

P. Overden

FRITH Furnace.

to
Editor
Bulletin

WEALD IRON RESEARCH GROUP

Winter 1973/4 scheme for revising information on water-powered sites included by E. Straker in Wealden Iron (1931).

The following points are designed to produce a rapid survey of these sites, many of which have not been visited in recent years. You will be aware that Straker's site-comments were unsystematic, and, beyond this, modern developments such as trees clearance or planting, bulldozing, or building, have made major changes.

Please ensure an adequate National Grid Reference.



- 1. Name of site. State if that used by Straker is in any way misleading.

FRITH 5428
Northchapel

- 2. National Grid Reference (2 letters, 6 figures).

SU 955309.

- 3. Access. State problems of terrain or land-use. (If the name of owner and tenant is easily available, this could be useful.)

Pelworth Estate

- 4. Features on the ground.

Main Dam Length 120 m.

100m

Height (estimate from both upstream and downstream sides if possible.)

4m.

Condition (i.e. gaps, erosion etc; are there any good cross-sections in bulldozed gaps? If so, do these show the construction materials used at different stages?)

Complete with gap at W end several attempts at reinforcing with furnace stone.

Pen-ponds - is there any evidence for dams upstream from the main supply pond?

None

Mine pits - are there any close by?

Pitt field see map.

The area below the dam

Clear indications of buildings, wheel-pits, sluices, etc.

Dobble furnace wheel pit & spillway see notes.

Surface irregularities

As above.

5. Slags and cinders. (Keep samples.)
- Blast furnace slags (glassy). How much?
What is the general colour range? (In particular are there significant quantities light in colour?)

Green glassy see notes

- Forge cinders (generally rusty, bubbly, but varying widely in form.)
How much?

Are there many large cakes ("Furnace bottoms") over, say, 18"x 18"?

None

- Ore - any scatter?

None

- Purple shelly limestone - any?

None

Other surface finds (pottery, clay pipes, timbers, etc.) Note these

None

6. Are there any buildings, industrial, domestic or agricultural, apparently dating from the likely period of the site? Note briefly.

Recently demolished some evidence of contemporary foundations

7. Has the site been re-used (e.g. corn or fulling mill)?

No.

8. Do you know of any published or unpublished excavation which may have taken place? Note details, in particular of the excavator and location of finds in the case of unpublished work.

None.

9. Is the site apparently threatened in any way?

W. (Scheduled)

10. Do you know of any documentation missed by Straker? State details and whereabouts, if known.

None.

11. Other comments.

See notes. Bear in spallway
partly metallic & heavily corroded

Site Notes - Frith furnace

The bay, forming the boundary between Pond Field and Frith Copse, is high and curved outwards from the pond which is now completely dry and used for pasture. The stream has broken through at the western end and several attempts have been made to shore up the bank here with sandstone blocks of the type commonly used in the construction of the local furnaces. Similar slabs appear as stepping-stones in the ford to the S.E. The bay shows no sign of a roadway on top and the only obvious access is the track running South from Eastlands Farm road, across the eastern end of the bay and curving West over the stream at the present, wooden bridge.

The house East of this track has been demolished in recent memory and was described locally as "old". Tudor bricks abound on the site but the absence of stone does not support contemporaneity with the furnace, neither does the orientation.

A notable feature is the deep hollow on the East of the track and slightly to the North of the line of the bay. On the North bank of the runnel at the bottom is a large bar, mostly of soft malleable metal, noticeably corroded (contra Roundwyck). A neatly constructed, circular brick culvert extends from the bottom of Pond Field, under the track and into the bottom of the hollow. Both ends of the culvert are surrounded with unmortared sandstone blocks. The runnel extends along the boundary of Furnace Field for some 800 ft. until it meets the stream. At this point a man-made bank has been partly eroded by the stream.

Some 70 ft. below the bay, a T-shaped bank extends from the track for 30 ft. bearing four well-grown trees. Extensions of this bank are discernable to form two hollows. In the centre of the South hollow a large block of sandstone is visible. Between the North hollow and the bay fragments of tile and mortar are to be seen. The whole of this area is covered in small fragments of slag and charcoal dust. Immediately West of these hollows a long, narrow depression extends South to the stream, meeting it beside the present bridge, but it does not obviously extend right back to the bay. To the East of this depression, and extending South to the track is a long slag heap. Other, unconsolidated heaps extend Westward under the bay.

Black loam, containing charcoal and ironstone fragments, occurs 110 ft. South from the bay on the East side of the track in a small hollow. Some Tudor bricks are also visible.

Place Names

Some confusion has arisen locally over the location of Furnace Field and Pond Field. The two northernmost fields so named are as given on the Tythe Map. The most Southerly is probably Straker's Furnace Pond Field. Minepitt Field is well outside the area of exploitation delineated by Worssam (Proc. Geol. Assoc., 1964, 75, 529). The evidence in the stream is of a thin bed of ferruginous sandstone below Topley's sandstone 7e.

5. On the 1610 Estate map, the only road out of the furnace area is the track to Eastlands Farm and if Straker is right in assuming that Frith belonged to Thos. Smith in 1574 and was worked by him in conjunction with Mitchellpark forge then a more direct route would have been expected. Mr. Luard has kindly pointed out that such a direct route would have been provided by the, later, coach road which may have used an existing road. A careful examination of this route South from the furnace could provide evidence of contemporaneity in the form of culverts and road metalling.
6. Records show that Frith was worked for at least 100 years and maybe longer. It is not possible to tell if this represented continuous operation. However, nearby Imbham's did not last so long and Shillinglee had a short life. The forge, at Hammer Bridge, shows two distinct periods of working, evidenced by two layers of cinder separated by a thick bed of silt in the stream bank. Local conditions may have operated favourably for Frith and it is to be hoped that social conditions as indicated by Estate and Parish records will reveal what these were.

P.J. Ovenden,
Chemistry Department,
Southampton University.

30th April 1972.

WEALDEN IRON RESEARCH GROUP
14.3.98

5900

5000

5000

BEAR = METAL

○ SPILLWAY

SANDSTONE
2'6" x 4'6"

12" THICK

FU

Pond Bay

Ironworks
(site of)

WALLS
??

SMALL
BEAR

WBARS

PLATFORMS

LOWER
PLATFORM

GATE

FROM SHIPLEY
MILL HOOD

metal
NOT
ALREADY

TRACKWAY
STOPS
SOON

BANK

S
DARS = S

14/6/98

14.3.98

5000

5900

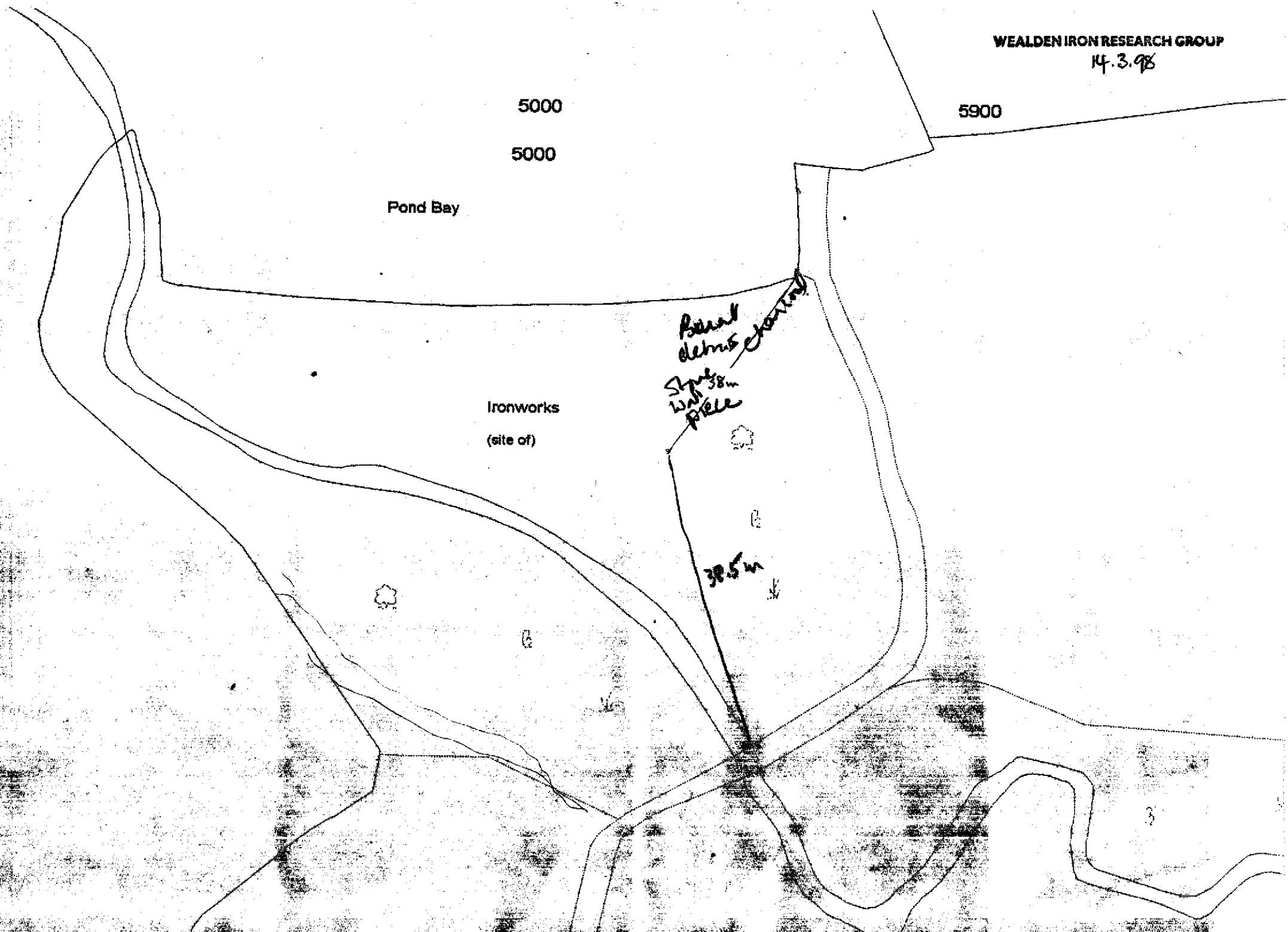
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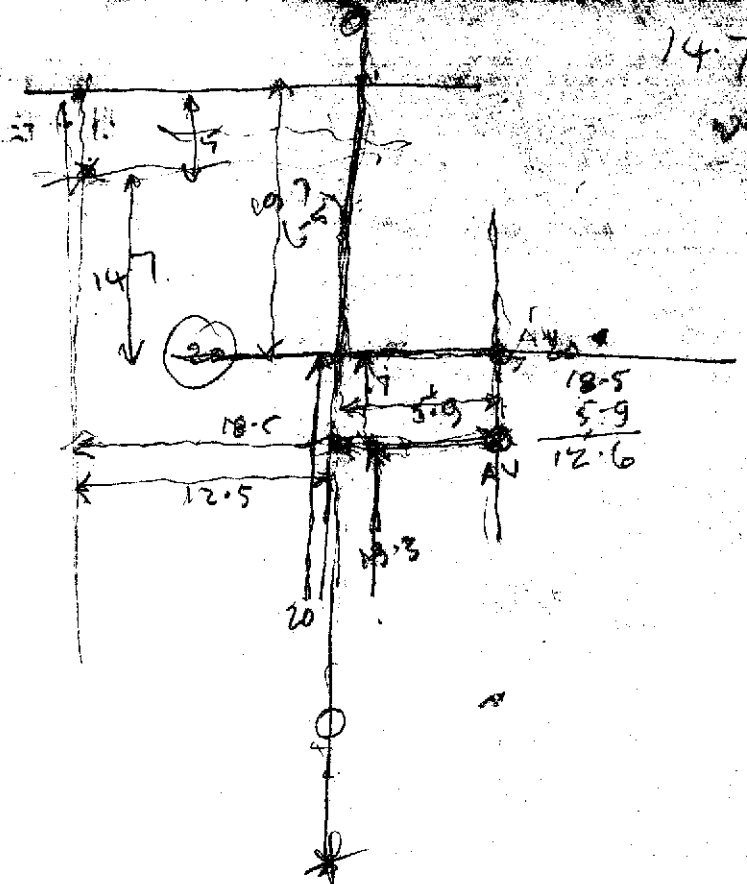
Pond Bay

Ironworks
(site of)

*Basal
debris channel
Spine
Wid 38m
pile*

385m





14.7

20.4

$$\begin{array}{r} 20.7 \\ 21.4 \\ \hline 42.1 \\ 21.7 \\ \hline 63.8 \\ 20.4 \end{array}$$

$$\begin{array}{r} 21.4 \\ 1.7 \\ \hline 19.7 \end{array}$$

15.7
14.7

26.4

S = slag

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14.3.98

5000
5000

5900



intake?

Pond Bay

Well section of wall in 6'x6'x2.5' stone & mortar

3' x 2' x 1.5' large slag lump

Timber in stream

Tree
start of raceway

Bear Mollus

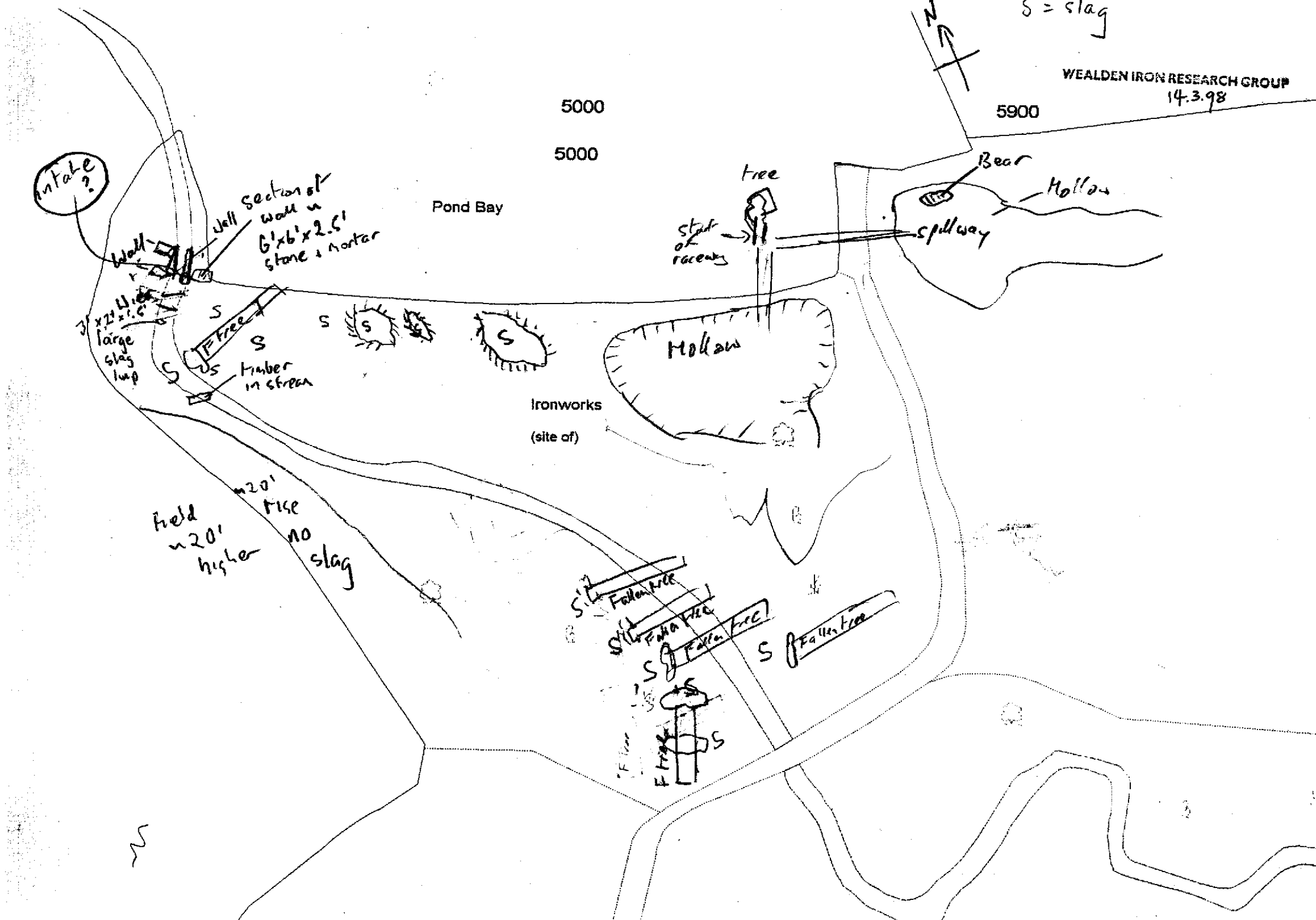
spillway

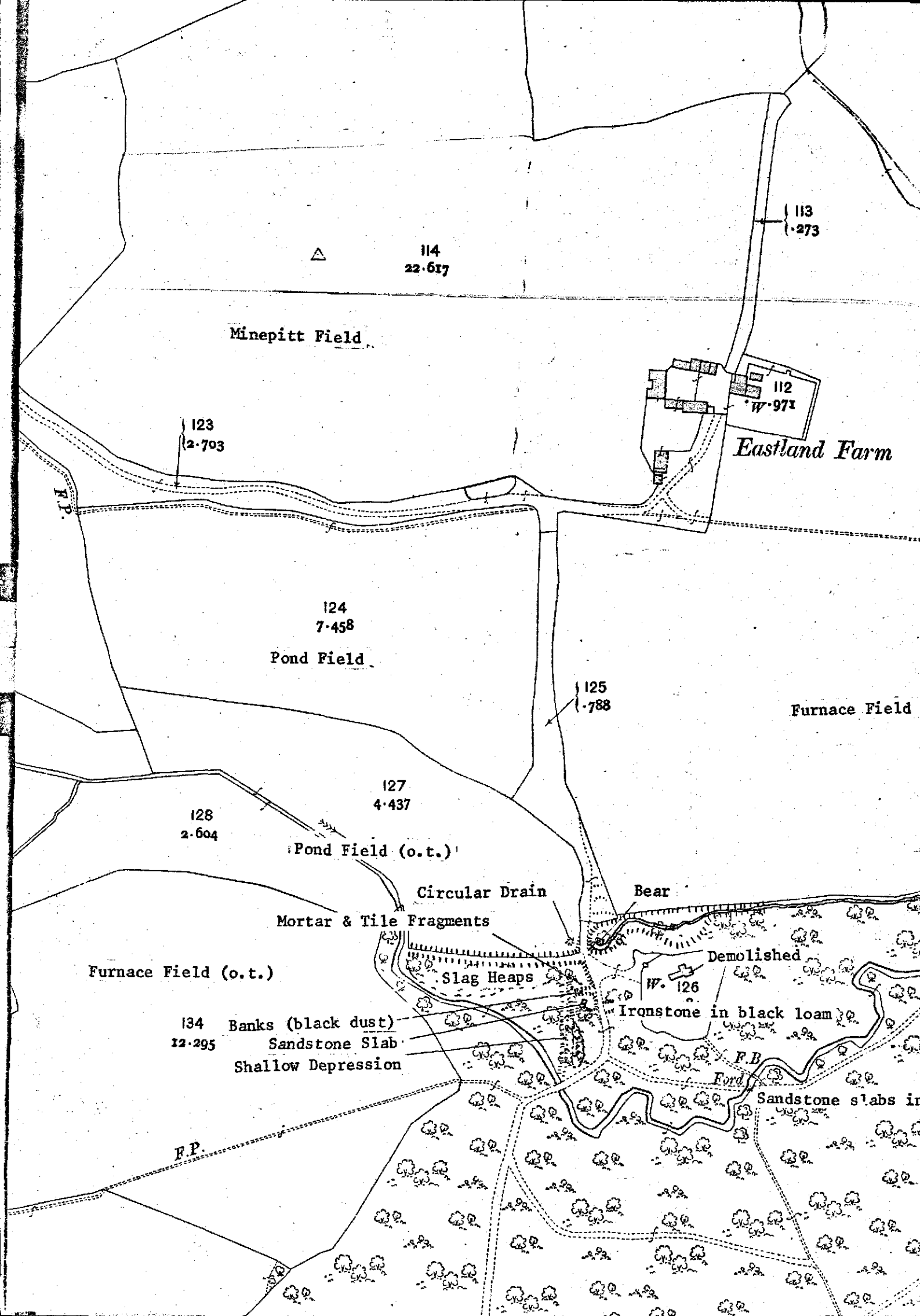
Mollus

Ironworks
(site of)

Field n20' rise n20' higher NO slag

Site Fallen tree
Site Fallen tree
Site Fallen tree
Site Fallen tree
Site Fallen tree
Site Fallen tree





114
22.617

113
1.273

Minepitt Field

123
2.703

112
W. 971

Eastland Farm

124
7.458

Pond Field

125
1.788

Furnace Field

127
4.437

Pond Field (o.t.)

128
2.604

Furnace Field (o.t.)

Circular Drain

Bear

Mortar & Tile Fragments

Demolished

Slag Heaps

W. 126

Ironstone in black loam

134 Banks (black dust)
12.295 Sandstone Slab
Shallow Depression

F.B.

Ford

Sandstone slabs in

F.P.

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**west
sussex
county
council**

If calling please ask for My reference Your reference

John Mills **JPFM/jpfm/K1.339**
Archaeologist

13th February 1998

Dear Jeremy

Frith Furnace

Thank you for visiting the Kilnmead site yesterday; given the lack of dating evidence so far, your comments on the nature of the ironworking slag will be useful.

As regards Frith Furnace, I had in fact obtained some details of land ownership just after receiving your letter (but had forgotten about doing so!) in preparation for the proposed survey, which I hope to attend on the day.

The occupier of at least part of the site, according to information passed to me, is Steven/Stephen Thomas, Fisherstreet Farm, Northchapel (just off the A283), tel. 01428 707114; the owners Lloyds Bank Nominees Ltd. Also represented, I am given to understand, is the Northchapel Estate, agents Smiths Gore, Estate Office, Petworth GU28 6DU, tel. 01798 342502.

I look forward to receiving the results of the survey for inclusion in the SMR. With this end in view I enclose copies of two maps of the site for this collaborative project between WIRG and the SMR, reminding you that you must either return them to me or destroy them after completing the survey. Please let me know if you have any queries.

Best wishes



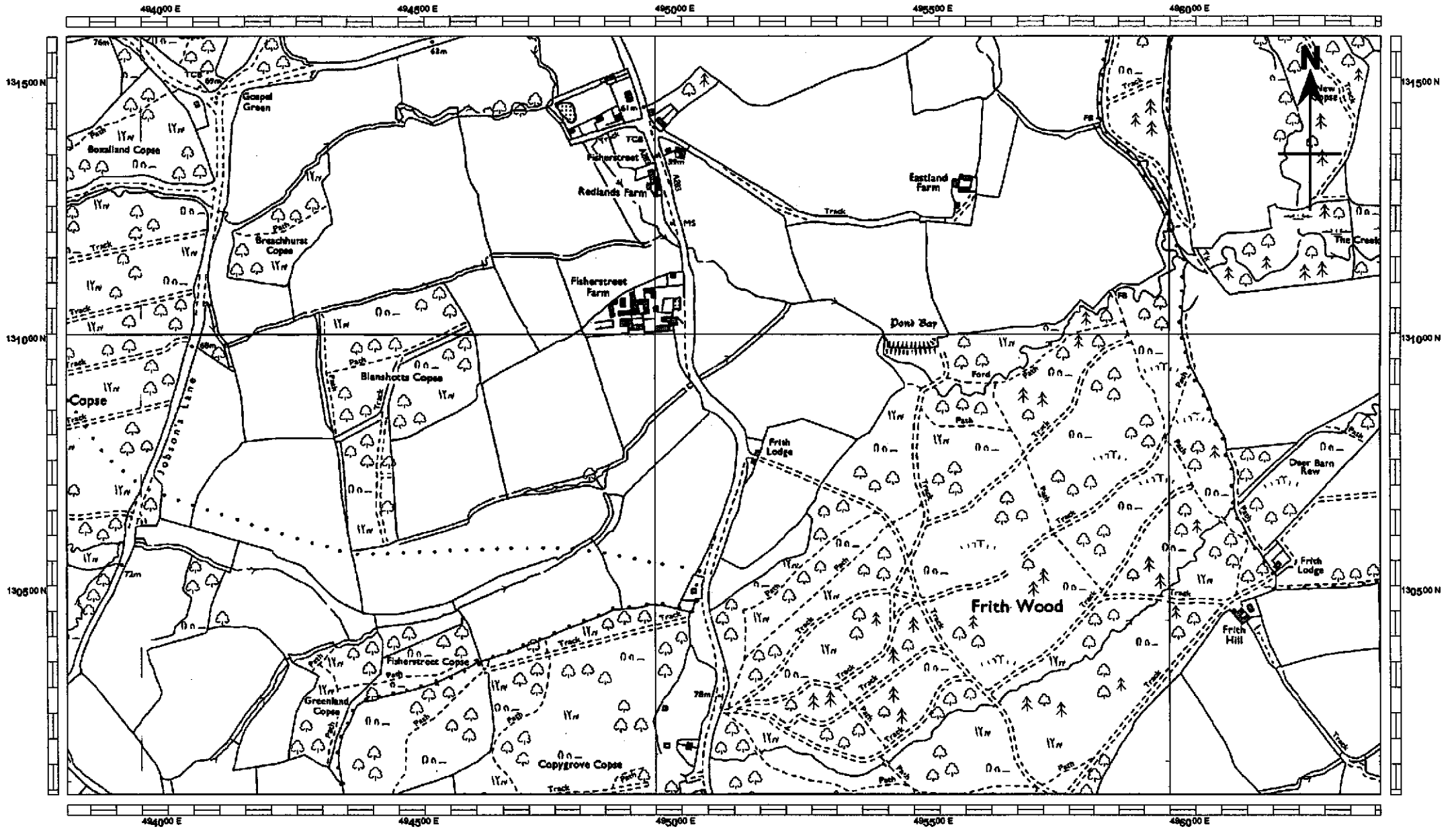
for County Planning Officer

**J Hodgkinson Esq
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INVESTOR IN PEOPLE





Date - 13/02/98

Scale - 1:10000

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Telephone : Kirdford 248.

IRON PEAR TREE FARM,
KIRDFORD,
Nr. BILLINGSHURST,
SUSSEX.

G. H. KENYON

December.1967.

Dear Mr Cleere,

Thank you for your letter of Nov. 11th regarding the Wealden Iron Res.Gp.

I think the best thing I can do at the moment is comment on some earlier published even at the risk of it being tedious material which I already have. material with which I had some connection, Starting with ~~the E.I.A.~~ Schubert's tiny map on his p. 35, the 3 western sites are all wrongly placed. Regarding site No. 23 in Piper's copse, where I did the work & the drawings & map. Thirty three years later I would modify Winbolt's report (which I agreed in 1935) in S.A.C. 77. p. 245. Schubert's inclusion of this site was based on Winbolt's report.

Today I would regard ~~the~~ the connection of this small earthwork with iron working as possible, even likely, but not proven because I could not recognise any bloomery cinder, indeed I cannot recollect ^{finding} anything like it. There undoubtedly was more of the local pudding stone ore on or close to the surface, inside the earthwork than I consider was indigenous. On S.A.C. 77. p. 249 my "irregular shelves and hollows which appear to be diggings for the pudding-stone ore" were shown 20 years ^{detailed} later, by the geological survey (c.1958) to be mainly quarries for paludina limestone, the so called Sussex marble. So I wonder if the site should be included before further work is done on it. It comes to light about every 15-20 yrs. I did not see it as a whole until long after the war. I should be fun for someone as it is in a very strange position.

The few E.I.A. pottery fragments went to the leading expert of the day who dated them as La Tene III (possibly II) and then lost them, so the evidence is gone for ever. A leading Roman expert, some years ago was reputed to have both his baths full of potsherds awaiting reports, so it is not unknown!

Today I would probably just say that a cooking hearth was found in the bank and leave it at that, with a hint, no more, that the amount of ore found on the site suggested some possible iron working. It is difficult to think of any other reason for this small earthwork in such an unlikely place, but that reason is far from convincing.

Schubert p. 22. note 2. changes Winbolt's hearth to a furnace, but the point of all this that as an iron working site this ~~remains~~ requires further work.

The pottery dating is probably correct.
in 1954,

I put a further short note on Piper's camp in S.N.Q. XIV. p. 59.

I enclose an offprint of a note ^{on Wealden Iron} I did for SNQ in 1952. Crossley has a copy but I thought you might like one too, for your file. There is a short note ^{of mine} in

SNQ XIII. p. 321 on two possible forge bars, with ? forge marks on them, weighing about 30 lbs ^{each}. Am I correct in thinking that iron produced in the Weald is almost rustless due to its high carbon content.

I also enclose two photos the map for you keep and ^{Wright of Derby's picture of a} forge for return as I have no copy left. The section of map \pm c.1650 with a conventional sign showing Frith furnace, ^(needs a magnifying glass) is described in pencil on ~~its~~ the back of the print.

I am afraid I did not note where the picture ^{by Wright} now is but the R.A. would know.

It is very rare combination of complete accuracy and much grace. The perfect illustration for eventual book.

Any new sites since Straker will probably ^{be} known to the Geological Survey, which is complete for this district & may be soon for the whole Wealden area. Their surveyors are very interested and know well what to look for. I expect you have already contacted them. One of them B.C. Worssam did a paper on the iron ore workings of the Western Weald. see Proc. of the Geological Assn. vol. 75. pt. 4. 1964. pp 529-546. There are a lot of holes, banks, ditches ^{old saw pits, stone diggings &c} and general disturbance in copses, but it needs a geologist to spot for certain ore diggings. I am sure they will play most happily.

I am old and not very mobile, but I could probably be of some small use with a ^{simple} ~~sim~~ questionnaire on iron working sites in this district, a few will be too inaccessible. My main problem is that I think I am safe on the local brew of blast furnace slag and waterpowered forge clinker, but I want guidance on bloomery cinder. with typical specimens in museums.

Perhaps this might be touched on at your meeting next year if it is not too elementary for the experts. I have not examined the Straker collection at Lewes, he may have dealt with this point. I knew Straker and did a little work ^{35 years ago,} for him. I gave Crossley the refs for 2 sites Straker asked me to examine (see separate sheet so you have a record also) I could then only give him Lat & Long as gridding had not started. I wonder if there is any quick formula for converting Straker's Lat & Long to grid refs. some of his are in the middle of the Atlantic, but it was not as easy as it is today. He did a stupendous job, pretty well single handed, though ^{he} kept in touch with local enthusiasts.

Wealden Iron was his deamon, and as an old & very crippled man he used to push a chair a few yards at a time, sit down and then push on again until he reached his site. He was a charmer, modest, generous and bursting with enthusiasm for his pet.

I don't know how Schubert worked, he uses Straker but does not seem to include one of the principal Straker furnaces ^{of which there are ample remains,} in this district. viz. Northpark, in Linchmere parish, Surrey. 'Wealden Iron' p. 426-7. He includes 2 furnaces in this parish Barkfold on p. 367 and Shillinglee on p. 387. but does not include them in his Sussex list on pp. 354-357. He appears to need checking. e.g. on p. 375 he says of Prith that it closed down in 1776. neither Straker nor I say this and he seems to have turned to the wrong page in W.I. namely p. 426 where the date of closing was 1776 but it applies to the Northpark furnace. which he omits.

A local bloomery site seems to need clearing up viz. Lurgashall. W.I. p.431.

I could try and sort out the surface evidence. I took the site as a bloomery because Straker said it was. I think it was water powered from a small pond at SU. 9415.25 2610. which Straker's map shows correctly. But Straker slightly confuses things by mentioning the large Lurgashall corn mill pond. He says the bloomery is near the N.E. end of this pond. It is 200 yards away. I will try and bring over some cinder for your diagnosis if I can get to the meeting you mention and if the stream dries up a bit. I wonder if Straker's 'speculation' that this was an illegal bloomery of Wm Yalden's in 1640, is not too late for even a waterpowered bloomery.

I hope the meeting wont be too far east in E.Sx. as its a long way from here. and not too early in the year.

Schubert .p. 356 & p.380 mentions Lurgashall (but omits it from his index) He stretches Straker's bloomery into a furnace and Straker's 'speculation' into of an illegal bloomery ~~of~~ with a casual ~~ref~~ to 1640. into the closing date.

There is, as far as I know, nothing to tie the Montague deed of 1585 with the only ironworking site so far known in Lurgashall. and the ambiguity of Straker's bloomery and Schubert's furnace needs further examination. The following is a summary of the deed which Schubert quotes. It is at Lewes. Sx.Arch.Soc. Deeds. S.A.62.

~~Bargain and sale by August~~ 6. August. 1585. Bargain and sale by Peter Yonge of Mydhurst yeoman to Anthony Viscount Montague.K.G. for £12 of a piece of land containing 3 acres in Lurgashall Co.Sussex near adjoining to the lands of the sd Viscount ~~Montague~~ whereupon he had then made a pond and whereupon he had also lately erected a furnace for the smelting and ~~making~~ of iron and upon part of which lands &c &c.

Lord Montague had Imbhams furnace(W.I. p.420.) c.1570. it is about 4 miles north of the Lurgashall site.

Whether Straker's bloomery and the above ¹⁵⁸⁵ Montague furnace are the same may or may not be soluble.

At this stage this may be too detailed for what you want but at least it is now recorded. I have kept ^{papers & Lurgashall on separate page} it one page for ease of filing.

With good wishes to your enterprise. Yours sincerely,

G.H. Kenyon

Two iron working sites which Straker asked me to examine about 35 years ago. Fernhurst area. I told him of them and he may have noted them somewhere in the notes & specimens he left to the Sx. Arch Soc. I have not visited them since and as grid refs were not then available I sent him the Lat & Long. from the 6 ins. O.S.

Inholmes Copse . a Furnace. 51.1. 45 North. O. 46. 45 West.

a high bay much blast furnace slag. no water in summer. This is almost certainly the pond shown on a recent 1". O.S. at 855. 262. where a bay is shown.

Surney Hatch. a furnace. 51. 1. 45 North. O. 42. 45 West.

this is 4 minutes due west of Inholms so should not be too difficult to trace. as it is on a small stream.

I noted a high bay, poor stream, masonry in dense woodland, much blast furnace slag.

Hingley



Will. Edes. Cop. mesuere
4-1-0
A P P

Bakers
A P
4-2-19

Brook street
A P P
5-1-30

Hollamaes Frechold
A P P
4-1-29

Will. Edes
3-1-36
A P P

Io: Flowers
3-0-30
A P P

Io: Edes
4-0-4
A P P

Io: Flowers
2-2-5
A P P

Beates
4-3-9
A P P

Hughe Bumble
5-0-9
A P P

John Rapleys
4-2-2-2
A P P

Beates P P
John Rapleys
4-5-14
A P P

William Christmas
12-2-25
P P

John Rapleys
3-3-9
A P P

Furnis Frechold
M^r Finche
4-0-2

Christmas
12-1-26
A P P

Io: Flowers
2-2-2-3
A P P

M^r Finche
8-0-4
P P

Christmas
7-2-4
A P P

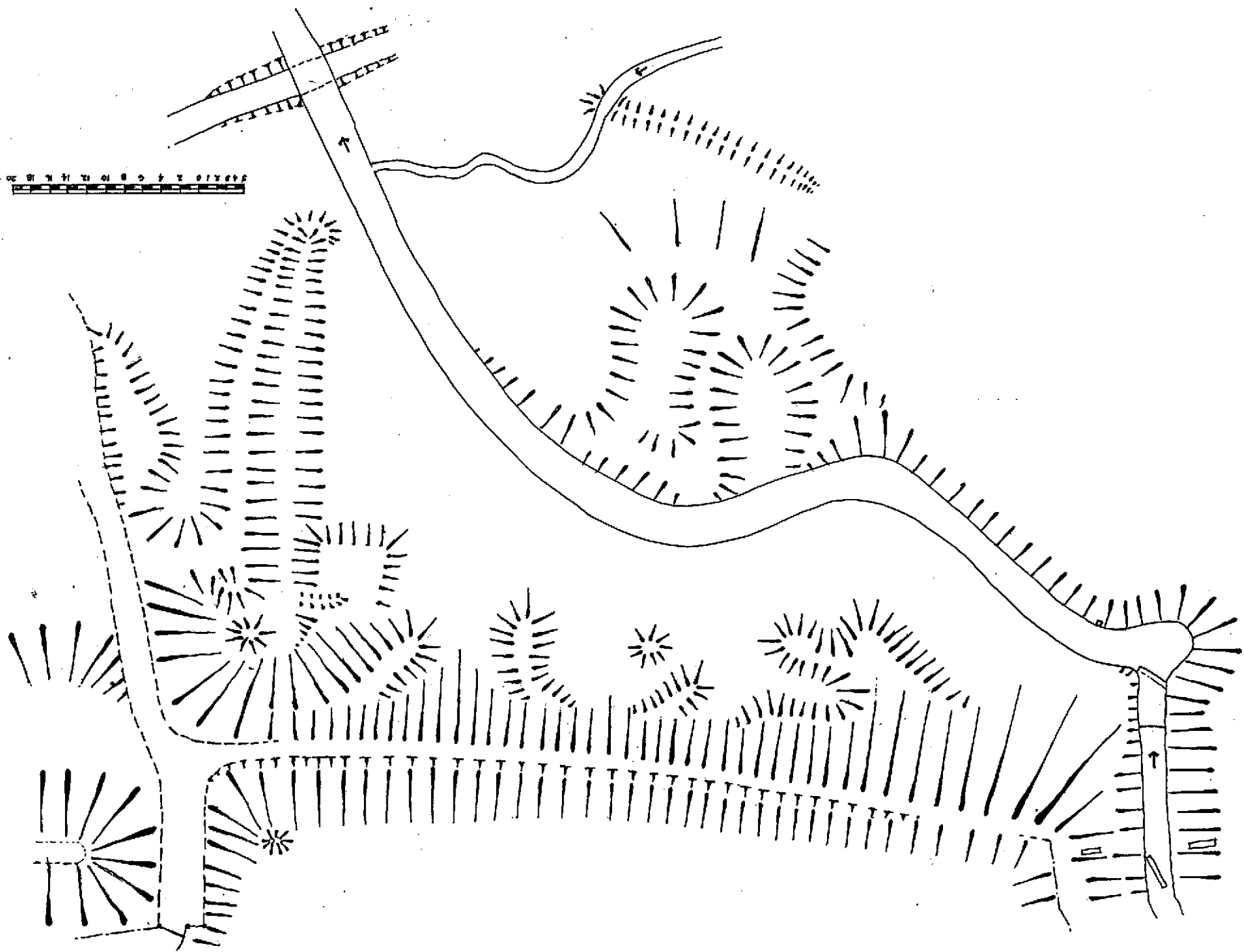
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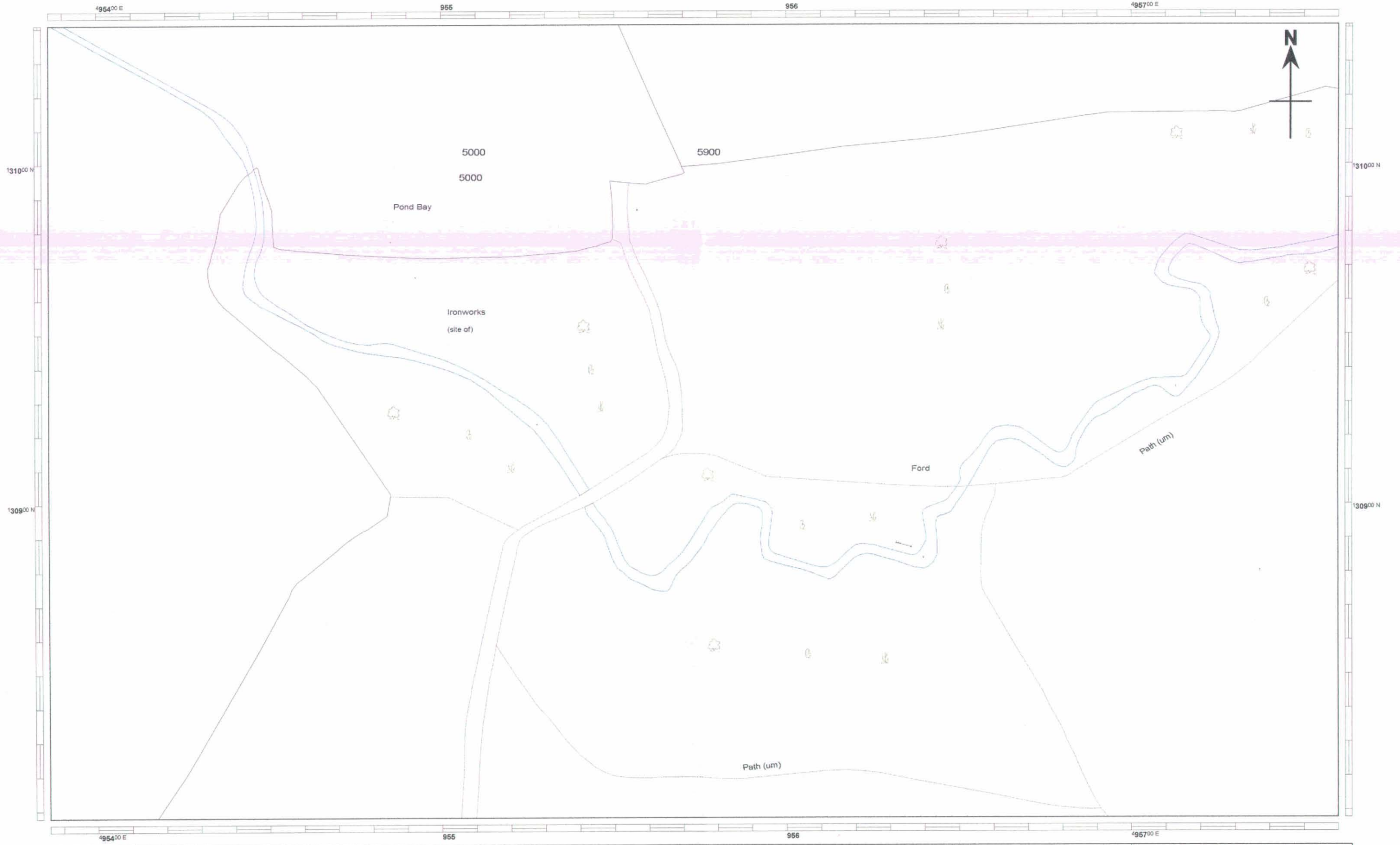
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for description of map, c. 1630 (caption unknown) see S.R.S. 61. p. 9.
The first furnace building ^{marked right} is also shown in
Ralph Foxcotte's map of 1610. Both in Petworth House archives
with circular, conventional signs.

X see also
a sketch map in Petworth Manor in the 17c. Lord Lecroft
O.C.P. 1954.

Scale bar with Chinese characters and numbers: 0 10 20 30 40 50 60 70 80 90 100





Date - 13/02/98
Scale - 1:1000

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