



Dave Koenig

7418 Branch Point

Houston, TX

77095-2649

281-855-2869

76021.3660@compuserve.com

<http://home.swbell.net/drblock/>

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To: HABA Distribution List

Re: The Newsletter of the Proposed Houston Area Blacksmiths' Association (HABA)

INTRODUCTION

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A NOTE FROM THE PREZ

WE DID IT! The smiths of Texas delivered the hardware!

September 1, 1999 Charles Heathcock and Dave Koenig on behalf of everyone who participated in Celebrate Smithing in Texas!, delivered all the Barrington Farm Hardware we had to

Washington on the Brazos State Park. Bill Irwin, the farm manager, accepted the hardware.



Bill Irwin, Charles and I took all the hardware you sent to the park and we brought with us to the Barrington Barn. We laid it out on the barn floor and inventoried what we had. The final tally showed that we were short two pair of twelve-inch hinges and five sets of hooks and staples.

As it turns out an additional five pair of twelve-inch hinges are on the way to the park. Three pair are complete and are 'in the mail'. The other two pair are still being made.

Six sets of hooks and staples are now made and are 'in the mail'.

We did it! We made it all and got it to the Barrington Living History Farm with a few extras.

Go ahead. It's OK. Reach around to your back and give it a pat. It is a job well done!

We can certainly put this effort in the success column. Not only did we deliver the goods; most of us made things we never would have tried without the incentive of building something for the State of Texas. I would also like to

think that many more smiths tried their hand at making something and did not think their work was good enough the send.

All of this is to say nothing more than Celebrate Smithing in Texas! was the catalyst for most, if not all of us, to do more than we thought we could. I like that thought.

HABA is already thinking about coordinating a similar event for Texas smiths next year. As we discussed another park in another part of the state would be nice. Any ideas?

Book Cover

As a result of the publicity HABA received from Celebrate Smithing in Texas!, I was contacted by Mike McCormick and David Welsh to create a photo set at a blacksmith shop for a book cover photo. Tudor Forge was offered and accepted.

The book cover is for a new title by Kurt House, *Joe Bianchi, Village Blacksmith of Victoria, Texas*. Joe Bianchi, 1871 - 1949 is a famous spur and bit smith. The book is a biographical sketch of Mr. Bianchi and his work. The book is scheduled to hit the street by December. HABA should receive credit in the book for its work and hopefully a donation to its coffers. (For those of you who are wondering, no one's face will appear on the cover photo! Wheeew!)

Oldenburg Hammer Fest

Oldenburg Hammer Fest is October 1,2 and 3, 1999. It will be here in no time at all. If you are interested in selling anything at Oldenburg, please contact Frank Walters, 713-896-7566 – day, or Larry Hoff, 281-890-8822 – evening. Frank showed off some new Oldenburg t-shirts, a beautiful map to Oldenburg and a great poster. The map is a keeper and attached!

Firepot and Tuyere Offer

Those interested in purchasing a firepot and tuyere, contact Frank Walters. Frank plans on ordering several of the light- weight firepots and tuyeres from Randy McDaniel. Randy is also the author of *A Blacksmithing Primer – A Course in Basic and Intermediate Blacksmithing*. Many of you probably saw examples of the firepot and tuyere, and the book at HABA meetings about a year ago. The cost of the firepot and tuyere will probably be just under \$100.

Special Guest

A very special guest attended the August meeting, Ms Jean Alexander, Executive Director of the Tomball Museum. The museum just completed erecting a metal roof over two log structures at the museum. This roof also provides room for HABA to hold a monthly meeting at the museum. HABA received an invitation to have the November 1999 meeting at the museum and HABA accepted.

ARTICLE**IRON PRODUCTION IN TEXAS**

by Dave Koenig

Have you ever wondered about iron in Texas? The following article is a summary of information provided by Harold Ganshirt from *The New Handbook of Texas* edited by the Texas Historical Association. It answers some of the questions I had. HABA members who demonstrate at schools, libraries, museums and the public in general may find this bit of history especially useful.

The starting place for a discussion about iron production is the location of iron ore deposits in Texas. Quantities of different ores are found in Llano, Gillespie and Burnet counties of Central Texas and in Anderson, Cass, Cherokee, Harrison, Houston, Leon, Marion, Morris, Nacagdoches, Smith, Upshur, Van Zandt and Wood counties of Northeastern Texas. Iron Mountain in Llano County is the most notable deposit.

There are magnetic iron ores, like magnetite magnetic black iron oxide, and brown ores like limonite, goethite and hematite. There are also ores mentioned like siderite and glauconite.

Mining ore for commercial iron production started in 1855 in Marion County and stopped by 1910. The mining of iron ore for metal manufacture resumed again during the World War II. The primary smelters, refiners and ore reduction plants belonged to Armco, Lone Star and U.S. Steel.

In addition to making iron, Texas ores are used for three other purposes. They are used to make portland cement heavier, to make drilling fluids heavier and to make animals healthier.

Iron was first commercially produced in Texas when charcoal furnaces were profitable. The Nash furnace, believed to be located in Marion County, started producing iron in 1885. It is important to make a distinction between commercial production of iron and a making iron for things around the house and for farm implements. There were perhaps other furnaces in operation in Texas before the Nash furnace.

“One plant was operated by the Confederate government to make gun barrels....In the 1870s and 1880s the East Texas iron industry boomed. The Kelly furnace operated near Jefferson in Marion County in 1870 and was sold on 1882 to Marshall Wheel and Foundry Company, which changed its name to Loo Ellen. Iron production continued there until 1886, but by 1888 the plant had been dismantled. A furnace known as the Old Alcalde, at New Birmingham, was built by the state and operated as part of the state prison system early in the 1880’s. The Lone Star furnaces at Jefferson operated from 1891 until about 1910, before being closed and abandoned like most other furnaces. In spite of all this activity, by the time iron production virtually ceased in Texas in 1910, less than 700,000 long tons of ore had been used and less than 300,000 short tons of pig iron produced.” Page 872.

In 1883 Texas built the Rusk penitentiary in East Texas. It was built to relieve overcrowding at Huntsville and to employ convict and civilian labor to develop iron ore resources in East Texas.

The original blast furnace, Old Alcalde, burned charcoal and produced about twenty-five tons of pig iron and finished implements for commercial sale. Old Alcalde was replaced by the fifty-ton coke burning Sam Lanham furnace. Water pipe and cast iron foundries also became part of the prison's operations.

In an attempt to reduce transportation costs, the state started to build the Texas State Railroad in 1883. It ran between Rusk and Palestine. The railroad was completed in 1909. You can still take a ride on this railroad, steam engine and all. The railroad is now a state park.

“Many prisoners lived in camps in the piney woods of East Texas while they chopped timber for the prison sawmill or processed charcoal for the iron furnace ; other convicts dug iron ore from East Texas surface mines or labored on the Texas State Railroad. Convicts housed at the Rusk Penitentiary manufactured bricks, ice, wagons, sugarcane railcars, brooms, lumber, paint and mattresses, in addition to iron products.” Page 727

The Rusk Penitentiary remained in operation until 1917.

Commercial iron production in Texas began again because of World War II.

“At Longview, the Madras Steel Corporation built a pilot plant in 1941 to reduce iron ore to sponge iron by a process, invented by Julius D. Madras of Detroit, that eliminated the pig-iron state and used cracked natural gas instead of coke and limestone. Sponge iron in lump or granular form was converted into steel ingots by the East Texas Electric Steel Company. The success of this experiment led to the announcement in September 1949 that a million-dollar commercial plant, with a capacity of 2,000 tons of sponge iron a month, would be built by the East Texas Electric Steel Company for Southwest Metals at Longview. In 1941 and 1942, Sheffield Steel of Texas, a division of ARMCO (the American Rolling Mill Company), built a steel mill on the Houston Ship Channel that used scrap metal. Two years later, Sheffield expanded these facilities into an integrated steel mill with open-hearth furnaces, coke ovens, a blooming mill, a plate mill and a blast furnace. The plant subsequently used Texas and Mexican ores to make pig iron.” Page 872

Lone Star Steel Company borrowed some money from the government in 1943 and invested some of their own to build a blast furnace, coke ovens and a beneficiation plant for the production of pig iron. The plant was located near Dangerfield. The technology Lone Star used was tried and true. They used local limestone and coal from Oklahoma. By the early 1950s the plant was making steel ingots and pipe. In 1990 they filed for Chapter 11 bankruptcy.

In 1945 with the help of federal funds, parts of furnaces and plants were relocated in Rusk from other states. By 1948 this equipment became operational by the Valencia Iron and Chemical Corporation. The plant had a capacity of a hundred to a hundred and fifty tons per day.

There were forty-four foundries operating in Texas in 1963. These foundries provide employment for 5,963 people. In 1980 Texas used 10.4 million tons of steel which was more than 10 percent of the national total consumption. In 1990 Texas remained one of the nation's leading steel producing states.

Before iron was made in Texas, I guess it came into the area on peoples' backs and by wagon, boat and rail. Maybe a future article will share some facts and insight about when, how much and where non-commercially made wrought iron could be obtained in Texas before 1855.

RESOURCES

BLADESMITHING TITLES

by Chuck Hamsa

Part 3 of 5

(Revised, May of 1999)

This writer is **not** a bladesmith, but a simple bender of metal. He enjoys making such simple things as barn hooks, some hinges, a fire iron set or two for friends and customers on the rendezvous scene. He even enjoys making tent stakes! Such items are not usually "artistic," but necessity in the rendezvous trade. Generally the prices for these items cover a little more than the price of the bar stock necessary to produce them.

The real money is in bladesmithing. There are a great many people who have their prize knives, whose makers claim their knives are the "best." Because this writer (and long time Scouter working with Boy Scout troops) leans toward a very utilitarian pocket knife blade for general camp work, he treasures his artistic, folding pocket knife made by Chuck Patrick. This collector is typically afraid to take his Chuck Patrick blade afield for fear of losing it.

This collector equally treasures his Dave Adams, stock-removal, medicine knife with a two inch blade. That blade does most of the work around the encampment as well as at home in the twentieth century setting.

A common butcher knife suffices for heavier work.

For blade throwing contests he enjoys his throwing blade made by Steve Baxter. Heck, for that matter, he enjoys showing off his Keith Johnson, ornate fire iron set.

The same is true for his multi-slatted, cooking grate produced by Hank Steinmetz. This applies to the fire strikers made by Paul Maier or Keith Johnson.

One of these days he will scratch up the funds to possess a Jerry Fisk or a Billy Watson blade. In short, most people have widely differing opinions concerning who is the best at this and that kind of smithing.

Because knife blades are a personal choice and their production can represent a high degree of income to the artisan, suggestions regarding books on the subject can elicit differing opinions.

Therefore I approach the task of reporting on what I believe to be the most basic and straightforward books on the subject.

The most basic and direct "book" on bladesmithing remains the following:

Fisk, Jerry. BASIC PATTERN-WELDED DAMASCUS STEEL.

Lockesburg, AR: The Author (Rt. 1, Box 41, 71846), 1990. Paperbound. 19 Pp. \$9.50 delivered.

Every word counts in this straightforward presentation. Only an accomplished master and writer could put so much into so few pages. Drawings are elementary, but they with the text present the fundamental information. Fisk publishes a 14-page pamphlet, called BASIC FORGING. This pamphlet is available for a delivered price of \$9.50.

There is much technical information published on bladesmithing. Several authors are prolific. In order to go back to a basic text and a firm foundation, one might first consider the following book:

Schroen, Karl. THE HAND FORGED KNIFE: AN INTRODUCTION TO THE WORKING
MODERN TOOL STEELS.

Knoxville, TN: Knife World Publications (PO Box 3395, 37927), 1885. Paperbound. ISBN Number 0-940362-08-2. \$12.95.

And for those who are interested in collecting dirks, pikes, lances and other swords (either military or ceremonial) on the American scene in the nineteenth century, there this massive reference source:

Bezdek, Richard H. AMERICAN SWORDS AND SWORD MAKERS.

Boulder, CO: Paladin Press (PO Box 1307, 80306), 1994. Hardbound. 627 Pp. ISBN Number 0-87364-765-3. \$79.95 plus \$4.00 shipping and handling.

Included is an exhaustive listing of sword markings, are company histories when available and more than 200 photographs showing various types of swords. The result is an impressive title that should become the standard reference source in the future.

For those interested in learning to throw the knife or tomahawk, the following is an excellent title:

McEvoy, Harry K. KNIFE & TOMAHAWK THROWING: THE ART OF THE EXPERTS.

Rutland, VT: Charles E. Tuttle Company, Inc. (153 Milk Street, Fifth Floor, Boston MA 02109-4809), 1988. Paperbound. 150 Pp. ISBN Number 0-8048-1542-9. \$8.95.

A study of this title should supply anyone with enough information on the construction of an effective throwing knife or tomahawk that would serve to bring about both initial sales and repeat customers. Who can become skilled in the art of hawk and knife throwing if they do not take the time to practice to perfect their talents.

AUGUST 21, MEETING SUMMARY

Charles and Sharon Heathcock inaugurated their new C & S Forge with family and by hosting the August HABA meeting. The new forge with a perfectly painted concrete floor thirty feet by fifty feet was almost too pretty to walk on. It even came complete with a new restroom facility.

There was a single forge set up and plenty of room for the twenty-nine people who signed-in and all the relatives. When I am talking about forge I mean a forge, portable vise and an anvil and portable stand. All the other tools except an air compressor and plasma-arc cutter were still in the original shop.

The next time HABA has a meeting at C & S Forge it will look quite different on the inside. There will be two forges for sure. One will be for Charles and another for Sharon. There may even be a third. The tools from the original shop will be inside and if it is like any other large space, things will begin to accumulate. It will not be too long before thirty people inside the shop will take up a lot of the room.

There were two Show-N-Tell tables set up and allowed people to look at a couple of books and a number of completed works. The things I can remember and see in the pictures are as follows. Lee Oates displayed his beautiful knives and they were for sale. Dave Koenig brought some completed door hardware that included two small grills, rosettes, door handles, escutcheon plates, small hinges and two different size door bolts. Byrom Wehner showed us a beautiful knife made from a piece of meteorite and a piece of the original meteorite. Completed hinges for Barrington Farm were on display from John Soares, Jesse Kirk, Harvey Wise and Pat Cheatham. Tim Cowden showed us his three hasps and staples for the farm too. I know I am missing a few other things.

Ed Cotton was the featured demonstrator for this 'First Fire' meeting. He had a bag of his own tools that he used. As with all demonstrations, Charles needed to run out to the old shop and get one of these and a piece of that. I think the 'First Fire' Ed lit was not only the figurative 'First Fire' in the new C & S Forge but also the literal one. It was obvious that Charles and Sharon did a lot of work to host this August meeting.



Things got started about 9:30. A couple people were still arriving and a few of the original conversations were beginning to slow down. Dave Koenig opened the meeting with some HABA business. See **A Note from the Prez** for a summary.

Ed Cotton made three pieces during his demonstration. In the morning he make a fire rake and a coal shovel for the new forge. In the afternoon he make a flint striker.

Ed is a fine demonstrator and was asked to demonstrate the basics of smithing from starting the fire to making something. Judging from the comments and the expressions on people's faces, Ed disappointed no one.

Here is a summary of the notes I took during Ed's demonstration and some commentary.

Starting with the fire, think of the fire as having three levels, bottom, middle and top. The bottom where the air first hits the fire is a place that is hot and a place that can put a lot of scale on the iron. This is an oxidizing fire. Somewhere farther up the fire the amount of oxygen and combustion gasses are about equal. This is a neutral fire. The fire at the top is a reducing fire. There is little oxygen left theoretically and this is the best place to heat iron.

I used one of the tips from Ed's demo to complete the pintles for my Barrington Farm hinges. Ed said that using a cross peen to rivet was better than using a ball peen. The reason is that you have more control with the cross peen. The pins in my hinge pintles are each headed in a tapered square hole. The cross peen gave me much better control than the ball peen. I remembered what Ed suggested as I was filing the head off of my first pin. I used the ball peen of course and got it all off to one side.

The first piece Ed made was a fire rake. He used a piece of half inch round. One end was spread to about an inch wide and a foot long. This is the end that will become the rake.

Before bending the rake into a long flat "C" shape, Ed added something special to the tip of the rake. That something special was a "V" notch. The "V" formed sharp corners, which allows a person to break up coke quite effectively. The sharp corners dig into the coke and breaks it up. The typical rounded rake end has a tendency to slip of to one side or another.

The rake and the "V" notch really works. Ed made a rake for my new forge at Barrington Farm and it really works well.

The rake handle was simple and functional. The rod was bent back on itself with an eye shape in the end for hanging. To dress this simple handle up a little, a piece of copper for brass could be wrapped around the end of the handle where the end of the stock meets the shaft and at the base of the eye. The section of rod that forms the handle could be treated with all kinds of texturing too.

When using the cut-off hardie be sure to watch where the hot cut-off goes. Ed followed his right into his tool bag where some papers caught on fire immediately.

With the rake complete, Ed started on a shovel. Early on in this part of his demonstration he said, "Tools are where you find them." To prove the point he picked up a piece of rebar and made a punch. He found the tool he needed in the rebar.

Part of the fascination of working with iron in my opinion is figuring out how to make something work with the resources at hand. That is being able to 'see a tool' in a pile of scrap, bring it out of that scrap and use it to finish the job. It may also mean that you find a new way to use the anvil. As Ed pointed out, the anvil is a great invention and very functional. It is probably safe to say a smith never finishes discovering ways to use it.

Ed says that sharp edges on anvils should be avoided. There seem to be a couple of reasons. One is that when the corners are sharp they have a tendency to break off with use. The other reason is that if the anvil has different radii along the face, the anvil becomes more functional. Think of the different radii as different tools.

Some rebar has a lot of carbon in it and makes durable tools. The amount of carbon can sometimes be determined by the ridge pattern and numbers on the bar. If anyone runs across the source that describes these markings, please send it to me. I will get it into the HABA Letter.

Rebar with a high carbon content also makes a great reamer. To make a reamer forge a gradual square taper on the bar. Make sure the corners are square. This requires some filing or grinding. Harden the taper and you have a reamer. Use different size rebar to make different size reamers.

Ed made the shovel blade from a square piece of plate about a sixteenth of an inch thick. The size and shape of a shovel blade is up to the maker. A good way to design a shovel blade is to make it first from a piece of sheet lead. Cut out a piece and form it with your hands. Trim as you go until you find the shape you like. Then flatten the lead sheet and you have a template for your shovel blade.

Ed formed the shovel blade over the edge and heel of the anvil. The anvil he was using had sharp edges and the shovel blade got marred a little before Frank Walters offered his smaller anvil with rounded edges.

If the corners of a shovel blade will be square-like, it takes some time to get the corners right. When forging the corners the thin plate has to be upset a bit to make the corner. Remember not to strike the corners directly. Strike to the side and work the high spots down slowly.

Next came the handle for the shovel blade. A couple of inches of a round bar were spread using half-face blows. This technique puts a step in the profile of the bar. The side of the step is the place where the thin edge of the shovel blade rests. The spread area gets punched in two places and the shovel blade gets punched to match the handle holes. The two pieces are then riveted together.

When punching the holes in the spread area of the handle, make sure to start punching from the back or the side without the step. If this is done so the front or step side can face up and be punched easily over the pritchel hole.

After lunch and the HABA Raffle, Ed demonstrated how to make a flint striker. A striker needs to be soft enough to let the flint peel a small piece of steel off the striker and hard enough to create the friction during striking to obtain the heat for the tinder to start on fire. Finding the correct hardness and softness to get these qualities takes some trial and error when the kind of steel used to make the striker is not known.

Well Ed had the opportunity to work through the trial and error process before he got the hardening right.

We stopped for lunch around noon to enjoy a great BBQ dinner prepared by Charles and Sharon and some family members. We all chipped in \$3.00 to help defray some of the cost associated with this feast. There were four kinds of meat, beans, potato salad, cold slaw and about every kind of trimmings you can imagine.

We all ate well as the conversations of the day's activities continued without stop. What a way to dedicate a new forge, a great demonstrator, fine food, family and the camaraderie of fellow smiths.

Thank you Charles and Sharon Heathcock for including HABA in your celebration.



SEPTEMBER 18 MEETING

The September 18 meeting will be held at Tudor Forge near Magnolia, TX. Things will get started about 9:00 am. Please bring a pair of safety glasses with side shields and a bite to eat. HABA will provide water and soda to drink. You are invited to bring something for the Show-N-Tell table and the Raffle. Forges are always welcome.

Dave Koenig will demonstrate some of the things he learned working on two recent hardware projects. He also plans to share some new ideas from the Michael Saari workshop sponsored by the North Texas Blacksmith's Association.

Directions To Tudor Forge

Take 249 NW from Houston. Travel through the towns of Tomball, Decker Prairie and Pinehurst. At Pinehurst, 249 changes to 1774. Stay on 1774. About three miles ahead on 1774 look for a Texaco station on the west side of the road. One half mile past the Texaco station, turn left or west on Tudor Way. You will find the forge about a mile down the road.

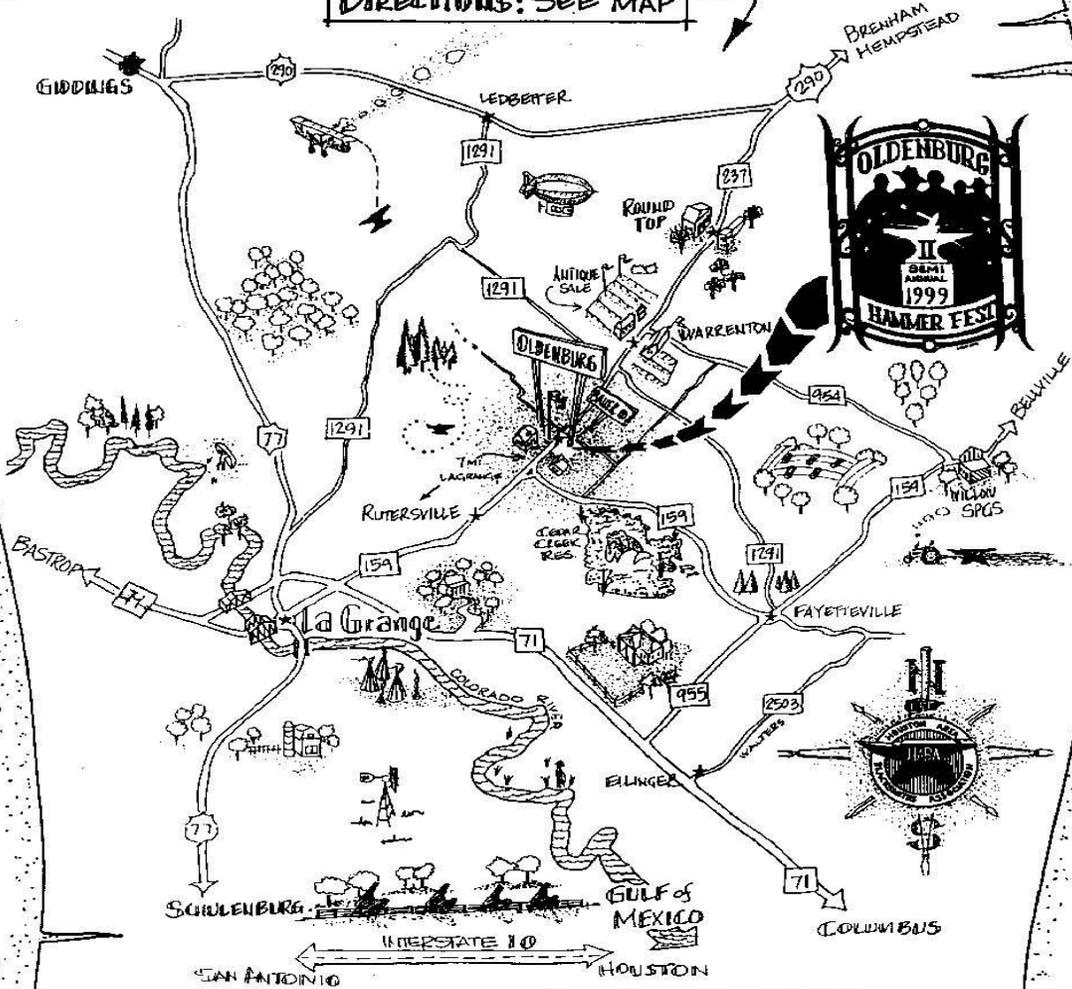
From the intersection of 1488 and 1774 in Magnolia, go south on 1774 about 4 miles. Look for Tudor Way just after the Country Jamboree building. If you see the Texaco station you went too far.

THE FINE PRINT

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HOUSTON AREA BLACKSMITHS ASSOCIATION

DIRECTIONS: SEE MAP



OLDENBURG HAMMER FEST, 1999.

1ST WEEKEND of APRIL and OCTOBER

BUY, SELL, TRADE, DEMONSTRATE.

MORE INFO: FRANK WALTERS 713-896-7566 DAY

LARRY HOFF 281-890-8822 EVE.