MBAS/LAS)
Gross Alpha
Bromide
Sulfide as S

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ATTACHMENT 5

WELL 27 RETEST DATA

Compound	Sample	Lab	Well No. 27
Methylene Chloride	Original	A	24.9 ug/l
" "	Retest	A	ND
" "	Retest	B	.5 ug/l
Methyl Ethyl Ketone	Original	A	25.4 ug/l
" " "	Retest	A	24.9 ug/l
" " "	Retest	B	<10 ug/l

METHOD DETECTION LEVEL:

	Lab A	Lab B
Methylene Chloride	2.8 ug/l	5 ug/l
Methyl Ethyl Ketone	10 ug/l	10 ug/l

NOTES: ND = not detected
ug/l = micrograms per liter = parts per billion (ppb)

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