

## Salt Production in the Emblems of German Heraldry.

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A research on German civic coat of arms showing emblems of mining, metallurgy, mineral- and energy production plus the utilization of their products results in 1002 coat of arms from 973 e.g. towns and municipalities. More than hundred of them with their emblems are belonging to salt and salt production. A short review about these emblems is given including information to some special coat of arms.

### 1. A SHORT VIEW ON THE HISTORY OF GERMAN SALT PRODUCTION

Germany has a long history in producing salt and shows important influence on the techniques of salt extraction. In the millennium BC the Celts win salt in several German districts. 58 Caesar reports the salt war between German tribes located to rivers in Mid-Germany. 696 the salt pans of Reichenhall are the first named in the world. 1086 the salt bearing district of Werl (Nordrhein-Westfalen) with its importance for Germany and Europe is chosen for a „Reichstag“ by Kaiser Konrad II. 1112 monks start underground salt mining by a drift near Marktschellenberg (Bavaria). Later German salt graduation methods are exemplary for Europe. One of the first books about salt production, the „Salt Bible“, is written by the German priest Johannes Rhenanus. 1730 the first deep shaft (147 m) is sunk to reach brine. 1851 the Prussian Government starts shaft sinking at Staßfurt to enlarge salt production. The discovering of potash salt with this shafts and the knowledge of potassium influence on plant growing opens a rapidly widening new field of using the salt deposits. Following the importance of salt production with its wealth for the neighbourhood people these towns, later municipalities, are granted emblems of salt production for their seals, later for their coat of arms.

### 2. A SHORT HISTORY OF HERALDRY IN GERMANY

During the 11<sup>th</sup> and 12<sup>th</sup> century blacksmiths im-

prove armour and helmets of the knights that perfect, that the men under the armour can not be longer identified, needed as well for friends and enemies. Signs on helmets and shields give the identification back. They are preferably chosen like the personal seals, granted that time to knights and towns. Heraldry, named first between 1356 and 1395, become responsible for the at first free chosen signs, these concentrating now on the shield under the name „coat of arms“. The oldest known German seal of a town is that of Cologne, dated between 1114 and 1119, to the oldest German coat of arms of a town is that of Memmingen, dated 1230. At this time the coat of arms are granted by the Kaiser or the territorial ruler.

### 3. EMBLEMS CONNECTED WITH SALT IN GERMAN SEALS AND COAT OF ARMS

Towns and municipalities are granted with or choose the following emblems to show their depending on salt or their connection with salt:

Blue waves (for the brine), bells, brine pans, wooden brine pipelines, derricks, draw wells, drill-holes, fountains, graduation installations, gear wheels, head frames, horses carrying salt sacks, miners lamps, pulleys, retorts, safety lamps, salt asters, salt barrels, salt baskets, salt blocks, salt buckets, salt crystals, salt hooks, salt sacks, salt scrapers, salt shovels, salt stars, steam engine houses, the planet sign of salt, well houses, wells and the miners emblem „Schlägel und Eisen“.

#### 4. THE OLDEST GERMAN SEALS AND COAT OF ARMS BASED ON SALT AND THE WIDENING OF GRANTING COAT OF ARMS

Emblems belonging to salt are granted very early in the history of seals and coat of arms, as follows.

The seals later get used as coat of arms:

Granted seals are

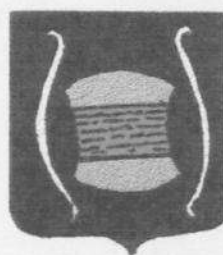
1252	Sulz
	salt hooks
1289	Bad Sülze
	salt asters and waves
1336	Groß-Salze
	a salt block in a basket
1375	Bad Salzuflen
	a draw well
1392	Bad Salzdetfurth
	two salt workers holding wooden shovels and the coat of arms, emblems three salt hooks
1445	Bad Salzheimendorf
	crossed salt hooks
1450	Suhl
	crossed picks (ore mining is the main subject in town)
1451	Salzderhelden
	a golden salt-pan, inside two salt handles
1471	Bad Homburg
	crossed salt scrapers
1554	Bad Sooden-Allendorf
	crossed pan hook and „Berlaff“ (used to clean the inner side of the pan)
Coat of arms are granted to	
1854	Salzgitter
	crossed salt hooks (Berlaffs?)
1855	Bad Nauheim
	nine salt crystals under a fountain
1868	Bad Kösen
	a filled salt basket.

Up to 1800 there are granted 12 seals belonging to salt, 1800 to 1900 it are 6 seals and coat of arms, 1900 to 1950 it are 15 coat of arms.

The majority of German coat of arms with emblems belonging to salt production is granted in the second

decade of the 20<sup>th</sup> century, the last known Schlägel und Eisen 1996 to Rehungen, a village with a potash mine, still in backfill now for the pillars were too much weakened during mining in GDR time.

#### 5. THE HISTORY OF GERMAN SALT PRODUCTION SHOWN BY EMBLEMS IN SEALS AND COAT OF ARMS (EXAMPLES)



1252 (?) Sulz is granted its seal showing two salt hooks, later taken for the coat of arms

- 790 villa publica Sulza is named
- 1252 brine of 2-3% NaCl is boiled in 14 huts
- 1284 town rights are granted
- 1570 salt graduation over straw scaffolds improves the output
- 1840 salt production reaches its peak with 1000 t/year
- 1924 salt production ends
- 1999 brine is still in use for a swimming pool



1289 Bad Sülze is granted a seal bearing salt asters and waves (for the brine), later taken for the coat of arms with the waves coloured blue and silver, the asters green

- 1229 documents name salt production by peat
- 1257 town rights are granted
- 1827 a bath opens using the brine
- 1850 salt production reaches its maximum with 4500 t/year; a 1200 m thorn bush graduation works enrich the brine with a salt content of 5%
- 1906 salt production ends due to cheaper salt from the mines

1927 the title Bad Sülze shows the now dominant use of brine

1999 a clinic uses local brine and moor



**1336 Groß-Salze is granted a seal with a block of salt in a basket, this in gold in the later coat of arms**

1170 the salt spring belongs to the monastery Zinna

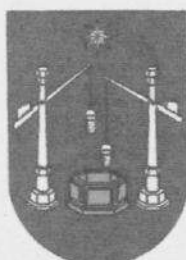
1291 town rights are granted

1423 salt production has risen to between 4500 and 6000 t/year from the brine of 6–9% salt content

1705 Prussia builds in nearby Schönebeck large saltworks meaning the end of salt production in Groß-Salze 1797

1802 Dr. Tolberg opens a brine bath, probably the first in the world; he is the founder of brine medicine; the bath finds great success

1999 the brine clinic Dr. Tolberg still exists



**1375 Bad Salzuflen is granted a seal with a draw well, the later coat of arms showing golden buckets on silver pumps over a read well**

1048 „locus salis in uflon“ is a gift to the Abdinghof monastery

1488 town rights are granted; a „Sälzer Kollegium“ of residents holds the 188 share certificates of the 12 boiling huts concentrating the 9% brine

1591 the last lead pans in Germany are in use; 500 t of salt is the output in average per year

1766 introduction of graduation and iron pans enlarge production to 1400 t/year

1818 the first 5 brine bathes are used by 1025 people

1914 town rights are granted; 20 000 people visit the bath

1945 salt production ends

1994 ten salt bearing wells from a depth up to 1300 m supply the spa with brine and health water



**1392 Bad Salzdetfurth is granted a seal with two salt workers, holding a wooden shovel in the outer hand and the coat of arms bearing three salt hooks in the other hand; the seal in whole is later taken as coat the red shield**

1192 the salt works boiling in 20 huts a 7% brine from three wells belong to the bishop of Hildesheim

1392 town rights are granted; the guild of salt-pan owners selects the council and the mayor, this up to the middle 19<sup>th</sup> century; salt is sold south to the Danubian river

1746 thorn bush graduation brings the production to more than 1600 t/year

1857 use of brine for medicine baths starts

1892 potassium salt is found in 800 m depth by drilling

1914 the third shaft with a depth of 832 m is finished to mine the up to 40 m thick potassium seam; the output is about 410 t/day; Mg and Br salts are manufactured

1928 a spa opens; production of boiled salt still reaches 2000 t/year

1948 salt boiling ends

1952 the mine has an output of 1 million t/year

1986 the output reaches 2,1 million tons with 905 employees; HD technique has taken place

1992 mining potassium salt ends for lack of sales

1999 Bad Salzdetfurth is a spa



**1451 Salzderhelden is granted a seal with a salt-pan, inside two salt handles, steam blowing up; the later coat of arms gets gold for the pan and blue-white steam clouds**

1173 salt springs with 3% salt content are found and soon 13 boiling huts are producing salt

1586 a water driven pump replaces men from carrying brine out of the 7 m deep shaft

1750 around a 360 m long graduation work brings salt production to about 800 t/year

1870 drill holes find concentrated brine; 9 pans of 475 m<sup>2</sup> surface boil more than 4000 t salt/year



- 1911 two shafts with a depth of 927 m and 957 m mine a potassium salt seam of 2–8 m thickness and a rock salt seam of 16 m thickness  
 1924 the mine has 410 employees, last daily production about 600 t; mining ends for lack of sales  
 1948 there are still producing 15 boiling huts  
 1960 salt production ends; a brine bath is opened



**1471 Bad Homburg is granted a seal with crossed salt scrapers, 1908 taken to the coat of arms coloured in silver**

- 773 salt production is recorded  
 1600 around a graduation work enriches the just 1% salt containing brine  
 1681–1685 the salt works are re-built with 9 straw graduation works and 3 salt-pans; water-driven pumps haul the brine out of the 15 m deep shafts; salt production reaches 25–35 t/year, not enough for an efficient production; so production ends 1739  
 1809 a salt spring is rediscovered; Homburg is built to a „world spa“ with a famous casino  
 1999 Bad Homburg is a well known brine spa



**1554 Sooden (today Bad Sooden-Allendorf) is granted a seal with a crossed „Berlauff“ (wooden instrument to scratch the salt from the sides of the pan) and a salt hook; 1931 this emblem is taken to the coat of arms**

- 58 Caesar reports about a salt war between German tribes which some historians locate here  
 776 Kaiser Karl der Große devotes the salt springs and salt works to the monastery of Fulda  
 1489/91 the 42 huts boil the brine with a salt content of 5%, hauled out of a 7 m deep well  
 1538 salt production reaches 1000 t/year  
 1568–89 Johannes Rhenanus is priest in Sooden and also in charge of the salt production; with the „New Saltzbuch“ (Salt Bible) he writes one of

the first books about salt production; he is the first known using coal for salt boiling

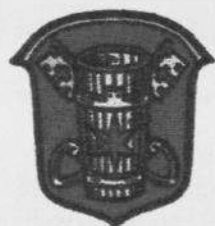
- 1661 Sooden with 3000 inhabitants is one of the richest German towns b.o. known for its library  
 1720 blackthorn graduation works widen to a length of 2000 m, production exceeds 2500 t/year  
 1740 water power of the river Werra starts to be common for driving pumps etc.  
 1800 a boiling house with a salt-pan of 110 m<sup>2</sup> surface takes the large number of boiling huts out of need  
 1818 the „Knappschaft“ (miners insurance) builds a bathing hut with three tubs for ill salt workers  
 1852 salt production exceeds 4500 t/year  
 1881 the spa starts with 12 tubs  
 1897 the largest German salt-pan of 187 m<sup>2</sup> surface starts production; 27 salt workers produce 2800 t salt yearly  
 1906 salt production ends depending on to high costs; brine for the spa is taken from a 934 m deep shaft  
 1999 Bad Sooden-Allendorf is a well known spa



**1856 Bad Nauheim is granted coat of arms showing nine silver salt crystals and a silver fountain**

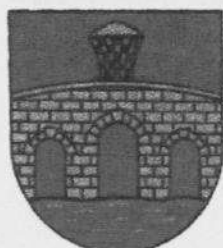
In the 5<sup>th</sup> century Celts produce salt by boiling and keep it in earthenware

- 1338 the 2–3% brine is boiled in leaden pans, drained and sold in earthenware „Nauheim hats“ like in Celtic times  
 1736 graduation works widen to a length of 3,7 km, 10–12 m high and 4–6 m wide; wind and water are used for pump driving; Nauheim is the jewel of the German salt works and the largest, reaching a production of 5000 t in 1780  
 1835 the spa opens with 9 tubes  
 1852 a bore-hole explodes with a fountain 16,5 m high, salt content 4,3%, temperature 37,5°C  
 1854 town rights are granted  
 1869 the title „Staatsbad“ is granted  
 1959 salt production ends  
 1999 Bad Nauheim is a well known spa based on brine



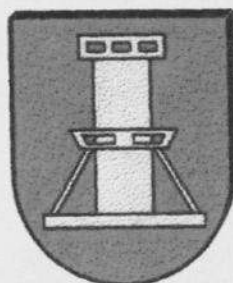
**1860 around Marktschelkenberg applies for coat of arms, granted 1964 with a silver salt bucket (Salzkufe)**

- 1112 monks start a drift to use the salt of the „Haselgebirge“ with an average salt content of 50%; salt works boil the brine from later sink works, separating the salt in situ with fresh water
- 1286 a salt office opens; a speciality is the manufacturing of salt buckets by coopers containing 75 kg of salt
- 1517 salt production reaches 1000 t/year
- 1805 salt production ends for lack of wood for heating; salt packaging changes to linen sacks manufactured here



**1868 Bad Kösen is granted coat of arms with a salt filled green wicker basket**

- 1730 G.F. Borlach, the „father of the Saxonian salt works“, finds brine with a salt content of 4% by shaft sinking to 147 m depth; salt production soon exceeds 2 500 t/year
- 1763 nearby mined lignite improves salt production
- 1813 Kösen changes to a famous spa based on the brine
- 1859 salt production ends
- 1999 Bad Kösen is a well known spa, the former salt works under protection of historic buildings



**1935 Bad Rothenfelde is granted coat of arms with the silhouette of a graduation work as emblem**

- 1724 a salt spring with a salt content of 7% is found, the brine used for cooking by farmers since time immemorial

- 1774 a windmill pumps the brine to the 12 m high and 175 m long graduation work; salt production reaches about 800 t/year
- 1811 brine is used for medical treatment
- 1840 salt production is about 4000 t/year; nearly 2000 bathes are given
- 1872 brine used for therapy becomes more important than salt production
- 1969 salt boiling ends
- 1985 more than 30 000 people use brine therapy
- 1999 Bad Rothenfelde is a well known spa



**1938 Afferde is granted coat of arms with a former building for a steam engine**

- 1389 salt boiling is documented from two springs with brine of 3% and 6%
- 1600 around five boiling huts are known; coal is invented for heating; salt production reaches later about 1500 t/year
- 1734 brine is found by drilling; graduation works widen to 900 m length; brine is boiled in 28 salt-pans
- 1799 the first steam engine of western Prussia starts pumping the brine from the 50 m deep shaft to the 15 m high graduation works; its building is taken as emblem for the coat of arms; salt production exceeds to 5000 t/year
- 1818 a brine and Russian steam bath opens
- 1899 more than 16 000 t of salt are produced using graduation works of 3300 m length
- 1940 salt production ends; the spa closes



**1947 Bad Dürrenberg is granted coat of arms with b.o. a „Borlachturm“ (brine pumping building invented by the Saxonian salt specialist Borlach 1744)**

- 1744-63 under Borlach a 223 m deep shaft reaches brine of 10,63%
- 1800 salt production is up to 11 000 t/year, exported b.o. to Norway and Africa; 150 horses are needed to transport the salt boiled in 11 houses with 30 salt-pans measuring about 25 m<sup>2</sup> heated by lignite

- 1840 salt works have more than 500 employees; salt production reaches 24 000 t in 1893
- 1846 brine is first used for medical therapy
- 1907 bathes are taken by 3500 guests in the village with just 238 inhabitants
- 1946 town rights are granted
- 1960 there are given 30 000 baths and 75 000 inhalations
- 1963 salt production ends for the chemical works of Leuna use the brine; later the bath is closed
- 1999 Bad Dürrenberg tries to become again a famous spa



**1949 Bad Salzungen (in GDR times) changes its coat of arms basing on a seal from 1425 showing the abbot of Hersfeld to a golden triple fountain with running water and two golden gears, turning back to the old emblem 1991**

- 700–100 BC Celts use the salt springs
- 58 Caesar reports a salt war between German tribes without exact location
- 775 Kaiser Karl der Große gives the tenth of the salt income (brine of 7%) to the monastery Hersfeld
- 1306 the „civitas“ is named
- 1590 salt content is improved by straw graduation to 18%; the output is about 1000 t/year
- 1736 salt production by thorn graduation and 20 salt-pans reaches 3000 t/year
- 1821 brine is first used for medical therapy
- 1843 a drill hole finds brine of 26% salt content
- 1872 coal heated pans of 130 m<sup>2</sup> bring salt production to 10 000 t/year
- 1896 shaft sinking for potassium salt starts
- 1910 a rock salt mine opens production
- 1926 the rock salt mine closes for lack of sales
- 1958 salt production at the salt work ends
- 1994 the spa buildings are renovated



**1960 Staßfurt (in GDR times) changes its in the 13<sup>th</sup> century granted seal, John the Baptist, and later coat of arms, to a pulley with a rope, laid by a re-**

**tort; 1990 the old coat of arms is chosen back**

- 970 the monastery Thankmarsfelde is granted the salt rights
- 1180 the „civitas“ and „oppidum“ is named
- 1366 brine of 17% salt content is hauled by horse driven pumps out of a 60 m deep well; Staßfurt is named in its wealth like Hamburg
- 1566 salt production is 188 840 pieces of salt, 1 piece with a weight of 75 pounds; lack of wood for heating influences production
- 1759 with the 1362 inhabitants there are 285 salt workers
- 1797 Prussia comes in charge of the salt works; the modernised salt works are heated by lignite and coal; production enlarges to 2500 t/year
- 1851 shaft von der Heide reaches potassium salt instead of the wanted rock salt
- 1857 A. Frank finds methods to extract KCl from the waste for use as fertilizer; the first potassium work is built
- 1859 salt production by boiling ends
- 1863 potassium production exceeds that of rock salt
- 1912 there are 12 shafts mining potassium salt and a lot more in the surroundings; the district is called salt land; the town centre is heavily damaged by subsidence
- 1972 potassium mining ends



**1981 Schneizlreuth is granted coat of arms with wooden brine pipes as emblems**

- 1619 a wooden pipeline of 31 km length is built to pump brine from Reichenhall, where exists lack of wood, to the Traunstein salt works, meaning the worlds first pipeline; the needed 9000 „Deicheln“ are manufactured in Schneizlreuth and its surroundings

## REFERENCES

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