

# what they are doing

Restrictions of Factories and Works to special areas.

It is very desirable in a Town Plan that the position of these should be fixed and the people should not be allowed to place them where they like.

There will nearly always be natural places in a district which will be suitable for factories and workshops. Contiguity to the railway, easy gradients to same, and the position of the rivers, canals and streams should govern this in most cases.

It is usually accepted as an established fact that factories are unsightly, with untidy and dirty surroundings, but in many places, particularly in Bourneville in England, the headquarters of Cadbury's Factory, the reverse is the case. The whole of the surroundings of the factory, and the workers' houses adjoining are laid out on garden city lines, and is a model of what can be done to make a factory district more amenable than is generally the case.

## INCINERATOR AT MOOSE JAW, SASK.

### Official Tests

Date of test.....	25th & 26th July	31st July
Duration of test.....	24 hours	8 hours
Grate area.....	90 sq. ft.	90 sq. ft.
Heating surface of boiler.....	1700 sq. ft.	1700 sq. ft.
Ratio of heating surface of boiler to grate area.....	18.8:1	18.4:1
Average steam pressure.....	125 lbs sq. in.	134.4 lbs. sq. in.
Average temperature of feed water.....	45° F.	45° F.
Average temperature of combustion chamber.....	1750° F.	1822° F.
Highest temperature of combustion chamber.....	2000° F.	2060° F.
Lowest temperature of combustion chamber.....	1400° F.	1600° F.
Weight of refuse burned.....	53.51 tons	14.16 tons
Weight of residual clinker.....	11.625 tons	2.85 tons
Percentage of clinker.....	21.73%	20.1%
Refuse burned per hour.....	2.23 tons	1.72 tons.
Refuse burned per square foot grate area (per hour).....	49.6 lbs.	39.3 lbs.
Total weight of water fed to boiler.....	59,700 lbs.	31,845 lbs.
Equivalent weight of water from and at 212° F. fed to boiler.....	*72,655 lbs.	42,562 lbs.
Water evaporated per hour.....	*2,487 lbs.	3,891 lbs.
Equivalent water evaporated from and at 212° F. per hour.....	*3,027 lbs.	5,445 lbs.
Horse power developed (34½ lbs. water evaporated per hour into Steam from and at 212° F. 1 Horse Power.).....	*97.6 H.P.	157.8 H.P.
Water evaporated per lb. of refuse.....	*56 lbs.	1,125 lbs.
Water evaporated from and at 212° F. per lb. of refuse.....	*68 lbs.	1,368 lbs.
Cost per H.P. per hour.....	*1.154 cents	.77 cents.
Cost per ton of refuse destroyed.....	51.8 cents	68.8 cents.
Actual amount of steam available for power per lb. of refuse.....	*44 lbs.	.97 lbs.
Analysis of gases.....	CO <sub>2</sub> CO O N	CO <sub>2</sub> CO O N
(Average percentages).....	8.4 .1 3.5 86.2	10.2 1.6 3.4 86.6

\*The low evaporation per pound of refuse burned is accounted for by the fact that the safety valves were unable to carry away all the steam generated. The door of the first compartment of the boiler being kept open the greater portion of the first test, allowing cold air to rush in and cool down the gases. During this test the steam rose considerably above blowing off pressure, so this was done to avoid any danger caused by an excess pressure being generated on the boiler. Provision was made to carry away the excess steam generated and a second test was carried out to determine the evaporation per pound of refuse.



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