Selected overnight accomodations

1 Hotel Habichtstein
Alexisbad
www.habichtstein.de
☎ +49(0)39484 7800

2 Schlosshotel Meisdorf
www.vandervalk.de/meisdorf
☎ +49(0)34743 980

3 Großer Gasthof Ballenstedt
www.vandervalk.de/ballenstedt
☎ +49(0)39483 510

GEOPARK
Harz . Braunschweiger Land . Ostfalen

The Geopark Harz.Braunschweiger Land.Ostfalen was founded in 2002. The Regionalverband Harz e.V. is responsible for the Harz area part. The association FEMO based in Königslutter is responsible for the adjacent northern region. In the map you can see the position of the Landmarks. Other brochures like this can help you plan your next visit in the Nature and Geopark Harz.

★Europäische Geoparke ★

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☎ +49(0)3946-96410, Fax: +49(0)3946-964142,

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Printing: Koch-Druck Halberstadt

Anhalt State Mining Inspectorate

Harzgerode

7

Prince Georg III von Anhalt-Dessau (1507-1553) had the Harzgerode Castle built between 1549 and 1552 on the site of an older complex. Over the centuries the castle's usage varied, and so it came about that in the 19th century it also housed the Anhalt State Mining Inspectorate. The fountain on the Harzgerode Market Square with the representation of the locations of the lodes in the district awakens interest in further discoveries of Anhalt mining in the adjoining Landmark 10 Auerberg –Oberes Selketal as well.

Harzgerode Market with fountain

Stadtinformation Harzgerode
☎ +49(0)39484 32421
www.harzgerode.de

Gold, Silver, Selenium and Iron Ore

Mining Trail Tilkerode

8

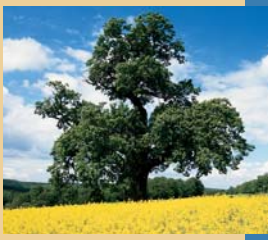
We follow the street between Abberode and Stangerode to reach one of the two starting points of the educational mining trail. The five km long path traverses the former Tilkerode iron ore territory, past pits, dumps and collapsed fault pits. Here, entirely isolated from the general hercynian striking lower Harz ore veins, in an anticline flexure consisting of Silurian graptolite shales with embedded diabases, iron ore lodes occur in a north-south running, steeply east sloping direction. This area delivered about 35,000 to 40,000 tonnes of iron ore up to 1858, which was for the most part processed at the iron smelting works Eisenhütte Mägdesprung.

Dennert Historical Marker „Alte Grubenbaue"

Tilkerode came to world wide attention in expert circles when Bergrat Johann Ludwig Carl Zincken (1791 – 1862) discovered selenic ores containing precious metals. In 1825 gold and traces of palladium were also ascertained. The in itself unimportant amount of about 400 grams of gold held a high sentimental value as it was the only gold ever extracted in Anhalt. At the time the district of Tilkerode was an Anhalt exclave in which the Prussian town of Abberode was enclosed.

116 ducats were minted from the gold of Tilkerode bearing the inscription "EX AURO ANHALTINO".

Stadtinformation Mansfeld
☎ +49(0)34782 90342
www.mansfeld.eu



Along the educational mining trail

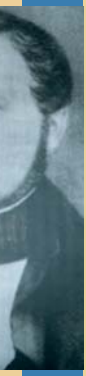
Carlswerk Mägdesprung

Bergrat Zincken

Shortly beyond the turn-off to the Selkemühle (mill) from the B 185, is the Carlswerk, a technical monument in which the machinery and plant remain in working order and which houses, on the floor above the machine hall, a highly interesting exhibit covering the industrial historic development of the site. On November 9, 1646 Prince Friedrich Von Anhalt (1613 – 1670) and the well-to-do cloth merchant Johann Heidfeld from Quedlinburg entered into a contract to establish the "iron works below the Mägdesprung". One part of the later Mägdesprunger Eisenhüttenwerk AG was, beginning in 1829, the engineering works, to which the Carlswerk belonged from 1842 on. Included in the palette of innumerable different products of the engineering works, the history of which reaches up to the year 1991, are not only the water drainage plant for mining, crushers and mills for rock comminution, but also steam engines as well as machines and plants for sugar refineries, grain mills, distilleries, brickworks, powder mills, saw mills, on up to clock weights (in cone form for the German industry and in wooden shoe form for the Dutch industry), furnaces, and, finally, gas cookers as well. In hammer mills (I. to IV. hammers) along the Selke below Mägdesprung the iron ore was reduced and melted down in iron blast furnaces, or pig iron from Mägdesprung was further processed here. Just above the Carlswerk the I. Hammer is located, the turbine of which continued to supply electric power up until 1956 after the ore treatment had been ceased. If one leaves the Selke Valley to the left at the III. Hammer one discovers two architecturally interesting multiple dwelling unit buildings and an historic cemetery with examples of Mägdesprung decorative iron castings. The construction material for the houses was provided by the laminated slate quarry located across from the Carlswerk plant. In 1821 Zincken assumed the office of Director of the Anhalt-Bernburgische Berg- und Hütttenwerke (Anhalt-Bernburg Mining and Smelting Works). Bergrat Zincken lived and worked for 27 years in Mägdsprung. He succeeded in discovering a number of new minerals, one of which bears the name Zinckenit.

Carlswerk

Opening hours:
Tues. - Fri. 9:00 a.m. - 4:00 p.m.
Sat. & Sun. 11:00 a.m. - 4:00 p.m.
Special opening hours on holidays.
www.harzgerode.de



Decorative Cast Iron

Erbstollenportal near Mägdesprung

10

Decorative Cast Iron Portal out of Mägdesprung

An “Erbstollen” is in the language of the miners the deepest water drainage tunnel in a mining district, which “inherits” from the one running above it. Between the III. and IV. Hammer, where the Schiebecksbach River joins the Selke River, the portal of the Herzog-Alexis-Erbstollen (gallery) is located. In order to reach it we walk from Mägdsprung along the “Selketalstieg”, which later will lead us to an enjoyable rest at the Land- und Reiterhotel Selkemühle. Beginning at the IV. Hammer the valley floor of the Selketal widens out to a meadow dale with romantic landscape scenery. The 2,256 m long Herzog -Alexis-Erbstollen was drifted between 1831 and 1864 to investigate the vein system north of Harzgerode. The portal, in the Classical style of the time period between 1830 and 1848, is an impressive example of the decorative cast iron products produced in Mägdsprung between 1821 and 1914. We find many further examples of artistic Mägdesprung castings on the way up to the IV. Hammer and especially in the town of Mägdesprung itself. As an example, the cast iron statue “Der besiegte Hirsch” (“The defeated Stag”) from 1862 is mentioned. Also the famous iron casting “Siegender Hirsch” (“Conquering Stag”) in Friedrichsruh near Hamburg was cast in 1895 in Mägdesprung. It was a gift from the State of Anhalt to Prince Otto von Bismarck (1815 – 1898) on his 80th birthday.

Recuperative Spa and Rock Cliffs

Alexisbad

11

Kapellenfelsen Alexisbad

Alexisbad, situated in a widening of the Selke Valley along the B 185, was founded in 1810 during the reign of Prince Alexius Friedrich Christian von Anhalt-Bernburg (1767 – 1834) as a recuperative spa. The curative agent, water containing iron sulphate and a high concentration of fluoride, was supplied by the so-called “Selkebrunnen” spring. This water capitation is found at the adit entry of the Schwefelstollen I gallery. Worthy of mention are also the “Freundschaftsquelle” (Schwefelstollen II) and the masonry-enclosed adit entry of the Katharinenstollen, the “Alexisbrunnen” spring. Particularly worth seeing near Alexisbad are the cliffs consisting of various kinds of rock. The “Kapellenfelsen” (Chapel Rock) and the “Habichtfelsen” (Hawk Rock) consist of laminated slate, the “Adolffelsen” consists of Tanne greywacke with conodont-bearing limestone veins (micro fossils). In Alexisbad, which at that time was included in the parish district of the then important industrial town of Mägdesprung, engineers from all of Germany founded the Verein Deutscher Ingenieure (VDI) on May 12, 1856. One of the 23 founding members was the ironworks master Carl Bischof (1812 – 1884) from Mägdesprung. Their goal was the uniting of all intellectual powers of technology in mutual efforts. Their idea has remained viable up to the present.

Tertiary with Brown Coal

Anhaltinian Coal Works Frose

12

Open-cut mining residual hole

As late as the year 1904 up to 192 miners found employment in the Anhalt Kohlenwerke near Frose alone. The extracted brown coal not only served to supply fuel in a radius of about 50 kilometres, but was also the raw material for a yearly production of 935 tonnes of tar and 7,650 tonnes of granular coke, the production of which provided a livelihood for many people. During the last decades the Anhalt brown coal mining was nearly forgotten in comparison to the much more important open cut mining in the nearby Nachterstedt district. It was only after the slope rehabilitation in the years following 1990 that attention to the previously forest-surrounded open-cut mining residual hole, in the immediate vicinity of the train station, was awakened. The open cut mining residual hole can be viewed in combination with a side trip to the Concordia Lake in the nearby outdoor recreation area "Seeland" (Landmark 14). Worthy of viewing in Frose is also the Romanesque chapter church. THOMAS MÜNTZER (around 1490 – 1525) served here from 1515 – 1517 as provost.

GEOPARK®

Harz . Braunschweiger Land . Ostfalen

The map can assist you in planning your own personal geo route in the area around Landmark Ballenstedt Castle. Geosites, geological institutions and selected historic buildings built of the local stone can be visited, viewed and explored on foot. The descriptions include additional information about opening times. The Regionalverband Harz e.V. wishes you pleasant recreation and interesting glimpses into the geology and history of that portion of the Nature and Geopark Harz covered here!

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Landmark 15

Ballenstedt Castle - Lower Selke Valley

UNESCO GLOBAL GEOPARKS NETWORK

www.harzregion.de

Ballenstedt Castle and Castle Square

1

On a hilltop at the edge of town, bordering on the Harz Forest area, the Ballenstedt castle emerges into view. For travellers coming from the east on the B 185 along the limestone range known as “Die Hohe” it is visible from afar. In 1765 the Ballenstedt Castle attained the status of residence of the Princes of Anhalt-Bernburg. Just as this castle is connected with the Duchy of Anhalt in a particular way, so also are the evidences of mining which follow in a ring around Ballenstedt between Frose, Tilkerode, Harzgerode and the Anhalt Saalstein on the former border to Prussia particularly recommended for viewing. The Ballenstedt castle, a three-winged Baroque ensemble, was erected in the first half of the 18th century incorporating portions of the former monastery. In the former westwork of the monastery church the graves of Albrecht the Bear (1100 – 1170) and his wife Sophie are located. The castle estate includes a formal park which was laid out according to plans by Peter Joseph Lenné (1789 – 1866) and includes an elaborate water axis in the style of Italian villa gardens as well as further landscape garden elements.

Located in a Baroque palace from the 18th century, the museum is part of the historic building ensemble on the Schlossplatz (Castle Square). The museum offers information covering the settlement and cultural and economic history of the town. The exhibit presents information about the “age of residency” up until 1863 during which time the Princes and Dukes of Anhalt-Bernburg had their residency in Ballenstedt. The museum also houses a mineral collection as well as a small exhibit about the mining history of the region. Also located on the Schlossplatz is the Schloss- and Hoftheater, built in 1788 in early Classical style, which is the oldest theatre in Saxony-Anhalt. During its 215-year existence it has maintained its unique ambience both inside and out. It can, however, only be visited during performances.

Museum Ballenstedt

Museum hours:

May-Oct.	**Tues. - Fri.**	**10:00 a.m. - 5:00 p.m.**
	Sat. & Sun.	**10:00 - 12:00 a.m. + 2:00 - 5:00 p.m.**
Nov.-Apr.	**Tues. - Fri.**	**10:00 a.m. - 4:00 p.m.**
	Sat. & Sun.	**10:00 - 12:00 a.m. + 2:00 - 4:00 p.m.**

☎ +49(0)39483 8866

Tourist-Information Ballenstedt
☎+49(0)39483 263
www.ballenstedt-information.de

Cretaceous

Gegensteine Ballenstedt

2

Großer Gegenstein

The Gegensteine cliffs are located north of Ballenstedt. There are directional signs to the Gegensteine car park, located in the nature protection area at the western entry into Ballenstedt, along the B 185 and the L 242 respectively. About ten minutes from the car park we reach the Kleiner Gegenstein. A foot path leads from there to the Großer Gegenstein. These rock outcroppings are part of the uplift zone along the Harz North Rim. They consist of Involutus sandstone from the Upper Cretaceous. Erosion led to the morphological form of the exposed hogback. The Großer Gegenstein can be climbed along steep steps hewn into the rock. The courage involved is rewarded with a breathtaking view of the North Harz Rim with Ballenstedt in the south, the Brocken Mountain, the uplift zone of the northern Harz foreland with the Teufelsmauer (Devil's Wall) and the Regenstein cliffs in the west (Landmark 9) as well as toward the Blankenburger Mulde, the Sewecken Mountains and the village of Badeborn in Anhalt territory in the north. The inscription on the plaque from 1863, probably cast in Mägdesprung, is in memory of Alexander Carl von Anhalt-Bernburg (1805 – 1863). Jewellery findings (Ballenstedt Museum) dating from the Bronze Age bear evidence of the early settlement of the area. The short excursion takes from one to two hours.

Muschelkalk

Former Bückeberg Quarry in Gernrode

3

Bückeberg · Gernrode

On the northern town limits of Gernrode the former Bückeberg limestone quarry is located. We reach the geosite from the Gernrode car park (street to Bad Suderode) along the marked walking path in about ten minutes. Dating from the Lower Muschelkalk, the Bückeberg belongs to the uplift zone along the North Harz Rim. The mechanical exposure makes the tilted-over layering of the strata easily recognisable. The profile is one of the most completely coherent Muschelkalk profiles in Middle Germany. From the car park the chapter church St. Cyriakus is about five minutes by foot. The over 1000-year-old chapter church is the only remaining almost entirely unaltered church building from the Ottonian epoch in Germany.

Tourist-Information Gernrode
☎+49(0)39485 354
www.gernrode.de

Carboniferous with Granite

Anhalt Saalstein and Ramberg Massif

4

A car park at the end of the Kurpark Bad Suderode (spa park) is accessible from the street heading toward Friedrichsbrunn. Walking upstream along the shady pathway in the Kaltes Tal we reach the peak of the Anhalt Saalstein in a good half hour (from the valley an 800 m climb). Along the way we cross over the stream behind the Felsenkeller Restaurant, arriving first at the Lessinghöhle (fluorite and chalcopyrite mining in the 16th/17th century). The Saalstein, consisting of Ramberg granite, was placed under protection on the basis of the Anhalt nature protection law from June 14, 1923 and, emanating from that a ministerial decree on January 26, 1924. It is a section of the steep westerly exposed slope (320 to 380 m above sea level) of the Kaltes Tal with rock cliffs and two-mica granite block fields from the Rambergpluton. The former border to Prussia ran along the foot of the Anhalt Saalstein. During road works in around 1890 an imposing waterfall of the Kaltes Tal stream was destroyed here. Across the way the Prussian Saalstein rises. Walking about 4.5 km along the Schutzhüttenweg from the Anhalt Saalstein we reach the highest point of the Ramberg, the Viktorshöhe (581 m above sea level). It is named after Prince Viktor Friedrich von Anhalt (1700 – 1765), who in 1765 had a hunting lodge at the foot of the mountain. In the neighbourhood are the cliffs of the Kleine and the Große Teufelsmühle (Ramberg granite with onion skin weathering). For those who do not wish to return by the same route a walk further along to the Bärendenkmal is recommended. A cast iron plaque in a granite rock calls to memory the last brown bear in the Anhalt forests, which was shot on this spot at the end of the 17th century. Another kilometre further brings us to the Bremer Teich (pond with bathing and camping facilities), from here it is only two kilometres further to the Sternhaus-Ramberg station of the Harz Narrow Gauge Railway. Because of the rich variety of deciduous trees the entire area is included in the EU-wide network of nature protection areas NATURA 2000. For those not wishing to challenge themselves with a long walk, a visit to the Bad Suderode spa park is recommended (a short distance down the valley from the car park).

Anhalt/Prussian Border

Große Teufelsmühle atop the Ramberg

Carboniferous with Greywacke

Rieder Quarry

Aerial view of the quarry

At many locations between Ballenstedt and Gernrode smaller and larger working faces for extracting greywacke, especially important in roadway construction, can be found. The former quarries are today largely classified as special protected biotopes under the nature protection law of Saxony Anhalt. In one of the quarries greywacke is still quarried and processed by the Mitteldeutsche Baustoffe GmbH. In spite of the extent to which it has in the meantime grown, the extraction operation has however been laid out in such a way that the recreation suitability of the Nature Park Harz is not diminished. The Harz Rim forestation remains intact and the height of the overburden dumps will not rise above the level of the natural land elevation. For security reasons the quarry cannot at present be opened to visitor traffic, but a future closure plan includes the installation of a viewing platform.

www.mdb-gmbh.de/rieder/

Upper Carboniferous – Lower Permian

Hard Coal Pit Opperode

5

Only in one location, near Opperode, was hard coal exploration carried out in Anhalt, from 1573 until 1824. Thin seams within the Rotliegend were exploited. We begin a walk through this area at the Sportplatz (sports field) of the town of Opperode, a part of Ballenstedt, and combine this with a climb up the Bismarck Tower. Also worthwhile is a visit to the highly popular outdoor swimming pond, originally a reservoir constructed in 1749 to supply water to the nearby coal pit.

Historical pit near Opperode

Opperöder hard coal

Strulle Meisdorf

Strulle

When and for what the "Strulle" across from the Meisdorf castle pond was constructed is unknown. A speculated direct connection to the former Opperöder coal mine has not yet been concretely proven. In the summer of 2007 in a side niche of the gallery, which extends approximately 10 m into the mountain, a number of golf balls were found, which are thought to have come from the Meisdorf golf course, so that the existence of a connection to the surface can be assumed. The "Strulle" is fed by a fault spring. In regard to its solution content it has an intermediate character. Therefore it is not nearly as low in minerals as is usual in the spring waters of the Harz Mountains, on the other hand it does not contain the higher solution concentrations which are often found in the Zechstein-originating springs of the nearby North Harz Rim. The solid solute content lies at approximately 700 mg/l. The major contents, approximately 65%, are calcium and hydrogen carbonate. The rest is sodium, potassium, magnesium, sulphate and chloride. According to an inscription on the stone wall the "Strulle" was last put into good repair on May 9, 1937.

Stadt Falkenstein (Harz), Informationscenter Gartenhaus
☎+49(0)3474353565
www.falkenstein-harz.de

Regarding the History of the Area's Development

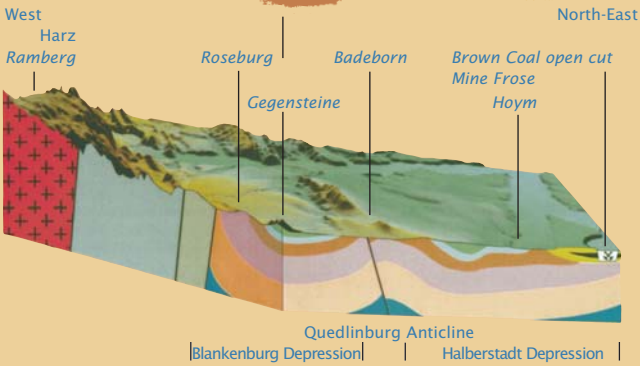
The area impressively reveals the history of the formation of an approximately 500 million year old mountain and its up-casting over the younger forelands.

Beginning with the Ordovician the Harz area was an ocean basin which for over 180 million years filled up with fine-grained sediments. During the Devonian the ocean floor was reformed into ridges and basins. At the same time intense submarine volcanic activity occurred and continued into the late Lower Carboniferous. Voluminous basalt bodies pushed into the Devonian sediments. Such an intrusive body, a so-called "diabase dike", can be seen on the Osterteich pond near Gernrode 13. In a period from 360 to 330 million years ago the Harz was caught up in plate tectonics in the Variscan orogeny and was folded, uplifted and partially eroded. Finally, around 300 million years ago, the rise of acidic magma followed. The granite massif of the Ramberg belongs to this period. During the Rotliegend (320 to 272.5 million years old) the ablation into the basins created by the orogeny increased. Climatically induced for-

mation of hard coal such as can be found today in older dumps in the Meisdorf Basin (e.g. near Opperode) occured. In the basin area between Hoym and Badeborn the later rocks of the Cretaceous have remained. The ridge of the Ruhmberg near Badeborn signals the approaching Quedlinburg anticline. Here older rocks, for example Muschelkalk (243 – 230 million years old), outcrop to the surface. South of Badeborn the Blankenburg basin, filled with sandstone of the Cretaceous (89 - 81 million years old), is found. Its southern flank with the Gegensteine cliffs was morphologically uplifted. The two Gegensteine cliffs consist of sandstone which was particularly solidified by underground siliceous solutions (quartzitic sandstone). The steep tilting of the strata is evidence of the lifting of the Harz basement and its northwards upthrow about 80 millions years ago. At the Bückeberg near Gernrode the strata of the Muschelkalk are steeply tilted and partially overturned.

A vast moor built up in the Tertiary (49 – 37 million years ago) in the subsiding border troughs of the ascending salt domes of Aschersleben. The brown coal deposits near Frose could thus occur.

3-D Block Relief of the Area



- Quaternary/Tertiary (with brown coal)
- Carboniferous (with silicificated Sandstones)
- Jurassic
- Keuper
- Upper Carboniferous/Lower Permian (Ramberg Granite)
- Carboniferous (Tanne Greywacke)
- Carboniferous (Slate)
- Muschelkalk
- Buntsandstein
- Zechstein
- Geological Fault