

AR-3

Republicsteel

Republic Steel Corporation
General Offices: Republic Building
Environmental Control
PO Box 6778
Cleveland OH 44101

March 31, 1983

WL West
Director

Ohio Environmental Protection Agency
P. O. Box 1049
Columbus, OH 43216

Attention: Director

SUPPLEMENTAL INFORMATION IN SUPPORT OF
APPLICATION PURSUANT TO SECTION 301(g)
FOR MODIFICATION OF THE REQUIREMENTS OF SECTION
301(b)(2)(A) APPLICABLE TO AMMONIA
AS SET FORTH IN 40 CFR PART 420

Re: Republic Steel Corporation
Cleveland District
Flat Rolled Products Group
NPDES Permit No. D303*ED

Gentlemen:

In reference to our letter of February 17, 1983, Republic Steel Corporation submits the attached supplemental information in support of the above-referenced application.

1. PMEL's for ammonia at the following monitoring locations - Nos. 1-4 Blast Furnace Treatment Plant via outfall D303014.
2. Analysis of pertinent facts and circumstances demonstrating that no adverse impact on water quality of the Cuyahoga River can reasonably be anticipated.

Should you have any questions or require any additional information, please contact Mr. L. D. Wisniewski, Assistant Director of Water, Environmental Control Department at (216) 622-5910.

Sincerely,



W. L. West
Director
Environmental Control

WLW/pmp (0319P)
enclosure

cc: Reg. Administrator, U.S. EPA
Region V

AR-3

REPUBLIC STEEL CORPORATION
301(g) APPLICATION
FOR
CLEVELAND PLANT

1. Legal Name and Address Republic Steel Corporation
Flat Roll Products Group-Cleveland District
3100 E. 45th St.
Cleveland, OH 44127
2. Facility NPDES Permit Number D303*ED
3. Contact Name L. D. Wisniewski
Title Asst. Director-Water - Environmental Control
Telephone 216/622-5910
Address P.O. Box 6778, Cleveland, OH 44101
4. Nonconventional Pollutant Ammonia
5. a) Location of Application for Variance Treatment Plant 605
b) NPDES Location Number D303605
c) Description of Location 1-4 Blast Furnace Treatment Plant
Effluent
6. 40 CFR Part 420.33(a) (List Effluent Guideline)
7. Initial Waiver Request March 21, 1983
8. Initial Waiver Supplemented February 17, 1983
9. Effluent Guideline Date Effective July 10, 1982
10. PMEL 132.6 Mo. Ave.
397.8 D. Max. #/D
256.4 Mo. Ave.
11. BPT 769.2 D. Max. #/D
14.1 Mo. Ave.
12. BAT 42.4 D. Max. #/D
13. a) WQS None Presently Mg/l Max.
in Effect
b) Comments The Lower Cuyahoga is classified as an industrial
water supply. See Exhibit I for ammonia concentrations assuming
0.05 mg/l un-ionized ammonia level.
14. Impact on Receiving Stream None anticipated. Present effluent loading
of ammonia to be reduced approximately 50 percent.
Current NPDES Permit limitations are 457.0 Lb/D Ave.:
914.3 Lbs/D Max.

- 15. Impact on Recreational Activities None anticipated. Present
effluent loading of ammonia to be reduced. Current NPDES Permit
limitations are 457.0 Lbs/Day Ave.; 914.3 Lbs/Day Max.

- 16. Impact on Public Water Supplies None anticipated. Present
effluent loading of ammonia to be reduced. Current NPDES Permit
limitations are 457.0 Lbs/Day; 914.3 Lbs/Day Max.

- 17. Priority Pollutant Analysis See Exhibit 2.

- 18. Water Quality Life Toxicity Criterion (24-hr. ave.) or Red
 Book Number 0.02 mg/l unionized ammonia
"Red Book" value
See Exhibit 3 for ammonia concentrations at 0.02 mg/l
on-ionized ammonia level
- 19. Contribution of Nonconventional Pollutant at the Edge of
 Mixing Zone 0.090 mg/l average; 0.294 mg/l max.
@7010 162 mgd

- 20. Provide Map of Point of Discharge to Receiving Stream _____
Attached as Exhibit 4.

- 21. Certification by Authorized Official:

I certify that the information provided herein and appended hereto is true and accurate to the best of my knowledge.

Name W. L. West
 Title Director-Environmental Control.
 Signature *W. L. West*
 Date March 31, 1983

TABLE 2
 Concentration of Ammonia-N which contain an un-ionized ammonia concentration of 0.05 mg/l NH₃.
 Corresponding pH and temperatures having no Ammonia-N concentrations listed shall have such values
 interpolated from the closest appropriate column exhibiting such values. However, at no time shall the
 total ammonia concentration be more than 13 mg/l.

Temp. (°C)	pH 6.7	6.8	6.9	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0	9.1	9.2	9.3
5									12.7	10.1	8.0	6.4	5.1	4.1	3.2	2.6	2.1	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.2
6									11.7	9.3	7.4	5.9	4.7	3.7	3.2	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3
7									10.8	8.6	6.8	5.4	4.4	3.4	2.8	2.2	1.8	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2
8								12.6	10.0	8.0	6.3	5.0	4.0	3.2	2.6	2.0	1.6	1.3	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
9								11.6	9.2	7.3	5.8	4.7	3.7	3.0	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
10								10.7	8.5	6.8	5.4	4.3	3.4	2.7	2.2	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2
11								12.5	9.9	7.9	6.3	5.0	4.0	3.2	2.5	2.0	1.6	1.3	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
12								11.6	9.2	7.3	5.8	4.6	3.7	2.9	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
13								10.7	8.5	6.8	5.4	4.3	3.4	2.7	2.2	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.2	0.2	0.2
14								12.5	9.9	7.9	6.3	5.0	4.0	3.2	2.5	2.0	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.3	0.2
15								11.6	9.2	7.3	5.8	4.6	3.7	2.9	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
16								10.7	8.5	6.8	5.4	4.3	3.4	2.7	2.2	1.7	1.4	1.1	0.9	0.7	0.6	0.4	0.4	0.3	0.2	0.2	0.2
17								12.5	10.0	7.9	6.3	5.0	4.0	3.2	2.5	2.0	1.6	1.3	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
18								11.6	9.3	7.4	5.8	4.7	3.7	3.0	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
19								10.8	8.6	6.8	5.4	4.4	3.4	2.8	2.2	1.8	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.2
20								12.6	10.0	8.0	6.4	5.1	4.0	3.2	2.6	2.1	1.6	1.3	1.1	0.8	0.7	0.6	0.4	0.4	0.3	0.2	0.2
21								11.8	9.4	7.4	5.9	4.7	3.8	3.0	2.4	1.9	1.5	1.2	1.0	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
22								10.9	8.7	6.9	5.5	4.4	3.5	2.8	2.2	1.8	1.4	1.1	0.9	0.7	0.6	0.4	0.4	0.3	0.3	0.2	0.2
23								12.8	10.2	8.1	6.4	5.1	4.1	3.2	2.6	2.1	1.7	1.3	1.1	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2
24								11.9	9.5	7.5	6.0	4.8	3.8	3.0	2.4	1.9	1.5	1.2	0.9	0.8	0.6	0.5	0.4	0.4	0.3	0.3	0.2
25								11.1	8.8	7.0	5.6	4.5	3.6	2.8	2.3	1.8	1.4	1.2	0.9	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
26								10.3	8.2	6.6	5.2	4.2	3.3	2.6	2.1	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.4	0.3	0.3	0.2
27								12.2	9.7	7.7	6.1	4.8	3.9	3.1	2.5	2.0	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.4	0.3	0.3	0.2
28								11.3	9.0	7.2	5.7	4.6	3.6	2.9	2.3	1.8	1.5	1.2	0.9	0.8	0.6	0.5	0.4	0.3	0.3	0.3	0.2
29								10.6	8.4	6.7	5.3	4.2	3.4	2.7	2.2	1.7	1.4	1.1	0.9	0.7	0.6	0.5	0.4	0.3	0.3	0.3	0.2
30								12.4	9.9	7.9	6.3	5.0	4.0	3.2	2.5	2.0	1.6	1.3	1.0	0.8	0.7	0.5	0.4	0.3	0.3	0.2	0.2

SAMPLE IDENTIFIER: F340
COMPU/CHEM SAMPLE NUMBER: 3603

3. PRIORITY POLLUTANT ANALYSIS REPORT

COMPOUNDS	CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
1V. ACROLEIN	BDL	100
2V. ACRYLONITRILE	BDL	100
3V. BENZENE	BDL	10
4V. BIS (CHLOROMETHYL) ETHER	BDL	10
5V. BROMOFORM	BDL	10
6V. CARBON TETRACHLORIDE	BDL	10
7V. CHLOROBENZENE	BDL	10
8V. CHLORODIBROMOMETHANE	BDL	10
9V. CHLOROETHANE	BDL	10
10V. 2-CHLOROETHYL VINYL ETHER	BDL	10
11V. CHLOROFORM	BDL	10
12V. DICHLOROBROMOMETHANE	BDL	10
13V. DICHLORODIFLUOROMETHANE	BDL	10
14V. 1, 1-DICHLOROETHANE	BDL	10
15V. 1, 2-DICHLOROETHANE	BDL	10
16V. 1, 1-DICHLOROETHYLENE	BDL	10
17V. 1, 2-DICHLOROPROPANE	BDL	10
18V. 1, 3-DICHLOROPROPYLENE	BDL	10
19V. ETHYLBENZENE	BDL	10
20V. METHYL BROMIDE	BDL	10
21V. METHYL CHLORIDE	BDL	10
22V. METHYLENE CHLORIDE	BDL	10
23V. 1, 1, 2, 2-TETRACHLOROETHANE	BDL	10
24V. TETRACHLOROETHYLENE	BDL	10
25V. TOLUENE	BDL	10
26V. 1, 2-TRANS-DICHLOROETHYLENE	BDL	10
27V. 1, 1, 1-TRICHLOROETHANE	BDL	10
28V. 1, 1, 2-TRICHLOROETHANE	BDL	10
29V. TRICHLOROETHYLENE	BDL	10
30V. TRICHLOROFLUOROMETHANE	BDL	10
31V. VINYL CHLORIDE	BDL	10
1A. 2-CHLOROPHENOL	BDL	25
2A. 2, 4-DICHLOROPHENOL	BDL	25
3A. 2, 4-DIMETHYLPHENOL	BDL	25
4A. 4, 6-DINITRO-O-CRESOL	BDL	250
5A. 2, 4-DINITROPHENOL	BDL	250
6A. 2-NITROPHENOL	BDL	25
7A. 4-NITROPHENOL	BDL	25
8A. P-CHLORO-M-CRESOL	BDL	25
9A. PENTACHLOROPHENOL	BDL	25
10A. PHENOL	BDL	25
11A. 2, 4, 6-TRICHLOROPHENOL	BDL	25
1B. ACENAPHTHENE	BDL	10
2B. ACENAPHTYLENE	BDL	10
3B. ANTHRACENE	BDL	10

BDL= BELOW DETECTION LIMIT

SAMPLE IDENTIFIER: F340
COMPU/CHEM SAMPLE NUMBER: 3603

COMPOUNDS	CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
4B. BENZIDINE	BDL	10
5B. BENZO (A) ANTHRACENE	BDL	10
6B. BENZO (A) PYRENE	BDL	10
7B. 3, 4-BENZOFLUORANTHENE	BDL	10
8B. BENZO (GHI) PERYLENE	BDL	25
9B. BENZO (K) FLUORANTHENE	BDL	10
10B. BIS (2-CHLOROETHOXY) METHANE	BDL	10
11B. BIS (2-CHLOROETHYL) ETHER	BDL	10
12B. BIS (2-CHLOROISOPROPYL) ETHER	BDL	10
13B. BIS (2-ETHYLHEXYL) PHTHALATE	BDL	10
14B. 4-BROMOPHENYL PHENYL ETHER	BDL	10
15B. BUTYL BENZYL PHTHALATE	BDL	10
16B. 2-CHLORONAPHTHALENE	BDL	10
17B. 4-CHLOROPHENYL PHENYL ETHER	BDL	10
18B. CHRYSENE	BDL	10
19B. DIBENZO (A, H) ANTHRACENE	BDL	25
20B. 1, 2-DICHLOROBENZENE	BDL	10
21B. 1, 3-DICHLOROBENZENE	BDL	10
22B. 1, 4-DICHLOROBENZENE	BDL	10
23B. 3, 3'-DICHLOROBENZIDINE	BDL	10
24B. DIETHYL PHTHALATE	BDL	10
25B. DIMETHYL PHTHALATE	BDL	10
26B. DI-N-BUTYL PHTHALATE	BDL	10
27B. 2, 4-DINITROTOLUENE	BDL	10
28B. 2, 6-DINITROTOLUENE	BDL	10
29B. DI-N-OCTYL PHTHALATE	BDL	10
30B. 1, 2-DIPHENYLHYDRAZINE	BDL	10
31B. FLUORANTHENE	BDL	10
32B. FLUORENE	BDL	10
33B. HEXACHLOROBENZENE	BDL	10
34B. HEXACHLOROBUTADIENE	BDL	10
35B. HEXACHLOROCYCLOPENTADIENE	BDL	10
36B. HEXACHLOROETHANE	BDL	10
37B. INDENO (1, 2, 3-CD) PYRENE	BDL	25
38B. ISOPHORONE	BDL	10
39B. NAPHTHALENE	BDL	10
40B. NITROBENZENE	BDL	10
41B. N-NITROSODIMETHYLAMINE	BDL	10
42B. N-NITROSODI-N-PROPYLAMINE	BDL	10
43B. N-NITROSODIPHENYLAMINE	BDL	10
44B. PHENANTHRENE	BDL	10
45B. PYRENE	BDL	10
46B. 1, 2, 4-TRICHLOROBENZENE	BDL	10
1P. ALDRIN	BDL	10
2P. ALPHA-BHC	BDL	10

BDL= BELOW DETECTION LIMIT

SAMPLE IDENTIFIER: F340
COMPU/CHEM SAMPLE NUMBER: 3603

COMPOUNDS	CONCENTRATION (UG/L)	DETECTION LIMIT (UG/L)
3P. BETA-BHC	BDL	10
4P. GAMMA-BHC	BDL	10
5P. DELTA-BHC	BDL	10
6P. CHLORDANE	BDL	10
7P. 4, 4'-DDT	BDL	10
8P. 4, 4'-DDE	BDL	10
9P. 4, 4'-DDD	BDL	10
10P. DIELDRIN	BDL	10
11P. ALPHA-ENDOSULFAN	BDL	10
12P. BETA-ENDOSULFAN	BDL	10
13P. ENDOSULFAN SULFATE	BDL	10
14P. ENDRIN	BDL	10
15P. ENDRIN ALDEHYDE	BDL	10
16P. HEPTACHLOR	BDL	10
17P. HEPTACHLOR EPOXIDE	BDL	10
18P. PCB-1242	BDL	10
19P. PCB-1254	BDL	10
20P. PCB-1221	BDL	10
21P. PCB-1232	BDL	10
22P. PCB-1248	BDL	10
23P. PCB-1260	BDL	10
24P. PCB-10's	BDL	10
25P. TOXAPHENE	BDL	10

REFERENCE: WATER QUALITY CRITERIA 1972
Pg. 188

EPA-R3-73-033-MARCH 1973

CONCENTRATION OF AMMONIA-N WHICH
CONTAINS 0.02 MG/L OF UN-IONIZED
AMMONIA AT THE CORRESPONDING PH
AND 20°C.

CONCENTRATION

(Mg/L)

4.0

3.0

2.0

1.0

7.0

7.4

7.8

8.2

8.6

9.0

PH

AS 4014-84

TO X 10 TO THE EXHIBIT

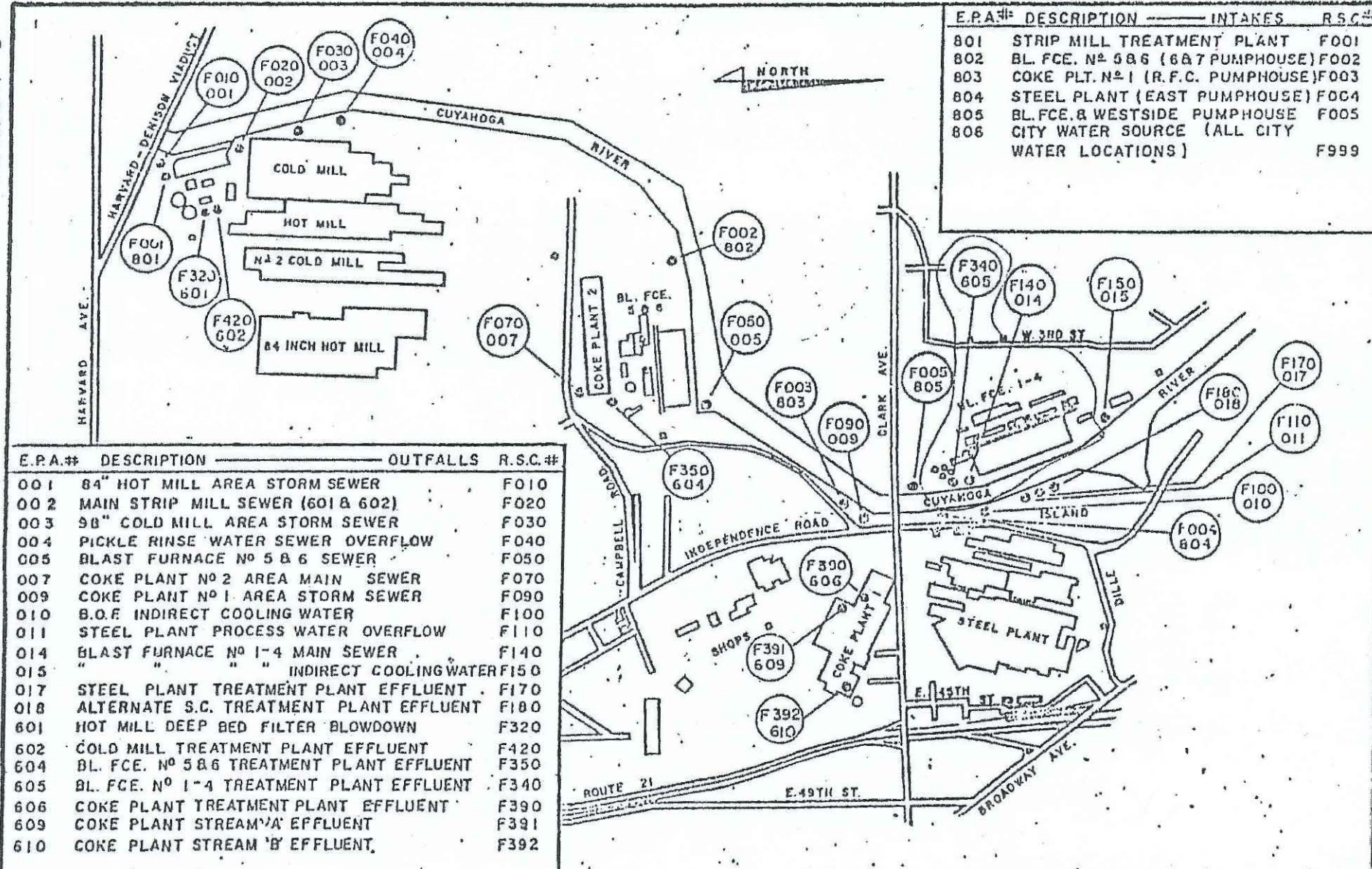
SCALE

CONCENTRATION

1.0

7.0

E.P.A.#	DESCRIPTION	INTAKES	R.S.C.#
801	STRIP MILL TREATMENT PLANT	F001	
802	BL. F.C.E. N° 5 & 6 (6 & 7 PUMPHOUSE)	F002	
803	COKE PLT. N° 1 (R.F.C. PUMPHOUSE)	F003	
804	STEEL PLANT (EAST PUMPHOUSE)	F004	
805	BL. F.C.E. & WESTSIDE PUMPHOUSE	F005	
806	CITY WATER SOURCE (ALL CITY WATER LOCATIONS)	F999	



E.P.A.#	DESCRIPTION	OUTFALLS	R.S.C.#
001	84" HOT MILL AREA STORM SEWER	F010	
002	MAIN STRIP MILL SEWER (601 & 602)	F020	
003	98" COLD MILL AREA STORM SEWER	F030	
004	PICKLE RINSE WATER SEWER OVERFLOW	F040	
005	BLAST FURNACE N° 5 & 6 SEWER	F050	
007	COKE PLANT N° 2 AREA MAIN SEWER	F070	
009	COKE PLANT N° 1 AREA STORM SEWER	F090	
010	B.O.F. INDIRECT COOLING WATER	F100	
011	STEEL PLANT PROCESS WATER OVERFLOW	F110	
014	BLAST FURNACE N° 1-4 MAIN SEWER	F140	
015	" " " " INDIRECT COOLING WATER	F150	
017	STEEL PLANT TREATMENT PLANT EFFLUENT	F170	
018	ALTERNATE S.C. TREATMENT PLANT EFFLUENT	F180	
601	HOT MILL DEEP BED FILTER BLOWDOWN	F320	
602	COLD MILL TREATMENT PLANT EFFLUENT	F420	
604	BL. F.C.E. N° 5 & 6 TREATMENT PLANT EFFLUENT	F350	
605	BL. F.C.E. N° 1-4 TREATMENT PLANT EFFLUENT	F340	
606	COKE PLANT TREATMENT PLANT EFFLUENT	F390	
609	COKE PLANT STREAM 'A' EFFLUENT	F391	
610	COKE PLANT STREAM 'B' EFFLUENT	F392	

REPUBLIC STEEL CORP.
CLEVELAND DISTRICT

SAMPLING & MONITORING STATIONS
NOV. 5, 1975 REV. 8-2-74 GWD

M-1136-B