

## Excursion to the Lion Salt Works and the Salt Museum, Northwich

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JONES, G. (1983). Excursion to the Lion Salt Works and the Salt Museum, Northwich. *Proceedings of the Shropshire Geological Society*, **3**, 18-19. The field excursion to the Lion Salt Works and the Salt Museum, Northwich, was to gain an insight to the salt production process.

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On Sunday 22<sup>nd</sup> May 1983, about 40 members and guests gathered at the Lion Salt Works for a conducted tour and followed this by a visit to the nearby Salt Museum at Northwich.

The whole area around Northwich has been the centre of the salt industry since Roman times, though production methods have changed over the years. The Lion Salt Works still obtains its salt as it did at its opening in 1842.

Underground brine is formed in natural runs by the seepage of groundwater into the salt beds; the natural or "wild" brine is pumped from a depth of between 200 and 400 feet ready for introduction into the salt pans at the beginning of the production process.

The salt pans are large rectangular pans measuring about 50 feet by 20 feet, holding about 1000 gallons of brine. The pan is heated by fires underneath, now using recycled oil but until recently using coal.

Prior to the introduction of the brine to the pan it is coated with a lime solution which stops the salt from sticking too firmly to the base of the pan.

The brine is brought to the boil, causing evaporation and the consequent formation of salt on the surface of the brine. The salt is scraped off the surface to the sides of the pan and transferred into tubs which allow excess moisture to drain away.

The salt is transferred to the drying room through which run horizontal flues from the fires under the pan. The warmth completes the drying process. To enable the retention of a fairly high temperature of about 100°F, the room has a low ceiling of about 6 feet; the dried salt is hoisted through the ceiling to the room above which is used to pack and prepare the salt for dispatch.

The timber in the drying room is rather well preserved, having been pickled by long exposure

to the salty atmosphere, giving the wood an almost furry appearance.

At the cessation of heating of the pan, the formation of salt crystals begins, the crystals being formed more gradually than in the first instance because of the loss of heat as the pan cools. The crystal salt is well favoured for culinary purposes because of its natural production free from any additives.

Our tour of the works enabled us to see a living museum retaining all the trappings of history even down to the original steam pump (now electrically driven for exhibition purposes) and its original boiler, and a magnificent smithy containing the paraphernalia necessary to keep the works in full production.

From the Salt Works it is a short journey to the Salt Museum. Here an excellent Audio Visual slide show gave an informative view of the total history of salt production in the area and the problems caused.

The removal of salt by pumping of natural brine has caused subsidence to occur over a wide but varied area, the sudden collapses causing the formation of flashes or lakes, and the equally sudden collapses of houses and buildings. The problem was so widespread that the provision of wooden framed buildings, which could be jacked up as they sank, was considered essential.

Mining is now carried out in a controlled form, as is the production of brine, so the subsidence is no longer a real problem.

The exhibition proper gives a well illustrated insight to the salt production process from all aspects with much old equipment on view together with models and photographs.

With both the Salt Works and the Salt Museum, the trip was thoroughly enjoyed by all, even if the Geological Society rain cloud also attended the meeting.

**Salt from the Earth**

First of all the brine they pump  
From its deep and earthly sump  
Next the brine they do warm  
Till the salt begins to form  
The salt that they therefore gain  
Is gathered up and left to drain  
Then it's into the drying rooms  
Where it's dried by the fire's fumes  
When it can then be no drier  
It's bagged and sent off to the buyer.

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