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JB

B1

TAPE ONE - SIDE ONE

JB Well, this is the Bryson retort of which I'm talking about just now and there is a, when you start off your brickwork there's a cone of which this large brick sits on with the female as little indents, you see and goes right round your .....

SB Cone.

JB The cone you see. Then you start at that part there that the projecting part sits in, into that which we term male and female. Well you start there then you work right round. Then up about three courses there what we term a butt you see, and from the other part of the structure of the retort there is a projecting brick and this butt goes tight against it so when the pressure comes on, later on it's static. Then you work another three courses and the same thing happens again. Then another three or four courses, but maybe, there is a big brick with the same features which is probably 14" at the back and 12" at the front. This is to take the curve of your retort. Then you start at a certain part you see where your gases are going to come up and you work from there with this big what we term a cover. Work it right round to within two bricks, you see, probably 12" at this part then you block off as you're coming up the next. You start off at A, then you start off at bricks no. B, which is a, that bit smaller as the retorts coming in, you see.

SB I see. Now are each brick, is each brick marked A, B, C. ?

JB No well, yes that's right. They come like that you see, you get a series of A bricks and it takes about 144 of these bricks to do what we term a heading. You see a height, a certain height to come up to the first cover. You see, then where your gas comes in at the bottom you take a brick right up the back of the brickwork again and see that it is more or less airtight so that your gases won't come through your brickwork. So they've got to go round see, then you come up into the next part of your retort which is B. The same thing happens again to C, and then to D.

SB So all the bricks at the bottoms are A, then the second section is B and it goes on until you reach C to D.

JB Yes.

SB I see.

JB Then when we come up to the last course of D bricks there again projecting from your other structure, your internal structure of the retort, you've a series of covers, what we term covers or brickwork that projects you see. So there again you have three probably four courses of these big bricks again. We term them covers and that closes in your retort altogether and so that your gases are still coming right up and down, and up and round.

JB It's round and round all your brickwork. Then we come to this entry into the oven chamber. We cut so much off one these last two covers, which, so that your gases and that will sweep up a nice sweepness into your, into the oven. So actually your four retorts come into the one oven. We build a little channel from one side of the retort to the other, probably I think it is 9" wide and in the middle of that area we leave an 18"x 18" opening and where two metals meet opposite each other leave an opening 9'x9'. There's one there and one over at the other side and this is to allow your gases to circulate evenly all over the retort away to an underground, what we term now, what be that one now a culvert you see and from there then it goes away to a chimney and of course it's the height of the chimney that sucks .....

SB Sucks it up.

JB Sucks that heat away you see and that's that. Where just beyond the oven you have where the four metals meet, and then from each metal your gases are drawn again by what we term a fan house. That sucks the gases away to your condenser and from your previous oils and that is broken up you see. Then the one at Winchburgh .....

SB Yes. Now you said you needed 144 A bricks.

JB 144. Yes.

SB A bricks. What about B bricks?

JB Same, same, same.

SB Same and B and the other one. Same again?

JB Same, same again you see.

SB Fine. Now how did the metal part at the top, the metal of the retort if you like rest on the bricks?

JB It rested on the bricks because your brickwork was finished see round, your brickwork was round and your metal was practically the same size as our finished brickwork.

SB I see but it must have been slightly wider so that it would be able to rest on the bricks.

JB Well no. Our brickwork finished at I think it was 28½" or something. Well your base of your metal, the internal part of your metal was 28½". Then you had a 6" big, huge, what shall I say now. A big rest.

SB I see. Yes.

JB You see, so actually, see if I can ( voice trails off into distance )

SB Around the metal, what did you then put? Did you put bricks around that as well?

JB Yes. There were bricks. That's right. There were bricks went round there and it was filled in with fire clay to it, to keep any draughts from ....

SB Yes, any air from going in.

JB That's right, although the ones at Westwood at first they were only laid on the brickwork.

SB Oh, I see.

JB Aye, and I had to go and build C courses of brick round the base of that, tight into the metal. Then we filled up the cavities so to speak with fire clay.

SB So it was a special mortar which you used?

JB No it was just a drip. We filled it up with dry fire clay you know. We built at Westwood tight into the metal then because as I say the draught was taking away the ..... What are we talking about? We were drawing the gas from inside of the retort as well.

SB I see.

JB So that was something that had to be ....

SB To be rectified. So you had bricks around the metallic part of the retort.

JB At the bottom yes.

SB At the bottom, yes and what about the top .... It was left?

JB That was left, aye that's right.

SB So what about the other bed? The outer coverage, covering rather.

JB Well, your outer covering of the retort was away. Let me see now, the outside brickwork ( ) That's external outside work.

SB Yes.

JB That came up on a slope. That's exaggerated you see and this, and then of course your inside retort now( ) It would follow, it would follow the .....

SB It was the same gradient?

JB It was the same. Same line.

SB Now, were the outside bricks special bricks again?

JB No, actually we used the ..... the outside brickwork was Pumpherstons bricks.

SB Yes.

JB Right, and the internal brickwork then was Dury. That was a hard brick. A hard brick and that came away through from Shotts. They do return, they made them.

SB I see.

JB So actually we have the, well at one time the miners. Actually be about 8" of brick I'd say, sitting about 2½" bricks your external wall.

SB Two and a half bricks thick?

JB Two and a half bricks thick. So, I mean you'd always have, well, you've one course, well your 9" would be Pumpherstons brick. The one time you see, and then of course at the next time would be a stretcher course ( ) Pumpherstons. In other words. Then there would be a fire brick.

SB I see. Yes.

JB You see, that would be Pumpherstons fire bricks for there. So it went on like that all the time. So you were getting the fire bricks as far out as you could possibly retain it you see.

SB So how wide was the gap between the inner skin and the outer skin in the brickwork?

JB Well, there again it was shall we say, at Westwood it was about 7". 7¼" at the top and 6½" at the bottom, would allow that to be used.

SB Yes, so lets assume now that I'm Scottish Oil and I said to you, "Right Mr Bell, there's the bricks, build me a retort", How would you start?

JB How would I start? Well let's assume that all the metal work is in, yes well .... Let us start off with the Winchburgh. You want me to start off with the Winchburgh?

SB Yes. The Winchburgh.

JB Or are you wanting the Westwood one?

SB Oh no, start with the Winchburgh and then we'll go on to the Westwood.

JB We'll start at the Westwood one. Well the cone is in position and then there's brickwork built solidly to the what we term the guts. You know what the guts is, you know? Because if your retorts, it would be, maybe about four retorts, let me see .... Now you have brickwork coming all round that, you know. Lets see, the brickwork..... ( voice fades )

JB Aye, you see you had brickwork coming right round it or not. All that. That's what we term .... Let's assume that's an outer and an inner. This is the retort, and that's the retort, well your ( ) there would be something like that.

SB It's like four circles of bricks into one set.

JB That's quite correct. That's right. Well, I could

look through and see my mate, I could look through and see my mate in here. Sometimes when there were gaps formed in the brickwork with the expansion contracted you know. There was a lot of expansion contracted.

SB With the heat!

JB With the heat, you see and at times or so, the brickwork would be put out as much as 2" directly from the inside pushing out the external work. Well anyway, as I say this is the retort with an inner circle you see, and this is all solid ( ) That's all solid ( ). Then as I say we have these, this is your brick, that is I just can't mind.

SB That's your A bricks.

JB That's an A brick, then you have your butts. Your butts coming ( ), then you see your butts coming. That's that, come on to there, another one here. Eight altogether. Eight butts.

SB Eight butts in a circle!

JB Eight butts in a circle. You've a butt, a brick, a butt and a brick. So you've sixteen bricks in the course. Sixteen bricks. Actually, you'd probably have four courses of ( ) bricks. The next course would be .....

SB Now what you call course we would probably call a layer.

JB A course is a layer, that's right and your next course would be, you would start off with maybe one of these keeping going when you're building brickwork.

SB You interjoined, yes?

JB You keep going, you see, half brick all the time so .....

SB Now on each layer, would your butt be at the same place or would it be alternative?

JB Not necessarily, depends on how this comes out the wall. Let's assume again that this is your main wall. Solid brickwork. Well, you'd have maybe a bit coming out like that so your butt would go against that.

SB Now on your next layer where would you butt this?

JB It maybe could be there, slightly. It maybe could be there. It could be there you see.

SB So in other words, they were kind of dispersed?

JB More or less. Yes that's right and then I say probably, remember that I said to you that it would be blocked. I'm not very good at doing this at all, but anyway from the butt there's six two courses. There's a series of big blocks or covers, or as we term them blocks. I think they were about 14" at the back and 12" at the front to accommodate the circle you see. We got seven of these, if I remember, seven of these in that course right and you would stop seeing them. Now let us assume when I mentioned there that we would take some brickwork up between the internal/external shall we say internal/external. That's stupid, but against that solid brickwork we have got then to make solid between there and this retort so that when the gases come in they can't get through

and it makes it go back the other way and then we do the same again here.

JB They stop it here and the gas goes round that way, then the next one .....

SB you're directing the gas?

JB You're directing the gas 'till it comes up to where are we about, now wait a minute ( referring to drawing ) Let me see now.

SB To the oven?

JB That's right 'till it comes up to the oven.

SB Now the oven is again built of bricks?

JB The oven is built of old fire bricks.

SB Are these just a straight forward shape?

JB Just straight.  $9 \times 4\frac{1}{2}$ , aye  $9 \times 4\frac{1}{2} \times 3$  this is. The fire brick.

SB Now I know this is a hard question, at a rough count, how many fire bricks would you need for a retort? A Winchburgh retort?

JB Do you mean for the ( ) itself?

SB From the top to the bottom.

JB Of a one single, of one single retort. Aye I think I can give you that roughly ( referring to drawing )

SB How many, 576, yes.

JB Now you've special covers you would have  $4 \times 7$ 's is 28. Now of course, I'm getting it. Just a minute, hold on 7, 14, that would be 21 'cause I'll need 7 only, the gap for the gas, 7,14, 21. Then when I come up there, I've 7, 24 and 31 so that'll be 52.

That will be 52 special covers.

SB I see so that's 628.

JB These special ones would be like that dear. Now let me see now, that's showing the female and that wee bit is showing the male.

SB Now I have found such a brick but it's all black. It's very, very, black and smooth there.

JB Aye it will be.

SB Why is that?

JB Because the passage of the shale going down through it over the years.

SB I see, so it's pure wear and tear.

JB It's wear and tear. Oh they can wear very much. I've seen the day when I was knocking some of them down and the D's, that's away at the very top and they were not much more than that. Practically into the female part.

SB Now the one, I found another one which is, has D on it and it has an arrow pointing down the way. Why is that?

JB An arrow pointing down the way?

SB Yes, it's very much like this one, same sort of shape like this and it has D on it like that.

JB I don't know why, don't know why .....

SB And it's only the D's which has the arrow.

JB Well, probably because you get A cover, B cover, C covers and the D covers which are smaller. You see they're just like this one. When you start off at

the retort, you need a , well it's wider at the bottom so you need a wider cover.

SB It narrows. Yes?

JB And the same with the B, which is smaller, same with the C and the D and then of course the D covers when you come up to the, when you block off your main flue and one thing and another it leaves .... This comes through into your urn again. You leave that much maybe two of these small bricks. So that leaves maybe 18" or something, a gap for it travels up then to the oven and the pipe running down there.

SB Yes, then you got your big bricks.

JB Uh Huh.

SB I see.

JB So you have three additional covers beyond this one, so actually you should have your four rows of them altogether. That's it.

SB And did you say there was seven in one course or one layer?

JB There were, there's seven here, but when you got to dig it up to where the metals resting, you have eight. Then we've to cut a bit off it you see to bring it into your 28½".

SB Oh, yes of course to resist it, yes of course they are smaller, the bricks as you go you go up are smaller so you're not losing the amount of brick. It's in fact the brick which is smaller.

SB Yes I get it now.

JB That's right.

SB Oh that's good then. The brick is smaller. Now how is the scaffold, you know you've got the retort, and you have the scaffold for the men to travel on.

JB Oh aye, well what I think, we've a series of metals on the retort at Winchburgh from a certain part. I think probably about 10-12' up from the ground. That's where your first scaffold would start as I'm thinking of Winchburgh now and there was a big huge base of brickwork here and part of it, there was a cowart in there which are said ... recently there ... Your gases come right down from the top of the ovens, right through this big thick brickwork you see, which is also taken all this heavy metal above etc. and all the brickwork, and from just this point here, maybe from this point the brickwork is cobbled out and actually what took place then was, they had permanent rails went right up to the very top of the retort and from these permanent rails were fixtures made into that as a cantilever and then your timber was laid on that and then of course you had your .... There's also another fixture went up for your hand rail.

SB Yes of course to stop the men from falling.

JB That's right.

SB Now how many of these couples were there per bench?

JB Up there, there was one, two three, I think there was four scaffolds. There was the first one, that's one, two , three, four, there were four scaffolds and the fourth one, that's where all your gases come from into the main. That's the one at

Winchburgh.

SB That's the pipe come along.

JB Yes, that's right, it came away along, and there was from the neck of the retort, there was another piece of structure metal again which came from the sort of, kind of pipe with a spigot on it, led from there into the main and then there was also, when the man had the word to shut off the gas, the man just pulled out this little lever, well this piece of metal and this thing flapped down and no gas could get into it at all and this place would be flooded with the gassy oil and of course they used to put in a poker to check off that there was no shale coming into the that round thing into the main. Then of course they had a special implement that could draw any shale that was forcing its way in, out again. They could draw that out then. That was his job, one man particularly did.

SB Is to clean the pipes?

JB To clean the pipes.

SB Now the spy bricks which were safe, can you remember how many there were per retort of per sate?

JB In the retort, at Winchburgh, let me see. Well you need one at the oven and there's one here for your gas came into the oven. There was an inspection there we used to crie it a man hole leading into the oven. Probably it was, let me see now barely 3' high. That was an entry into the oven but when that was built up, there was a spy hole in there so you could look in and see the metals, so you could see four metals there. At Westwood you could only see two metals. Then underneath here there was another one where the gases would come up to the retorts. This is the base of your oven there, so the hole in there, to let you see, if your gases were coming into the oven. Now then there was another scaffold. Here you had one, two, three, four, and then on the same scaffold, let's assume

this is a scaffold. Then you had another one, two, three, four. There that was eight. Five, six, seven, eight.

SB So there would be one per retort, per scaffold?

JB No, there were two in each retort.

SB I see .

END OF TAPE ONE - SIDE ONE

JAMES BELL TAPE ONE - SIDE TWO

B1

JB Well, that's your set of four retorts in there and that's the oven, so you've a spy-hole here to see the gases going into the oven. Then you have one, two, three, four. To let you understand why there's two here, there's a man when he comes to clean them he has to bend his, the tools so to speak. He lays them in to and lets them get heated up and they can bend to push any dust and that's because there's a lot of dust comes off the, from the bottom because there's gas which feed into the bottom retort coming from gas producers and that in turn causes an awful lot of dust. So he would push that around to .... you go in that hole there, put stuff round there and then he would go round that way too and look out.

SB Ah I see yes.

JB And do the same with this one too right, and then there was another four on that same scaffold. Then we had the same on the next scaffold and at the bottom we'll do it smaller, smaller thing now. ( Drawing diagram ) There's one there and they had one here under the ( ) and then you had, let's assume that's your scaffold. Then we'd one here, one here, one here, one here, one here, one here, one here. Lets assume that's the next scaffold you can see. Now you had the same here again.

SB So really eight per set between each scaffold.

JB Yes, that's right dear. Then there was one in here, one in here, there your gases went in from the producers. See there were a special plant which made this gas you see, just burning the coal and it travelled along the main and from the main that's probably about 6' or 8', 8' from the ground. There was a series of pipes led into each retort and then it travelled up, back and forward, back and forward to get up to the, into the ovens and then of course sometimes a lot of the ... You get an awful lot of accumulation of dust up in the ovens as well. I've seen, I've seen

us taking a whole morning or a whole half a day removing that dust that gathers behind the metals and what not.

SB Now all those bricks there which have holes, well how can I say it surely that would let the air into it. It would then cool the metal.

JB Well, actually, well, slightly ..... can be and probably that's to the good, but what they've, what happens then, the men who were well versed in their work, they come along with a handful of fire clay see, so if they think that there is too much air getting on they just take a blob of fire clay.

JB Oh and block off the hole.

JB Block off part of it. Maybe just leave a wee bit.

SB I see that, aye, now how big would be one of those spy-bricks?

JB About an inch.

SB The hole would be about an inch.

JB That's right, yes an inch. Probably an inch or  $\frac{3}{4}$ " that's about all the size. That's the size of it.

SB Yes now I have a brick at work which is, I was told a spy brick and it's about .....

JB There it's there.

SB Yes, now is the hole on one side bigger? Is the hole narrower than that?

JB Oh I know the kind you mean dear. Now that was the kind we had up at Westwood for one part where that was made .... that was used....

SB It's a tiny hole on one side, it .....

JB That's right it branches out. That's right.

SB That's right and at the end it's nearly the size of the brick.

JB That's right, that's quite correct. Well, the reason for that is, that you know you can see much more when you're looking like that. You look into the hole you can see a much bigger area. That's the reason why it's wide at the back than there ( ) at the front.

SB So the narrow section of the wall would be facing outside.

JB Outside. That's quite correct.

SB I see yes, so in fact you get an almost telescopic view.

JB That's right. That's quite correct.

SB That's right it's expanded.

JB Now, we had these at Westwood, the only place we had these though, when well instead of a hole like that at Westwood we had a square hole which was ( Drawing diagram ) like that. Leave that and that in there and we had, oh it was up in here we put it. Oh it was tight in here so you would get a view right in the metals at Westwood.

SB Yes, because the brick which I have, the spy brick which I have comes from Oakbank.

JB Yes, well we got some from, well I refereed earlier to you that when the metals were heating up some of them were bursting. It so happened that one of the General Managers of Scottish Oils, he had been at Oakbank and he had brought one down at that time. What I was doing was eh, until such ... we got a brick something similar to that, what I .... We had a piece of ... I'd always build up and left the hole, this for when we're doing remedial work you know, prior to the retorts being renewed what have you, and I had a hole in here and we had, we got amour plated glass so we could see through into the retort. By then when the chair manager came down with this spy-hole you see it solved the matter so I had

to order quite a number of these from the Dury firm in Bonnybridge and then one at a time we thought when we were doing the remedial work I used to make a lot of them myself and I got a special box made and I made all the different cement and I can't mind what type of cement but I broke up a lot of bricks into small pieces and mixed them up with this cement and left a hole just like we're talking about a half. We had a plug a special plug made then that was reversed. I had that reversed when I was doing that temporarily and we had the plug where we could just try it and see. Tell a lie, we had a plug from there. We had a plug right enough who put in but at the same time we had it that facing....

SB Facing that way yes.

JB Aye that's right 'till we got new ones. I hope I've not confused you with Westwood. With Winchburgh. I don't want to be confusing the Winchburgh one with the Westwood one.

SB No, that's the Winchburgh one. Now how very different was the Winchburgh from say Westwood? Apart from the fact that one was almost really automatic and the other one was manual, in the brickwork, how different were they?

JB Well as I say one was round and the other was rectangular, just the same as one man would say "My retort's better than yours" and yet they can do the same thing. I don't think they, that just one man had pointing in his way as against someone else who pointing it different.

SB Now about the bricks I mean, you know those you've got those circular bricks, special D bricks, did you have the same in Westwood? You had A,B,C,D bricks?

JB No we just had the ordinary fire bricks dear.

SB Straight, square?

JB With the exception, when I referred recently when

we started away from the base of the metals. We had some bricks ( drawing diagram ) like that and we had another one which was smaller away down that way, right, so each had a ... of the two types these ones here with the small 'L' shape, they went into a beam which was separating 'A' retort from 'B' retort. Well when that was built in and one side that gave us 18" to start the brickwork on. That's dividing 'A' retort, 'B' retort then these larger ones they again went into a channel, an iron channel and from there we started building bricks to, up to the top. So there was 16 of these on either side and then there was 8. 8 of these on the wee narrow side and then we had a special, well you went along with your, if I can just say ..... There were 16 along the way. 16 of these big blocks. This is looking at it that way. Then along this side ( drawing diagram ) there was .... I'll leave that one the now. I'll come back to here. There was 6 and this would be the other side of the retort. Looking down you would just see the small part that's looking down on it see. But just to let you see what takes place. Now when I come back to the end here there was a special block. Now there were male and female again there and this again, we had a tongue which fitted into that there and also there was the groove in here fitted into this one.

SB In other words it was a corner brick?

JB corner bricks, quite correct. You've got it. So they're 4 corner bricks.

SB I see. This is the outside of your retort. This is the inside and then you have another retort here. Am I correct?

JB Yes, well .....

SB Or a bench whatever?

JB Well, this would be through into the next chamber of my retort (drawing diagram) Actually they had, there's your .... Well forget about that the now but transfer that

to there and this is another retort here.

SB I see yes.

JB So you've A retort, B, your C and D and then you've this dividing wall between C and D.

SB I see, so in other words, that's where you small bricks went between your two sets of retorts and on the exterior you had thicker bricks.

JB Let's assume, I've just put them down there .... If I'd have just been a right drawer, you know I would give it in more detail. I'm just trying to explain it in my own way. You're probably looking at it from a different angle again.

SB Now between retorts A and C, which are these two? You had bricks here, a gap and bricks. Am I right?

JB That's right dear. Your gases would come along here. Your gases ( ) Why your gases only come, they go into A and they come from other outside into B. Now a I right? Hold on, referring to diagram A and B). I'm right enough. That's right because at Westwood there was a main which came along about 10ft from the ground and your gases came from there into the bottom of the Retort.

SB So the gas was fed from the bottom and went up the way?

JB That's right, it came in, here's the Retort again, (referring to drawing) This is the external of the Retort. The external facing brickwork of the Retort, and there was a scaffold here, well down below there was a little hole into the brickwork here you see, and there was a ..... what shall I say now.... pipe that came along the full length of the Retorts and there was another pipe led from there into here. Your gases came in here.

SB In other words, you had branches off the main that went into the Retort.

JB That's quite correct dear. That's quite correct. That's right, it went in there. That's at Westwood of course but some similar at Winchburgh.

SB Perhaps not as modern?

JB There was a huge main. 3' main at Winchburgh and from that came a series of these pipes leading into the Retort and these mains were cleaned twice a week, and you want to have seen the stuff that came out of them, oh boy, oh boy!

SB Now are those the ones they call gases?

JB Gases, that 's right dear, quite correct.

SB Because I was talking to one of the oil workers and he mentioned the word gutters and those are the pipes?

JB Those are the pipes that led the gas into the bottom of the Retorts and also the same at the top of the Retorts where your series of pipes leads the gases into your main which goes away then to your condensers. This one is, the gas coming in from this one at Winchburgh The gases come from the gas making plant, producers you see and they were fed, there was at Winchburgh there was one, two, four a series of four Retorts, and a series of of four Retorts. That's quite correct and I think there were, from that, then the gases were led from the main into each of these retorts .

SB How many benches were there in.....

JB Winchburgh? Eight benches altogether. There were 256 Retorts. 2,5,6, Retorts, altogether.

SB And altogether eight benches!

JB Eight benches.

SB And there's four Retorts in a set?

JB There's four Retorts in a set.

SB This is like a pack of cards isn't it.

JB Aye, that's right. That's at Oakbank or Niddry Castle.

SB Niddry Castle. Now the benches were divided into two.

JB Divided into two dear.

SB A half bench?

JB That's right, that's quite correct, (counting). There was one, two, three, four. then there was a gap and then there was one, same again and your mains came up right along through.

SB In between them?

JB In between them!

SB Like a long snake coiling it's way round the Retorts.

JB Well no, they came, theirs branches off at the big, with the big mains. Branched off you see. So I think it was about..... I think it was either three feet main area, or two feet six, one or the other anyway. I know I done in this job that went in crawling into one of these and I went to repair the brickwork and above your head and you know what like.....whenever tapped a brick, och!

SB The whole lot came down.

JB The dust, you know and there was no baths in those days in the work, so you came home like a nigger.

SB Now the pillar. You know the bench of Retorts stands on the pillars. Can you remember how many pillars there were to a bench?

JB There'd be 13, 13, 26. 6 for each one.

SB Now can you remember how wide?

JB I would say about 4ft. I think it would probably be about 4ft x 4ft. A huge thing.

SB 4ft x 4ft, and how high was it. How high off the ground?

JB It went up, now let me see, that went solid up to about, I presume about 10ft from the ground. Well, then where you would have a series of steel work or permanent rails, I believe would be then to support all the rest of this brickwork right up to the top.

SB No underneath, in that ten feet of filth the men would be working and the shale would be coming down and when it came down to the cone, you see, there was a table and there was an arm, you see, an arm, and there was a ratchet you know...it would...one end would draw the other one and then it would go back again and this other side would draw it back again, works like that, and all the time each one was connected to this arm and each time it went along you would hear the shale coming down into the hopper.... there's no.....that would be your arm here...then there'd be a hopper there. Then twice a day at six in the morning and at 10 in the morning the men came along and they would lift up a lever and the shale, the spent shale would come down into a hutch which would be probably 6ft long by maybe 4ft wide, you see, and that would then be pushed along a set of rails to a collecting point and from there was an endless rope went up to the tip. The man then each time it would come along, and he would look up the retort, he would look up the Tip to see the distance between each end of the hutches. When one was passing another he would go over this lever and it would catch on to the rope and be pulled away to the tip. So that's how they disposed of the shale at at Winchburgh, at Niddry Castle.

SB Now, what do you call a cone? I don't know whether correct me if I'm wrong, is that what some oil worker sometime called a bell?

JB That's right. Underneath here there was a bell, up like that (Drawing diagram). That's what it would be, although that's rounded, but that's just ( ) a bit. Well, when he lifted up this lever, the bell would come down and the shale would be discharged into the hutch here.

SB I see where you are now. Yes, you've been a great help.

JB Well, I hope so dear, because a lot of people now, you know, well I am of a, shall we say a later age than some of the old people probably give you a lot more information.

SB No, you've been a great help. That's been good. That really has been good. I'll have to get you now to supervise with me ( ). Now is there anything you can think of, you know little bits and pieces which you can add on to what you said.

JB Well, I'll let you know about the plant that was designed to make little boys. I could tell you that, which was a failure and also they ( ) Retorts I would say it was a failure anyway because they washed their hands of it after that. I'm sure Mr. Brash would keep you informed about what he did to.....in the sulphate making and there was also a plant there called the ..... They treated the water for the boilers and there was a boiler house. At the boiler house there was a daily breaker which transported the coal up to a certain height and then discharged it into bunkers and from bunkers it was discharged into the.....it was self fed then into boilers, different from what it was at Winchburgh and there used to be a series of hoppers. The men used to empty the shale, empty coal over a big high wall, and there was men who.... two men who were detailed to fill up the hoppers every so often and that went on continuous day and night. Now regarding the.....you remember the shelter, you....

SB On that picture. That's right.

JB You questioned that. Now that was an event, and air raid warning. That is where the people were took to shelter or maybe those who were looking to see where the bomb was falling. In a fire or anything, they went for a rest etc. I mean there was bunks there and hot water. There was water laid out for them as well, so....

SB Now, when did you say Westwood was built? When did they first begin?

JB I was on it in '39. I worked on it in '39, so it must have early about

late....37,38,39. Because I left in, somewhere beginning of 39 and I was taken through to Coatbridge. I think it was, to do work for Woodland Duckham. Woodland Duckham were the firm who built that Retort.

SB Do you know where they were based?

JB Somewhere in England right enough, but I couldn't tell you.

SB Not to worry.

JB Now, they went under the name of Woodland Duckham Casts where they'd be Retort Builder after, and when the gas works were closing they branched out into other businesses you see. So they're no (environment) for Retorts. Now as I can see, even the gas works have all been done away with.

SB Not to worry, the reason why I was asking about the... when they were re-housed because Winchburgh was bombed during the war, what about Westwood?

JB Winchburgh, what really happened was, there was a land mine had dropped in there in 1941, just before I was born. I was working through in Glasgow at the time. In Coatbridge. So it was in 1941 when the land mine dropped in Winchburgh and I think it had..... was very fortunate, it had blown up one or two wagons and it splattered the chimney but there was no other damage other than that. She was staying about two miles away from it (referring to his wife). Well as far as I know that's what happened at Winchburgh. Did you ever get.....you didn't contact any people from the Winchburgh place?

SB Yes, I have quite a few in Winchburgh way, but I think only two mentioned the bomb. Now what I was going to ask is, was it so unusual an event to happen in Westwood because of it's being so much more modern.

JB What did you say dear?

SB Was Westwood ever bombed or threatened with bombs?

JB That we don't know but I can assure you that the first bombs that landed over Scottish soil so far as I'm led to understand, there was one dropped in Hoy, you know. The island of Hoy. It killed a rabbit. You know we knew....I used to be an address at church and I was praying at a Minister's wedding in Edinburgh and they were in a wee church in Linlithgow, and he was in a post ( ) Oh, he was going to a post in Hoy, and we did hear of a nice place to go when they got bombed, however that's beside the point. Now in 19 when the first bomb dropped it landed at Howden near Howden House, at the farm when it was a farm. I saw it the next day because we were working up at Westwood at the time. I was building that, and we did see where it had shared part of the house away. There had been a man....I think the woman and daughter they were killed upstairs and the man and son they were downstairs and they were alright and the bomb had landed in, I think just in the dyke next to the house but they had sheared it eh.....

END OF TAPE ONE - SIDE TWO

JB TAPE TWO - SIDE ONE

JB Now we were mentioning the bomb that had dropped at Howden, and there was a man, I think it was the woman and her daughter that was killed. Then at that time, they had been a series of bombs which had fallen. I think probably had been trying to get Pumpherstun then, near Pumpherstun or probably the Deans because just as we look up to that bing there, there was a series of fires must have been the Germans dropping flares, yes sort of light up the countryside.

SB Now what bing are we looking at here?

JB This one is the Camps.

SB Oh, that's the Roman Camps.

JB The Roman Camps and just behind it is, you can see a far away bit, aye it's the Pumpherstun one. That's the Pumpherstun. Yes so here was a series of fires caused by the German flares.

SB Well of course, I mean, if there was a fire on the bing that would light up the area.

JB Yes and then there were bombs, there was something had dropped even in our own town up at the candleworks which was part of the Scottish Oils but they managed to get it out so the, they hadn't been very far away from here.

SB So the Germans knew that this was an industrial area?

JB They knew. So I could tell you, my dear just before the

war years I was working down at .... This is being taped?

SB It's alright.

JB Well, I was working down at Bottisbridge, near Turnhouse building the 'munition dump and when "Lord Haw Haw", the nights he came on, now you'll pardon me for the words I'm using. The wife will tell you, "This is Churchill, the old b.....", he says, "Don't think that we don't know about the 'munition dump at Kirkliston". There you are now at Kirkliston. That was only about a mile down the road. They were building a 'munition dump as we know about that 'munition dump.

SB So he must know, well of course he must have known about the works.

JB Oh yes, oh they knew. Oh yes they're bound to because they all have these ordnance maps and everything all detailed so they're bound to know and then of course understand that how they are getting things so accurate was they had a point up in Norway and they pinpointed a part down in England and this is why Coventry got so hard and that's why they could get, pinpoint all these places you know with extreme accuracy until our boys came with the dropping of the silver paper stuff.

SB And yet for all ... I mean lets face it the size of the works the size of Deans and Winchburgh it's that easy to see. I mean I know ( ) here and everything and yet not one of them was ever hit except the Winchburgh. That amazes me that.

JB Whether it was the Oil Works or whether it was here, probably, I think it could have been the aerodrome.

SB Turnhouse aerodrome?

JB Aye, that's just about three miles from Winchburgh.

SB Yes, but they're not always on target. The boys can be a wee bit off the target.

( Wife talking in the background ) Not at the time I was referring to.

SB And what about Howden? The bomb that fell on Howden. Was it Howden House?

JB No it wasn't the house. It was the farm house.

SB It was the farm house.

JB I don't know if the farm house is there or not. Is it still in use?

SB The stables are still there.

JB The stables.

SB The big white house is there.

JB Yes, well it was the stables area I think that was struck because at that time there was a little road that led down to, onto the road near making for Livingston. Long Livingston.

SB Yes there was a village.

JB I don't know if it's there yet. I know or not that road.

SB I don't think so. Most of the roads are blocked.

JB Are all blocked off.

SB Yes they're all blocked off.

JB That's right.

SB So do you think the bomb that hit Howden was meant for Deans or Westwood? What do you think it was?

JB Well, I wouldn't say it was meant for Westwood because Westwood was only in the course of construction.

SB Yes.

JB 1939 - 1940. I think. That's when it came down.

SB Yes, so it was really meant for Deans?

JB Yes, either Deans or Pumpherston or the aerodrome.

SB Of course Winchburgh could have been meant for or Pumpherston.

JB And Winchburgh yes one of Yes .....yes.

SB Because you're nearer to Pumpherston.

JB That's right yes.

SB Than Deans. It's difficult from the air.

JB Difficult just to see but .... and of course there quite a number had been dropped up the Howden way now, five, five bombs because there's quite a number of deep holes somewhere up there ( ) at the time.

SB Now what special precautions did they take during the war regarding the oil works?

JB Nothing.

SB Nothing at all?

JB They just had the men detailed for fires you know, men who on each shift just like there's a fire party. That was all they had other than go to the shelters, if there was shelters.

SB Now Westwood had shelters.

JB They had a shelter. They had shelters yes.

SB There is a shelter on the pictures which you have.

JB That's right. ( Wife talking in the background. ) Answer to wife's comment. Aye. When you had one .... Winchburgh had one to. They had a boiler covered over with soil at one time or another.

SB I see. ( More comments from the wife )

JB The boiler had .....

SB They took everything with them?

JB Now. ( Wife talking in the background ) At this time ( ) I'm trying to think of anything else that the .... Now the shale at times or for many years came from Duddingston. did you get that information?

SB Yes you mentioned that earlier on but it wasn't recorded.

JB And the train which pulled maybe 20 hutches of shale from Duddingston and Tottlywells. I don't know if that's any use to you but it did and then there .....

SB Now it went from Duddingston to Westwood.

JB No latterly it did but it went from there to Niddry Castle. That's where Niddry Castle was supplied from the Tottlywells eventually, lastly but from the two mines at Duddingston then they transferred. They built them a little haulage from the Tottlywells which went along to Whitequarries and then they brought the shale into Winchburgh. Then when Winchburgh closed the shale was transferred up to Westwood in trucks until such times as the "mice ( Laugh ) of the Industry".....

SB Now what about the Roman Camps? When did that shut? ( Comments in the background )

JB No, Roman Camps were one of the first to shut down. It was Niddry .... There was Hopetoun works and that I couldn't just tell you. Oh I don't know. I think the Roman Camps, no, I think Hopetoun was first then the Camps. ( More comments from the wife. ) No, I think Hopetoun was first closed because the shale went from 35 pit right up to the Camps.

SB That's no 35 in Glendevon?

JB That's 35 in Glendevon. That's quite correct. 35 in Glendevon. ( More comments from the wife )

SB Threemiletown have 35.

JB That's right, dear.

SB Not the Glendevon one.

JB Not Glendevon. Glendevon's a mile apart.

SB I see. ( More comments from the wife )

JB Oh she'll know it. We stayed there at Redrow, Threemiletown.

SB Did you stay there a long time?

JB That's right just about a hundred yards from the pit so that eventually supplied the Camps and then I think there would be mines winding ..... I just can't remember when the Camps or Hopetoun closed but they were two of the first then I think the Deans was next I think.

SB Yes, trying to think when Deans shut.

JB Let me see now. Would it be the early part of the war? Would it be after because I remember that quite a lot of people came from Deans to Westwood work when I was there.

SB Seafield shut in 1935/34?

JB Uh huh, and then there was Breich pit to which supplied ...

SB Seafield

JB Seafield.

SB A lot of men were transferred to Burngrange.

JB That's right Burngrange.

SB And this is how a lot of them were killed in the disaster.

JB That's quite correct.

SB That was 47.

JB Was it 47? As far away as that?

SB I don't know if Deans was still open then. Was Deans still opened when the disaster happened?

JB I think so yes. I'm sure it was.

SB That would be the latter part of the 40's or early 50's when Deans shut.

JB That's right. I would say so yes, between 40/50 I would think.

SB And what about Broxburn? When did the Broxburn Candle works shut?

JB Now.

SB Now I know the refinery shut in the during the strike. The 1925 strike.

JB '25/26 strike. Well the Candle Works went on sometime after that. Then there were the Vitriol works there as well where they made the acid and also at Durrington. At Bathgate there was a chemical works there where they burnt the iron works where they burnt the iron ore and they got sulphuric acid .

SB That was the original of James Young.

JB That's one of James Young. Yes I think to this day there's still a, there's some cannel coal refuse still in a little .....

SB Still lying there.

JB Still lying there yet I presume so anyway aye.

That's right. That's true.

SB There is nothing left of the Bathgate just a small hut and even that's derelict.  
There's nothing left.

JB I'm glad to see that they're keeping the five sisters though.

SB Yes, that's going to be preserved.

JB I think that firm, W.J.R. Watson, they wanted to remove it to make some more money of course.

SB Yes they wanted to start taking the shale away from it but they got an agreement.  
They mustn't touch it.

JB To make money of course.

SB That's right.

JB However, glad to know that's, oh can be a heritage for years to come of course too isn't it, you see you notice recently how the grass is beginning to grow on the west side. I noticed it from a distance when we went up that way about a fortnight ago. It's amazing how nature is reclaiming. So now if I can just re-cap. There was a Captain Stewart. You know about that?

SB Yes, you're correct.

JB And if I can remember properly it wasn't demolished as such. There was a stables because there was a man of whom I knew, I know a Mr Fossel, he was transferred to Mossend and they just cowped the shale right over the top.

SB Yes, the wee farm now what was the name of that? Clash, Clashmedown.

JB Is that what it, at ..... I never heard of that one. That's new to me but I can tell you there was a pond there in my early days when I was at Westwood. Someone said to me, "Go over and see the pond and see all the frogs". I never seen the likes of yon in all my life, hundreds and hundreds of little frogs and they were all on the, clustered together on top of one another. "Croak, croak, croak" you could hear them more than a hundred yards away. Well, they reckon, well as far as I'm led to understand by this is the nature, some of them try to mate and they try to knock of the other ones to mate and another story I heard is that the young ones kill the elder ones off. Y'know.

SB Now where is the pond? Is it still .....

JB Oh it's covered over.

SB It's covered over.

JB With the shale you know the years, passage of years.

SB Now at Westwood there was a reservoir for the water is it not the water cooling plant, was it not something

JB No, no the only place we got water from we had a ..... I was building it with the Woodhall Duckham down at the Almond, down at Breich pit and there we had a sorta kinda sump of flum whereby they collected

the water. They had a dam shall we say, there was a dam and it pumped water from there to Westwood and we also built one down at near Mossend just at the Almond because I was at the building of the hut. They had a little house where we kept all the pumps and one thing and another and of course there was a bridge across the Almond at that point which brought the shale down or which brought the coal down from further afield down into Westwood. Would it be the Baads?

SB The Baads. Now all this brings me to, I mean you were obviously a specialist, you built retorts. Where did you get your training?

JB Well, you got your early training as an apprentice at Winchburgh. Then I went through Glasgow way and I had various other different retorts to build and gas works and coke holdings as well.

SB Was it a special class or school?

JB No, oh no just as a bricklayer you know you pick things up see, and it's all stored up in here then when I went to Westwood in 1939/40 the retorts were pretty well on. I certainly got building some of the external work and then from then on I went through to Glasgow with various different retorts and then when I was due to go to England my wife was ill and I was waiting to go into hospital there was a job cropped up in Winchburgh, I was to start at Winchburgh. They were needing a brickie over there. However, just as I was due to leave for Winchburgh the telegram came to say there was a job for me at Westwood and from there I ..... I was there from actually the beginning of the job. It started in 1941 I think by October '41 I don't know what the date in '41 but I went there in October '41.

SB You were there right up to the close?

JB Right up to the close. I was 21 years and then I was 7 years at Winchburgh

so .....

SB You were 7 years at Winchburgh when?

JB From '28 to '35.

SB And then you went to Glasgow.

JB I went outside to get a wee bit extra different type of work you see. The hospital, factory or something like that. I was at the County Buildings at Linlithgow and there 'till it finished and then I was at Turnhouse on two occasions. I was at Bottisbridge building the 'munition dump and one or two house schemes. I was in hospital then there was no .... ( voice trails off ) We gradually gained experience, wherever you go, you see each job you went to.

SB Now you were mentioning before the building the bridge of the open cast.

JB Aye yes.

SB Now how, you know, why did you get that job, because I mean from the retort to the bridge it's a different thing.

JB Well you see when you're working with the firm Scottish Oils you've got to be adept at doing anything as a bricklayer. You see that comes under your category you see. Not only specialising on retorts and boilers because I had two or three different types of boilers as well so you get well versed in these different things.

SB What about houses, cottages, did you ever build them?

JB Oh yes, there were times.

SB Oh you were involved in building as well.

JB In building houses uh huh.

SB So of the cottages or bridges, which one did you prefer to ....

JB Well, I liked the retorts. It was very, very interesting work. I rather liked it. It's a pity that Scottish Oils did close because I would have probably have went right on to the end of my working days. However, I tried to steer clear of house building to get on to something much better likes of hospitals and laundry, a big huge laundry I built in the County Buildings at Linlithgow. Now a different type of work again you work with different materials you work with white brick you know which is, you got to be very, very intricate in laying these type of bricks especially if you've a very strict Clerk of Works who you know makes you tow the line and that, eventually it comes on to yourself too you know and then of course I always impressed on the little apprentices I had that, to do the job although it's slow, speed will come to you. Which is true. You know.

SB Yes. Now of all the bricks you with which you worked have you, did you work with the shale bricks?

JB Yes. Oh yes.

SB Now how do they differ other in handling weight from any other brick?

JB Well, the, nowadays there is Scottish Oil bricks which is quite nice to handle if you got nice ones but sometimes when they were on scheme and that they just come and tipple them off you know. However, there were no need of being put off the hand unless probably you were doing a nice bit of facing work you know and at Westwood I did quite a lot of facing work and bonded it with Snowcrete, which is a white cement. We called at the waste boilers this is the heat would come off the retort again that germinated through these waste boilers and it went to heat the rest of the plant up the filter bed. It was off the plant.

SB So you build houses, you build miner's houses.

JB No, no never, no never.

SB You never had any dealings with cottages.

JB These, all these miner's houses were built seventy, eighty years ago, some as probably a hundred years old. At that time they could build a house for £25. £25 mark you! I started my time at 3 old pennies per hour.

SB Threepence.

JB Three old pennies. I came home and I handed my stepmother ten shillings and eightpence for my first weeks wages and from that I got six old pennies for my pocket money.

SB Six pence.

JB Six old pennies which is only five, well you know what six old pence today is.

SB Two and a half.

JB That's right. That's all I got for my pocket money and then gradually it went up to a shilling and my first year's apprenticeship was all over we got 1/6d so that's 7 pence ha'penny in old money for your yearly rise. The same the next year 1/6d. The same the next year 1/6d and then your final year you got 3/6d.

SB So that's 4 years apprenticeship.

JB Five years apprenticeship and I had 22/- when my time was out. 22/- and I had another years work to do as an improver.

SB Oh yes you did that, an improver, Now where did you serve that improving year?

JB At Niddry Castle.

SB Niddry Castle?

JB Yes but I didn't let the green grass grow under my feet because I had a second class education. I was 16½ when I left school. I had to .... My father was in an explosion in the pit and there was one or two accidents, one or two were badly injured. One of the men died. My father was very badly injured. It was questionable whether he would have lived or not. However, he managed to pull through .... and there was a small family in the house and I had to give up my education for 3 years and start a job if a job cropped up as an apprentice at Niddry Castle and that. I gave up my educational career to help bring in that wee bit extra money because at that time there was questionable about compensation and it lingered on for quite a long time before we got compensation so.....

SB Did you ever regret having given up?

JB Well .....

SB I know at the time it seems .....

JB Uh huh, however, when you look back you say well you may and you may not, however, we produced a son who is a doctor and the other son is in the bank down in London.

SB So he made up for what you had to leave behind.

JB Yes.

SB Did you ever go to Middleton Hall?

JB No, no, no, actually the more select people who got jobs there, mostly however, the Scottish Oils were doing, no not the Scottish Oils, but all these wee oil companies, the individual companies, they were doing well until the Scottish Oils took over and they built these head offices there now in Middleton Hall, oh and this is true my dear, I remember there was one of the pits wanted a pound for a packet of whitening see to do some whitewash in, I think it was in "Smiddy" back to the shop. Oh they couldn't go and buy that themselves. Had to be ordered to go through to Middleton. It was brought there and then they brought, they had to bring a van down to hand it to the people concerned and to me and also although it was supposed to be, we were, we come under the Scottish Oils for somethings but when we went to have a rise, oh no you're not ... You don't work for the Scottish Oils you work for the oil companies.

SB Oakbank or Pumpherston or whatever.

JB That's true my dear and they had a more substantial wages than we had. Imagine a bricklayer up there had more than I had in the oil works.

SB Well of course, you would never know.

JB Well, we did but we were a wee bit, sorta kinda peeved about it but what could we do, and then of course the unions were not so strong as rumored as they're trying to ruin the company now you know.

SB You mentioned that your father was a miner.

JB He was a fireman down in the pit. At 35 pit.

SB That's Threemiletown.

JB That's right. Her father was a fireman and he too was in an explosion and strange as it may seem her father took my father to the Infirmary at the explosion and when her father was in an explosion my father took him to the Infirmary.

SB And did you know each other?

JB Oh we stayed a few doors from each other and her father had learned from the past experience of my father's injuries and when her father was in the explosion they put little paddings of stuff in here so they wouldn't web. My father's was webbed, they grew in webbed you see so from past experience they put into her father's hands little sockets of stuff.

SB Your father was very badly burned I think.

JB Oh yeah, very badly burned. There was a man killed then another one was injured.

SB What was the cause do you know?

JB Black Damp. Black Damp I understand that the, my father was caught and this other man went in to rescue him and he's taken a whiff of that, and that was enough you see. Once you take a mouthful of that you're finished, however,

SB Now, when did the Threemiletown shut because ... You know that?

JB Wife: My dad was ... I think my dad was 70. My dad was ( ) you see. There's a place at 35 pit and 35 pit is just down there you can't see it.

SB That's Threemiletown.

JB It's Red Row, Threemiletown as there's a row of 12 cottages.

SB That was found. What year was that can you remember when that was taken?

JB That would be taken, let me see now, more 1947 would it be?

SB There was no date on it.

JB No, no I would say 19 ... Wife: The work was taken ( ) calor gas. That's the post, that's the post there. Wife: ( ) He couldn't stop working. ( ) working and he wasn't well at the time and ..... Voice fades. I would say that was ..... ( More comments from the wife. ) Well there is one of the two, there's one or two television aerials and there's one up on your house. There's one on your house Mairén.

SB The 50's?

JB Pardon.

SB When television came in.

JB yes it, it would be he ... When did he retire? Wife: when he was 70. And that was when he died. Wife: 82 when he died.

SB When did he die? ( More comments from the wife )

JB Was 68, because he said he wouldn't see the other thirty. He went away to Zambia and he said "I'm afraid I won't see you son. So 68 .....

SB So it was 1884 when he was born.

JB About 18 .....

SB Aye it would be, it was 1884 when he would be what? He would be a hundred years now. He was, and he was 70 years old.

JB he was 80. Wife: ( ) when he retired.

SB So 50, 30 is there a 1954?

JB It would be.

SB 1954.

JB That's right. ( More comments in background from the wife. ) Oh yes and when he retired, I said to him "Get a television Grandpa" so that would be when he retired. He was 70 when he retired, wasn't he?

SB So it was 1954.

JB Uh huh, 1954, so that would be taken about then '54/55.

SB That's when the television came in about the 1950's.

JB That's right because we had one of the first ones. Wife: He wouldn't take his pension and he was still working when they sent his pension and he sent it back it was age of 70 ( )

SB Was forced to retire, forced to accept his pension.

JB Wife: Forced to retire and that's when he got his pension and that's when he got his first television and over there he still had it.

JB That's right, so it'll be 54 then, that would be taken 54/55 there about.  
(Comments from the wife)

JB It is, Oh well. Wife: That was after that. That was the third one. Wife: After that they got the ( ) the thing was all finished and that and the ..... Round about that region hen, no? Wife: He was 70.

JB Uh huh. Well what ..... Wife: You were working with the ( )

END OF TAPE TWO - SIDE ONE

JAMES BELL TAPE TWO - SIDE TWO

B1

JB Did you know that?

SB Yes.

JB You did.

SB Brieche, Polbeth that goes way back to James Young's day. The idea behind was .....

JB Would it be of some help to you, recently we had to fill in something from the Edinburgh Royal Infirmary all employees of the Scottish Oils. They wanted to know of what we worked at, where etc. They gave us an examination you know to see how your heart is.

SB Did they take you to Pumpherston?

JB That's right, went to Pumpherston.

SB Yes it's the Americans. The Americans are doing it.

JB Yes.

SB I have dealt with them. Yes I have dealt with them.

JB You have, well as I say you get all their information and you get some of the miners in this area.

SB I could get a lot of names from the Providence scheme if I go to Grangemouth.

JB You would. I'm sure you would.

SB Yes I could get that. ( The wife talking in the background)

JB Oh an old man he's down in England now. He would be about 89 and oh you know he was very alert and

a miner all his days and he could give you a lot of information too, although you got, I think you got quite a lot.

SB I got a lot of information on here.

JB You certainly have. I didn't know if I've given you anything.

SB Oh yes, it's been great, especially with the building of the retorts. It gives you a better idea. You know as to what's what and you know the bricks and all that sort of thing and that's good. Which is what I wanted. It is what I wanted.

JB It would just, on the same ones at Westwood or the firebrick.

SB That's right yes.

JB And then the same with the boilers, you had various different kinds of bricks. You know when it came, a yearly what do you call that word now, the collated all the different types of bricks that were used for it's amazing the, how many different types of bricks the numbers, the boilers, especially the certain number see to this parts of the boiler or fire. The fire thingmy and also in the solvent house we had different types of obsidernite bricks which were very, very hard on acid resistance and there again they had to be built with a special mixture of sillicous soda with a ..... I just can't remember the name of the type of cement, obsidernite cement.

SB Now where did you get those bricks? Where did you obtain them?

JB Well the likes of these obsiderite they came, they were in the solvert house, well they, we had these big vats you know acid resit they, it was a protection against the, They were built against the lead as often a protection for the upsurge of movement when it was boiling up you see at a great temperature. They would come from England. Other ones came from Bonnybridge that firm is more or less ....

SB Can you remember the name of the firm?

JB Stein and company. We were well off for fire bricks from them. Then the new Retort was built over type of brick which was known as a Glasgow brick which came from Steins. That's the one I told you for I had to build to a 32th of an inch.

SB That's the one yes. What about the one from Winchburgh? Where did you get them from?

JB I think they came from the same place.

SB From Coatbridge again? Bonnybridge?

JB Bonnybridge yes. See there was actually well of course with having the number on the type of bricks were just a matter of saying we want 500 D's or maybe their number with the computer or, not a computer now but there be maybe 5 and 3L or something. They would know what kind of ( ) was there's you see and then of course sometimes if they did want a certain brick type of brick describe it they would get a joiner to make a pattern you see and send it away then. I want some of that type of brick, however, normally they generally send out when they were ordering bricks they send you out a copy of the different types of bricks and they have nowadays you know, quite a number of different types of bricks.

SB You get samples I suppose.

JB Samples, Oh I remember on one occasion I, we always ordered the Thistle brick from Stein and we never had any complaints at any time. A first class brick. A good brick to work on and of course you know how representatives came from the various brick firms asking you to be interested in their bricks. The manager came to me and said "Jim could I see you in half an hour" Said I "Yes certainly" so I got representative from the Dury Brick Company so eventually I was introduced to the representative and the man just said to me, he said "Jim we were thinking of giving this firm an order. What do you think?" So he showed me all the beautiful bricks

he had. Not a mark and not a wee chip or anything you see, because they were very nice so I said to the manager, "Mr Wood, Sir, they've chosen them to come 'specially for you to see,oh ( ) I yes", I said, "If you get good custom from a shop you go away and shop elsewhere?" He says "No" I says "Aye you have no complaints. I've no complaints. I'm the one that's using it. I would advise against it". They didn't get his order, they didn't, ..... Voice trails off. An order because you're getting good custom and no complaints and a firm comes along and what are you interested in then. Well, I say no you get satisfaction and you got your bricks regular and know that the Dury, Dury brick company there is a harder type of fire brick that they produced more than the Thistle which was produced by Stein's down in Bonnybridge and eventually I did see some of the Dury brick and they were all cracked and miss-shapen and what have you, where you got the Thistle brick very, very regular and that's all I used at Westwood.

SB You call them Thistle brick, how .....

JB That was the name of the brick.

SB That was the name of the brick. Would you reconise it? Did they have a space along there?

JB Thistle, thistle was written on it.

SB Thistle in letters?

JB Yes and then Bluebell. That was a softer type of brick they used. Bluebell.

SB And what would Bluebell be used for?

JB Fire brick again.

SB Oh fire brick again.

JB But Thistle was one of which we used so much, thousands and thousands were used at Westwood, thousands.

SB Yes that was big bricks. You know the one 14x12. The A,B,C,D. What make were they?

JB I think they came, well the, there again they would have their name on the book that we know supply but they came from Stein.

SB Stein again.

JB I think they had been producers of fire bricks in this area and also they had an ..... lot of orders overs seas.

SB But what about Pumpherston?

JB Oh they're not fire brick. They are only external.

SB Oh I see shale bricks.

JB Pumpherston have produced two or three different colour bricks. On one occasion I did a foundation for a porch for a young lad and there were two different colours, a sorta kinda redier colour than we have just now, and a sorta buff colour. So when I did this porch I made the shape of a diamond with the butt and it formed a diamond and it looked very, very nice. Understand they are making a different kind of brick at Pumpherston at the moment you see then.

SB Yes is doing with lime now, lime or is it clay or sand or something like that.

JB Oh they're not bothering with shale at all.

SB So he's not using shale at all now.

JB It was built at Philpstoun.

SB Philpstoun.

JB Aye I remember the old man, the old manager, there was a name of Mr Dobbie, he come from England somewhere and they also made slabs as well maybe 18x12 slabs

and they made quite a good job of it for quite a considerable time. Then when they went on to bonus and piece work the men, they were so anxious to get an output you see they were forgetting to put the lime in with the result there were thousands piled up there and then when the frost came they just indicated, deteriorated and fell away.

SB Now there somewhere, when was it. Oh aye in the Chambers Encyclopedia of 1926, it states that now you probably know..... I don't know whether that you know they used to, you know the naphtha they used to put bricks and dip them into naphtha and that used to make the bricks waterproof.

JB I never heard of that.

SB That's 1926. They used to .... I've seen it in the dictionary of 1926. That's what they used to do .

JB You mention, well naphtha but this is away from the point but during the war when we were building Westwood work and we were lining the mains of the retorts with special brick that came from Belgium, then the war came, try and get them elsewhere and they were very, very light. You could put three or four hundred in a barrel and wheel it. Very, very light. Well I went up to Westwood and I was building some other kind of work and I managed to get some other kind of lime. Lime or vat or something and it ran through nice. Here's a nice thing for firelighters, so cut little pieces about 2"x2" and dipped them in paraffin and we had a ready made fire.

SB Exactly.

JB That's right.

SB Well that's what they used to do with the brick. They used to dip them in naphtha and let it evaporate and of course you would be left with the wax inside the brick

and of course the wax made it waterproof and that is how they used to do it.

JB I never heard of that.

SB I've had an ( ) I've read about it and I thought it was very interesting.

JB I've never read that at all.

SB They also used to use something else now acetylene. Does that mean anything to you?

JB No.

SB It's a form of damproofing and that's again it was part of that Westwood I think. Acetylene something, something, some form of name.

JB No I've never heard of that one either. Oh you've certainly been around when you mention some of these places of which I know quite a lot of them 'cos I was working at Winchburgh and I knew some of the mines and etc. Glendevon 35 pit where we stayed, Phillipstoun which was very far away, Bridgend, where my brother stayed and of course the Kingscable ( ) I've no recollection it working but the railway bridge across the A9 was taken down some years ago and they used to bring in their coal from Linlithgow on that railway crossing over the A9 up on to ( ) and I think they got the shale from Bridgend and .....

SB Phillipstoun, Bridgend different mines and Hopetoun as well.

JB Yes.

SB These are all Hopetoun mines.

JB See there was a railway come up from Phillipstoun up to Bridgend and went across the road to Kingcury.

SB Yes that's right. You really can still see some ( ) has been left.

JB Yes, old bing, this is what the firms should have been made to landscape. Trim it up a bit. A shame.

SB It is a shame.

JB The same with that one up at Uphall station, tankards. The council gave them up to the Stewartfield. That one there. The Council gave them so much I can't remember £23,000 to clean it and what they do they got £23,000 and then the motorways they were going practically night and day to clear that, that place that tip, of course they took the best of stuff they there was shale there which they couldn't take away because there was so much sulphur.

SB Still left in it?

JB Still left in it you see and eh .....

SB A lot of those people would be old, old .....

SB See, they didn't have the sulphur then.

JB That's right, that's quite correct, well if I mind properly what had drawn the attention of some of the head ones, once the fact is that they ran the water they were pumping down to the Almond. Er well, I wouldn't say it was surplus to requirements they didn't want it. Have you ever seen nice lush grass and what have you on the side of the river and er .....

END OF TAPE TWO - SIDE TWO

Transcript

Mr JB

Industrial  
Information  
Bryson Retort

The Bryson retort is made up with a cone on which this large brick sits on with the female as little indents.

The Loone

You start at that part there that the projecting part sits in, and female. You start and work round up three courses, to what we term the butt, and from the other part of the structure of the retort there is a projecting brick, and this butt goes tight against it so when the pressure comes on, later it's static. Then you work another three or four courses, and the same thing happens again, there is a big brick with the same features which is about 14" at the back and 12" at the front. This is to take the curve of your retort. Then you start at a certain part where the gases are going to come up and you work from there, this is what we term the cover. It is worked right round within two bricks which is probably 12" at this part, then you block off as you're coming up to the next. You start off at bricks No. B which is a bit smaller as the retort comes in.

Bricks

You set a series of bricks and it takes about 144 of these bricks to do what we term a heading. It takes a certain height to come up to the first cover. Then where your gas comes in at the bottom you take a brick right up the back of the brickwork again, and see that it is more or less airtight so that your gases won't come through the brickwork. So they have got to go round then you come to the next

part of the retort which is B. The same things happens to C and D. All the bricks at the bottom are A, the second section is B, then it goes on until you reach C to D. Then we come to the last course of D bricks there again projecting from your other structure, the internal structure of the retort, you've a series of covers. Then we come to the entry into the oven chamber. We cut so much off one of these last two covers, so that your gases sweep up into the oven. We build a little channel from one side of the retort to the other. It is 9" wide in the middle of that area we leave an 18" x 18" opening and where two metals meet opposite each other leave an opening 9" x 9". There's one there and one over at the other side, this is to allow your gases to circulate evenly all over the retort away to an underground, what we term a culvert, and from there it goes to a chimney, and the height of the chimney that sucks the heat away. Just beyond the oven you have the four metals meeting, and from each metal your gases are drawn again by what we term the fam house. That sucks the gases away to the condenser and from your previous oils that is broken up. Then the one at Winchburgh.

The metal part of the retort if you like rested on the bricks because your brickwork was finished round your brickwork was round and your metal was practically the same size as our finished brickwork. Our brickwork finished at I think it was 28-1- or something, then you had a 6" big huge. Bricks were put round the metal

and it was filled with fire clay, to keep out draughts.

The ones at Westwood were laid on brickwork. We filled it up with dry fire clay. There were bricks around the metallic parts of the retort at the bottom. The outside bricks were Pumpherston bricks, and the internal ones were Dury, which came from Shotts.

The gap between outer and inner bricks was 7 1/4" at the top and 6 1/2" at the bottom.

Building a Retort If you were asked to build a retort could you?

When the coupe is in position, then there's brickwork built solidly to what we term the "guts". Now you have brickwork coming round it. This is what we term the outer and inner. Its like four circles of bricks set into one set, sometimes there were gaps formed in the brickwork with the expansion that contracted with the heat. You see at times or so, the brickwork would be put out as much as 2" directly from the inside pushing out the external work. It is a retort with an inner circle and this is solid.

Butts You then have the butts coming in.

There are eight butts in a circle. You have a butt, a brick, a butt and a brick so you have sixteen bricks in the course, and you'd probably have four courses.

Layer A course of bricks is a layer. You would start off with maybe one of these, and keep going when you're building brickwork. You interjoin and keep going half a brick all the time, and each

layer you put a butt in depending on how it comes out the wall. The butts were more or less dispersed. From a butt there's six two courses. There's a series of big blocks or covers or as we term them blocks. I think they were about 14" at the back and 12" at the front to accommodate the circle. We got seven of these in that course, then you would stop seeing them. Some brick-work would be taken up between internal and external. Against that solid brick-work we have it solid, so that when the

Gases Gases come in they can't get through and it makes it go back the other way. you were directing the gas until it comes up to the oven.

Oven The oven is built of old fire bricks, the sizes were 9" x 4 1/2" x 3".

Bricks to build a Retort You would need roughly 576 bricks to build a retort, and the special covers 4" x 7" is 28. That would be 7, 14, that would be 21, because I'd need 7 only, the gap for the gas, 7, 14, 21. Then when I come up there I've 7, 24 and 31 so that will be 52. That's 52 special covers, so that's 628. The bricks were a black colour after a time, due to the passage of shale going down through it over the years, due to wear and tear. There are three additional covers beyond this one, so actually you should have four rows of them altogether. When you have got to dig it up to where the metals resting you have eight bricks, then you have to cut a bit off it to bring it into 28}.

Scaffolding The first scaffold would start 10-

12' up from the ground. All the brick-work is cobbled above the ovens and they had permanent rails right up to the top of the retort and from these permanent rails were fixtures made into that as a cantilever and then your timber was laid that. There was also another fixture went up for your handrail to stop the men from falling. There were four scaffolds per bench.

### Gases

The pipe came from the neck of the retort and there was another piece of structure (a pipe with a spigot), led from there into the main, when a man had the word to shut off the gas, he just pulled out a little lever and a thing flapped down, and no gas could get into it at all and this place would be flooded by gassy oil and of course they used to put in a poker to check there was no shale coming into the main. Then of course they had a special implement that could draw any shale that was forcing it's way in, out again. That was to clean the pipes.

### Spy Bricks

You needed one spy brick at the oven and one where the gas came into the oven. There was an inspection, called a man hole leading into the oven, it was barely 3' high. There were two in each retort. There were eight sets between each scaffold. One of general Managers of Scottish Oils used to bring one brick at a time from Westwood, and I had to order quite a number of these from the Dury firm in Bobby-bridge, then at one time we were doing remedial work I used to make a lot myself. I got a special box made.

## Retorts

There was eight benches of retorts in Winchburgh, that is 256 retorts. There is four retorts in a set.

At Niddry Castle the benches were divided in two. When repairs had to be done you had to crawl in to get the work done.

There would be 13, 12, 26, 6 pillars for each bench. They were about 4' x 4', and about 10' from the ground. Then you would have a series of steel work or permanent rails. The men would be working in ten foot of filth and the shale would be coming down to the cone and there was a table and there was a racket, one end would draw the other one and then it would go back to this other side would draw it back again. Twice a day at six in the morning and at ten at night the man would lift a lever and the spent shale would come down into a hutch, 6' long and 4' wide and would then be pushed along a set of rails to a collecting point and from there an endless rope went up to the the tip. The man each time it came along, and he would look up the tip to see the distance between each end of the hutches. When one was passing another he would go over this lever ,and it would catch on to the rope and be pulled away to the tip, that is how they disposed of the shale at Winchburgh and Niddry Castle.

## Boiler

At the boiler house there was a daily breaker which transported the coal up to a certain height and then discharge it into bunkers from there it was self fed into the boilers. The men used to empty the shale and coal over a high wall and

there was two men who were detailed to fill up the hoppers every so often, and that went on continuous day and night.

Air Raid Shelter People took to the shelter (air raid shelter) for protection, and to see where the bombs were falling. There were bunks and hot water in them. Winchburgh was bombed during the war.

Winchburgh and Westwood There was a land mine dropped in Winchburgh in 1941. It had blown up two wagons and it splattered the chimney there was no other damage other than that. His wife was staying about two miles away from it. The first bombs dropped on British soil was at Hoy.

Bomb at Howden A bomb was dropped at Howden, but I think they were trying to hit Pumpherston or probably Deans, because there was a series of fires on the bing, from the Germans dropping flares. A man, woman and her daughter were killed at Howden.

Roman Camp Bing This is Roman Camp Bing and just behind it is the Pumpherston bing. There was a series of fires caused by German flares. If there was a fire in the bing it used to light up the whole area.

Candle Works  
Scottish Oils There was something dropped in the town up at the Candle Works, which was part of Scottish Oils, but they managed to get it out. The Germans knew this was an industrial area.

Munitions Dump I was working down at Boat house bridge,

at Bottesbridge

near Turnhouse building the munition dump which the Germans knew about, because the ordinance maps had everything detailed on them, so they could pinpoint things so accurate.

Special Precautions  
at Oil Works  
During the War

They had men who were called the "Fire Party", that was all they had other than to go to the shelters, if there was any. They had a boiler covered over with soil at Winchburgh, which was a shelter.

Shale from  
Duddingston

The shale for many years came from Duddingston. The train pulled 20 hutches of shale from Duddingston and Totlewells It went from there to Niddry Castle. That's where Niddry Castle was supplied from, but letterly the two mines at Duddingston. They built a little haulage from the totleywells which went along to White-quarries and then they brought the shale into Winchburgh, then when Winchburgh closed the shale was transferred up to Westwood in trucks.

Roman Camps

Niddry Works closed down first, then Hopetown and then^Camps. I think Hopetown closed because the shale went from 35 pit right up to the camps.

Seafield

Seafield shut down in 1934/1935, then a lot of the men were transferred to Burngrange, and a lot of men were killed in the disaster there.

Refinery

The refinery shut during the 1925 strike, but the Candle Works went on some-time after that.

### Chemical works

At Bathgate there was a chemical works where burnt the icopper ore and they produced sulphuric acid. That was one of James young's works. I think to this day there is still some cannel coal refuse lying there. There is nothing left but a small hut.

### Five Sisters Bing

I think a firm called W.J.R. Watson wanted to remove it but it has to remain as heritage for years to come. I noticed recently how the grass is beginning to grow on the west side. I noticed it from a distance about a fortnight ago how nature is reclaiming it.

### Training to Build Retorts

I got my early training as an apprentice at Winchburgh, then went through to Glasgow, where I had various other different retorts to build and gas works and coke holdings as well. I then went to Westwood in 1939/40 when the retorts were pretty well on. I got to build some of the external work. From there I went to Glasgow with various different retorts to build. Then I was due to go to England, but my wife was ill, and was waiting to go into hospital when a job cropped up at Winchburgh.

### Job at Winchburgh

I was to start at Winchburgh as brickie, when a telegram came to say there was a job for me at Westwood.

### Westwood

I started at Westwood on October 1941, where I stayed right up until it closed, I was there 21 ½ years. I have worked with shale bricks at Scottish Oils, but I never built any of the miners houses.

### Miners' Houses

All the miners' houses were built seventy or eighty years ago. At that time they could build a house for £25. I started my time at 3 old pennies per hour.

### Pay

I came home and I handed my step-mother ten shillings and eight pence for my first weeks wages, and from that I got six old pennies for pocket money. Then gradually it went up to 1/- (one shilling). When my first years apprenticeship was over I got 1/6d. I had 22/- when my time was out.

### Improver

After my time was out I had another years work to do as an improver at Niddry Castle.

### Education

I didn't let the grass grow under my feet, because I had second class education, due to having to give it up when my father was in an explosion at the pit.

### My Fathers' Accident

He was a fireman down in the pit at No. 35 pit Threemiletown where the explosion took place. My father was badly burnt and another was injured. It was caused by Black Damp. Recently we had to fill something in from the Edinburgh Royal Infirmary. They wanted to know of what we worked at, as they wanted to see how my heart was .