

A Sooner Field Trip

# BLACK GOLD

and

# Vintage Wine

**The time was when a geology field trip meant a day in the Arbuckle Mountains. That was for students. When you have made the professional ranks, "field trip" can mean a few days in the French wine country.**



By MARGARET FRENCH

**R**ong a popular method of study — especially among students infected with cabin fever—the educational field trip definitely has evolved over the years. Where once the classroom simply was moved out-of-doors to observe ants inhabiting the school's baseball diamond, eventually more sophisticated jaunts were undertaken to proportionately more exotic locales. Students first traveled to the local river bottom . . . a nearby town . . . a neighboring state, progressing farther and farther away each time.

However, Sooners routinely operate in a "larger than life" manner, so when John Pigott, University of Oklahoma assistant professor of geology and geophysics, suggested a field trip last fall for several Sooner geology alumni, the destination proved to be France. Better still, the syllabus covered not only the geology of the oil-rich Paris Basin but also of that region's world-famous wines.

The association of wine and geology is more natural than is readily apparent, Pigott assures.

"In fact, it is difficult to separate the two. Wine comes from grapes, grapes from the soil, and the soil from the geology, so it's a very natural, cultural-geological combination," the professor explains.

It is not from a lack of experience that Pigott makes that statement. During the last 10 years, he has conducted research in the Burgundy area of France, where he had been on sabbatical during the year preceding the alumni trip. An applied scientist specializing in basin analysis, Pigott scrutinizes the hydrocarbon potential of a sedimentary basin, then applies his knowledge of geology and geophysics to locate oil and gas.

In addition to his teaching and research activities at OU, Pigott teaches geology and geophysics in developing countries through the International Human Resources Development Corporation. That, together with his research in carbonates, leads him all over the globe, including Tahiti in the equatorial zone, home of modern carbonates. Carbonates found in France were in that same zone, he says, but some 200 million years ago.

"It just so happens," he explains

with a slight smile, "that these specific rocks occur in the most scenic places in the world. Isn't it wonderful that carbonates produce both oil and wine?"

Utilizing the Laboratoire de Geologie du Museum National d'Histoire Naturelle in Paris (the French equivalent to our Smithsonian) as a home base during this sabbatical, Pigott researched—in addition to the indigenous carbonates—geophysics, hydrocarbon potential and seismic stratigraphy while lecturing on the same in Paris, at the University of Dijon, the Technical University at West Berlin and the University of London. He worked seismic from offshore Spain and collected data from the French Alps and the Indian Ocean. Pigott's work in international areas requires extensive travel during the summer months; he recently returned from an Ethiopian teaching appointment.

The Sooner field trip was scheduled to occur five days after a conference in Nice of the American Association of Petroleum Geologists.

"The timing was convenient, because the OU geological alumni were already in France," he remembers. "It was October, the perfect time, during the harvest of the grapes in France, when the colors are the most intense."

OU alumni among the 10 travelers signed up for the Sooner professor's sojourn across a large sector of eastern France were Charles and O'Reta Sanders of Amarillo and Lee and Sue Ann Mills of Lafayette, Louisiana, who had attended the Nice conference. To hear Mills sing his praises, Pigott could direct a French travel bureau.

"He was so interesting and very well qualified," Mills recalls of his effervescent tour director. "Since he had been on sabbatical there, he was very familiar with the area, the people, the language, and, of course, the wines."

After meeting in Paris, the travelers kicked the trip off with a dinner hosted by the Millses at the world-famous Taillevent Restaurant. From there they traveled south down the auto-route, the French interstate, to the Beaujolais area, through Auxerre and Beaune, stopping for lunch in Villefranche, the popular Beaujolais capital.

While in the Beaujolais country, they visited several vineyards and tasted many wines produced in a region Pigott says offers a variety of Beaujolais flavors, contrary to the prevailing belief that only one exists.

"They respond in a specific fashion to the geology beneath them," he notes, referring to the relationship between the grapes and rocks. "We have two types: the metamorphic rocks, which create the best Beaujolais grapes, and the carbonate-rich shales, which in this instance give the poorer quality wine."

Mills, an independent geologist, adds that the Beaujolais area — located outside of the extensive limestone of the Paris Basin and into granites and acidic volcanic rocks—also produces red wine "you can drink as soon as it is made; it is the only one that doesn't have to age eight or 10 years."

Beating the tourist invasion by a month or so, the group spent the first night in medieval Perouges, a tiny burg almost hidden on a hill just outside Lyons. Built complete with its castle walls around 1100, Perouges was preserved in the 1900s, partly through the efforts of a stubborn mayor who fought total modernization of one of the most pristine, ancient villages in Europe.

The landscape around picturesque Perouges, Mills notes, is gravelly, "so geologically, it's recent, and there is little wine produced there, but it is not too far east of an area that includes two or three of the best wine producing areas in the world."

Lyons, to which Mills refers, not only produces the Beaujolais but another world-famous product. Many French chefs train there before embarking upon their culinary careers.

On day two, the travelers climbed aboard a cable car for a ride up Mt. Blanc, the tallest mountain in the French Alps, and the halfway point between France and Italy.

"We dramatically viewed the geologic products of what happened to France when the Africa plate collided with it, much like what happened when the Africa-South America continents collided with Oklahoma during the Paleozoic, some 300 million years ago," Pigott says. *Continued*



*Sooners and their French geologists wine experts/guides from the University of Dijon gather for a class photo: (from left, kneeling) Leslie Haas, Charles Sanders and John Pigott; (standing) Christian Hass, Robert Lautel, Lee Mills, Noel Loeboeuf, Cindy Burns, Jean Paul Loreau, Larry Burns and O'Reta Sanders.*

Although plans called for traversing the mountains into Italy, a sudden blizzard at the summit curtailed the Sooners' Alps expedition. They did, however, cross just beyond the Alps into Switzerland for a glimpse of the Euro-Mountains.

By nightfall they had arrived at the southern shore—the French side—of Lake Lemman, also known as Lake Geneva, and “Elizabeth Taylor’s favorite hotel,” Hotel de la Verniaz in Evian les Bains. Evian, as bottled water consumers know, is home of that extravagance. There, of course, waited another “outstanding dinner, complete with outstanding wines,” and the group, according to Pigott—with tongue in cheek—“had an important energy boost for the rest of the field trip.”

On the third day, the entourage backtracked a bit, through Geneva to Dijon and a rendezvous with Jean Paul Loreau, Robert Lautel and Noel Loeboeuf, University of Dijon faculty members who added local flavor to the educational excursion. Loreau, a professor in the department of geology at Dijon who had helped Pigott obtain his sabbatical to Paris, is highly regarded for his knowledge of modern and ancient carbonate rocks. Lautel is an expert in the relationship between wines and geology, while Loeboeuf is

an authority on wines and soil.

“They aren’t just experts,” Pigott explains. “Loeboeuf and Lautel are perhaps two of the most famous French wine experts in the world. Their free time is quite limited, as they often are seen on French television explaining wines. Therefore, we were extremely fortunate to have them on the field trip.”

Next the Sooners spent two days in the Burgundy area, Cote d’Or, or “Golden Coast,” named for the shimmering golden color the vineyard foliage turns in autumn. There the group studied the tremendous detail of the varieties of grapes, the types of soils and geology which yielded Napoleon’s favorite wines, the white Puligny Montrachet and the red Gevry Chambertin. Those wines are known worldwide for their distinctive bouquet, so much so that they demand specific drinking vessels.

“They must be poured into a special glass,” Pigott points out with an arched brow. “It is absolutely inappropriate to pour a Burgundy wine into a simple Bordeaux glass. It should not be done.”

The group rested the third night in Beaune, an old village and capital of the region. At Les Millesimes, in nearby Chambertin, they enjoyed a

five-hour, 12-to-14 course feast, one which Pigott remembers as “the most beautifully orchestrated dinner of the week, if not for many of us, our lives.”

Near the Saon River they visited a huge, ancient winery founded by monks. Winery machinery, Mills notes, originally was constructed of wood and leather, with the early vintners employing wooden presses and pulleys to mash the fruit.

“Wine began in France,” he explains, “with the old monks. When they settled, one of the first things they did was make wine. You can trace a civilization by its wine culture. Even today some wines are made exclusively by monks, and no one else has the recipes.”

Not a mere novice on the subject, Mills belongs to a “wine society” back in Lafayette, a city which as it turns out, records one of the highest wine consumptions per capita in the United States. In supplying that need, a local friend of the Millses’ is the third-largest wine importer in North America.

Up into the champagne region, soils which form on chalk layers, the group

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### The geology that underlies the wines and champagnes also produces the oil in the Paris Basin.

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trekked through Villeperdue and its oil fields. During the four-hour drive, their route meandered by a World War II battleground and across other producing oil fields of the Paris Basin before reaching the final stop in Epernay. There the group toured Moet Chandon, the famous cellar that produces Dom Perignon champagne.

Interestingly, the geology that underlies the wines and champagnes also produces the oil in the Paris Basin. That is, the “Dogger” formation, a Jurassic limestone, rises to the surface in the Burgundy area, forming the soils, yet dives down deeper as an oil reservoir in the central part of the sedimentary Paris Basin, centering near the city of Paris.

The amazing fact about the countryside is also what is so curiously ambiguous about simultaneously study-

ing wine and geology. The very image of cellars of delicate champagne 100 miles within working oil wells seems incongruous, but not only is it happening, it apparently is the wave of the future, much to the delight of the French.

"They are very pro-oil," Pigott states with obvious satisfaction. "In fact, when I was there last August, they had a discovery just within the city limits of Paris, and articles in the papers read, 'Is France going to become another Oklahoma?'"

**R**elatively speaking, the Paris Basin is a newly explored basin, roughly the same size in aerial coverage as Oklahoma's Anadarko Basin. However, the Anadarko Basin is more than three times deeper. Pigott, who once worked for Amoco International's basin analysis team in Southeast Asia, says the French indeed have justification for excitement.

"If we were to look at the amount of reserves in the Paris Basin as of now, based upon just a few fields, and the reserves now in Oklahoma, the Paris Basin has approximately one-eighth the present reserves of Oklahoma. This doesn't seem like a lot of oil to some people, but you must realize Oklahoma has a lot of oil, having produced more than 13 billion barrels since 1897.

"It just so happens," he explains, "that the Paris Basin was given up as an oil-producing entity about 15 or 20 years ago, but after the discoveries in the early 1980s by a little company from Texas known as Triton, interest in the Paris Basin completely turned around."

Now, Pigott says, the discoveries are mounting in France. Where once drilling activity ignored the smaller, "boring" Paris Basin in favor of the world's big, exciting structural traps, today's new ideas, coupled with improved technology of geophysics, allow for—if not demand—the exploration of stratigraphic traps such as those in the Paris Basin.

"Gone are the days when we could go out and just drill a well . . . wildcats without concern as to where we are geologically, geochemically and geophysically," Pigott notes. "We've

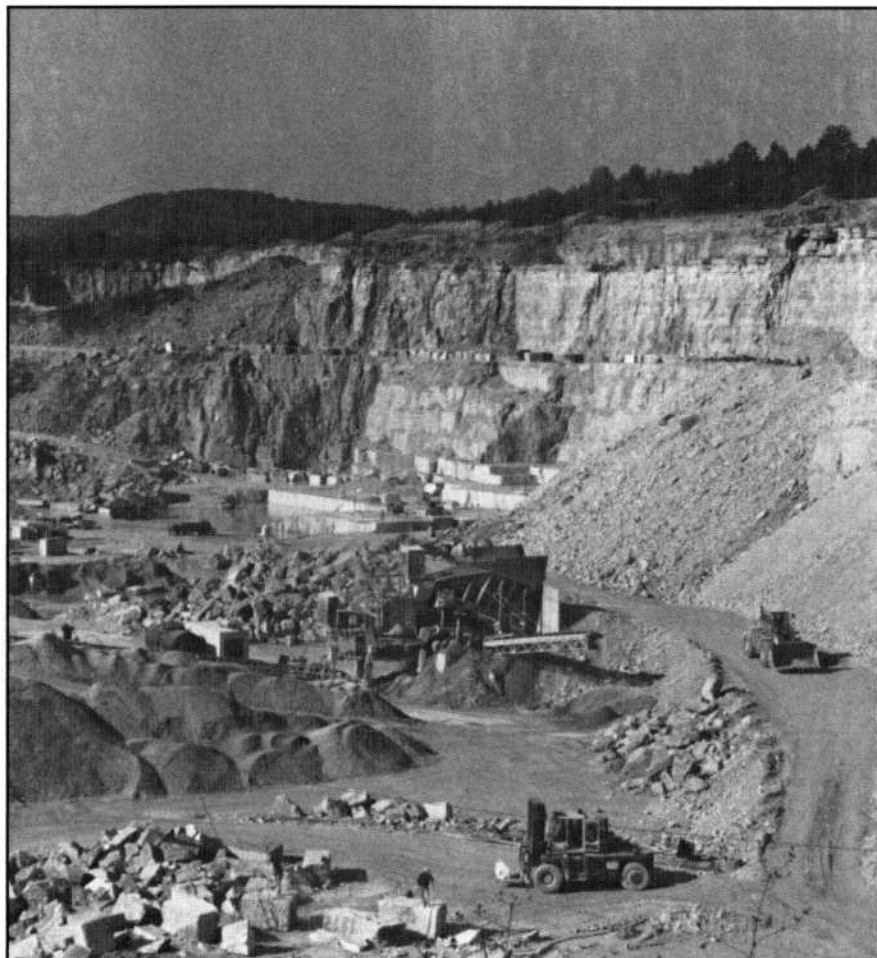
explored the large, easy locations; now we must look for the more difficult, subtle sites."

In the basin are new oil fields such as the ones the group inspected at Vileperdue, site of significant discoveries, including the one by Triton Oil, which is headed by a former Sooner, William I. Lee. OU is becoming involved in the Paris Basin in another way still. One of Pigott's former stu-

dents, Larry Willis, now works for Hadson International, an Oklahoma firm with acreage in the basin.

Helping shape the revamped attitude toward the exploration of oil, which, Pigott states flatly, "we can't go on selling cheaper than milk," is that the world finally is beginning to accept the fact that there is only so much oil remaining.

"The Middle East reserves easily



*Looking strangely out-of-place not far from the wine country in Bourgogne on the Cote d'Or is this limestone quarry visited by the touring Sooner geologists.*

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Visiting a French oil field are (from left, kneeling) Christian Haas, John Pigott; (standing) Cindy Burns, Lee Mills, Leslie Haas, Charles and O'Reta Sanders and Sue Ann Mills.

Below, standing in sharp contrast is a view of vineyards in an area famous for Burgundy wines, Cote de Nuits.



will last more than a century from now, but most of the rest of us are a little less fortunate," Pigott says. "We are continuing to make discoveries due to new technology and new ideas, sometimes even in our own backyard, so it is difficult to say when we're going to run out, but it is a finite resource. Fortunately, our OU geology and geophysics students continue to make a real impact, both nationally and internationally."

Hence the picture: oil fields dotted in among the grapevines, black gold pouring alongside the priceless champagnes, and Sooners observing it all. However, don't expect Oklahoma to duplicate in reverse the French scenario, for the harsh Sooner summers and winters will not permit large-scale wine production. Not to worry, vino en-

thusiasts. Pigott already is busy planning an encore.

"I have spoken with Keith Busby, the director of OU's modern languages department, who is also a French specialist, about getting something going for the alumni in the summer or fall of 1990. We also are hoping to work with the Museum of Natural History in Paris. Hopefully, we can arrange an exchange with some of these researchers."

Mills would return to France with Pigott on a University-sponsored trip anytime, he says, adding that his OU connections run deep. His wife and two of their five children attended OU, from which he received his bachelor's and master's degrees. He has served as chair of geology and geophysics' advisory committee and currently is a

member of the Centennial Commission and the alumni council of geology and geophysics. Perennial supporters of University programs, Mills and his wife also are Energy Center Founders.

Pigott is a transplanted Texan who would prefer to remain north of the Red River. After earning a bachelor's in geology and zoology and a master's at the University of Texas in Austin, he received his Ph.D. from Northwestern, but now proudly claims Norman — and the University of Oklahoma — as home.

"I've been here eight years now, and Oklahoma, seriously and sincerely, has become a big part of me, and I'm very happy to be here. I am proud to be a professor at the world's first established school of petroleum geology. I am extremely comfortable here with the people; they are straight forward, honest and creative. They make good 'oil finders.' I am pleased to be a part of the University and its legacy."

Pigott's enthusiasm for OU spilled over into the field trip, which, he says, fostered a special relationship between himself and the OU travelers.

"We had a special field trip, which without the help of the French wine experts, would never have been possible through a commercial tour. Together we experienced an intimate part of the French country, culture and geology.

"Furthermore, since we were all Sooners on the tour, we had this special common bond. In French, this is called an esprit, or in Oklahoma parlance, OU pride." 