

## Chapter 1 : Rosiclare, Illinois - Wikipedia

*The fluorspar-rich region, which reaches from southeastern Illinois into parts of Kentucky, was called the Illinois-Kentucky Fluorspar Mining District. In Illinois, fluorite was mined almost exclusively in Hardin and Pope Counties.*

Classic Mineral Localities Created Date: Since the s and 60s, mines such as the Annabel Lee, Hardin, Denton, Rosiclare, Minerva 1, and Hill-Ledford became legends in the mineral world for the outpouring of their world-class fluorite specimens into the mineral marketplace. In , the mining companies announced that they were going to shut down the mines, and the last mine closed in . In the mineral world, when mines close, prices usually shoot up immediately, in anticipation of short supplies in the future. In the case of Illinois fluorite, the supply pipeline of fine fluorite specimens was very full. In , the price for the really good Illinois fluorite specimens rose dramatically. In the years since, prices have continued to escalate very rapidly. Today, it will cost you fold what you would have spent in to get a superb specimen. The written history of the earliest mining in Hardin County is scanty and confusing. Before settlers arrived, archeological finds in southern Illinois show that Mississippian Native Americans used fluorite to make jewelry, beads and ornaments as early as AD. Fluorite has been mined commercially in southeastern Illinois since the early 19th century in a deposit that came to be called the Illinois-Kentucky Fluorspar Mining District, which spans southeastern Illinois and parts of northwestern Kentucky. The earliest reported mining in the area was in for lead at the Columbia Mine in Crittenden County. Settlers dug shallow pits to extract galena for its lead content and discarded the fluorite which had no market value. The first shipments of fluorspar were reportedly made in the early s. The open-hearth steel furnace process, which was introduced in the s, used fluorite for flux, increased demand considerably, and large-scale mining for fluorite began in Illinois soon after. There are, however, no mines in this town; the workings are to the north and the west, in nearby villages such as Rosiclare, Elizabethtown, Eichorn, etc. In the s, several new mining companies were started, including the Hillside Mining Company in , and the Victory, Crystal and Benson mines were opened. Around this time a concentrating plant was built by Ozark Mahoning in Rosiclare. In the 20th century, mining was mostly underground, reaching depths of as much as 1, feet. Where large deposits of fluorite were found on the surface, open pit mining was more economical. In Illinois became the leading producer of fluorite in the U. The fluorite ore in vertical vein mines was taken out by sinking shafts adjacent to the ore bodies, then and driving drifts into the ore body every feet or so. Where possible, small rail cars pulled by mules transported the ore to the shaft to be hoisted to the surface. In smaller mines, loaded cars were pushed to the shaft by the miners. Later, motorized trams were used to move the loaded cars. In the bedded ore deposits, diesel powered trucks hauled ore to the shafts. By , the last two mines still open were the Denton and the Annabel Lee, both operated by the Ozark-Mahoning Company. These mines exploited the Harris Creek district, which was first opened in . In the last mine closed, marking the end of commercial ore mining in southern Illinois. The mineral-laden water flowed through northeast-trending faults and fractures in limestones laid down earlier in the Mississippian Period, about million years ago. When the hot brines reached the calcium-rich Mississippian rocks, the temperature and other conditions were just right for crystallizing fluorite along the walls of the faults and in flat-lying layers parallel to the beds of limestone. The host rocks dissolved and were replaced with the fluorite. The fluorite was primarily found in two types of occurrences: Width of these fissure-vein deposits varied from a few feet to 30 feet or more, with depth in some mines reaching almost feet. The vein deposits also contained secondary mineralization of economic importance, including sphalerite zinc , calcite, barite, and galena lead. The second type is stratabound or bedded deposits, also called mantos. These deposits primarily contained fluorite. Most of the bedded ore bodies were quite large; the biggest were feet thick, feet wide and a mile long. Stratiform deposits were the principal sources for mineral specimens, because they generated the open pockets that are necessary for crystal formation. Pockets are the result of volume shrinkage, and also by leaching and partial removal of the limestone host rocks. Basinal hydrothermal fluids mixed with magmatic gases, and fluids generated by the Hicks Dome intrusive event were the dominant source of mineralizing fluids. Vein deposits occur along faulted areas, and most veins are lenticular and trend northeast in Mississippian carbonate rocks.

Veins varying in width from 3 to 10 feet swell along strike for several hundred feet, and have been mined to a depth of feet. Fluorite is the dominant mineral deposited in the district, but barite, sphalerite, and galena have been produced in smaller quantities. Zinc has been produced for many years, and since the district has become a major source of zinc, some as a byproduct, some as a main product. Substantial quantities of barite have also been produced at the Mico, Ainsworth, and Pgy my Mines. Lead has been a minor byproduct in recent years, as have silver, cadmium, and germanium. Lengths range from feet to 2 miles, and ore averages 20 to 35 percent fluorite Goldhaber and Eidel, Only minor production occurred because of milling problems, but there are still substantial reserves. It is characterized by a large magnetic anomaly and has been identified as both a lamprophyre and kimberlite ultramafic intrusive. Numerous companies have examined the area for diamond potential, but no diamonds have been found. This intrusive is located southeast of Hicks Dome in northern Crittenden County, and there is another magnetic anomaly south of Coefield near Maple Lake in southern Crittenden County. Some exploration has been conducted on the site, but there has been no recent mining. These ultramafic and carbonatite complexes are characterized by igneous alkalic explosive breccia bodies and are discussed in Plumlee and others and Heck and others These interactions of magmatic and hydrothermal fluids generated an acidic hydrothermal fluid and the fluorite mineral deposits Plumlee and others, At the time of the initial Hicks Dome explosive magmatic event, northward-migrating hydrothermal brines intersected with hot, fluorine-rich magmatic gases, resulting in precipitation along isothermal reaction paths in the fault systems Plumlee and others, It is employed by industry in producing aluminum, in the production of hydrofluoric acid, and in many other fluorine chemicals. In households, it is used to produce glassware and ceramics, as an additive to drinking water, and in toothpaste to prevent cavities. Fluorocarbon is used in cookware, lubricants, building materials, etc. Fluorite is a colorful mineral, both in visible and ultraviolet light, and the stone has ornamental and lapidary uses. Fluorite may be drilled into beads and used in jewelry, although due to its relative softness it is not widely used as a semiprecious stone.. Industrially, fluorite is used as a flux for smelting, and in the production of certain glasses and enamels. The purest grades of fluorite are a source of fluoride for hydrofluoric acid manufacture, which is the intermediate source of most fluorine-containing fine chemicals. Optically clear transparent fluorite lenses have low dispersion, so lenses made from it exhibit less chromatic aberration, making them valuable in microscopes and telescopes. Fluorite optics are also usable in the far-ultraviolet range where conventional glasses are too absorbent for use. Fluorite has also been used in jewelry, though due to its relative softness it is not widely used as a semiprecious stone. It does make fine ornamental carvings, as well. Besides its industrial uses, fluorite is widely collected by mineral enthusiasts who appreciate its wide range of colors, sharp geometric formations, and lovely display esthetics. In one of the biggest specimen producers, the Denton Mine, began operations, and in another great source, the Annabelle Lee Mine, opened, eventually reaching a depth of nearly 1, feet. Fluorite was declared the state mineral of Illinois in The word fluorite derives from the Latin noun fluo, meaning to flow. In fluorite gave its name to the phenomenon of fluorescence, which is prominent in fluorites from certain locations, due to certain impurities in the crystal. Ironically, fluorite from Illinois does not usually fluoresce. Crystals may be large and penetration twins are fairly common. Almost all fluorite from Illinois is cubic in habit. Color Fluorite comes in a wide range of colors and been called "the most colorful mineral in the world". The most common colors are purple, blue, green, yellow, or colorless. Less common are pink, red, white, brown, black, and nearly every shade in between. Color zoning or banding is commonly present. The color of the fluorite is determined by factors including impurities, exposure to radiation, and the size of the color centers. Phantoms are common in fluorite, showing up as different color bands inside the crystal. The phantoms are visible as a sequence of larger and larger cubes visible through the outside layer of the crystal. The bands can be an inch or more thick, or only a fraction of a millimeter. They are most frequently caused by changes in the chemistry of the hydrothermal fluids that are deposited as fluorite. These fluids can come from great depths and are carrying a variety of elements in solution. Other elements can be added to the mix by the rock they are passing through, too. For example, when the Red Cloud Mine closed, prices doubled overnight and for good specimens tripled or quadrupled. Similarly, when the Sweet Home Mine was shut down, prices immediately doubled, and then kept going up every year. But fluorite from the mines in Illinois took a different path. When

the mines closed in , there was no increase in prices, because there was so much material stockpiled in the "pipeline", which runs from the mine to the wholesaler to the dealer, that prices stayed about the same for years. Finally, in , prices began to go up, and in the next 3 years reached shockingly high levels - especially for the really fabulous specimens, which are now up about 5 times what they were just 5 years ago. Will they continue to go up? But if current trends in mineral collecting continue, prime Illinois fluorite will be a very good investment, indeed.

### Chapter 2 : Cave-in-Rock, Hardin County Fluorite from Spiritrockshop

*Fluorspar Festival celebrates the Illinois state mineral. Hardin County Fluorspar Festival celebrates the influences brought to the area by the Fluorspar Mining Companies. Located on the banks of the Ohio River.*

The following is a list and brief description of common minerals found at the Marion area mines. A common gangue mineral. Rarely forms crystals good enough to keep. Very nice cerussite crystals come from the Marion mines and they are often overlooked. Forms colorless to smoky gray highly lustrous crystals associated with galena and hemimorphite. They either occur singly or are twinned and reach about 1cm in size. Crystals have diverse habits. The most sought after mineral at the Marion mines. Found in sharp purple cubic crystals with a maximum diameter of about 3cm. Very easy to identify- the only purple colored mineral at any of the local mines. Found as micro to large cabinet sized specimens. The Marion area is world famous for fluorite. Just a few miles away, in Illinois, in the Cave in Rocks District [" click here to see more amazing minerals](#) Galena: Small cubes of galena to around 1. Often they are weathered. Rare naturally occurring cadmium sulfide that occurs as ochre colored powder with sulfide minerals, especially weathered sphalerite. Sometimes colors smithsonite yellow. Hemimorphite forms druses of colorless to yellowish crystals in vugs and on weathering zinc minerals. Can cover areas to several cm with glittering crystals. Common, but often overlooked. Powdery white secondary zinc mineral. Fluoresces blue under SW UV light. Typically occurs as small drusy or isolated crystals to 4mm. Ususally forms thick, liberal coatings of colorless to tannish botryoidal material. Some specimens are crystalline and some are yellow colored due to the presence of greenockite inclusions. Cabinet specimens are known. Small aesthetic crystals of sphalerite to about 3mm are abundant. They are typically very lustrous and orange-brown in color.

### Chapter 3 : Illinois Fluorite

*Fluorite has been mined commercially in southeastern Illinois since the early 19th century in a deposit that came to be called the Illinois-Kentucky Fluorspar Mining District, which spans southeastern Illinois and parts of northwestern Kentucky.*

The mineral is used as a flux in iron smelting to decrease the viscosity of slags. The term flux comes from the Latin adjective fluxus, meaning flowing, loose, slack. The mineral fluorite was originally termed fluorospar and was first discussed in print in a work *Bermannvs sive de re metallica dialogus* [Bermannus; or a dialogue about the nature of metals], by Georgius Agricola, as a mineral noted for its usefulness as a flux. Fluorite also gave the name to its constitutive element fluorine. Calcium fluoride Fluorite crystallises in a cubic motif. Crystal twinning is common and adds complexity to the observed crystal habits. Fluorite has four perfect cleavage planes that help produce octahedral fragments. Element substitution for the calcium cation often includes certain rare earth elements REE, such as yttrium and cerium. Iron, sodium, and barium are also common impurities. Some fluorine may be replaced by the chloride anion. Occurrence and mining[ edit ] A closeup of fluorite surface Fluorite is a widely occurring mineral that occurs globally with significant deposits in over 9, areas. It is a common mineral in deposits of hydrothermal origin and has been noted as a primary mineral in granites and other igneous rocks and as a common minor constituent of dolostone and limestone. The world reserves of fluorite are estimated at million tonnes Mt with the largest deposits being in South Africa about 41 Mt, Mexico 32 Mt and China 24 Mt. China is leading the world production with about 3 Mt annually in, followed by Mexico 1. The first official recognition of fluorspar in the area was recorded by geologist J. He noted an occurrence of "galena" or lead ore and fluoride of lime on the west side of St. It is recorded that interest in the commercial mining of fluorspar began in with the first ore being extracted in Lawrence area, the veins are persistent for great lengths and several of them have wide lenses. Blue John mineral One of the most famous of the older-known localities of fluorite is Castleton in Derbyshire, England, where, under the name of Derbyshire Blue John, purple-blue fluorite was extracted from several mines or caves. During the 19th century, this attractive fluorite was mined for its ornamental value. The mineral Blue John is now scarce, and only a few hundred kilograms are mined each year for ornamental and lapidary use.

## Chapter 4 : Fluorite Illinois: Crystals & Mineral Specimens | eBay

*Bibliography: p. This item appears in the following Collection(s) Circular - Illinois State Geological Survey.*

Click on any photo to see a larger version Cave-in-Rock Hardin County, Illinois has a long history of producing some of the worlds finest fluorite specimens. The three best known mines are the Minerva Mine which was sunk in and is feet deep. The Denton Mine is feet deep and was put into operation in while the Anna Belle Lee Mine was brought on line in at a depth of nearly 1, feet. Due to the tilt or dip of the rock units, some places in the mines are to feet below the surface. These mines have been closed for some time now. Although we hear that there is a mining company boring a new mine, we have seen no fluorite from that location as of yet. Fluorite is a widespread and common mineral. It often occurs as a primary mineral in veins or as a mix of lead, zinc and silver ores. Fluorite is also found in sedimentary rocks such as limestones and dolomites as well as in igneous rocks such as granites. Fluorite occurs commonly as cubic, octahedral and dodecahedral crystals in many different colors ranging from colorless and completely transparent to yellow, green, blue, purple, pink or black. Crystals may be large and penetration twins are fairly common. Fluorite may glow blue or violet in SW or MW ultraviolet light. The result is a specimen that looks light purple. This piece is hopped with slight damage to 1 corner and 1 edge. This is an excellent large cabinet display piece! These are the favored specimens of collectors. Most of the fluorites that came from the Cave in the Rock area are much smaller, normally about 2 to 3 inches maximum because they were smuggled out of the mines in lunchboxes or pockets. The large specimens like this are extremely rare and highly in demand. These are all part of 40 to 60 year old collections from when the mines first opened. It weighs in at 5 lbs 11oz 2. The largest Calcite piece measures 2. These are highly sought after by collectors of the fluorite from the Cave-in-Rock area of Hardin County, Illinois. This gorgeous piece has distinct large steps covered in multiple layers of cube steps. There is some slight damage to a few edges but nothing that detracts from the beauty or value of this Old Stock Specimen. Light Purple phantoms on the cubic edges as seen in the photos. This specimen weighs 2.

## Chapter 5 : Illinois-Kentucky Fluorspar District, Illinois/Kentucky, USA

*You're invited to visit us anytime throughout the year. It's easy to get here from Interstates 57 or We're less than three hours from St. Louis, Memphis, Nashville, or Evansville.*

## Chapter 6 : Fluorspar Festival - Southernmost IL Tourism

*Hardin County Fluorspar Festival Since , the annual Hardin County Fluorspar Festival has been held in the fall in Rosiclare, Illinois to celebrate the influences brought to the area by the Fluorspar Mining Industry.*

## Chapter 7 : Fluorspar: Hastie Mining & Trucking

*Note: Citations are based on reference standards. However, formatting rules can vary widely between applications and fields of interest or study. The specific requirements or preferences of your reviewing publisher, classroom teacher, institution or organization should be applied.*

## Chapter 8 : Illinois fluorspar (Book, ) [calendrierdelascience.com]

*Drying and bagging facility located at Rosiclare, IL., formerly Ozark Mahoning/Atochem. Fluorspar source is from company owned domestic Fluorspar deposits, China and Mexico.*

## Chapter 9 : Chicago Tribune - We are currently unavailable in your region

## DOWNLOAD PDF FLUORSPAR IN ILLINOIS

*Fluorite (also called fluorspar) is the mineral form of calcium fluoride,  $\text{CaF}_2$ . It belongs to the halide minerals. It crystallizes in isometric cubic habit, although octahedral and more complex isometric forms are not uncommon.*