

TH SIDE ONE

A. Well, if I go back to the start, it would be East Calder school, I went to, and Thomas R.V. Ritchie was the Headmaster. Well, I left the school in 1948, but I didn't start work until the September, because I broke my arm in the school sports, and I didn't go straight to Scottish Oils. I think it was my father that was maybe more interested in getting me out of Scottish Oils, rather than in there, for his reasons, because I didn't really have any at that time!

Q. And do you know what his reasons would be?

A. Oh, I think that maybe he decided that we could get better! A better groundingmaybe better tradesmen in a place like Brown Brothers in Rosebank,.... which was a very....a first class company, you know, but there was nothing doing there at the time, because that place.....I've heard since that round about then, there was probably a backlist of about two hundred applicants. You were very lucky....if you got into a place like that! The other things were....that I was good at art, and both my father and the Headmaster..... obviously the one before that, they had tried to convince me to stay at school for another couple of years, to get to sixteen where I would get into Art College, but I wasn't willing to do that, I wanted some money in my pocket, the same as the rest of the kinds in those days, and so the next thing was..Middleton.....I had an interview there with John Brock and I can't remember who the boss was, but John Brock was second in charge. With the idea of maybe taking....maybe becoming an architect! But they said that for the first year I would have to be more or less a tea boy, and again, my father.. rather than me, decided that there was no good in me starting work as a tea boy. Anyway, he eventually homed in on Pumpherston, and....the same thing there when I went there first, he said, that I maybe would have to go in the Stores for a wee while, because I was only fourteen, I think it was Graham-...Wullie Graham....McDowell was the workshop foreman and Bob Banks as I mentioned earlier was the Storekeeper, and it looked as though I was going to start...

that was the agreement anyway, when I left the office, that I was going to start in the Stores, maybe for about six months or so, till I got to fifteen, when you would normally start as an apprentice. Anyway, I don't know what happened in between but I finished up starting to serve my time directly, and worked with.....just about everybody else in there, I think, Joe McLeod, Jock Smith, Sammy Maxwell.....

Q. They were all tradesmen?

A. They were all tradesmen!

Q. Engineers?

A. Aye! And Matt Purdon, in the power station, and the compressor shed and the paraffin shed. Then, I was more or less in that for about three years, when I got transferred into the drawing office, and I spent the last few years of my time in the drawing office, with Willie Greenhorn and Dan Crawford.

Q. Going back to when you were serving your time, can you remember much about what type of work you were doing?

A. Well, it started off basically with the usual pipe fitting, but at the finish up, I was doing more of the steam turbines, and that kind of thing, where if you remember back, somewhere about 1945-46, No.3.(inaudible) turbine, went up in the air, everything went through the roof. "Operator Jock Smith, it happened one day in February clear, it happened, also Smith was here, but before the first bit hit the floor, attendant Smith was out the door!"

Q. And what actually happened to him?

A. Well, he was.....it was just the end of his training period, he had been a year I think with somebody else, but he just flapped, and I don't think that he went back in there again after that. And then as I said, the compressorsoverhauling the compressors at the paraffin shed, the biggest job, I suppose, was getting the turbine back on again, it was the biggest turbine in the place.

Q. And what did that involve? As far as you were concerned?

A. Working late! Late for dinner, late for tea, but when they start up No.3. We always made wee poems up, I remember Jock McWilliams was the electrician, when we got doing our try start. Jock would usually knock out every pump in the refinery, we needed Isaac White, he was the.....he could always start it!

Q. He was the electrical.....

A. He was the electrical foreman, aye! And then as I say, I went to the drawing office. I was only in it, I think a year, when Willie Greenhorn...Dan Crawford left.....Willie Greenhorn transferred to Middleton because it was the kick off of the Grangemouth Refinery expansion project, and as I was left....more or less in the last year, in the drawing office, on my own and that was probably the time that Alex Anderson, Manager Sutherland, the under-manager, and Eraser Cook, came back round that time. He became...I don't know if he became Manager then, I'm not sure! I left Pumpherston to work in Middleton also to work in the Refinery expansion project there, and at that time, spent ten months to a year actually working in Grangemouth! And then I came back up.....

Q. Can you go back to.....you said.....how long had you to be serving your time as an engineer in Pumpherston?

A. Well, I spent three years in the Refinery, and two years in the drawing office.....

Q. So that was the completion of your.....

A. Well, that was more or less the completion of your.....you had, a year that they classed you as an improver, where you got a wee bit less than the trades man! But when I went to Middleton as I was saying earlier, I think it was about six pounds, six pounds two and sixpence or something was the rate for a draughtsman. And in Grangemouth of course, we were working on the Refinery expansion project, mostly....my stuff was mostly moving some of the tanks,

and things that were in the way of the new project and also putting in thewater cooling system, the mains, which had big thirty inchers, something like that. I remember a pipe was ex Haifa, it was bound for Haifa, and turned around because of the problems in the Middle East, at that time then I went on National Service!

Q. Now, when you were at Pumpherton, and you moved to the drawing office, were you involved in quite a few problem jobs there in Pumpherton?

A. In Pumpherton! Not so many at that time, because the Refinery was just, it really was just ticking over, I don't think that anybody had any chances ofany thoughts of upgrading it at that time, but later, when I came back from my National Service, I went back to Middleton for a while, and then moved back to Pumpherton, and when I moved back to Pumpherton, I.....

Q. Can you remember when that was? What year?

A. It had to be.....I came back in 1950, so it would be around about 1951 or thereabouts, and at that time I came back up, that was when I took the job that Blythwood had had and that was....he was transferred I think, to handle the experimental retort at Westwood, the design of that where he and Doc Stewart were working with the National Bureau of Mines in Colorado. I was more or less looking after the new construction work in Pumpherton, a load of that was just extraordinary maintenance. The only thing that we did build was one of the.....while I had been away....one of the.....while I had been away....one of the cracking plants had gone...the one nearest the workshops and we built the new diesel rear engine, right outside the workshops there, but it was interesting and when we were building the foundations of....when we were digging the foundations, we were only figuring on finding cracking plant foundations there, but there must have been some of the old pipes still.....Lancashire Boiler type things there.....before the cracking plant was done, because we found the flues for the older plant, underneath the cracking plant foundations! The funny thing there....before the cracking plant was done.....was when we were putting up the chimney. It was a steel chimney that was going to be brick lined later. It was all set up, just outside the back door of the workshops, I remember....and...

Q. That's the engineering workshops?

A. The engineering workshops aye! Along the road, and then we had a couple of cranes to lift it on to it's foundations. Now, you might remember that the Pan Mill was across the railway on the other side, and the.....when they kicked this thing off on the first lift, it moved a bit further than they wanted it to, and they were going to cut clear out a nice clearance for the lift across the pipe track and the Pan Mill. We nearly took the roof off the Pan Mill!

Q. And who was doing the lifting?

A. Oh, I think it was a couple of Pickford cranes!

Q. They were employed by the Company to do this?

A. They were under contract just for that lift! Well, they lifted the...they lifted the tower on, and then they lifted the chimney on, the rest of the stuff was all done by the heavy squad! McDowell, and Charlie Denholm, and his lot!

Q. Had you any problems in the building of this new plant?

A. No! No! I don't think so! The funny thing, that I think that I remember about it was that whenever you.....were short of a bend or a bit of pipe or something, we just walked up the scrapyard, and just walked around till we found it, then cut it and put it in! It was handy, the scrapyard there all the time!

Q. It was a big scrapyard?

A. Oh aye! Aye! But after that, I was transferred back to Middleton, and worked with Blythwood on the experimental retort at Westwood, and we actually had built the experimental retort...,we had lots of trouble with the extraction gear, trying to take it a.....a uniform drop of the shale inside the retort, it kept clinkering up the side! And the centre wall would come down, and some times it wouldn't even come down evenly! So that was the biggest problem

in the design of the thing, was trying to get a retort that would bring the combustion....the (inaudible) that you were trying to get into the combustion zone, down uniformly into the retort!

Q. And was this a new type of retort?

A. Well, it was the first time for that Retort! I don't know, what the Americans would do. Doc Stewart was in there trying to avoid the mistakes that the Americans had made, and we were getting feedback from Doc Stewart on different bits of the thing, sort of, well, don't try that, the Americans tried that, it didn't work! And basically we pulled the gases off the top with the plant full of the dust collector industry. For a separator, we used a.....fan, which threw out the vapour out the outside of the fan, and the oil dropped off the bottom of the fan casing. Then we passed it through some.....what were originally dust collectors but which were in fact a whole packet of....a multi-cyclone package if you like, again that created a cyclone effect and dropped the oil out and the gas off the top.

Q. Do you remember who the Manager was at Westwood at the time?

A. No! I know Wood eventually went to there, and he managed it, I think till it closed! But I can't remember who was the Manager then! We had.....I remember also that the only thing that we used in dust collecting equipment against using the hydro carbons, was that every joint in the damn thing leaked! We got more oil out of the joints, I think, than what was through the places that were supposed to get it! But we had a water scrubber and a gas scrubber so we had basically.....scrubbed naphtha and then ammonia water, that were then sent off to Pumpherson for processing and blending with the stuff in Pumpherson.

Q. And how long were you in Westwood? Doing this job?

A. I was at Middleton at the time! I was just running back and forward to Westwood so you'd more or less just run to Westwood just as and when you needed to!

Q. You were on loan to Westwood?

A. No! The job was being done out of Middleton!

Q. From Middleton?

A. By Scottish Oils at Middleton! And then Caldwell asked "To see me Monday", and said "If I went up to Pumpherston he would give me another fifty pounds" and I finished up as plant inspection and safety engineer, which was a new position that they put up at Pumpherston, and that was more or less to collect the data and all the pipe still tubes, and trying to get the history of, you know, where your failures occurred and so on, and then just getting to the bit where you could just replace tubes, before they failed!

Q. So, you were transferred from Middleton back to Pumpherston?

A. Back to Pumpherston, so basically from Scottish Oils to Pumpherston Oil Company Limited.

Q. Well, that.....it was still Scottish Oils.....

A. It was still Scottish Oils, but you just....it just meant that Cook had to pay my salary rather than Wullie (inaudible).

Q. And was he then.....? What position did he hold at that time.....Cook?

A. Cook....he was the Manager, he was Manager of Pumpherston at that time!

Q. And that would be when, what year, can you remember roughly?

A. Well, that was.....must have been about 1958-59, because I left from Pumpherston, in 1960 and Cook was Manager at the time.

Q. What.....can you remember much about what you did when you went back to Pumpherson. Some of the jobs, like, that you were involved in? Or any of your workmates or foremen?

A. Well, the plant inspection staff, it was mostly Geordie Smidle, everything had to be coordinated with at the plant shutdowns and that type of thing! And Secular in the cracking plant, he was in charge of the cracking plant! So mostly.....it was the work was mostly the cracking plants and the re-run units.

Q. Now, this job as plant inspector and safety engineer, was this a job that was created by the Company itself or were they forced to have somebody on this job?

A. No, I think it was just a move towards modern practice at the time, the practice at the time to...to get these inspections on the plant so that they would as far as possible get their runs in without having a plant failures. It was as I said, mostly concerned with the inspection of the tubes and things like that, and we had problems with the changeover, because at that time the shale oil was going down, and the indigenous oil from the South, you know, the stuff that was coming from Dorset, I think, and some from Norfolk, was coming up, and that oil started to exceed the amount that we were getting from shale, and I remember that we switched the cracking plants over because one of my theories on the failures of some of the tubes, was because the throughput had dropped so far, and we were now getting too long a residence time in the tubes, with the oils, and the temperatures were actually altering too much, so we switched the shale oil over on to the smaller units, and the crude from the U.K. Group into the bigger one.

Q. So, there were some alterations to be done when the shale in the oil was basically, coming....reduced and you were getting more imported...near enough, oil?

A. Yes, well, not too many, because basically it was still crude oil, but there might have been a wee bit difference in the breakdown of the products.... the end products, but really, you would have to get things from the chemists side to get that! Basically, the problem areas as far as I was concerned in my job, were the pipe stills, the other part of the job was trying to keep the Factory Inspector satisfied, which maybe raised your question earlier.

Q. I wondered whether.... that's why I wondered if...because some times the....
.....near enough a must to have the safety officers and the people like that that were appointed by the...whoever you worked for.....the firm that you worked for, and he was responsible for safety!

A. Well, it was the first time really, in my experience that we really started getting pushed by the Factory Inspector, that was probably because the equipment was really getting outdated, compared with the modern equipment so we had to have the protective guards and we had lots of health drives and not very many independent drives, at all, and all our drilling machines and boring machines were just straight unguarded machines, plus escape ladders or high platforms and guard rails and all this type of thing, so it even went down to the canteen, to make sure that the water temperatures of the water...the washing up water was at the correct temperature, in case the Factory Inspector came in, and found that they were washing in lukewarm water. So, all these bits were added to it as well.

Q. So that would be quite a change from the Scottish Oils....workers, was to have somebody like the Factory Inspector coming in and doing regular checks?

A. I don't know! If he had been in before, but certainly they were getting a lot more active in enforcing the stuff, but maybe they had had a nice friendly one before, who appreciated how old it was, and maybe their accident record was okay, but it must have been about that time, as you say, that the Management was pushed into doing something about it! But they used to arrive in the middle of the night, they would arrive completely unannounced....they had a freedom of...to just walk in anywhere and check up on your safety record. We'd even to keep accident statistics from then on as well, which hadn't been

kept previously, so we made sure that the first aid requirements were met, for you know, the walking wounded, and that was usually "Baler" McGill, up at thebaths and Stein, Davy Stein.....

Q. And were they asked to do any training to become a safety engineer or an Inspector?

A. Well, the first thing that you did, was, they sent you back down to Grangemouth again, to work with the maintenance plant Inspectors, and their safety engineers and so on. I wandered around the refinery with one of their Inspectors and got the gist of the thing from them, and also spent time with the...their safety engineer, to find out how they kept the statistics, how they were recorded and what the investigation was...were required and just how you had to settle up with these Governmental agencies, like the Factory Inspectorate, and these type of things, and you had to report lost time accidents, over a certain time, what was a lost time accident and this type of thing. As well as that the Company obviously contributed to a safety council of some kind... the Company obviously contributed to a safety council of some kind, which would hold monthly meetings in Edinburgh, and they also were very enlightening because there you got different lectures and different presentations from safety people in maybe similar environments in the chemical industry or somewhere else..that you could pick up quite a lot from them, they would show bits of films or describe accidents or describe dangerous situations and so on that had arisen, you know, and you could take them and put them against your own plant and the conditions in the Refinery at the time, so it did help, yes, but that was as far as the training went in the time.

Q. And if there was an accident, were you asked to go and find out what the cause was or if there was any reason?

A. Oh yes! Every time there was a lost time accident, there had to be an.... accident report filed, and that meant talking to the person or people involved which often there was more than one, maybe only one man got hurt, but there was usually more than one on the site at the time, and things like that, and then you had to submit an...accident report, which went, in my case to the

Manager, and then it would probably go from there to the Governmental agency responsible for maintaining these records.

Q. Can you remember any accidents that did happen, and any reason that caused them?

A. Och, I remember one in the Refinery, eh, it was this Hughie McKerragher, he had been working on the lead lining of one of the vessels in the sulphate ammonia plant.....

Q. He was a plumber?

A. He was a plumber! And towards the end of the day it started to rain and just at that time he happened to be there on his own, and these things were about eight foot deep and I forget how many feet in diameter, something about maybe fifteen but they were quite deep anyway, and he decided to cover up his work with a tarpaulin at that time, and he slung a baton across this thing, and the baton broke and he landed inside it! Now.....that was his fault, I mean, and he should have either gone for help or he should have made sure that he didn't just stick an old rotten baton up there and....that was the type of thing that would happen, and normally they....the Company tried to encourage people to use all the safety appliances and gear that you had, and you found that it was the worker that didn't want it, because in lots of cases, it got in their way! And one of the hardest things was to try and get people to use these safety....equipment. Where it was obvious, like breathing apparatus or something like that because they were going to get gassed, fine, they used them! But like....I remember them coming to me one time, and asking for these gauze type spectacles because when they were cleaning the inside of the towers in the cracking plants and so on, you know, there was all these chips and dust and all that stuff flying around, and obviously it must have bothered their eyes, and they wore goggles, they had goggles and obviously they sweated in the goggles so they were uncomfortable, but the other ones killed about sixty percent of the light, and there was little enough light in there, so they never got the gauze goggles for that reason. You gave them one and it's uncomfortable but it saves their eyes! And as for

the other one, the other one would have killed the light that they had to work with, and it would have just caused another accident, but that is the type of thing.....

Q. And did you find that the man on the job was inclined to take short cuts, to get the job finished?

A. Not in as much as that..eh, not as much as short cuts, but what you did find in, and especially a place like Pumpherstons, where it was old, was that you would find them lighting up, where they should never have been lighting up, because they were just so used to the place that they figured that nothing could happen to them!

Q. Now.....what do you mean, lighting up?

A. Having a smoke! They just tucked themselves round the corner, and would light up, and they were maybe sitting six feet away from one of the most highly volatile vessels in the cracking plant or something like that but generallygenerally no, there wasn't many ways that you could take short cuts, and there was no....I mean, there weren't so many contract jobs of the type that you would have to watch for short cuts, they were mostly on day rate. We did contract some jobs, like, maybe re-lining a pipe still or building... that time office that was built, that was done on contract...the bricklayers..

Q. That was the Company's own bricklayers?

A. That was the Oilwork's own bricklayer, yes! Wherever they figured that they could make some extra money on it, they would take it on, but when you get something like a wall that just needed repaired inside the pipe still, you had no idea how long it was going to take to get in there, until you demolished the bad bit, so you know, you couldn't really measure the thing up so that you would be able to contract it, and they usually weren't interested unless you said what these two walls are, and give me a price for them...and they would maybe do that, because it was quantifiable, but in most of the cases, it was just repair and maintenance and repair and you couldn't really quantify it

sufficiently for contract work!

Q. And do you think that the Company had adopted this attitude of contract work with their own workmen, because they got the job done quicker and probably even cheaper?

A. Certainly..sure! Well, as much as that, it was usually time that was involved if you got a plant shutdown, you maybe had to maintain your production figures for the year! You could only afford to be down for a week, and if you put them on day rate, they usually just flagged and waited for overtime, and the job dragged on, and you....the last two or three days, you were skimping on the drying out and trying to get the stuff dried out in time, to be able to put it into it. But no, generally, that the...was the basic arrangement and contract work....they would work their guts out on a normal working day, and weekends if they had to! And get the thing done, they needed money and the Company got the plant!

Q. And who did most for this contract work? Was it Anderson, or..... negotiating with the workmen?

A. I think that Anderson was probably the first one that really introduced it, Cook carried it on, but I don't have much experience with any of the others, because it was Anderson and Cook, that I worked with, most of the time. But certainly, I think, it was Anderson, that was the guy that kicked that type of thing off, because he could improve the productivity of his workforce, type of thing, and keep them happy financially, as well!

Q. And when he put a job to contract, did you have more than one squad or..... number of men doing his job.....to price against each other to get a competitive price?

A. No! Generally what we did was priced against our budget price. Normally we had to measure everything up for the contract price to get money for it, we usually had to go back to Middleton for the money. So we could measure it,it up, and the Quantity Surveyor would then take off the quantities and calculate out the cost that they figured of the building, so we usually worked

out contract on what we could save on the price, or it wasn't that we could save, that we could get it done for that price in the time that we wanted it done. So, generally, no, it was no competition outside the...your own workforce, you were just trying to get the job done where you thought the money was tight, for putting it on day rate, or where you were in a hurry and you wanted the thing done, and you could measure it. It was measurable and quantifiable as far as contract work was concerned.

Q. Did you ever have any time where the workmen would quote a price that may have been too high, or how did they decide it, if it would be acceptable?

A. Well, generally, when we came up with a budget item, or something that had to be built we costed it, and then it went to the refinery management. The refinery management would then submit it to Middleton, and Middleton never accepted our figures. They would always put the drawings or whatever it was in to the Q.S, the Quantity Surveyors, in Middleton, and their price would always come out higher than ours. I think basically, it's because, if you are working with your own labour, is one thing, and if you're working with an outside contractor it's something else, and what I have found is that where the price was far too low, where they underestimated completely, and that was more the type of thing that happened than the other way round! I remember one particular.....job where....with Eraser Cook and I told them..

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TH SIDE TWO

A. As I was saying, the....more often than not, that they would underprice rather than overprice. One job that I went out for, because I used to go and discuss the contract with them, and explain... the niceties of the thing... was the bricklayers again! I warned them about the cut brick, I said, "Watch cut brick on this job!", because the sizes are terrible, you know, as far as

working.....brickwork sizes were concerned, and they came back and they said, "Okay, would I have a look at their prices". Before they went to Cook with it, I should hope, I could only work for one side of the business and not for two of them! "But if I tell you the price, would you tell me whether it was alright or not!" I said that much. So they told me the price, and I said, "Yep, We'll accept it!", and I went over to Cook and I said, "Look, these guys have underpriced this job, they'll never build it for that!". He said, "Send them over, and let them go ahead!" So we sent over, now, the reason why you're overpricing as well, is that I don't think that they would ever look at an outside contract, compared with their own labour, is that they're allowed to use the Company equipment, and the talks on their prices always assumed that the equipment and the power and everything was going to be supplied by the Company. So they said, for instance, "Okay, we'll want a man for a day first, to cut halves, with the masonry saw that they had". That was outwith the contract, that work was going to be done, in other words they were going to have half bricks available when they started. Then, I think it took them about a week before they came back and said, "Look, we're really in trouble on this thing, this is coming out a lot worse than we ever thought, you know, and these guys are all complaining!" and I'm never going to take another contract sort of style. He said, "Would you....", I said, "Of course, you could, would you talk to him first?", and I said, "Sure, I'll talk to him!" So, I went to talk to Cook, and all I got was a big grin and he said, "Send them in!". But they did...they did underprice, and when they made a mistake, as long as there was money left Cook was getting his job inside the price that he had got approved from Middleton.

Q. So, he was quite prepared to adjust the price?

A. Sure! Sure! Sure!

Q.Genuine grievances about how much it would cost them.....

A. Well, we knew whenever they mentioned the price, I knew that they had had it! But we did get work done by outside contractors, but that was mainly work that they didn't require any of the refineries specialist knowledge that their

own workforce had, like, laying a pipe from the Almond Pumphouse up to the Works, and.....

Q. What was the pipeline used for.....what was that.....?

A. That was to draw the colling water supply, the make up water from the Almond up to the Refinery, and.....like Ritchie Brothers were involved in that, they must have hit the worst weather patch putting that line in, than had happened in ten years! Because, they got running sand, they got flooded, they got pipes that burst on them, on the testing, and everything else, and I think that we really....just about put them out of business, but like you were saying, the Company wasn't interested in putting contractors out of business, so when somebody had really made an effort.... they were good workers, those Ritchie Brothers, they brought forward another piece of contract just to keep the contractor in business, and now he is doing quite well, thank you, up the road there in Seafield!

Q. And....when you went to an outside contractor, was there any competition involved in there, or was it just usually one contractor that you went to?

A. No.....except that we had sort of traditional contractors for different types of working, it was really hard to beat them in price, because, first, they knew the work and they knew the refinery and....like you mentioned earlier, all the safety requirements of how they had to work and what the barriers were to work in, if you like, the limitations that they had to work with as far as plants and proximity to plants and using equipment, hand digging and that, where you couldn't use machines, and all that type of thing! So.... generally, you.....you would go outwith.....as far as I can remember, all our roads nearly were done by Tam's Loup Quarries, and all our digging type work was done by Ritchie Brothers from Seafield, and basically it was because they would maintain rates that were very competitive, having worked there before they knew exactly what, and we knew that they knew their working and somebody trying to break in, by the time that you upgraded their quote to account for all the bits that they had missed, because of the lack of know-

ledge of the refinery, they were probably overpriced anyhow! But normally you had a good working relationship with these.....Dennis Brothers for instance, of Dalkeith, they did work on the.....usually, the boiler type work, because they were kind of specialists in that type of thing.

Q. Was that firebrick?

A. Firebrick! Yes!

Q. And linings for inside boilers.....?

A. Yes! Basically you had only to look at contractors when your workload was higher than your local.... than your labour force could handle, your own labour force were already busy enough in the normal day to day maintenance work, where you got a peak, when maybe you were putting a new boiler in, and they couldn't handle the new boilers, like we had some boilers transferred from some of the old crude works into Pumpherston for the Detergent Plant when it was set up, and we needed extra power and extra steam generation, so we would get somebody, again, that was knowledgeable of the thing, and the short list must have been very short, because there wasn't too many of the.... because as I said, just the traditional contractors to the oil industry.....

Q. When you were talking about safety, you didn't say anything about fires that had happened while you were there at Pumpherston?

A. Well, we had a couple, but generally, you're right, on the safety side that was the other thing that you had to make sure that the extinguishers and the fire protection apparatus was suitable for the area, that they were intended for, like for instance, you couldn't stick water just on an oil fire, and get away with it, you had to have some of the chemical extinguishers around and apart from that, one big one was the cooling tower down near the waste box, if you remember were that was in Pumpherston Refinery, there were two cooling towers down there, one was working, and one, an...older one was....both wooden chimney shaped towers, that.....had been built at different times in theand the older one had been out of use for some years, so it must have

been tinder dry, and the locomotive was shunting down in the yard, and it must have let..a spark out and it started a grass fire, alongside the yard, and though it was reported to the fire station at the time, that it was a grass fire, it moved so fast up to the cooling tower that it went up. Really, the cooling tower was designed for holding a fire, it was like a big chimney, a good stiff wind blowing the stuff all over the refinery. People were running around two or three hundred yards away from the fire, picking up stuff just to stop it from starting other fires! In the cooperage, and over as far as the distillation units, and.....

Q. And this was like burnt...or burning embers off the tower?

A. And it sent the whole of the separators up on fire, and like the oil on the surface, plus the fact that right adjacent to the bowers was the big gundy pond, the shale resin, and it went up! It was really effective to look there, and I remember going there, and we had the hoses on it by this time, and they were trying to cool the cooling tower new to it, to stop it...from going on fire as well as putting the fire out in the one that was there, and they weren't getting to the top of the fire. So, Isaac White and I went up, I think it was No.3.pumphouse they called it, up near the wax sheds, and we put the auxilliary pump on, to give them more pressure to let them get up to the top, and Willie McDowell was firemaster in these days, and the following day, he came up to the drawing office when I was there at that time, and he said "Did you and Isaac put that auxilliary fire pump on in No.3.".....I said "Yes, we did!". He said, "Well, thank you very much, but don't do it again!" I said. Why, your hoses couldn't reach the top of the tower!" He said, "Aye, it would be better to have some water than none!" He said, "That pipe that carries that thing down there, I had that pump on ten minutes before you were there!" He said, "If I thought that pipe could have carried it.....!" So that was it! That was where Willie McDowell's son actually.... took a picture of that, and he didn't have any money, and he managed to convince a girl, a conductress on one of the buses at Mid Calder to get him into Edinburgh, took it to the Edinburgh Evening News, and got twenty pounds for it, for his picture! And he never had a penny on him when he left! But it just shows you that a wee bit of initiative there did wonders for....there was a big picture in the Evening News that night, the same night as the fire!

Q. Can you remember when that was? What year it was?

A. Oh.....it would be about the late nineteen fifties! The late nineteen fifties! We had another one too....in the distillation unit, next to the second plant up, from that big chimney, and it was some....obviously spillage had got in off joints that were being broken or whatever, in amongst the insulation of the scrubber vessels, alongside the tower. And it must have been spontaneous combustion, there must have been an explosive mix formed with the wind blowing through, and the hydro carbon vapour coming off it, and the fire went, and the whole place went up, the whole plant went up there, because of the old insulation there, must have been pretty well drenched with oil at different times, or another, and the flames used...the flames and smoke and everything were going through the plant next to it which was operating at the time, and nothing happened, the plant continued to operate, and they got the fire under control, and I bet there were some sighs of relief!

Q. That was their own brigade.....?

A. That was their own brigade, yes! With the one in the cooling tower, I think that we had other brigades came in eventually but, it was pretty well contained as a fire, by the separators because they were walled round as you remember, they sat kind of low there, and the biggest danger was these flying embers that could have started another fire in the refinery, and with the amount of old spillage and I suppose the housekeeping really, wasn't any good, by today's standards..... these resin ponds for instance, would never have been there, if it was today!

Q. And what other brigades did they call for assistance. Edinburgh, Bathgate or?

A. I think.....I think it would possibly be Bathgate....was the nearest one, but I think, was there not one in West Calder at the time? Because, you obviously had, had fire wagons in the other crude works, that they could

call on as well, and Westwood wouldn't be that far away, Addiewell and all these places, they probably pulled them in from there as well!

Q. And whose decision would it be to call on them for assistance?

A. Oh, Willie McDowell, I think! He was the firemaster!

Q. Now, going back a bit, when you started with the Scottish Oils as an apprentice, were you encouraged to further your education...in any way? Like going back to school, going back to day release school or anything like that?

A. Oh aye, I think that the pre-condition in these days, was to get a Higher National Certificate because that was a powerful qualification, there weren't too many of them around the Scottish Oils, and those that were, were getting on pretty well. We had.....nearly all of us had a....to attend evening classes. I think it became a condition of employment, that if you took an apprenticeship you had to attend evening classes. I used to have to take the bus first for three nights a week from Oakbank into Edinburgh, to Heriot Watt, and back again. I spent an awful lot of hours, for two hours in the college! And I did that for quite a few years, and eventually got my membership of the Institute of Mechanics through that.....

Q. And was this what you wanted to achieve at that time?

A. Well, I think that you took it in stages at that time, and you got an ordinary National first, and you wipe your hands and say okay. Higher National and then after...the Higher National, you made for your Membership of the Institute! And I think at that time there must have been quite a few, quite a few fell by the wayside, of course, because it was a real.....push on your free time, you know, when you had to put in these three nights a week, in Winter, and that meant maybe another couple of nights swotting at least, so maybe for a young fellow that was more interested in women, than lessons, you were down to two nights a week that you could get out! And that's really what you had to stick with, and you really had to put that time in, to succeed!

Q. So, you would be one of them, that had a long sighted view of what was going

to come in the future, as far as your work was concerned?

A. As far as my work was concerned, I remember viewing the statistics that the average age of the refinery was fifty two, and it was about fifty eight, fifty nine, when I decided that I should get out, before they died on me!

Q. And where were you when you actually.....did you finish the Heriot Watt schooling when you were still with the Scottish Oils?

A. Oh, yes, I finished it, it was finished.....I was past the Ordinary National Standard by 1950, and that was when I got interrupted by National Service, and I probably just went straight through after that, and so, fifty three, fifty four was probably true! At one time there I had a problem with one subject there, and I think I finished up with having a day release class, an evening class, plus two night classes in one week. To collect the extra subject at the same time! But we used to....at first, like, we always used to have to do evening classes, then during the time that I was there, which was....must have been in the late forties, early fifties, the day release came in, and at the same time if you could qualify, the Company would release you for Summer courses if you could qualify for the these Summer courses, so they did encourage you to advance yourself as far as you wanted to! In fact, as I've said, it was a condition of employment when you became an apprentice, that you had...to attend evening classes!

Q. And when you left the Scottish Oils, that was in 1960? What happened after that, where did you go?

A. Well, I left the Scottish Oils, but I still stayed in the B.P. Group, and generally with the work that I had been doing in Pumpherston basically, the inspection, the safety and that. I got a job in Abudhan, on the standards of specification, and I was there for eight years.

Q. And how did that compare with what you were doing locally at Pumpherston?

A. Well, I used to.....when I went there first, the first idea was that the

right hand of God was sitting over Pumpherstun, when I got to Abudhan, I figured that it must have been his left hand, because I know where his right hand was.....we maybe had problems with the old equipment and every thing and.....in Pumpherstun, but I think that Abudhan would be partially due to the war, and the shortage of materials. It was a wee bit of a letdown, it might have been the biggest refinery in the world, but some of the plants some of the setups weren't all that well modernised, not what you would expect, or not what I expected! But generally, what you're saying is, that the experience that you got in Pumpherstun in a place that size, which meant that you handled everything from your own power generation, and you pulled the water up from the Almond, so all our services as well as the oil process side, you had experience of all of it! And that broad experience, when you went into a bigger place, you maybe had to start specialising in one little corner, because there was so much..... that helped you to get through the work. It....it was a good background!

Q. Did you ever have a feeling that when you were at Pumpherstun and working with the Scottish Oils, that you were a little frightened to go into work in the outside world, as you might say?

A. No, not really, I don't think so, well, for the same reason as I'm saying that you were.....you were tied, if you like, like before I left, I was married and had a Company house, and I did consider leaving, I did my sums to find out how much it was going to cost me, when I had to get out of a Company house and pay an economical rent, and figure out how much it would cost me for travelling expenses and everything else, and I never got a job offer that would cover these expenses at the time that I was looking for one!

Q. And when you went abroad was that offered to you by the Middleton Hall.... or.....?

A. Well, what you did was you made it known that you were interested in working abroad, and your C.V. as it were was submitted to B.P. in London, and if any suitable jobs arose, they invited you then to apply for them! And that's basically.....also they had a.....I think all of the jobs inside the B.P.

Group were circulated and I think, for instance, that people like old Rab Crichton would stop that from becoming public. He liked....he wanted to keep his workforce. He was always up in the drawing office, when we were at Middleton there, telling us that far off the fields always looked the greenest, but when you got there, you found that they were pretty much the same colour as the one that you had been in. "You're doing alright here, lad", you know, but we never ever....in fact when Abudhan re-opened, there were two or three of us in the drawing office that were interested in applying and he talked us out of it! We said, "Look we know that the bossman is going to be a Dutchman, because that appointment has already been made!" And if you can imagine if there is some Dutchman and you, then the Dutchman is going to get preference, so we figured you know.....and they talked us out of it, applying for the Abudhan job, otherwise I might have been away a bit earlier.

Q. So, at that time, you did not get any encouragement to go abroad?

A. Oh, they tried very much to hold the workforce that they had! But, I mean as I said, apart from going abroad, where you would probably get supplied with housing and everything like that, again, going abroad was probably the most economical break that you could make! Because, first, you've got a better salary for going abroad, well, you at that time, I think it was a two year contract, when I went out, but that changed the year after I got there into a one year contract, but you just had to figure, okay, I'm leaving home and it will be two years before I'm back again, and the first two years are probably the worst, culture shock and everything else, but basically you don't have any problems as far as applying your job, when you moved to another refinery. You might have to learn the geography and you might have to learn the people, you know, to find out who to talk to, rather than who's sitting in a position, because like everywhere, the guy that's sitting in the top chair isn't always the guy that you should speak to! But I think that the....like Pumpherson Refinery it was like working in a place that size, or working in a group the size of Scottish Oils..were, you didn't have any lack of confidence in it, because you were given jobs that you know

One thing that they did encourage was they gave you whatever they

figured that you could handle, and you were allowed to get on with the job, and just every now and again, you had to go and be screened by an engineer, and he would say, "What have you got that in there for, you've got far too much steel in there, get some of that out!" And you would go and work it out again, and you would come back and say "Look, I still get that amount of steel so you tell me what I'm going to do!" But....you know, that was the kind of checks that were done, in say, a place like Middleton Hall.

Q. Overall, do you feel that you got a good grounding when you worked with Scottish Oils,.....in your trade?

A. Definitely, aye! I can't think where you would get anything better because I think that's why like, during the war, a lot of tradesmen like Nicolson, and these guys that were in the workshop, the engineering workshops when I was there, they were Petty Officers or Chief Petty Officers in the Navy. I think that they are very similar because they are self contained units, in other words, they have to supply their own power on a ship, they had to supply their own water services, they had to supply everything that....I think the same thing happens in an oil refinery! You do your own building, you do your own process plant, you do your own water works, your own....it was a very good grounding! I think that the other thing with Scottish Oils, too, was, that when you got in there rather than to a....rather than be a thing maybe the size of Grangemouth refinery, or one of the other big ones, is that it's small enough, and simple enough, that you understand the processes very early. In other words, you see the shale oil come up, you figure out how it gets into crude oil, and then from there you go into the Refinery and the plants were relatively simple where, nowadays, they are so sophisticated. They're not really, they just do the same thing, and generally, you could find out what happens in each one of these places, because you know what has to happen to get petrol or diesel, or gas oil or anything out of the other end!

Q. Now, when you were with Scottish Oils, did you have any hobbies or pastimes... ..?

A. The local golf course!

Q. And where was that about?

A. Oh, in Pumpherston! I remember when I was on the plant inspection thing, that Cook always had the idea that if you were in charge of anything, if anything went wrong that you should be there! You could be in the middle of a game of golf and get pulled off into the refinery because there had been a failure down in C.O.D. somewhere! I've had Alex Secular at the door at three o'clock in the morning when I lived in Pumpherston too, somethings failed, come in, you were expected to be there!

Q. So, you were actually on callout, as it where?

A. I didn't think I was, but I was.....!

Q. Were you paid for that?

A. No! No! You were salaried!

Q. I see! And golf was your only.....?

A. Golf and fishing!

Q. Fishing? Golf and fishing? And where did you do your fishing?

A. Oh, I started off obviously in the Lennis, in the bog, and then anywhere within travelling distance. If you could get a lift down to the Clyde or the Teviot or the Tay or anywhere around.....

Q. The golf course at Pumpherston, that belonged to the oil company, I believe they built the pavillion to start with?

A. I don't know, because when that was built, I wasn't there! It was built before I was there, and we improved it, and it's obviously been rebuilt since then! But it was certainly built on top of the old mineworkings, because they still....I think that there's a fall in up there just now! They've always had these fall ins! But..... the golf course as far as I'm aware, was part of

the Pumpherston Estates, that Dandy the farmer had, was the tenant, and theywe got a load of help, and they helped us in inverted commas! In other words, we did quite a bit of work over on the golf course, whenever we had a wee bit left over from the budget. I think £3610 was the Detergent Plant budget, and we built quite a bit of the golf course with that!

Q. In other words, I suppose the Company would turn a blind eye to a lot of things that they would know what was going on?

A. Och, obviously, it would be with a replacement of cinders or something like that, and you had to dump them, obviously we had a place for them to dump them so that they were quite happy to take them down there, and maybe even let the guys put them in the hole just exactly where we wanted them! That type of thing! But if you could go back, I mean I lived in Oakbank, to start with, and Oakbank had the Institute, they had a bowling green, and the bowling green still exists and the Institute, but the village has gone! But these two things, and all over the oilfield, the companies had at least a bowling green, and there used to be a golf course at Oakbank too!

Q. Where was that about? Can you remember?

A. Oh aye, I can remember it, it was never a golf course when I was a laddie! Or....it might have been when I was a lad, but when I was a laddie, running around the golf course, all that was left was the bumps of the tees, where the tees had been, it had ceased to be operational at that time! But that was away up above Oakbank, near Blackrow, it's still there, I mean the ground has never had anything done to it yet, it's just for grazing! But I think that....take it, I mean, we had a National Health Services before there was a National Health Service. I think for the payment of about three pence/ or sixpence a week, I think it was sixpence by the time I left, we had free Doctors, free Infirmary, free hospitalisation, everything. It was a lot cheaper than the National Health Service. But I think it was like a cradle to the grave type attitude, because an oil company village....and your obvious route was straight to the oil company again. If you were brought up in one! And as I said, my grandfather was in it, my father was in it, and I don't

know whether one saw Oakbank being built, but I saw Pumpherston die!

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