

## CHARCOALING FOR MARK BIRD

Forty-eight woodcutters, usually neighboring farmers earned 326.7.10 $\frac{1}{2}$  by the 1784 cutting of 2855 $\frac{1}{2}$  cords, about ~~1248,17~~, or about \$21.52 <sup>EACH</sup> ~~each~~ for cutting about 49.2 cords each. Mark Bird then sold these 2855 $\frac{1}{2}$  cords to his Master Colliers and paid them 12 Shillings a load( \$1.56) for the charcoal they converted from this wood. Several woodcutters, including the colliers, cut well over a 100 cords. Here and at all ironworks until the day of the "free" public school, sons of the woodcutters cut the lapwood, <sup>small trees,</sup> branches and limbs down to thumb diameter, into four-foot lengths and piled them separately. This boy-work with hatchets; enabled Pop to concentrate on dropping the tree, loping off the limbs, cutting wood into four-foot lengths and then splitting and piling this heavier cordwood. Hence, ~~THE REAL~~ <sup>THE REAL</sup> cutting force was 48 men and their uncounted ~~hatchet~~ hatchet-wielding sons.

## COLLIERS CUT CORDWOOD IN WINTER

During the life of Hopewell Furnace, colliers, <sup>ALSO</sup> cut wood in the winter season <sup>very difficult</sup> when <sup>IT</sup> it was impossible/to coal charcoal. Everyone needed a full year's work to ~~it~~ live. Eight of Hopewell's ten colliers in 1784, including Master Collier Witherington( 60 cords for 6.15.0, nearly \$18) and Keeper Roads earned pay by cutting wood, <sup>GO DIP</sup> ~~plus~~ furnace workers in out-of-blast time. These colliers cut from 4 $\frac{1}{2}$  to 117 cords each, earning from 2 to 2/6 per cord, .26-29, a pay differential probably based on carrying wood out of a stony area, or off a hillside. The average of these eight colliers-woodcutters was about 57 cords each with average earnings of 6.8.2, about \$16.96 each, based on the Pound at 52.66 in 1792. This winter work boosted their average total earnings to about 28.3.5 for the year, about \$71. Recall that apprentice colliers worked as little as two months with all eight assistants averaging <sup>8</sup> four months and two days each. Three charred coal for six months; two for four months and the other two only worked at their chosen trade three months. ~~6~~

A half century later, Ironmaster Clement Brooke expressed his need for 6,000 cords annually. This required the winter-work of about a hundred woodcutters ~~xxxxxxx~~ without counting hatchet-chopping sons. Twelve colliers then coaled from mid-April to mid-November. By this work, Brooke iron output was not limited to charcoal availability but by the "life" of the sandstone furnace lining, about 11½ months a year of actual production.

There is but ONE indication of blast duration in this SOLE surviving Bird Record, that ending by the <sup>April</sup> 1734 hearth and inwall replacement. Founder and moulder pay, normally based on blast duration, in Bird's time ~~was~~ HAD also to be based on the death of Founder Steese as well as that caused by the inwall burn-through in April. There was NO Charcoal shortage.

#### EXAMPLES OF ASSISTANT COLLIERS

While Thomas Hughes <sup>(p 121, 126, 144)</sup> and Peter Schubert <sup>(p 84, 97)</sup> coaled with two Master Colliers, ~~precisely~~ precisely how they worked is unknown and unhinted. Schubert hardly "moonlighted" in drawing 139 wagon loads of 24 bushels each for Master Collier Sims, since drawing coal was a's time consuming, sometimes as long as the actual coaling process. A shilling a load, about 13 pence, was pay for this skilled work. He then drew 5L a month, about \$15.30, from Witherinton for three months ~~his~~ 's work. Hughes coaled for a month with the same Master Collier, perhaps becoming sufficiently skilled to DEMAND a half Pound extra ~~for~~ for the three months and 11 days he coaled ~~for~~ for Sims. "Pig metal" ( p 9a) paid him for "coaling one pit" 2.5.0, about \$5.97) but time required not given.

#### MASTER COLLIER METHODS

As stated, Bird sold the 2855½ cords cut by hired workmen to his two Master Colliers and to collier Boyse (Boice). <sup>fi</sup> This total cordwood cost him over 326L, about \$867, for cutting alone. He sold it to his converters for about 285L, "losing" three to six pence a cord in the process, or about 40L. HOWEVER, this charge was purely bookkeeping. Clement Brooke used the same process with one of his three Master Colliers a half century later, seemingly following the desire of that skilled collier.

These Bird Master Colliers also paid the costs of hauling the wood from the cutting location into the hearth. <sup>THESE MEN EARNED 9 times FOR HANDLING A CORD</sup> T. Sims paid over 55L for the sledding of 1652 cords and J. Witherington over 48L for the movement of 1148 cords.

TWICE!

COMPARISON OF MASTER COLLIER INCOME

Based on earnings of collier Boyse, who seemingly coaled for himself as well as working for Master Collier Witherington, the latter might well have compared his earnings with those of Boyse and considered whether the responsibilities for producing QUALITY dyarcoal were worth the lesser income.

Witherington( possibly with a drinking <sup>k</sup>problem) ~~had~~ earned 298.6.8, about \$792, spent little for clothing, drew little cash and was in DEBT 14L (over\$37) at the year's end.

Abram Boyse( p 69,128) termed here Master Collier since he coaled for himself as well as for Witherington, was also in DEBT when 1784 ended 8.2.6( about \$21.50) but he had drawn cash in the amount of 10.2.0( over \$26), purchased <sup>6L</sup> a watch( abt \$16), paid ~~2~~ 2 L to the tailor( \$5.32) and spent ~~9~~ 9.14.6 (almost \$26) in four outside store accounts. This expenditure of over \$68 well balanced his "debt" of \$21.50.

MASTER COLLIER SIMS, ( p 61, 130,143) fared better than Witherington because he charred fifty percent more cordwood in the same time. At year's end he was also in DEBT to Bird for 19L,(abt\$50), but he had drawn over 71 L in cash ( over \$188). His earnings had totalled 470.14.1 1/2, about \$1252.

Collier	Gross earnings	Cords bought	L <sup>U</sup> ads of coal	Cords per load	"Debt"
Witherington	298.6.8	1148	482	2.381	14.9.0 (\$37.00)
Boyse	45.8.9	55	32	1.718	8.2.6 (\$21.50)
Sims	470.14.1 1/2	1652	719	2.297	19.1.18 (\$50.00)

Actually, how these skilled workmen "lived" helps explain their actual cash position. <sup>WITHOUT QUESTION</sup> BUT on the basis of cords per load, Boyse was the BEST collier and Witherington the POOREST.

MASTER COLLIER WITHERINGTON

Master Collier Witherington (p 16, 109) ate bacon while coaling in the woods, but purchased 994 pounds of flour for his family of three or more, averaging

2.7 pounds-loaves daily for every day of 1784. This included the use of 28 pounds of rye flour and 56 of Indian (corn) meal. His meat purchases averaged 1.43 pounds daily, plus 60 mackerel, of which 18 were probably salt brined. His meat consisted of: beef 248 3/4 lbs, pork 252 3/4, and bacon 12 1/2 pounds. His staples were 8 pounds of coffee and 14 of sugar.

While Hopewell <sup>did</sup> sell molasses, the poor man's sweetening, at 2/8 a gallon, (.34), he bought none. He used tobacco moderately. Reflecting his hot collier work, he purchased five coal baskets, two shovels and eleven pair of shoes. He also charged a pair for his wife and child. No clothing nor tailoring entered the Journal and he bought only 1 1/2 yards of linen. He drew little cash and his outside merchant's accounts were minor, The sole "extravagance" was the purchase of two pounds of candle tallow at 8 p nce a pound. Hiring a team for a day suggested garden work as did the resteeing of his hoe three times. He most likely purchased potatoes when his own were exhausted. Four quarts of rum and whiskey purchased within a short time MHT explain the two "fines" for ~~XXXXXXXX~~ "diappointing the team". These fines- a practice continued by the Brooke-Buckley partnership- cost him 7/6 (.98) and 15S, (1.96) the <sup>last</sup> ~~best~~ <sup>delaying</sup> for two loads of charcoal. His earnings per load were 12S, \$1.56)

PART YEAR WORK IN CHARCOALING of 60 cords for Bird Witherington, with his woodcutting/did NOT work an entire year ~~XXXXXXXX~~

at ~~for~~ Hopewell. (Nor did any other Master Collier.) He produced 482 wagonloads OVER three loads daily each of 24 baskets in five months and a half, or/in 145 days. / He worked Sundays; teamsters did not. Until compared with Boyse and Sims, Witherington seems to have done well financially. Finally, an ~~unexplained~~ single payment to woodcutter John Wiley for 21.4.5 ( \$56.43) is one unexplained reason for his 14 L debt.

3/6/2  
1/12  
1/17

PETER MOYER, independent collier( p 86) presents difficulty in interpretation,  
MAINLY because he was paid for converting 100 cords of wood into 94 LOADS OF  
COAL- AN IMPOSSIBILITY. Of the three Master Colliers, Boyse had produced  
ON THE BASIS OF BOYSE PRODUCTION 94 LOADS WOULD BE REQUIRED  
the HIGHEST, a load of 24 baskets FROM 1.718 cords. Why 32 loads earned  
this collier 15 S a load and the remainder only 12 S is also unknown.

COAL QUALITY MAY be the answer ~~TWO~~ docking penalties for 140 bushels showed  
that 24 baskets are a load, the payment basis to the other Bird Colliers  
abt \$ 9.96.  
Out of his 94 loads he was "doct" 5 5/6 loads or 3.14.6/ His total earnings  
for coaling the 94 loads were 61.4.0, abt \$162.78.

His costs included woodhauling 110 cords at 7 1/2 pence. He cut the 100 cords  
himself and received 2S, .26 a cord for that work. He hired Collier Adam  
who also coaled with Witherington abt .45  
Miller/for 10 1/2 days to assist in this coaling, paying him 3/6/a day. 1.16.9

3 Moyer's SERVANTS earned 15 S for six day's <sup>OF UNSTATED</sup> work at Hopewell,

He bought only 5 1/2 pounds of beef at 6 pence, and two mackeral, NO flour,  
~~XXXXXXXX~~ But he did spend 7.4.0 with merchant John Gray.  
pork, bacon, cloth, clothing, nor tailoring. He used tobacco and whiskey, ~~bas~~  
based on Hopewell sales, very moderately. He drew cash 13 times, an average of  
once a month, 31.19.6, abt \$85.12

Out of his total earnings of 99.7.10 1/2, ~~abt~~ a bit less than \$266, he owed  
Mark Bird 27.0.0 1/2, abt \$71.82. However, his initial Journal charge was a  
debt to a Philadelphia meat dource for 30 L, <sup>abt</sup> 79.80 1/2

ABRAM SINK, ( p 26) earned his livelihood by sledding wood from the piles setup by the woodcutters to the colliers at the hearth and was paid by the collier. (Brooke-Duckley partnership reversed this system.) His pay for loading every stick of a cord onto his sled, sledding and then unloading every stick of lapwood and cordwood was NINE PENCE a cord. His eight pounds of sugar also cost him 9 pence; his coffee 15½ pence apound. Salt he must have purchased elsewhere since he bought but a single pint. Even before his woodhauling credits entered the Journal, his heavy purchases of horse feed identified him as a teamster. He purchased (above what he might have raised) 35 bushels of rye, 5 3/4 of "feed" and 1 bu of oats. His six trips to the blacksmith for 14 shoes and hame ironing cost him about a shilling a shoe, a total of 18/6 ( \$2.40).

He used tobacco very moderately, bought m<sup>e</sup> pork, 145.5 lb, than beef, 58.5, and six fish in ~~xxx~~ 1784. Bacon may have been his main food while hauling wood/distant from his home. Meatwise, he ( and his family) consumed .6 pounds every day in 1784. Flour, including 56 of rye and 28 of Indian Meal, averaged 2.256 pounds-LOAVES every day. The purchase of a new axe at 9/6 (\$1.20) and a socket wedge marked him as a wood cutter.

Sink bought no cloth, nor tailoring, but did have three orders with merchant John Gray ~~xxx~~ totalling 2 L. Hopewell's store did supply him with three pairs of shoes. He drew cash 18 times, a total of 7.4.0½ (\$19.14). ~~xxxxxxxxxxxxxxxx~~

His earnings were:

Hauling 100 cords for Collier Moyer @ 7½ p)	
" 1148 " " MC Witherington 9 p)	<del>xxx</del> 49.5.8
Cutting 70 cords @ 2/3	7.17.8

Cut of his total income of 63.1.10, about \$160) Sink owed Mark Bird 11.19.1 practically \$31.92. But nearly half, 5.5.2 was through an unexplained credit of April 19, 1785. Sink had "saved" about \$15.