

Ford Motor Company

Intra-Company Communication

CONFIDENTIAL

April 15, 1957

Mr. F. J. MacNaughton, Manager
Blast Furnaces and Coke Ovens

Re: Periodic Survey - Blast Furnace Areas

During March and April the writer has reviewed all Blast Furnace areas from an industrial hygiene view point. Illumination, sanitation, dust, gas and noise were evaluated. Attached are detailed data sheets showing results obtained.

Summary and Recommendations

1. Wash, toilet and locker areas were generally good. A few specific comments are shown in the attached laboratory report. Mainly, slant tops are needed on lockers.
2. Illumination levels are fair. Admittedly the type of work carried on does not require precise measuring. Some improvement to a minimum of 10 foot-candles in specific work areas is needed.
3. Noise levels measured last fall show one area where protection is needed. This is at the Sintering Plant coal car vibrating station.
4. Dust-wise the Sinter Plant is a troublesome area. The first floor west end is very poorly ventilated, and a dust hazard exists here. This area has previously been reported, and no remedial action has been taken.
5. Carbon monoxide in the Blast Furnace area is a continuing problem. The present alarm system and use of air sampling equipment before doing extensive maintenance work helps keep this problem in control. Such preventive measures should be continued in effect.

This office would appreciate hearing through your routine channels any action taken or planned on items 1 through 5 within the next month.

Discussion

Wash, Toilet, Locker Areas: In all Blast Furnace locker rooms and the one at Hi-Line 97 the lockers are of the flat top variety. It has been found that 45° slant top lockers are much easier to keep clean, and such tops minimize the collection of assorted odds and ends on locker tops. This condition should be corrected.

A000012

SCF-FORD-0185

April 15, 1957

The shower walls in the foreman's locker room and the B Furnace shower room are very dirty. These should be cleaned. In the B Furnace wash area above the managers office both water pressure and temperature seem to be a problem. It is recommended that these conditions be checked and corrected if possible.

Illumination Levels: Most Blast Furnace and Sinter Plant operations do not require precise seeing when compared to a tool shop or the like. However, a minimum of 10 foot-candles is felt to be desirable in areas of weighing, gauging and the like. In addition, wash, locker, lunch and toilet areas should be kept at 5 foot-candles. The ship hoist load and unload areas and the foreman's locker room both need improvement in this area.

Noise: The only high noise level obtained is in the car shaker operation alongside the Sinter Plant where coal cars are emptied. The operators of this operation should wear ear plugs and have a routine audiometric examination.

Dust: In regular production areas of the Blast Furnace dust is not found to be excessive. In the Sinter Plant, however, the area at the west end of the building on the first floor is one of the dustiest ever found in Ford operations. Obviously all men in this plant should wear approved dust respirators and have annual chest x-rays. This one area creates dust which carries to many other parts of this building. The review of ventilation in this plant made last August pointed out this area specifically as a poor one. It is impossible for this office to understand why no correction in this area has been made. Obviously the correction of the inadequate ventilation is in order.

Carbon Monoxide: This office along with your electrical department weekly keep the various carbon monoxide alarms in adjustment. This program should be continued. In addition, through the training of your personnel this office is called to be present when valves are changed or the like. At those times a check of carbon monoxide leakage is made. This type of program works very well. It should be continued in effect.

J. C. Radcliffe
J. C. Radcliffe, Supervisor
Industrial Hygiene Unit
Medical Section

Mrs. N. E. Rothenthaler
R. Laux
W. Wotherspoon
G. Holmes
E. A. Irvin, M.D.
R. T. Ross
D. L. Block, M.D.

A000013

DATA SHEET

Sanitary Facilities Blast Furnaces

Location	Toilets	Urinals	Showers	Lockers	Wash Basins	Bradley	Powdered Soap	Paper Towels
Blast Furnace C - Down	3	2	5	122*		1	OK	OK
Blast Furnace B	3**	2	4***	50*		1***	OK	OK
Foremen B	2	1	1***	22*	2		OK	OK
Blast Furnace A - North	3	2				1	OK	OK
Blast Furnace A - South	1	1	3	71*		1	OK	OK
Sinter Plant	2	1	3	89	2	1	OK	OK
H1-Line 52	3	2	6	190		1	OK	OK
H1-Line 97	2	2	4	131*		1	OK	OK
H1-Line 135	3	2				1	OK	OK
East Boat Dock	3	3	3	64		1	OK	OK

NOTE:

* no slant top on lockers.

** very poor water pressure for flushing.

*** shower walls very dirty, Onox foot pad dirty.

**** only cold water available here, and water is constantly leaking.

Illumination Levels Blast Furnaces

Location	Results in Foot-Candles
C Furnace - Locker Room and Toilets	18-26
C Furnace - Main Floor	0-4
C Furnace - At Guages, etc.	2-10
Locker Room over Managers Office	2-10
B Furnace - Main Floor	2-5
B Furnace - At Guages, etc.	10
B Furnace - Toilet Room	2-10
Supervisors Locker and Toilet Room	2-7
A Furnace - Main Floor	2-5
A Furnace - At Guages, etc.	10
A Furnace - Locker Room and Toilets	2-10
H1-Line - Toilet Area	2-10
Skip Hoist Loaders Under H1-Line	0-2
Sinter Plant - Main Belt Floor	0-7
Sinter Plant - On Belt Return Loaders	0-3
Ground Level Floor Sinter Plant	0-5
Lockers for Sinter Plant	5-12
Various Enclosed Conveyors Sinter to Blast	0-2

A000014

Over-All Noise Readings
Blast Furnace Area

	Location	Results in Decibels
Hi-Line Area	#116 to north end	75-80
Hi-Line Area	Vibrators screening coal at C Blast Furnace	101
C Blast Furnace	Ground Floor - Air intake - Intermittent Blow off	110 100
	2nd Floor	85-95
B Blast Furnace	Ground Floor	90-95
	2nd Floor	85-95
A Blast Furnace	Ground Floor	88-92
	2nd Floor	85-95
Sintering Plant	1st Floor	90-3
	2nd Floor	91-92
	3rd Floor	92-3
Vibrator Coal fines unloading	1st Floor	110

NOTE: *Octave Band Analysis
**Occasional noise sources

Location	Over-all	Frequency in Cycles Per Second								4800-10KC
		20-75	75-150	150-300	300-600	600-1200	1200-2400	2400-4800		
Sintering Plant Coal Car Vibrator	110	100	102	106	103	102	102	101	96	
#150 Hi-Line Coal Screen Vibrator C Blast Furnace	96	84	81	85	90	90	90	88	78	
Prop Tentative Maximum Goal	110	102	96	94	94	94	94	94	94	

A000015

Dust Concentrations
Blast Furnace and Sinter Plant

Sample No.	Location of Sampling	Results in MPPCF
1	Loading Weigh Cars under Hi-Line	5.2
2	Loading Weigh Cars under Hi-Line	4.0
3	Conveyor for Sinter from Sinter Plant - to Hi-Line	83.2
4	Along Sintering Machine Aisles	4.6
5	Along side Pug Mill Area	16.4
6	Floor level of Return Sinter Belt - especially discharge end	37.0
7	West end of plant at Ground Floor	77.8
8	Platform level above sample No. 7	33.6

*MPPCF means million dust particles per cubic foot of air.

NOTE: The State of Michigan allows for iron oxide dust an eight-hour exposure to 50.0 MPPCF.

A000016