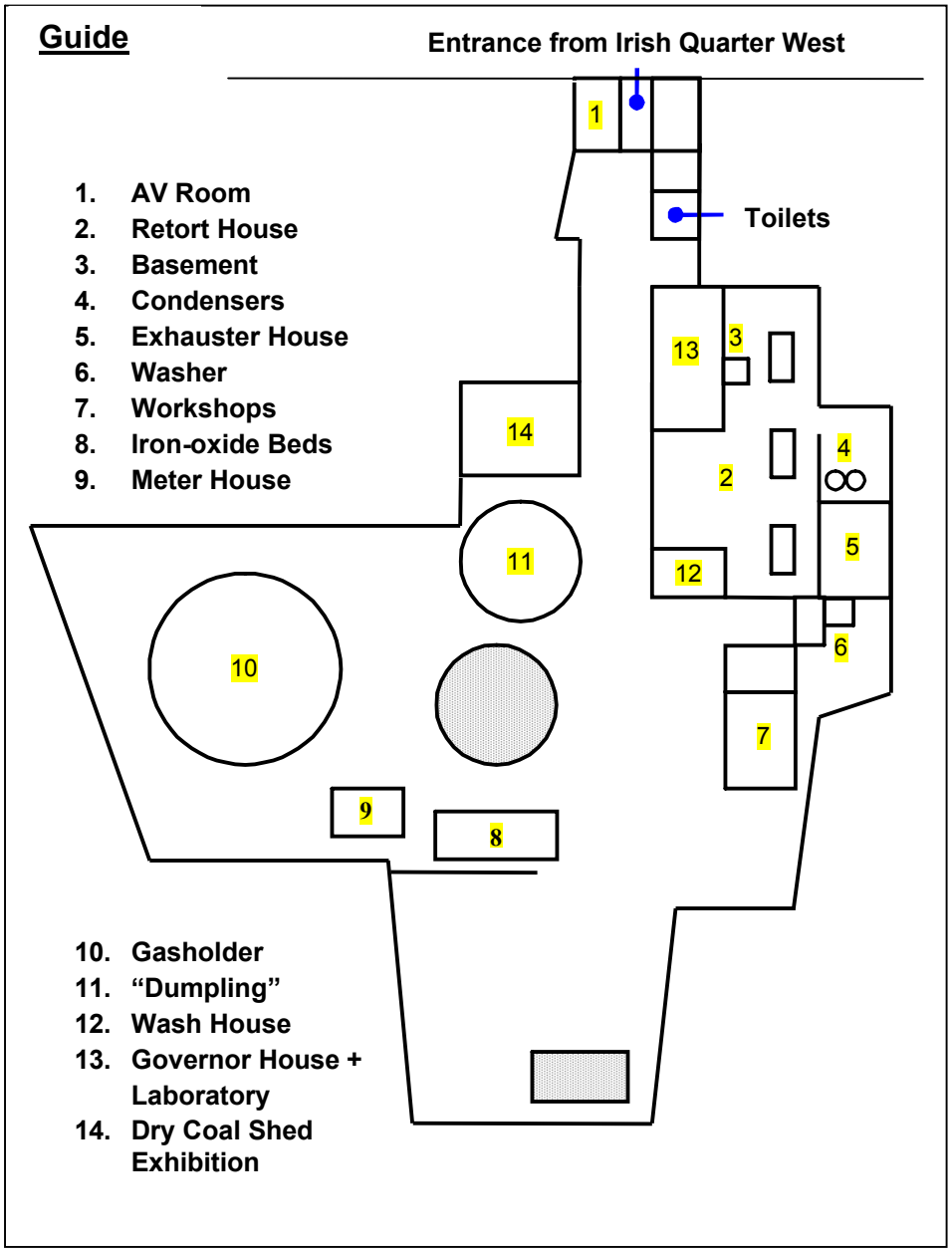
Guide



1. AV Room
2. Retort House
3. Basement
4. Condensers
5. Exhauster House
6. Washer
7. Workshops
8. Iron-oxide Beds
9. Meter House
10. Gasholder
11. "Dumpling"
12. Wash House
13. Governor House + Laboratory
14. Dry Coal Shed Exhibition

FLAME

THE GASWORKS MUSEUM OF IRELAND

REGISTERED MUSEUM

Welcome to this unique Museum which demonstrates an important aspect of Irish social and industrial history. This coal gasworks is now the only one in Ireland and one of only three remaining in the British Isles. It is reputedly the largest surviving one in Europe.

The tour is self guided and these short notes highlight the most important stops on this journey into our past.

We hope you enjoy your visit. If so please tell others, if not please let us know as we continually aim to improve our visitors' experience.

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1 - The front room contains a short audio-visual display showing how coal-gas was manufactured.

2 - The retort house contains a total of 36 horizontal retorts in three beds, heated by a furnace in the basement. Inside the airtight retorts, coal was cooked at temperatures of up to 1200^{o}C to produce gas. Some of the retorts are open, with the coal ready now for cooking. It would be turned into coke by the end of the process, which took about 6 – 7 hours. The gas produced contained contaminants which had to be removed – tar, ammonia and hydrogen sulphide. It rose up through the vertical pipes to the hydraulic main (the large horizontal cylinder above the retort bed). This was full of water causing some of the tar to condense and run off into the grey cylinders to the left of the retorts.

3 - Meet the stoker in the basement. Some of the coke which was left after the coal had been baked was used a fuel for these furnaces.

4 - Follow the walkway. On your left look in and see the complicated construction inside a retort bed, rather like a honeycomb, to allow the heat to circulate around each individual oven. Outside, two large cylinders on your right are condensers. The gas passed through these to cool; most of the tar was condensed out of the gas here. The tar was sold to a company called Tennants, who used it for road surfacing and for water-proofing roofs.

5 - The next building is the exhauster room, where pumps drew the gas from the retorts and pushed it forward to the gasholder. The cylindrical plant built through the wall is the scrubber in which the remaining tar was removed from the gas. It consisted of a series of brushes, rotating in water, which “scrubbed” the gas to remove the last of the tar.

6 - Outside, on the walkway, the square box is a Livesey Washer. This was full of water with the gas bubbling through it to remove the ammonia. The ammonia was sold to make fertilizer. Just beyond is the main part of the scrubber which you saw inside the exhauster room. Note the complicated equipment. On your left you can see the gas main heading off round the remainder of the site.

7 - The building you have just walked through and the one on your left are the workshops. In a small gasworks like this, much of the repair work and maintenance both to the gasworks, and the pipes in the street distributing the gas, was carried out by the employees.

8 - The building with the four large square metal boxes is the final stage in the cleaning process. These are the iron-oxide beds. The gas passed through them and the hydrogen sulphide (“rotten eggs” smell) was removed chemically. Every so often the iron-oxide was removed and spread out under the covered area to regenerate in the air. This released the hydrogen sulphide into the atmosphere giving the characteristic smell of a gasworks. This was better than having the house stinking of rotten eggs!

9 - The amount of gas produced and used was measured in the meter house.

10 - Finally the gas flowed into the gasholder. This was a storage facility for the gas, acting as a holding area between the production process you have just seen, and the consumer. This holder, which holds 200,000 cu.ft of gas, was completed in 1949 and was the last gasholder to be built in Ireland. The bottom section was, and still is, full of water, to act as a seal. Within this section are two inner cylinders. The first 100,000 cu.ft of gas fills the innermost cylinder, after which the next is filled. You can climb up to the walkway, but you are advised not to if you suffer from vertigo. Note - Accompanied children only please – this is a safety requirement!

11 - Walk to the centre “dumpling” of the second gasholder built in 1895. This pit would also have been filled with water to act as a seal for the metal holder above it and which held 40,000 cu.ft of gas. The circle, looking towards the iron-oxide beds, was the site of the first gasholder built in 1855. It had a capacity of 20,000 cu.ft.

12 - Conditions for employees were gradually improved. This wash house was built in 1946. Enter at your peril!

13 - The Governor House was where the gas pressure in the mains was controlled. A small laboratory was also used to test the gas quality.

14 - The dry coal shed houses our appliance collection. It has a Belfast roof, locally designed and built, which was cheap and easy to construct.