

ATTACHMENT A

BBFP-50047.G

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June 2, 1986

Mr. Mike Benoit
Cadence Chemical Resources
Box 770
Michigan City, IN 46360

Dear Mr. Benoit:

Campbell & Pryor Associates, Inc. has been instructed to complete a study of the Blast Furnace Gas Utilization by most United States iron making blast furnaces still in operation.

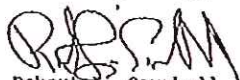
Seven companies and eighteen facilities were surveyed with 100 percent responding. An unweighted average utilization by process is summarized below:

PROCESS UTILIZATION

Stoves	41.33%
Boilers	52.20%
Underfiring coke ovens	2.03%
Reheating furnaces/ soaking pits	1.16%
Internal combustion engines	.25%
Bleeding/flaring	3.03%

Also, by your instruction original findings of this survey have been sent to Mr. Robert Holloway of United States EPA and copies have also been sent to participating companies in appreciation of their participation in this study furnished by Campbell & Pryor, Indianapolis, Indiana.

Yours very truly,


Robert L. Campbell
President

RLC:hg

cc: Ted Reese

Campbell & Pryor Associates, Inc. / Professional Management Consultants
Suite D, Lake Shore Bank Building / Michigan City, IN 46360 / 219/672-0091

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STUDY OF UNITED STATES IRON MAKING BLAST FURNACE GAS UTILIZATION

(Annual Percentage by Location)

COMPANY	LOCATION/ CONTACT	ENG USED IN STOVES	ENG USED IN BOILERS	ENG USED IN UNDER- FIRING CORE Ovens	ENG USED IN SOAKING PITS OR HEATING FURNACES	ENG USED IN INTERNAL COMBUSTION ENGINES	BLASTING OR FLATING	TOTAL
ARCO	P.O. Box 131 Ashland, KY 41105 Mel Smith (606)329-7002	51.5%	47.5%				Less than 1%	100%
	P.O. Box 600 Madison, OH 45043 Don Steiner (513)425-6215	40.0%	54.2%	1%			4.8%	100%
	Corporate Bethlehem, PA 18015 Jim Policelli (215)694-4610	25.0%	59.0%		10%	4%	2.0%	100%
	Plant: Burns Harbor P.O. Box 248 Cresterton, IN 46304 (219)787-3755	35.0%	54.5%	2%	5%		3%	100%
BETHLEHEM STEEL	Plant: Sparrows Pt., MD 21219 Rex Andrews (301)788-4512	33.0%	55.0%	1%	5%		20.1%	100%

ENG - BLAST FURNACE GAS

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COMPANY	LOCATION/ CONTACT	ERG USED IN STOVES	ERG USED IN BOILERS	ERG USED IN UNDER- FIRING CORE OVENS	ERG USED IN SOAKING PITS OR REFRIGERATING FURNACES	ERG USED IN COMBUSTION ENGINES	BLEEDING OR FLAME	TOTALS
U.S. STEEL	Wagner Thompson Works Braddock, PA 15104 Charlie Schmidt (412) 675-7380	40%	58%				2%	100%
	Fairfield Works P.O. Box 599 Fairfield, AL 35064	50%	49%				Less than 1%	100%
	Dino Ramo (412) 825-2532			10%			Less than 1%	100%
	Gary Works Gary, IN 46402	30%	55%				Less than 1%	100%
	P. E. Morrison (219) 944-4500						Less than 1%	100%
	Fairless Works Fairless Hill, PA 15030	35%	64%				Less than 1%	100%
	John Gregory (215) 735-4251						Less than 1%	100%
	Geteva Works P.O. Box 510 Bono, UT 84603	54%	45%				Less than 1%	100%
	Mc. Fadden (801) 227-9785						Less than 1%	100%
	Morrison Plant Morrison, PA 15062	54%	45%				Less than 1%	100%
MIDALIN - PITTSBURGH	T.P. Amorelli (412) 684-4360						5%	9096
	Statenville Pl. Statenville, OR 43952 P.O. Box 111 (614) 282-5000	52%					5%	100%

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COMPANY	LOCATION/ CONTACT	ERG USED IN STOVES	ERG USED IN BOILERS	ERG USED IN UNDER- FIRING CORE Ovens	ERG USED IN SOAKING PITS OR REHEATING FURNACES	ERG USED IN INTERNAL ENGINES	BLEEDING OR FLARING	TOTALS
LTV	(East & West combined) 3341 Jennings Rd. Cleveland, OH 44101 Fred Carrick (216) 429-6941	35.0%	52.0%	7.0%			3.0%	100%
	3001 Dickey E. Ohio, IN 46312 Pete Peronis (219) 391-2136	30.0%	67.0%				3.0%	100%
	1040 Pine Ave S.E. Warren, OH 44481 Mr. Mitchell (216) 841-8761	39.0%	57.0%				4.0%	100%
INLAND STEEL	3210 Matling E. Ohio, IN 46312 Max Sorenson (219) 392-5091	35.0%	53.0%	10.0%			2.0%	100%
	Great Lakes Division P.O. Quality Dr. Ecorse, MI 48229 (Detroit) Mr. Young (313) 297-2702	38.0%	45.2%	1.8%			15.2%	100%
NATIONAL STEEL CORP.	2011 E. Madison Grandt St. Grandt St. Grandt St. Grandt St. (616) 451-2972	38.6%	57.2%				2.7%	100%

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June 2, 1986

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Mr. Robert Malloway
Waste Combustion Program
Waste Management &
Economic Division
Office of Solid Waste
WH-565A
U.S. EPA
401 M Street S. W
Washington D.C. 20460

Campbell & Pryor Associates, Inc. has been instructed to complete a study of the Blast Furnace Gas Utilization by ~~the~~ United States iron making blast furnaces still in operation.

Seven companies and eighteen facilities were surveyed with ~~the~~ best responding. An unweighted average utilization by process is summarized below:

PROCESS UTILIZATION

Stoves	41.1%
Boilers	5.1%
Underfiring coke ovens	2.0%
Reheating furnaces	1.0%
Soaking pits	1.0%
Internal combustion engines	1.0%
Blasting electric	1.0%

Copies have been sent to participating companies for review of their participation in this study furnished by Campbell & Pryor Associates, Inc.

Yours very truly,


Robert Malloway
Director

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LOCATION	CONTRACT	PERCENT USED IN STOVES	PERCENT USED IN BOILERS	PERCENT USED IN UNDER-FIRING COKE OVENS	PERCENT USED IN SOAKING PITS OR REHEATING FURNACES	PERCENT USED IN INTERNAL COMBUSTION ENGINES	PERCENT BLEEDING OR FLARING	TOTALS
1	1	100	100	100	100	100	100	100
2	2	100	100	100	100	100	100	100
3	3	100	100	100	100	100	100	100
4	4	100	100	100	100	100	100	100
5	5	100	100	100	100	100	100	100
6	6	100	100	100	100	100	100	100
7	7	100	100	100	100	100	100	100
8	8	100	100	100	100	100	100	100
9	9	100	100	100	100	100	100	100
10	10	100	100	100	100	100	100	100
11	11	100	100	100	100	100	100	100
12	12	100	100	100	100	100	100	100
13	13	100	100	100	100	100	100	100
14	14	100	100	100	100	100	100	100
15	15	100	100	100	100	100	100	100
16	16	100	100	100	100	100	100	100
17	17	100	100	100	100	100	100	100
18	18	100	100	100	100	100	100	100
19	19	100	100	100	100	100	100	100
20	20	100	100	100	100	100	100	100
21	21	100	100	100	100	100	100	100
22	22	100	100	100	100	100	100	100
23	23	100	100	100	100	100	100	100
24	24	100	100	100	100	100	100	100
25	25	100	100	100	100	100	100	100
26	26	100	100	100	100	100	100	100
27	27	100	100	100	100	100	100	100
28	28	100	100	100	100	100	100	100
29	29	100	100	100	100	100	100	100
30	30	100	100	100	100	100	100	100
31	31	100	100	100	100	100	100	100
32	32	100	100	100	100	100	100	100
33	33	100	100	100	100	100	100	100
34	34	100	100	100	100	100	100	100
35	35	100	100	100	100	100	100	100
36	36	100	100	100	100	100	100	100
37	37	100	100	100	100	100	100	100
38	38	100	100	100	100	100	100	100
39	39	100	100	100	100	100	100	100
40	40	100	100	100	100	100	100	100
41	41	100	100	100	100	100	100	100
42	42	100	100	100	100	100	100	100
43	43	100	100	100	100	100	100	100
44	44	100	100	100	100	100	100	100
45	45	100	100	100	100	100	100	100
46	46	100	100	100	100	100	100	100
47	47	100	100	100	100	100	100	100
48	48	100	100	100	100	100	100	100
49	49	100	100	100	100	100	100	100
50	50	100	100	100	100	100	100	100
51	51	100	100	100	100	100	100	100
52	52	100	100	100	100	100	100	100
53	53	100	100	100	100	100	100	100
54	54	100	100	100	100	100	100	100
55	55	100	100	100	100	100	100	100
56	56	100	100	100	100	100	100	100
57	57	100	100	100	100	100	100	100
58	58	100	100	100	100	100	100	100
59	59	100	100	100	100	100	100	100
60	60	100	100	100	100	100	100	100
61	61	100	100	100	100	100	100	100
62	62	100	100	100	100	100	100	100
63	63	100	100	100	100	100	100	100
64	64	100	100	100	100	100	100	100
65	65	100	100	100	100	100	100	100
66	66	100	100	100	100	100	100	100
67	67	100	100	100	100	100	100	100
68	68	100	100	100	100	100	100	100
69	69	100	100	100	100	100	100	100
70	70	100	100	100	100	100	100	100
71	71	100	100	100	100	100	100	100
72	72	100	100	100	100	100	100	100
73	73	100	100	100	100	100	100	100
74	74	100	100	100	100	100	100	100
75	75	100	100	100	100	100	100	100
76	76	100	100	100	100	100	100	100
77	77	100	100	100	100	100	100	100
78	78	100	100	100	100	100	100	100
79	79	100	100	100	100	100	100	100
80	80	100	100	100	100	100	100	100
81	81	100	100	100	100	100	100	100
82	82	100	100	100	100	100	100	100
83	83	100	100	100	100	100	100	100
84	84	100	100	100	100	100	100	100
85	85	100	100	100	100	100	100	100
86	86	100	100	100	100	100	100	100
87	87	100	100	100	100	100	100	100
88	88	100	100	100	100	100	100	100
89	89	100	100	100	100	100	100	100
90	90	100	100	100	100	100	100	100
91	91	100	100	100	100	100	100	100
92	92	100	100	100	100	100	100	100
93	93	100	100	100	100	100	100	100
94	94	100	100	100	100	100	100	100
95	95	100	100	100	100	100	100	100
96	96	100	100	100	100	100	100	100
97	97	100	100	100	100	100	100	100
98	98	100	100	100	100	100	100	100
99	99	100	100	100	100	100	100	100
100	100	100	100	100	100	100	100	100

STUDY OF UNITED STATES IRON MAKING PLANT FURNACE GAS UTILIZATION
(Annual Percentage by Location)

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	EFG USED IN STOVES	EFG USED IN BOILERS	EFG USED IN UNDER- FIRING COKE OVENS	EFG USED IN SOAKING PITS OR HEATING FURNACES	EFG USED IN INTERNAL ENGINES	BLEEDING OR FLARING	TOTALS
100% used Internal engines and boilers	35.0%	55.0%	7.0%			3.0%	100%
100% used in boilers	30.0%	67.0%				3.0%	100%
100% used in internal engines	3.0%	57.0%				4.0%	100%
100% used in internal engines	3.0%	53.0%	10.0%			2.0%	100%
100% used in internal engines						15.2%	100%
100% used in internal engines						4.2%	100%