

PETROLEUM INDUSTRY ORAL HISTORY PROJECT  
TRANSCRIPT

INTERVIEWEE: Cal Bohme

INTERVIEWER: Willis Gibson and Harry Simpson

DATE: January & May 1986

HS: This is January 13<sup>th</sup> and we're interviewing Cal Bohme, Willis Gibson and Harry Simpson doing the interviewing. Okay, where are we?

CB: Well, did you want to go through your questions here? Who put these up, Leper???

WG: No, we're going to hit Leper too and. . .

CB: Have you talked to Leper yet. Oh you haven't talked to him.

WG: Well, very casually but we're hoping to get with him within the next day or so. We spent Friday with Lloyd Stafford, he's most anxious to help. He certainly has time to. The gas for the boilers, that came from Imperial Leduc #. . .that Viking well of Imperial's.

CB: Wherever, all I know it came in by pipeline from some nearby well.

WG: You'd have had gas to Atlantic 1 so you probably ran a line, poached into the line off of this one.

CB: We came off Atlantic 2 I guess to 3, moved the rig. I don't remember the exact number of the other one but I assumed it was 2. I was on the one previous to that.

WG: On Atlantic 1?

CB: Atlantic 1 yes.

WG: And that rig didn't come across here.

CB: Yes it did.

#019 WG: From one to three.

CB: The derrick didn't. The draw works and all the rest of it came across. The derrick was the derrick. . . it was previously built and set up, they had spare derricks that were moved . The Carver Brothers went ahead and built the derrick but we moved the actual rig.

WG: From Atlantic 1?

CB: That was my recollection. As I say I don't know if it was Atlantic 1, I thought it was Atlantic 2 but maybe it wasn't.

WG: That was Lloyd Stafford's recollection because he thought . . . .

CB: Was Lloyd the toolpusher on that?

WG: Not on 1 but he was on 3. Because he felt that Atlantic 2, for that one GP had picked up another rig somewhere and moved it in there. However.

CB: Well, as you say. . . . I remember that when we got there, the derrick, it was already built and that we brought the . . . from whichever well I came from we brought the rest of it, we brought the draw works and the steam boilers.

WG: Easy to check, just look at the charts.

CB: I would think so. Like it says right on here, moved from 1. . .oh it doesn't say, or does it. I had the conservation board run the copies. Where are the originals, now there's a set like

this made up by GP and GP has a set of these as the originals for these.

#037 WG: Excuse me, is that the conservation Board tower sheet or the GP tower sheets?

CB: These are the Conservation Board's. They've gone to General Petroleum's. They've gotta be the tower sheet eh, they've got the men's time on it.

WG: That's the same as Aubrey has only he's done a little better job than. . .

CB: Yes. He probably got the originals. I think he has. . .this is one of Aubrey's here.

WG: No, they're all reproductions, they're not originals but they've sure done a better job of reproducing.

CB: Well, I phoned the Board and said, why don't you make me a set and they made us up a set but you know, they're so terrible that you couldn't. . .so I finally went over there and read some of them. And there's not one rigging up here.

#045 I: What about the water supply to the rig?

CB: The water supply came in by pipeline and there were those two brothers came out of Turner Valley with a pipeline system, was it Hector's, yes, that's right. They had a used pipe.

HS: Did it go right into the rig?

CB: It went right into the boiler because I can remember on Atlantic #2, these guys, they used to fill up our tanks in the boiler house, and then they'd take the gas and they'd blow the water line clean with the gas. They used to blow it from somewhere down and up and one day they forgot to disconnect the line and blew all the gas and everything into the boiler house and blew the boiler house sky high. Blew it right to kingdom come.

WG: But they were still successful in getting water across when the temperature was down to -25 and all that sort of thing?

CB: Oh yes. They used to pump the water. They had two water tanks half enclosed in the boiler house and they used to pump the water in there with these pipelines and then the guy was supposed to come up and disconnect the water line and then go down and blow it clean with the gas. And he'd blow it clean with the gas but the one time the idiot didn't disconnect and blew it right into the thing and all of a sudden. . .I know that there was two guys, I can't remember if I was in there but it happened on the same shift that I was on. We were inside of the boilers washing the boilers. They used to shut one boiler of the three down, you'd crawl inside and wash them out. And the thing blew up when they were inside that, the guy come out of that boiler. She was all on fire. And that was either on Atlantic 1 or 2, I don't know which one, it was the previous one.

#063 WG: Lucky he was in the boiler or he'd have probably been killed.

CB: That's right.

HS: What size of water lines were those, do you recall?

CB: I don't know, I was thinking they were 3 or 4 inches.

WG: Let's get to the well head

CB: It was surface casing and a bowl I think, and there was either one or two outlets and they were only about 2" outlets and then it came up to this 10" line with a valve on it and the

hosmer??? head sat on top of that. And the hosmer head had these buttons that had to be opened. They swung open and had to be clamped around, underneath the tool joint and you had to sit down on the hosmer button and these little snaps, the snap ring went in underneath the retainer there and held it in position and then there were these seals on it. There's 2 or 3 layers of seals around it and that was all that was on there for blowout prevention. And of course, when it was blowing you couldn't get this damn button on there because we tried to put it on for. . . well, we came on this shift after it blew out and it was still blowing and they finally got it slowed down enough that you could get up near but it was still blowing. But we tried to put it on and it would just take it out of our hands and blow it up the pipe and then we'd all scatter like hell and fall back on the floor somewhere. We spend 8 hours putting that thing in. We finally put it in. But that's all there was. . . . I mean there was no. . . I used these same things in Vermillion in 1945 I think, at a blow out and had the same problem with them. But that's all GP ever had. That was on another GP rig. That's all they ever had for blow out preventers was what they called the hosmer head.

#085 WG: Your derrick floor then was just right there.

CB: Yes, this acts like a flow nipple as well. Once you got this in then you had to go down and close this 10" valve. Well that 10" valve hadn't been closed in 20 years and was it ever. . . you know. We put these in and then of course, it was just blowing out past this one to the shell shaker???

WG: So there was no provision there to divert it to the sump if you wanted to?

CB: No. Once we let her go. I can't remember. You could have diverted it through these lines. One was hooked up to Halliburton or whoever was pumping cement. Of course, we were pumping mud down it as well. I don't know whether you can see that, you can't see that in that picture. See by this time we had the high drill on there. We froze the well head off and put a high drill on and took all this garbage off. And here's where it leaked so badly. Well, we'll get to that question.

WG: Can we have that thing?

CB: Oh yes, you can have all this.

#100 WG: This is part of the clamp. . . ?

CB: That's part of the clamp. When we closed it off and it was leaking like crazy out the weld here and of course, the more it leaked the more it cut out and finally when Kinley??? came there, he said. . . . I don't think it leaked at the first but later on it started to leak on us and I know it was leaking badly when Kinley came and he had this clamp made up and you clamped it. . . well, there was the two of them eh, and then there was a lead gasket set in here. He put this lead gasket in there, it was just a piece of lead and you pushed it up against it and then bolted the two sections together and it effectively shut it off. Ingenious.

WG: It sounds like some of old Griffith's handiwork.

CB: It very well could be I don't know where it came from. They took off and into the machine shop. In order to get this button back out again, you had to undo this top ring,

you had to back this ring off here and then lift it back out again. And depress these snaps and then get the thing out of there and drop the ring back down again.

#114 WG: Okay, I've never seen one of those hosmer buttons but when it was put into place you pushed it down with the tool joint eh, the weight of the. . .

CB: Yes, the weight of the tool joint. You had to get it up there, you had to get the kelly out of the road. This would be the kelly here. You had to get the kelly up out of the road and you had to get it up underneath the first tool joint because it sealed around the drill pipe and then inside of this hosmer head.

WG: So you couldn't rotate. . . .

CB: You could rotate in it yes provided it didn't wear out the damn seals in pretty short time.

HS: I gather when the rig started shifting that caused a real problem because you couldn't centre it properly. . . sort of going in at an angle.

CB: And every time you wanted to do something, if you wanted to change a joint or something you had to take. . . like, we were always undoing this and taking this out for some reason when we'd get it killed. Any time you wanted to move the pipe you'd have to take this stupid thing out of there. If you wanted to pull up a joint of pipe you'd have to take this off, lay it on the side. It seems to me it had a couple of rings that you could handle with it but I don't remember ever handling. . . We used to just put two boards along side the drill pipe and put this thing on it so you could clamp it, you had to snap it closed, it had a little set of snaps that snapped it closed. It had hinges on one side and a snap on the other side. I'm sure you can still get drawings.

#132 WG: All right. Did it have long handles on it, like slip handles to lower it down through the table.

CB: No. When we played with it, it didn't. It had a couple of holes in here that you could screw these bolts into it. It seems to me we used to have a piece of soft line and we'd put that, tie a piece of rope on it.

WG: This is your 10 3/4" casing eh?

CB: That's the 10 3/4" casing, this was in the cellar yes.

WG: About how deep was the cellar?

CB: It wasn't that deep, you'd stand in it and it would be about waist high, 3 or 4 feet deep, something like that.

WG: All right. I was just thinking, when they landed the surface plate, they'd have had a conductor pipe on the outside of it which subsequently. . . .

CB: There wasn't any conductor pipe that I remember. We used to drill it and run out into the pit and you pumped it back up again. It was open pits. . . .

WG: Ran out of the cellar into the open pits.

CB: Into the open pits and we pumped her back in again. I don't even think there was any. . . . I can't remember if there was tanks on the thing or not, I don't think there was. I think it was just open. They were cribbed pits. Now we had to go in there and dig all this out down around here to get the. . . we had to dig this all out and I can remember being in there and trying to wield a pick to pick all the concrete out of here so we could get in

there and put a barrel around that and pack the barrel full of dry ice. And I don't remember there being any steel in it.

#155 WG: On those minutes things there, there's no mention made of cement returns, when you cemented the thing the first time. And then it mentions cleaning out the cellar and going back in and placing 7 sacks of cement. . .

CB: From the top.

WG: Yes. Well I mentioned this to Lloyd the other day and he said, there would be a conductor pipe in there and then when they go to head up they could cut off this damn conductor pipe and put it in and they would cut off the top of the conductor pipe, probably put a clamp on it underneath the collar and then pour cement in there just to prove the anchor and at the same time you'd get maybe a layer of cement on the floor of the cellar which would make it a little easier to . . . you have difficulty with those recollections eh.

CB: Yes. I can't remember whether it was . . . I don't remember us using conductor pipe at that time. It wasn't standard practice because it just ran out into the sump and you pumped her down the hole. Nobody thought to put the conductor pipe in. It didn't seem to be a big concern. Dig a ditch, let her go. But Lloyd might have a better. . . you know, he was older at the time and probably. . . .

HS: But he's older now too. So his recollection may be. . . but he's pretty good.

CB: Yes. He is pretty good.

#182 WG: He was saying during the interview, I think I told you, he'd just been out of the hospital for a couple of weeks.

CB: I've had the advantage of going over these once. I won't be firm either way. I can't remember. But I can remember having to go in there and cut that whole thing out of there. We were very careful we didn't cut into any iron or [they'd get trouble] because of course, there was gas and crap bubbling up underneath the floor.

WG: Now this question #4 there, that was for Huey, we were talking to him, he mentioned being, cleaning up in the cellar when the damn thing blew out and the noise and the racket. They found a lull and got out and hid behind a pile of mud that was stacked up there in bags and stayed out of sight there for awhile until it slackened off and then they just headed for the road.

CB: Yes, he was on shift the night it blew out. We were away on long change and come back. We came back that afternoon on the afternoon shift and it was still blowing and we put this hosmer button in. We shut it off.

#201 WG: We've been having a little difficulty with this, as I refer to it here, this summit meeting, where they decide to go ahead and drill dry, as to who all was there. I talked to Lloyd about it again yesterday and he mentioned Cody, Matthews, Gray, Lloyd Stafford, Nate Goodman and he says there could have been some crew members around there because Huey Leper said that he was there sitting in the background. But you weren't on shift at that point in time so . . .

CB: No, I wasn't involved. They didn't call the roughnecks in on those meetings.

HS: Maybe they should have.

CB: Well, I wouldn't have known any better. At that time, you could have told me anything and I would have done it. I was dumb enough to stand around for 6 months working on it.

WG: This next question, do you have a feel for the chain of command? I guess the reason for that is that, it was a footage contract but like all footage contracts there's provisions there when they go on day work. But when they're on day work, as I recall the operations of the oil patch, the owner of the well took a little more interest in it than as to what's going on. I guess the feeling I get out of this, that McMahan relied pretty heavily on the engineering expertise of Denton and Spencer??? which is part of General Pete???. So while it was day work certainly the whole General Pete organization was involved in it. Does that make sense to you?

CB: I really couldn't comment on that either because as I say I was getting paid for my 8 hours on a roughneck basis and I really don't have any knowledge of that part.

#238 WG: Were you on the rig on the rig at the time of the Cubby??? mishap by any chance.

CB: Yes. They came on shift immediately after we were. . . like, we were working, I can see in here. . . . I wasn't on shift at the time, he was on a different crew. But all I can say is what I heard from the other guys, that he went into the shit house and must have lit up a cigarette, blew up the. . . .

HS: Not a wise move.

CB: No. We were working daylight and they were coming out as kind of a clean up crew in the evening and they'd shut everything down once it got dark. But I think that was even before that time. I think that was before Kinley arrived.

#254 WG: Oh yes. This is when they were just starting to organize their forces and lay their pipe ??? across to 48.

CB: That's right. And they had come out that afternoon.

WG: We have some conflict here. We've got 2 or 3 people that took him to the hospital, some dead and some to Wetaskiwin.

CB: I couldn't say where he went.

WG: The nurse and the doctor, were they involved in that or did you hear them talk about that at all.

CB: No. We had a nurse and a doctor there at that time too.

WG: At that time?

CB: I don't know. No, I don't think. . . we didn't get the nurse and the doctor there until Kinley and the Conservation Board took over, I'm pretty sure. It was a pretty loose operation up until the time that the Conservation Board and Kinley came in. No, we didn't have a nurse and a doctor at that time, I wouldn't think, anyway. I doubt it very much. Have you got that doctor's name, you could probably get hold of him. I remember the doctor, he was a med student.

#278 WG: A med student? From U. of A.?

CB: Yes. I bet you could track him down. He was a young med student and he was either

interning or something and they sent him out there. And there was a nurse as well.

WG: They were hired by the Conservation Board from the Red Cross. And I've made quite an effort to try and find who that doctor was. I went to see Lloyd Drisdale who was the Deputy Minister and who graduated about that time so he sent me over to the University Hospital where they've got pictures of all the graduates in the medicine going back to 1923 and so I picked out a few names and faces that might be and Lloyd suggested that we write the medical people, see if we could publish a picture in the journal but they declined. But since then Lloyd has remembered the name of the nurse, Lang I think he mentioned. I think that's where the investigation is going at this point.

CB: I'll tell you who might remember her, was the cook's assistant, Myrt. . . what the hell was her name, I think the cook . . .

WG: Ferguson.

CB: Ferguson has died since hasn't she. Ma Ferguson. And she had an assistant there who would be about my age and she would probably remember. And Leper would remember her too, it seems to me Leper used to squire her around every now and again. And the cook's assistant, I think her first name was Myrtle. And of course, all the women used to chum around together because in those days the men and the women were very segregated and the women all lived in the same quarters.

#316 WG: You were all in the GP camp though eh?

CB: Yes. Myrt. . . I know that Leper will remember her, I'm pretty sure. If he doesn't Carl Moore will remember, or Carl Moore's wife, his wife remembers more than he does. [I think the tape was turned off here for a moment, picked up again in mid-sentence]. . . professional photographer who was there and I can't remember whether old Arkie was on this job or not but there he is H. Johnson and he came from Arkansas and that guy was a professional photographer with the U.S. Army. He was on his way through to Alaska and he came to work on this rig and he took pictures of everything and he had excellent photographic equipment. At that time it was state of the art. And that old boy probably had more pictures. There he is right there. Howard, no it wasn't Howard, I don't know what his real name was, everybody only called him Arkie. There he is right there on the tower sheet. He worked on ours. And he was a Negro passing for a white and the only guy who knew it was Carl. Carl told me years afterwards, he said, didn't you know that guy was a Negro. And I said, well I'd never seen a Negro before in my life and the guy was white. But he definitely. . . .

#344 HS: Part Negro.

WG: Probably wouldn't be able to run him down anyway.

CB: He had the whole developing equipment on the back. The first time I ever saw a camper, he had a half ton truck with this camper built on the back and it was a dark room that he used. He was on his way up to Alaska and he was taking pictures all the way through. He had tons of pictures. But I think he left there. I don't think he lasted through the. . . because he was on our shift all the time. You see, the other thing, Moore didn't come on there till late either. He didn't come on till after it had blown out. What about

McAlvey???, have you been able to get hold of McAlvey, he's got to be around somewhere.

End of tape.

Tape 1 Side 2

CB: [in mid sentence]. . . I think we were his last dogs, we were always there till the very end, Moore, Blanchard, Shower, that was the guy's name, Leo Shower. Have you found him, he lives up there. . . he farms up by . . . just west of Leduc somewhere. Thorsby was the name of the town he lived in because he used to go home on evenings and weekends.

HS: He would still be there as far as you know.

CB: I think that Shower would probably still be there. We were there until May 22<sup>nd</sup>, is that the last day and then from May 22<sup>nd</sup> we moved over and went to west relief . . . . Coffee should be ready. . . . We put that high drill on there and Kinley's idea was, let's pull the damn pipe out and that's what we were. . . well of course, we were just cleaning out inside here. But his idea was to pull the pipe out, strip a new string of pipe back in there. And we started out of the hole, I can remember killing the pipe, he used to stand there and time us, and we'd kill it with heavy mud and see how long it would take for it to blow back again. And of course, to pull it out, we had to kill it, take the valve off, pull it up, lay it down, unscrew it and lay the joint down. And I remember once they fooled around too long and old Red was coming across onto the floor here and we had this rigged up with the valve on top and then just a T-stick and a nipple sticking out the front and the damn thing let go and started blowing. Kinley hollered at Red to come over and try and shut it off. Well Red tried to run across in front of it and it blew him right out of there. Right out onto the pipe rack out front. The little bugger bounced up like a ball and come right back up again, it never hurt him a bit. And just before we shut that operation down, we killed it that morning, and I remember taking all the boards off there. You could see where they pulled around there, cleaning everything up, we took boards off again and we killed it that morning, pulled out one joint, laid it on the walk, put the head back on again and got it all done within this 2 minutes. Kinley says great, we'll pull the damn pipe out ????. That's when they came along and said, that's it boys, you're finished, we're moving over to drill these relief wells.

#029 WG: According to my notes from the tower sheet and one thing and another, Kinley was still there when Maroney took over.

CB: Yes. It seems to me Maroney took over that day and told Kinley he could no longer pull the pipe.

WG: But, it was after that, that Kinley froze it off at the bottom and put on the high drill.

CB: I don't know, we had that high drill on there. It mentions it where we put the high drill on there. We did that. Because all this work we did subsequently, we had the high drill on

there. When we started pulling that pipe we had the high drill on there. When we were cleaning right inside of the pipe. See, this picture here, I'm pretty sure that we have the high drill on there when this picture is. Maybe not. I think it mentions in here when the high drill was put on doesn't it.

#039 WG: Yes. But you had to have the pipe out of there in order to get the high drill on.

CB: Oh no.

WG: Strip it in over the pipe?

CB: Absolutely. We took the rotary table off, froze it, took everything off, pulled the hosmer off over top of it and put they high drill back down on it again. Where's my drawing. All we did was take the rotary table out. We froze this off down here, took the rotary table out, took all this garbage off here, pulled this up and this was left sitting here. We stripped this right over the top and then stripped the high drill right back down again and then put the rotary's. . . you can see where they rotary table is sitting way up here on this false stand that we built. We built a great big wooden stand up there to put the rotary table back.

#048 WG: Yes. But was that for the hintilator???

CB: Yes. That was to work the hintilator. But in order to get that high drill on there. . . where's my picture. Too bad we can't see underneath there, isn't it. I can't see whether the high drill is on there at that time.

WG: Kinley arrived on April 8<sup>th</sup>.

CB: April 8<sup>th</sup>. That's when he arrived eh? Let's look at what we were doing on April 8<sup>th</sup>. Here we go.

WG: Excuse me. And McCullough??? perforating gun, it says here it was run on the 16<sup>th</sup> of April.

CB: 16<sup>th</sup> of April, yes. Because I could go in there with that and didn't get it to bottom too.

WG: Right. But is that what brought Red Adair up. Did he come up with McCullough?

CB: No. There was 2 guys came up with McCullough, Red Adair and Boots???

#066 WG: With McCullough.

CB: Yes. They came up with McCullough.

WG: All right. So he wasn't in Kinley's employ at that time.

CB: I don't think he was. And then Kinley either kept him. . . I think the other guys name was Boots Casper. And then I think he ended up as being part of the Boots and Coots group that is now operating. And they were the two oil line guys that fooled around. And then . . . I can't remember him being there when Kinley first. . . although that could be too.

WG: No, I think this is right. I think there's been a feeling or an understanding, certainly it was my understanding that Red Adair was part of Kinley's team at that time.

CB: No, I think he hired on with him and then he ended up later marrying his daughter, didn't he. He ended up marrying Kinley's daughter, that's how the relationship grew. Yes. The old guy ended up being his father-in-law. I asked Red about it one time. When he signed this sheet for me, he said, yes, I married Kinley's daughter.

WG: We heard that once and then we had it denied.

HS: Well, I think the question we were asking Gib, was, was he Kinley's son-in-law at that time and he wasn't. So that checks out.

CB: We didn't ask him. They used to go into town every day and we didn't have much conversation with them except to be working with them during the day and that was all pretty well business.

#086 WG: On May 1<sup>st</sup> here, it says that the 2" nipple on the mud fill up line broke. Was that down at the bottom, right on the well head.

CB: It was right on the well head.

WG: That would be just as convenient to be to replace.

CB: That's right and I can remember this old devil going in there. It was blowing like crazy and he said, open her all up. So we opened up the blow out preventer, let her blow out that way, opened this up, it was still blowing and he went in there with a brass hammer and a Dutchman chisel and cut that out of there.

WG: That would be though, above the cellar?

CB: Above the cellar and below these. . . what had happened, the rig had started to settle and one of these timbers had settled down on top of this. Because I can remember him giving me hell. I went in there to open it and it blew right out of my hands and he accused me of hammering it with a sledge hammer. He used to come about 9:00 or whatever it would be and we used go in there at 7:00, open all the valves, blow everything down to get the well ready to work on. We went in there that day and it broke that thing off. So I used to go in and open these valves and let her blow and we had a line sticking out somewhere and that thing took off out of my hands and I was never so scared in all my life. But he went in there and I can remember going in there with him and he cut her out with a Dutchman chisel and we opened up a wide open valve and just pushed on it and screwed her back in there, put another one back in there.

#104 HS: This is Kinley you're talking about.

CB: Yes. Yeah, they called these fill up. . . .

WG: Fill up or bleed off or whatever eh?

CB: Yes. Because you used to. . . I can remember they were always hooking up a line to fill up the hole and they were always bloody well froze up.

WG: On the 11<sup>th</sup> of May is when they pumped all the cotton seed hulls??? and all that sort of stuff down from 48. And cleaning up on the 12<sup>th</sup> and on the 13<sup>th</sup> it was tearing out Imperial 48, rigging up blinds to kill Atlantic 3, stripped 4 inch or 1 inch line off the head, connected 2 pumps at the sump of Atlantic 1 and one man at Atlantic 1 well, laying relief flow equipment, separators etc. And then on I guess the 14<sup>th</sup> according to Nate Goodman, Maroney in charge, May 14<sup>th</sup>.

CB: May 14<sup>th</sup>, that would be about right. Killed well, took off master valve, put on pup joint, that's all he said. And that's the bloody day. That's the day we pulled a joint of pipe and laid it down. Kinley was going to pull everything out of there.

#122 WG: I've also got for that day, put in a barrel for dry ice around the surface pipe, hung up tongs, put on back up lines. . . .

CB: On May 14<sup>th</sup>. Killed well. . . Digging out cellar, you're right by god, digging out cellar. Packed 10" casing in dry ice, killed well. This is on the 15<sup>th</sup>, moved drilling unit, cut off flow line, took off hosmer head, put on master valve. Dragged in high drill head, repacked pipe with dry ice. Yes, I guess you're right, baled out cellar. Okay, put on high drill, this is on the 16<sup>th</sup>, put table back on drilling unit, connected water line up to floor. Two men below rig builders. Okay then the next day. . . . Atlantic, May 18<sup>th</sup>, found pressure on, start to circulate string shoe??? at 40', failed to pump oil down casing, pumped to an 8 barell pressure. . . . .stripped off surface connections, down to high drill head, pulled on drill pipe. . . here it is, moved drill pipe, 65,000, because the pipe before would not pull at 110. That's right before they tried to pull it, we could never pull it, they finally got her moving. Tighten casing head on casing two turns, pulled pipe up 5', rigging up to pump oil in the morning and pull drill pipe. So on the 18<sup>th</sup> we were prepared to start pulling that drill pipe. . . .Oh, are those other two gentleman back?

WG: You've got a luncheon date.

CB: Yes. Why don't we come back after lunch and spend some more time on it or did you want to maybe put these gentleman off.

WG: No, no.

CB: Well, why don't we come back after lunch and do you want to spend some more time on it?

WG: Well, Harry's got a date at 2:00, how long's your luncheon date going to take you?

CB: I'll be back here by one.

WG: Why don't we just leave this here and it will give us ½ hour to kind of wind up.

#153 WG: You collected that oil and put it to Atlantic 1 and 2 and you consolidated it, is that correct?

CB: I don't remember what they did with the production from it, all I remember is it used to flow up and then of course, it all flowed down, we had the whole quarter section banked up. They may have rigged something up on that. . . . dismantle flow line, if these notes weren't so terrible.

WG: Okay gentleman. . . .

HS: Sorry I just turned this thing on, you're talking about Lyle Caspell??? now.

CB: I can't remember his being around there that much except to come in on the casing jobs and coring and that.

HS: At that Atlantic 3 well itself?

CB: At the Atlantic 3 well. Yes, he used to be around there of course, when it was bowling??? but I don't know how much authority or how much knowledge the man really had.

WG: Harry, you mentioned something about our tape being off, where were we going back to?

#170 I: Yes, I'm sorry about this, when you were saying all those good things about the nitro job at Atlantic 3 I didn't have the tape turned on. Would you like to give us a summary on that again?

CB: Well, my recollection of the nitro was that Kinley's idea was to clean out inside of the drill pipe, go down and blow it off above the drill collars and either circulate there, I believe that was the main purpose was to circulate. Because the drill collars were plugged, the bit was plugged. They had tried . . . it seems to me they had tried to perforate the drill pipe and either they couldn't or else we couldn't get down. But we went inside of the drill pipe, cleaned it out with that inch and a quarter or inch and a half macaroni string and then the idea was to go down and blow the whole thing off above the drill collars and we cleaned it out down to something around 5,000 feet or a little more than 5,000 feet because there was only about three drill collars on the bottom. And when we went back in with the nitro to blow it off, once again the pipe had plugged and we got down to about 2,000 feet and Kinley didn't want to pull the nitro back out again and Casey Ball said, hell, I can pull that nitro back out again, don't worry about it. Kinley said, well, if you want to pull it out, you go ahead and pull her out but I'm not going to wait around here while you pull that stuff, as far as I'm concerned blow it off. And he pulled it back out and we all disappeared out to the road, walked out to the road on this plank bridge arrangement we had there. And he pulled it back out again and put it back in his containers and took off, he left at that time as far as I know. That was old Casey Ball. And as I say, you should check with Carl Moore, I went out and talked to Carl and took him these pictures and everything and Carl says, yes we ran the nitro in but Carl's 85 or so too, his memory may not be that great. It was one of those things where Carl knew old Casey, he'd worked with him at Turner Valley and was familiar with what the guy did. He may even have suggested that they get old Casey.

#203 WG: Was Casey the man that pulled the big nitro job in the valley a few years. . . ?

CB: I believe he was. Same old guy, yes. He lived at Lloydminster, he came up from Lloydminster at the time and brought the nitro with him. But I'm surprised, I don't see any mention of it in here. And that's what makes me uncertain and I can't think where I got these recollections from, if they weren't on that job because I can't remember any other job where we ever used nitro.

HS: Well, the amount of detail that you do recollect would seem to mean that must be true.

CB: I was uncertain of it until I talked to Carl and Carl said yes, we ran her in there and he pulled her back out again. You'd have to talk to Carl yourself and see what you think of his memory. His memory may not be that good either.

HS: Well, thanks. Sorry for the replay.

WG: Does that cover pretty well the portion that was missed?

HS: Yes, I'm sure it does.

#222 WG: Well, getting back to where we left off when you put the high drill on. According to the tower reports here on the 20<sup>th</sup> for example, it says, hooked up drill pipe into flow line and opened up well into separators at 2:00 p.m. and then began the mud hogs pumping oil to consolidate it.

CB: Yes, that could be it, that looks like about the last day. We were here on the 20<sup>th</sup> and it says, . . . oh, dismantle flow line, that's what it says. And then something about installing

two 7" valves or something. So that very well could be although I don't. . . .dismantle one boiler, here's the 21<sup>st</sup> . . . that very well could be here.

WG: Then on the last report it mentions on the 22<sup>nd</sup>, trim buckle down, tied down the well head and hooked Gardner-Denver pumps into Atlantic 1 and the pressure was too high so they opened the bypass.

CB: I couldn't comment on that. I can't remember us hooking up the pump. Of course, there was another crew always came on. We pretty well stayed there during the daylight and worked with old Kinley and then there'd be another crew come on and work in the afternoons and usually some man would come out and sit overnight to watch the blow out preventers, make sure that . . . it was one of those high drill type blow out preventers and if you didn't keep the pressure up on it, they had a tendency to open again.

#248 WG: There was no master valve or gig??? valve on the well head hook-up, you relied solely on the high drill for . . .?

CB: That was my recollection, we just took the hosmer off and put the high drill back on.

WG: Well, then the last reports that I've got here indicates that they went in and they acidized Atlantic 1, acidized Atlantic 2 so they were capable of receiving this oil that they pumped over to them. And then they had the big water injection job on 48, my friend here, he was involved in that one. That kind of ends Atlantic 3, at least the bit that I took out of the minutes. And then on the 30<sup>th</sup>, they spudded the west relief well and I guess shortly thereafter they spudded the south.

CB: Yes. After that we spent all our time on west relief and then I think I made some mention of what we did on west relief. We finally got down to cementing it, pumping all that water. They got two brand new National pumps, I think they came from Imperial, put them down on the North Saskatchewan River and built a pipeline right up to west relief and started pumping. And you were also pumping from 48 down?

WG: Yes, same source of water though.

CB: I can remember when we started pumping it, they put something into the water, they put a sodium compound or . . .

#282 HS: That's where I was involved actually, it was sodium hypochlorite, which is a mixer

for photographic developing. And we got a bunch of sacks of that as I recall. I had a hell of a time lugging one of those sacks up the walkway, or the stairs up to the top of that water tank and Maroney was there at the time. I think it was actually Jimmy Young that suggested this as a tracer to be able to trace this water that was being injected when we caught some samples of water over at the craters at Atlantic 3 to see that it was the same water.

CB: Well, the other thing, it also changed the colour of the flame. This is what we were watching, when they pumped it in, the flame was usually a fairly bluish colour and when this sodium hit it or calcium, whatever it was, you got a yellowish or orangish colour and you could see when it was coming back up with the gas stream and changing the colour of the flame.

- #300 HS: So it should have been pretty well known at the time I guess that yes, that is the same water but we just wanted to be more conclusive about it I guess.
- CB: And the other thing, I can remember the day it caught fire. It was amazing the number of months that it ran before, you know, it blew out when, middle of April sometime and it never caught fire until late in September I would think.
- HS: Yes, 3 days before. . .
- CB: Before we finally got around to pumping it. But you could see. . . the rig had fallen over, the old derrick was laying in there, the draw works and you could see. . . you could especially see the kelly was still sticking up out of the rat hole and the swivel was on and you could see it shaking away like that. And we figured that. . . I don't know why we were sitting there watching it one night, we were working on west relief and we were all standing there looking and all of a sudden you could see this little tiny spark starting in the middle of that gas coming up out of there. And it seemed to have hung there for about ½ a minute and then all of a sudden she just phhew. I guess it didn't get any oxygen at first and then when it got the oxygen that whole thing went up.
- #320 HS: Do you have any opinion on what it was that caused the thing to catch on fire?
- CB: I think it was just the metal rubbing in there, bouncing around.
- HS: That seems to be the general opinion I think
- CB: :Everything was in there bouncing around, especially the swivel and the kelly I think. I could see it sitting with the gas pressure blowing it around. What are you planning to do with all this?
- WG: The agenda I think, the program calls for it to be completed by November and I think do a kind of a book form.
- CB: So it will be interesting.
- HS: For a few people. It won't have a really wide audience.
- CB: No, mostly the guys who worked on it. There were a lot of people who were involved.
- HS: I think it's a worthwhile project.
- CB: Oh yes. Well, we had a lot of fun, I'm telling you.
- WG: And Aubrey, he gets a lot of the human interest aspect in this type of thing here rather than just a straight technical report.
- #345 HS: So it should be a combination of technical and human interest. It will be pretty comprehensive I think.
- CB: Well, this picture then must show the hintilator valve or whatever it is. You can see about how haywire the operation was. We were circulating through this hose, this old steam hose to the top of that macaroni string and circulating fluid through that, down the well and back up again. Of course, here the valve is leaking like crazy. The valve was pointed that way so old Kinley could read the pressure on it. I think most of that drilling we just did it by hand. We'd stand there and pull, walk around it with a 36, drill it out with a macaroni string.
- WG: That was Lloyd's impression too, you didn't have a table drive of any sort.
- CB: Didn't have anything. We just put that drill pipe valve on there, run in with a drill string. .

End of tape.

Tape 2 Side 1

HS: This is an interview with Cal Bohme on Tuesday, May 13<sup>th</sup>, 1986 with Willis Gibson and Harry Simpson doing the interviewing. All right, Cal, I should start out by saying we appreciate you coming and joining us to answer some of our questions here today. And as we mentioned previously we would like to give a completed tape of this interview to the Glenbow museum where it would be available to the public. You would have no objection to this arrangement.

CB: No, certainly I'd feel honoured.

HS: Very good. The first question then Cal, is where were you born?

CB: I was born at Vermillion, Alberta.

HS: And you were brought up in that area?

CB: That's right, I was brought up in Vermillion and attended public school and high school until grade 10, then our family moved to Edmonton and after that I attended high school in Edmonton and later on I went to university in Edmonton.

#013 HS: What was your first job then, do you have any story about your early job experiences?

CB: Well, the first job that I can remember would be working for the dairy farm in Vermillion and my job was to get up at 4:00 a.m., take the horse, go out and get the cows, bring them in and have them ready for milking at 5:30 in the morning and then I used to help with the milking, myself and the farmer's wife would milk 13 - 17 cows. She was a very swift milker, she would milk about 10 of them while I milked the remainder of them. Once we'd finished milking the cows, we'd chase them back out to the pasture, clean up the barn, and they would take the milk to the coolers, separate the milk and get it ready and bottle it for delivery. My job was to go out and make sure the cow's pasture was secure, fix the fences, and do whatever I had out in the pasture during the day and then at 4:00 again in the afternoon, I'd go out and bring the cows back in again. Bring them in to the milking stalls, feed them, water them, milk them, turn them loose again. And then after you'd cleaned up the barn and helped putting the milk away you were free to go to bed at about 9:00 at night.

#026 HS: I guess perhaps, going back a bit into your childhood, what sort of a life did you have in Vermillion, what did your father do for example?

CB: Well, my father had a Rawleigh route and he used to sell the Rawleigh products to the local farmers and throughout the town. I can remember that he had a team of very light mules with hooves on them that would be maybe 3" across and they were very swift little animals and he had these hooked to a sleigh with a charcoal heater in it that he used in the winter time. And he'd make his rounds all winter time with these mules and the summer

time when the roads dried up, he had a Model T car that he used for making his rounds. Needless to say we didn't have very much money. But we kept our own cows in town, we kept two cows and kept our own chickens and we had a great big garden plot so that we were never without food and we could butcher a cow every year as well. So we really didn't need much money and we never felt poor, this was one thing. But there wasn't any cash.

#037 HS: But you grew up big enough and strong enough to work on the rigs I guess. When did you first work on the rigs Cal?

CB: In the summer of 1944 after I had. . . I worked for the dairy part of that summer and found that for \$33 a month there were better things to do. The next job I took was in a Chinese Cafe washing dishes because it paid \$12.50 a week for only 8 hours a day. And then along came a bit of an oil boom in Vermillion, they found heavy oil in Vermillion and they were looking for roughnecks because most of the men were still away in the army. I think I was 16 years old at the time and they used to pay \$6 a day which was a phenomenal amount of money. We used to go to work every morning, they'd come a long and pick us up in the back of the half ton truck and take us out to an oil field very close to Vermillion called ???. It was heavy, heavy oil similar to the stuff that's in the ???. And we would work on the service rigs there, pulling. . . ???. . . we'd be covered with black heavy old, tarry oil right from head to toe. But I can remember they used to. . .at the end of the day, they'd give us a washcloth and a bucket of gasoline and you'd just start washing yourself down from head to toe to get that gooey old oil off of you and of course your skin would be burning something fierce.

#053 HS: What age would you be at this point in time?

CB: I was 15 or 16, I was 16 I think. '28 to '44 I think makes about 16.

HS: And when did you first work for General Petroleums?

CB: That was in the summer of 1944. I worked for them there at Vermillion and then we moved to Marwayne, we drilled a well at Marwayne and I can remember it had this tremendous flow of water at a fairly shallow depth and flooded the rig out, pretty near upset the rig and had a very difficult time trying to cement it off and from there we moved to Unity, Saskatchewan and we spent way into the fall working in Unity Saskatchewan, in the meantime my family had moved from Vermillion to Edmonton because my father found permanent work in Edmonton. I missed going to school. I went back to Edmonton that year and I missed part of my school year until years later when I went back to try to catch up. I came back about November that year and tried to go through school and had a very difficult time of it. So that was my first experience in the oil field.

#067 HS: And when did you arrive in Leduc?

CB: It would be the fall of 1947. I went back to work for GP. Leduc hadn't quite started. If I remember I went to work on a rig near Brooks and then Leduc started up and they sent me from Brooks on a very small rig up to a steam rig in Leduc and I believe I started on Atlantic #2 in Leduc and then would be in the fall of 1947.

HS: Okay. That was going to be my next question, did you work on Atlantic 1 and Atlantic 2 before going to Atlantic 3 and I gather you've told us you worked on the Atlantic 2 well but not the Atlantic 1.

CB: I don't remember Atlantic 1, I remember Atlantic 2 and I think the Atlantic 1 had already been drilled before I arrived.

#079 HS: As a matter of interest what was your pay rate at the time you were working on Atlantic 3?

CB: As I recall it was \$1 an hour, or \$8 a day, less the \$1.50 that we had to pay for our board and room in the company camp.

HS: What sort of life style did that allow you to run around with?

CB: 6 and a half dollars a day was pretty good money. I think my father was making about \$80 or \$90 a month at that time so \$6 was pretty good money.

HS: Not bad. Cal, you had a brother working on the Atlantic 3 well as well. Could you tell us a little about him?

CB: Yes, that was my older brother Ron and he was working at a job in Edmonton in the time and one of the roughnecks on our crew quit so Carl asked me if he wanted to go to work so I phoned him up and he said okay. So he came out and we worked together through all of Atlantic and for 5 or 6 years after that we worked together. He worked for GP as a roughneck, derrick man and ended up as a driller and finally quit in. . . I couldn't say roughly when but some time after that and he's never gone back to the oil field since.

#095 HS: I guess the next series of question here are dealing specifically with the Atlantic 3 well and as you're aware, we've interviewed other people and we're trying to confirm some of the stories that we've heard and get clarification of other details. Can you tell us if conductor pipe was run at Atlantic 3?

CB: Not to my recollection. I really don't remember seeing any conductor pipe. I always assumed that we circulated the mud out to the pits and . . . .???. . . .

HS: Can you tell us whether or not cement returns to surface were obtained when the surface casing was cemented on January 22<sup>nd</sup>, 1948 at Atlantic 3?

CB: I couldn't say whether there were cement returns at that time. All I can remember is that later on, when we went in and popped the surface casing with dry ice, we had to go into the cellar and we had to dig the cellar down in order to do it, to put a barrel along the surface casing so that we could pack it in dry ice and I remember that it was a tough job taking all that cement out of that cellar from along the surface pipe. You had to get in there with picks and pick it out and it seemed to be a very good cement job. Whether it was continuous or not I couldn't say. My impression was ???

#113 HS: At the surface at least. Right. Cal, I'm reading from the tower sheet on that day and it mentions that 7 sacks of cement were dumped into the top of the casing. So that would possibly explain what it was you ran into when you were cleaning out the top part there, would you agree?

CB: Yes, it certainly would. That's probably why the cement was so good because they had

dumped it in from the top.

HS: Okay, so it's at least possible that the surface pipe was not adequately cemented in?

CB: The only comment I might make is that we never did see any gas or oil bubble up in the cellar. It always bubbled up further away from the rig, out in the sumps specifically and of course, the reason it broke up in the sump, everything else was frozen pretty solid and the sumps were taking warm mud and they weren't frozen from the top down.

#130 HS: Okay, on the next question here. I understand the water supply to the rig was by pipeline from the Hector's??? system and the line which was tied into the boiler house was blown out with gas after the tanks were filled to prevent freezing in the cold weather. Can you tell us about the mishap that occurred at the boiler house and which Atlantic well was involved, Atlantic 1 or Atlantic 2?

CB: To my best recollection it was Atlantic #2 and at the time there was myself and Howie Blanchard inside of the centre boiler with 3 boilers that provided steam to the rig. And we were inside of that boiler with a water hose and scraper rods cleaning them out. Once a week we had to clean each boiler out and I can remember the whole roof blowing off it and a terrible concussion inside of the boiler and when we stuck our heads back up through the top, Howie stuck his head out first and said, there's fire all over, let's get the hell out of here. And he went out. . . the good thing about it, they were very flimsy structures and when it blew out it just blew all of the tin sides out of this boiler house so we managed to get out of there without any serious injury. I'm pretty sure it was in Atlantic #2 because when we went to Atlantic #3 we had a different set of boilers and they had been pre-set up for us.

#148 HS: On February 20<sup>th</sup>, the rig went on day work under the terms of the drilling contract. This would mean that Frank McMahon would be calling the shots. Was there any noticeable change in the way the rig was run as a result of this changeover to day work.?

CB: I certainly didn't notice any change, no.

HS: Cal, you prepared for us a while ago, an excellent sketch showing the well head set-up and including the hosmer head. Can you describe this equipment and tell us how the hosmer head operates and some of your experiences with it? I guess I should also mention, since we got your sketch we've been able to find a couple of sheets from a catalogue put out by Houston Oil Field Material Co. Inc. of Houston, Texas and they show a couple of blow out preventers that are made under the hosmer patent. Perhaps you could comment in your description of the hosmer head on what's contained in these catalogue pages and the illustrations on there?

CB: Yes, certainly. The hosmer head was what we knew of as a blow out preventer at that time. It was certainly a long ways from what you would see as a present day blow out preventer. And the principle of it was a packing element that could be clamped around the drill pipe below a tool joint and then by lowering the tool joint, the packing element was forced down into a head on the top of the surface casing. And it forced the packing element into the top of the surface casing thus sealing off the flow of fluids from the ???

space in the well. Along with the packing element that went into the top of the hosmer head was a flow line coming out of the side of the hosmer head that had a 7" valve and then you could close the 7" valve and shut off the flow that usually went to the shell shaker???. This way you could contain the fluids flowing out of the ??? of the well.

#181 HS: Cal, in your sketch, you show the 7" flow line with a valve on it, 7" valve below the first flange of the hosmer head. Do you believe now, having seen the illustrations in this catalogue that that outlet was possibly above that flange?

CB: Yes, I think you're right. I think it was above that flange. My memory is not that exact. There may not have been any flanges on that well head, it could have been a completely screwed assembly. Because I remember a lot of those old well heads, you screwed the casing bowl on and the top of the hosmer head was definitely a large screwed assembly so there may have been no flanges on it.

HS: I see. And another question I had was, there are two illustrations that we've shown you from this catalogue, which one do you believe more closely resembles what the actual hosmer head that you had at Atlantic 3, the one of page 233 or the other one.

CB: I believe it's the one of page 303, figure 17, it looks to me that that is the packing element that we had. And I guess that is the Macavoy type hosmer head.

#201 HS: Okay that's fine, I think that covers that part of it for us. Back to some of the details of the operations at Atlantic 3. Can you clarify for us the following excerpts from the daily tower sheets. On March 11<sup>th</sup>, there's an entry which reads, line broke off in cellar, what line was this, did the line break off upstream or downstream from the valve.

CB: Well, after reviewing the tower sheets for that day, Harry, I think it was what we called the kill line. It was a 2" line going into the surface casing bowl and I believe it broke off upstream of the valve. So that once it broke off it was a matter of closing the valve and the well pressures were contained. Because I don't see any further reference to it on March 12<sup>th</sup> where we had any problems with the well, so it probably just created a bit of a flurry for a few minutes and that was it.

HS: Okay, there's an entry on March 12<sup>th</sup>, which says, closed fill-up line, broke union. Can you clarify this entry for us.

CB: Well, I think closing the fill-up line would refer to closing the valve on the fill-up line and broke the union just means that you took a hammer and broke the connection, which was a common phrase for disconnecting the union, you know, to go break off the union. I don't think there was any physical, unintentional break.

HS: It wasn't damaged?

CB: No, I don't believe so.

#227 HS: Okay, good. Next item, is a patch was made up by Earl Griffiths of Barber Machine to repair the leak in the flow line on. . .that would be the 7" flow line I believe, on the side of the hosmer head and this patch is shown on your sketch. This patch was installed on April 1<sup>st</sup>, which was 7 days before Myron Kinley arrived on the scene. We had previously understood Kinley was present when the patch was installed. Will you

describe the patch and tell us how it worked out?

CB: It was quite ingenious, the patch was made in 2 sections so that it fitted around the 7" flow line in one part and also around the bottom of the hosmer head. So that when you bolted the tow sections together they would fit snugly around the connection between the 7" and the hosmer pipe. The patch had a lead gasket in it, it was placed up against the leaking portion and then when you bolted the 2 sections together and snugged up the bolts, it very effectively shut off the leak from around the 7" casing. I thought it was a very good piece of work.

HS: So it was a very successful solution to that repair job?

CB: It certainly was because there was gas and oil leaking out of it and if it had continued I'm sure it would have washed that 7" pipe off there and of course, once that was washed off the whole well would have been blowing wild underneath the rig floor.

#254 HS: Okay. The so called big cement job, which involved some 10,000 sacks of cement was done on April 7<sup>th</sup>. Were you involved in the preparatory work, such as the unloading and stockpiling of the cement?

CB: Yes, we certainly were. We spent many days packing cement through the mud and along 3" plank walkways and piping up this tremendous pile of cement

HS: I guess we've had some reports of a half track vehicle being used to assist in getting the bags of cement from the edge of the lease over to the Leduc #48 location where the cement job was to be initiated. Can you comment on this, did you see a half track vehicle at that time?

CB: I don't recall any half track vehicle Harry. It seems to me that we carried it all on our backs along 3" planks. If we couldn't get the trucks up to the unloading spot then we'd go back and haul them physically and unload them on a pile.

HS: How close were the trucks able to get?

CB: Most of them got within 2 or 300 feet of the planked off area. The roads were getting pretty soft, it was in the early spring and the frost was going out of the ground. Most of them managed to get fairly close to it so we'd haul them 2 or 300 feet, throw them on a pile.

#284 HS: Okay, the next item here is, there is no reference in the tower sheets that we could find and I think we missed it maybe, to the nitro charge, which we understand was lowered into the Atlantic 3 well but failed to go off. Can you tell us on what date this was attempted and when was the nitro removed? Can you describe what happened during this operation?

CB: Well, I'm referring to the tower sheets of March 17<sup>th</sup> and I've also looked at Nate Goodman's comments on the 16<sup>th</sup>, the day before that, in which Nate describes a meeting that was held and it was decided they would shoot off the drill pipe in an attempt to pump more fluid down it. When anybody talked about shooting in those days, or if you wanted

to blow a bit off, you called for the shooter and that was naturally the nitro shooter. And I can recall a gentleman by the name of Casey Ball coming from Lloydminster with the nitro and the nitro carriers which were merely galvanized tubes that looked very similar to a down spout on a drainpipe. And on March 17<sup>th</sup>, they referred to rigging up to put in shot. It says, pump down rubber plug spacer, and the idea of the rubber plug was to ensure that the drill pipe was clear, that you could get the nitro shots down. Now the reports shows that they only succeeded in getting the rubber plug down to about 2,700 feet and the next day they pumped several more of these rubber plugs down and they chased it down to 5,290 feet which was about the bottom of the drill stem. And at that time they got the measuring line stuck in the hole and that shows on March 18<sup>th</sup> tower report and then on March 19<sup>th</sup>, they spent the whole day trying to free this measuring line that was stuck in the bottom of the drill stem. Finally they dropped a line cutter down the hole and the line cutter got hung up somewhere around 2,000 feet and it seems to me that on that day they told Casey that he wouldn't be running his nitro in the hole because you now had some fish in the hole, we had the wire line stuck in the hole, we had this measuring device stuck in the hole and it seems to me that at that time Casey packed up his nitro and his nitro. . .they used to call them torpedoes, he called those nitro torpedoes and he disappeared with them somewhere. At first I was under the impression that we had run the nitro in but I don't see any mention of actually running the nitro in. We ran the measuring devices in to make sure the pipe was clear and then ran into serious problems after that.

#343 HS: Okay, that clarifies that, thank you. Can you tell us, was there any 7" casing on the Atlantic 3 lease?

CB: Not to my recollection.

HS: There wasn't, okay. Then I guess the final question really about the Atlantic 3 situation is, using the benefit of hind sight as well as your subsequent education and experience that you've gained since 1948, can you tell us what, in your opinion, were the main causes of the Atlantic 3 blow out? And the second part of the question would be, how might it have been avoided?

CB: Well, of course, the decision to drill ahead blind is a very seriously flawed decision, especially when you have such a short section of surface casing in the well, I think the . . .

End of tape.

## Tape 2 Side 2

CB: [in mid sentence]. . . result from the total over burden at that depth and they knew from the previous wells that the bottom hole pressure was well over 2,000 pounds. They then attempted to drill blind or drill without any mud in the hole to contain the pressure. It meant that as soon as they drilled into the reef with no mud in the hole that they could be looking at well over 2,000 pounds with the capability of being able to hold only 300 pounds. So the decision was definitely a bad decision.

HS: Excuse me for just a moment, you started out by saying the decision to drill ahead blind. Does that mean the same thing as to drill ahead dry?

CB: Drill ahead without any circulation, so that you have no returns coming to the surface, you have no hydrostatic column of mud in the hole to hold the pressure in the well. So it's a pretty risky business. Under today's operations, rather than drilling ahead blind, you would be required to run an intermediate string of casing to the point just above where you had lost circulation and then cement that intermediate string of casing in the hole and reattach the blow out preventers to the intermediate string and this way you would be able to contain any pressure that you encountered immediately beneath that intermediate string.

#015 HS: These are under the provision of the Alberta Drilling and Production Regulations and I presume as well, it would constitute good judgement and good practice in today's knowledge. Is that right?

CB: Yes, that's right. Of course, we learned a lot from wells like the Atlantic #3 and other wells. But no, the Board definitely wouldn't let you drill ahead today without circulation, they wouldn't let you drill ahead into a pressure zone without having an intermediate string of casing in the well.

HS: I gather the Conservation Board representatives that were on the sight at the time were aware of this decision to drill ahead dry?

CB: That I don't know.

#025 HS: Well, we'll pass that one.

WG: Excuse me. I have to say this though. Even drilling in dry and having it come back at them, you were successful after it blew to get the hosmer button in and bring it under control. So had the surface pipe been set deep enough to give you a seal in solid rock, you

probably still could have got out of it without the horrible mess the it resulted in, is that right?

CB: Yes. If you hadn't closed the 7" valve, if you had allowed the pressure to build up to not more than about 300 pounds, then release it and pump mud down the drill pipe and attempt to fill the well with fluid, you could have controlled it without causing it to break out around the surface. But it could have been a very ticklish business because once you had built up the mud weight to control the well, then you would have lost circulation so you would have been in a horrible situation between killing the well and losing circulation and then once you lost circulation it would have started to blow again. So you were really in a no-win situation.

#037 HS: I guess even when the decision was made to drill ahead without circulation and following the blow out, were there not still some opportunities along the way there that would have allowed the well to be brought under control if certain things had been done?

CB: Yes, I guess if you could have pumped enough mud into it, kept relieving the pressure below the hosmer head, you may have got it under control. It's a pretty difficult situation. In order to kill the well, you have to be able to build up enough hydrostatic pressure to contain the pressure in the formation and of course, once you build up that much pressure the formation above it that was taking the fluid, or the lost circulation zone that's above the pressured zone then all of the mud is lost into the lost circulation zone. As soon as you lose the mud in the lost circulation zone then the pressure from the zone below it will blow out again. So you get into a very cyclic type of thing. Once you build up enough mud pressure to kill the well, then you also lose it into the lost circulation zone.

#051 HS: Would you say that the understanding of the physical aspects of a situation like this, that there are people today such as yourself, who understand it much better than perhaps most, or perhaps any people did in 1948, or is that correct?

CB: Yes. I think we have a better understanding of the mechanics of what happens in blow out situations and we've learned through experience that we just can't do these things.

HS: So I guess just summarizing. . .or had you finished enumerating the main causes of the blow out, the first one I believe was the decision to drill ahead without having the circulation of the mud and the second was perhaps the inadequate bonding of the surface casing and an inadequate formation. Were there other causes then?

CB: No I think those were the main causes. I don't think there was any mechanical reason why it blew out and I don't think there was any error on the part of the crews. They drilled ahead in good faith believing that the people who gave the orders knew what they were doing. Physically when it blew out, the hosmer head as a blow out preventer . . it was almost impossible to get the hosmer button latched around the drill pipe with the fluid blowing out of the well. You know it was a very difficult thing to try and get the button in there because the button merely blew out of your hands and blew up in the air and it would come back on the rig floor somewhere and the only way you could shut it off was to physically get the button around the drill pipe and then to force it into the hosmer head

on the top of the casing. So it was inadequate blow out prevention equipment on the top.

#075 HS: So is that another cause of being unable to get the well back under control. In other words, if you'd had state of the art blow out prevention equipment, perhaps a high drill head or whatever was available at that time, would that have made any difference in getting the well under control?

CB: Yes certainly I think that you could have closed the well off very quickly with the bleed off manifolds that are in use today. You could have controlled the pressure on the surface casing so that it didn't build up to a dangerous level where it would break out through the ground and. . . .

HS: No, but was that equipment available in 1948?

CB: Not in the Canadian oil fields that I know of.

#084 HS: I guess I've wondered whether or not the hosmer head was in common use in the Leduc area or in oil fields in general in Alberta at that time or was it outmoded even at that time?

CB: I really couldn't comment on that. I know that this was the second experience I had with the hosmer head, the first one was in Marwayne. We had the same type of blow out preventor on the well that blew out there and luckily it was a water flow that blew out. But we had the same problem, we had to try to get the hosmer button latched around the drill pipe and the flow of water was so sever that we couldn't physically get in there to get it latched around the pipe for several hours. Luckily it was just nice clean water and finally we did get it latched around on it. The Atlantic well, I think we were 2 days, 3 days pumping mud down the drill stem to slow down the flow to the point where they could get close enough to the well and latch the hosmer button around the drill pipe so that they could sel off the flow from the top of the well. Whether there was better equipment or other equipment in use at Leduc at the time, I couldn't comment. I didn't have enough experience to. . .

#099 HS: Well, I guess during the attempts to get the well under control, there was a high drill head installed at Atlantic 3. I'm not sure where that came from, do you know Gib?

WG: Don Wilkin was the one that brought it in. I've been told that following that, there was an order for about 8 or 10 of them to go on the rigs in the Leduc field. So the operators were obviously impressed with it, more so than the equipment that they were using at the time.

CB: It was state of the art at the time, there's no doubt about it. It could close around a tool joint, it could close on a drill pipe and all you had to do was throw a lever and it closed it. You didn't have to physically get in there and install anything so it was a very good piece of equipment.

#110 HS: Well, I think that probably handles your views on the main causes of the blow out. I guess going forward in time then, can you tell us Cal about your career after Atlantic 3 to the present time?

WG: May I interrupt this a moment. Were you involved at all Cal in putting the hosmer button on when the well was blowing?

CB: Yes. It was our crew that finally got the hosmer button installed and I can remember that we spent the entire shift pumping a slug of mud down the drill pipe and the flow would slow down enough that we would get up to the well with the hosmer button, try to latch it around and I think we made 5 or 6 attempts that day to try to latch the button around there. Every time we would try to do it the flow would be so great that we couldn't even hold on to the button. It would blow it out of our hands and as I say, blow it up in the air and we'd get out of the road quick and it would come back down on the floor someplace.

#124 HS: And how much did it weigh, the button itself?

CB: The button, it probably weighed I would guess, somewhere between 80 - 100 pounds. It would weigh close to 80 pounds I would think. It took 2 men to lift it and carry it around.

WG: Excuse me for the interruption.

HS: Oh, that's fine, does that cover that point then? Okay, could we proceed then Cal, can you tell us about your career after Atlantic 3.

CB: After Atlantic 3 I worked for General Petroleums. We left Atlantic 3, I went to the west relief well and these were some of the first directional wells drilled in Canada and stayed on west relief until we had completed it and stayed on while Atlantic #3 was successfully killed. From there we moved over, we lost our rig on Atlantic #3 and GP bought a brand new rig, which we took to west of Edmonton, drilled some holes there and then took it to Redwater. At that time Redwater had been discovered so I spent another year at Redwater. And then drilled in various places for GP until about 1952, when I got into an automobile accident and hurt my leg and the doctor said, you can't go back to work for 6 months at least. So I took that opportunity to go back to school. My brother was in university, George Knowle??? was in university and they said, are you going to sit around here and do nothing for 6 months, you better get back into school and go through to university. So I went back and took my grade 11 and grade 12 in one year and then went into university in the fall of 1953 and I went into the Petroleum Engineering group until 1957. I didn't graduate that year, I was one subject short of graduating, mostly because I had a very difficult time trying to get grade 11 and 12 all in one year and catch up on 4 or 5 years that I had been out of school. So I didn't graduate that year and I went to work for Baldwin, Knowle??? and worked with Baldwin, Knowle for 5 years on service rigs, running service rigs, pushing service rigs. And I ended up as Field Superintendent for them and then I decided I better go back and get my one subject to get my degree and I went back in 1963 and I took the extra subject that I was short of for my Engineering degree plus I took a one year course for a professional teacher's certificate. When I graduated with my degree in Petroleum Engineering and my teacher's certificate, I took a position with the Southern Alberta Institute of Technology as the instructor in Petroleum Technology and I spent 4 years at S.A.I.T., teaching drilling technology and then I was asked by the Department of Education if I would go to Edmonton and set up the Alberta Petroleum Industry Training Centre, which is the drill rig that sits on the south side of Edmonton. And we set up a drilling training school there with our own drilling rig and

our own well and we established all of the blow out prevention and well control courses that are now mandatory for all the drill crews in western Canada especially and also for the Arctic and for offshore of eastern Canada. I remained in that position after we had set up the courses and I taught there for one year and then I left to go with Hudson's Bay Oil and Gas. And Hudson Bay Oil and Gas asked if I would go to work for them because they were planning an offshore drilling venture on the east coast of Canada and it looked like a very good opportunity to get into the offshore business. They sent me from their office in Calgary for training periods down in the Gulf of Mexico where I worked on all of the offshore rigs, jack up rigs, platform rigs and between there and Santa Barbara I commuted back and forth from Houston to Santa Barbara to New Orleans and spent a very enjoyable winter learning what I could about the offshore business. And so we come back to Calgary and we set up a drilling program and went to Prince Edward Island and drilled some offshore wells off Prince Edward Island. And had some very unique experiences out there. We got caught in a severe storm and lost the well, lost the well head, and I spent 6 weeks with a min-submarine at the bottom of the ocean to try to relocate it. Twice I did it. I did it once, the first time and then 4 years later I had to come back and relocate the well and rig it up so that we could move another drilling unit over it. So I spent two 6 weeks periods with a mini-submarine on the ocean floor off Prince Edward Island, which was a very unique experience I thought.

#196 HS: Which did you enjoy down there most, the mini submarine or the lobsters?

CB: Well, we had lots of lobsters. We lived in a little port called Georgetown and it was a lobster port with perhaps 50 or 60 lobster boats working out of there and we certainly had our fill of lobsters. They were great.

HS: I've never been able to stay down in Prince Edward Island long enough to get my fill of lobsters. It would take awhile I think. Fine, carry on there Cal.

CB: Okay, so from Hudson Bay. . .that pretty much ended they offshore experience with Hudson Bay, then went out of the offshore business and I went to work for a company called Texas Pacific which was owned by Seagram's Whiskey and I worked for them for another 7 years as the Operation Manager looking after all their drilling and completion operations for Canada and the northwestern United States. We used to drill wells down into Wyoming for them and all out throughout Western Canada.

#211 HS: So excuse me, that covered the period 1957 through '81.

CB: That's correct. And then I went on my own as a consultant. Seagram's sold off their interest in Texas Pacific and I went on my own. And I went to work for a consulting firm called Cal-Can and I went to Indonesia for a year where I set up a training course for 26 Engineering students for the Roy M. Huffington Co. out of Houston. Part of their obligations to the Indonesian government was to train new personnel. So we set up a training course very similar to . . .the theory was very similar to that which we had taught at SAIT and the practical part was very similar to the training school we had set up in Edmonton. So we spent a very enjoyable year over there with 26 young graduate engineers trying to make drilling supervisors out of them and enjoyed it very much. Since

then I've come back and been working on my own. Presently I'm employed with an engineering consulting firm called Norwest Engineering and we are involved in designing the drilling system to drill from mine tunnels underneath the Athabasca tar sands. This is also a very interesting project and I hope that we discover a new way to produce tar from the Athabasca tar sands. And that brings us up to the present date.

#236 HS: This project you're involved in, in the tar sands is in connection with AOSTRA, the Alberta Oil Sands Technology and Research Authority.

CB: That's correct.

HS: And it's there underground test facility that's involved.

CB: That's right, it's a test facility that consists of 2 mine shafts of 11' diameter. They are regular mine shafts with mine hoists and all of the ventilating systems plus a lot of pipe lines in there that we tend to use for drilling mud and later for oil production if we're lucky enough to get any oil production. And then there are a series of underground tunnels, there's several hundred meters of underground tunnels that we're going to use to drill from the limestone underneath the tar sands and up into the tar sands to try to produce bitumen??? from the tar sands in this fashion.

HS: So that pretty well brings us up to date as far as your professional career is concerned, is that right Cal?

CB: That's right, that's correct.

#257 HS: To get a little more on the personal side, when did you get married and tell us about your wife and family?

CB: I was married in 1964 and my wife is a girl from Cork City, Ireland. We have 3 children, 16, 18 and 20. The oldest boy is going into his 4<sup>th</sup> year of engineering. The second boy is going into his 2<sup>nd</sup> year of engineering and the 16 year old girl is going into grade 11 at Bishop Carroll High School.

HS: And you've lived in Calgary with your family for how long now?

CB: I came to Calgary in 1964, the year we were married. I moved up from Edmonton.

HS: So apart from your odd trips over to Indonesia etc., you've lived in Calgary since 1964.

CB: Yes I have.

WG: Did your family go with you to Indonesia?

CB: My wife came over for a 3 week period. Otherwise I commuted back and forth, about every month I'd come back for a week or so and then return. No, it was too much hassle to move the entire family for a one year period.

#279 HS: Cal, your brother, Vic Bohme is now a Board member of the Energy Resources Conservation Board. I understand he got his B.Sc. Degree in Petroleum Engineering from the U. of A. in 1950. That must have been the first graduating class in Petroleum Engineering at U. of A. is that correct?

CB: Yes, that's correct. They were a group of veterans who had received their discharge from the Army and the Veterans Administration had encouraged them to go back and complete their high schools or to take upgrading courses and then paid their way through the

university which was a very good deal for all of them.

HS: You were telling us you started at the U. of A. in what was it 1954. Had your brother Vic encouraged you to go through for an engineer or had you decided on that on your own.

CB: No they were always goading me a little. Why don't you come back and finish your school and get some education. Him and George Knowle and Matt Baldwin were always after me to get a little more education so they definitely helped me out.

HS: I'm sure you're glad they did. It would appear that you've accomplished a great deal in your career and we should congratulate you for that.

CB: Well, thank you very much. I've certainly enjoyed it. I've worked at every part of this oil industry, especially on the drilling and completion side and I've spent a lot of cold and miserable nights and wished I was someplace else but one thing about it, I've never been bored. I've been mad and I've been cold and I've been overworked but it's always been interesting and something different all the time so that I appreciate.

#316 WG: Never a desire to go back to the dairy farm though.

CB: [Laughter] I don't think so.

HS: Well, I think we're just about at the end of this interview. We certainly want to thank you again for coming over and helping us out with all of this information. It's very useful and we appreciate your help.

CB: Well, it's been my pleasure.

HS: Just one quick question here. Would you like to have a copy of this tape or perhaps two copies for yourself.

CB: Certainly I'd like to have one for myself and one for my brother Ron and Vic can listen to my copy. Thanks very much.