



DAVID ARMSTRONG

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Name of interviewer: Peter McKenzie-Brown

Name of videographer: Peter Tombrowski

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Consent form signed: Yes

Transcript reviewed by subject:

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Initials of Interviewer: PMB

Last name of subject: ARMSTRONG

PMB: Well, I'm interviewing David Armstrong; he's the son of Jack Armstrong who was one of the greatest innovators and pioneers in Canada's oil sands, but who unfortunately died in December three years and a bit, wasn't it?

ARMSTRONG: On December 26th, 2010

PMB: And the two things that your father, in terms of oil sands, is most renowned for is his involvement with Syncrude and Cold Lake. And Syncrude, of course, in 1975, was ready to collapse and I do believe it was your father who helped to save the day on that occasion. And then, of course, he was the President of the company when Cold Lake was developed. Am I right on those two things?

ARMSTRONG: Yeah. I mean Cold Lake was an entirely hundred percent Canadian Imperial Oil investment, so there were no joint interest partners so it was all internally developed. And so yeah, he took later on managing that. And matter of fact, if you go back to the very beginning of the story is Imperial Oil had just laid off a series of people with one exception of the senior reservoir engineer, and I do believe the name was Don Wilson who married Luellyn Manning.

So they kept him on and they just said, Well, go work on what you want to work on. So he came back down to my dad's office one day and said, Jack, I think I can make Cold Lake work. And he said, Well, how much? He said, A hundred thousand barrels a day. And it was that basis upon which Cold Lake started to be developed.



PMB: I'm talking to David Armstrong, and David is the son of the great Jack Armstrong who became the Chairman and CEO of Imperial Oil, was heavily involved in the development of the Cold Lake Project and of Syncrude.

Now, David, I wonder whether you would start by just giving us the story or your father's career as best you remember it.

ARMSTRONG: In about 1994 I did the history of my father's career which included all the jobs he ever had and all the positions he's ever held. And he first took a degree in chemical engineering.

PMB: Where was he born, and when?

ARMSTRONG: He was born on March 24th, 1917; lived in Dauphin, Manitoba all his life till he went away to move. He was trying to find a job and would work the goldmines in the summer occasionally, and try and do those other things to put milk on the table when it's just the end of the Depression and the beginning of the Second World War.

And so finally he managed to get a job with the Canadian Geological Service and a fellow who worked for him thought he was a pretty good guy and (indiscernible) work for somebody else, and so he went. And initially in those days if you worked in the geophysical office you worked here in the summer, you took your wife and you drove your truck down to Louisiana or Texas or Oklahoma for the summer; it was too cold to work up here.

PMB: So they would go down south in the summer. .

ARMSTRONG: In the summer and come back in the winter.

PMB: In the winter and then they would come back in the summer and go up into the North and do the geological service.

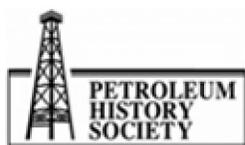
ARMSTRONG: Yeah, they'd go to Taber or other places like that in the summer. And then finally about the beginning of 1945 he and my mom got a posting to Ecuador and they stayed there for about three, four years.

PMB: Who were they working for at that time?

ARMSTRONG: It was a subsidiary actually of Imperial Oil.

PMB: And when did he move to Imperial?

ARMSTRONG: Well, actually what had happened is as long as -- it was Exxon Mobil affiliates at that time had no geographic range, so you could work for Imperial Oil Refining. Imperial Oil at that point had a refinery I think in Bahamas or someplace, but they had their own refinery and so that



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was just natural part of the business. And I don't know off the top of my head when Exxon Mobil moved everything just simply into geographic units.

PMB: When did he join Imperial/Exxon?

ARMSTRONG: Well, he joined Imperial when he started to work for them in 1943. So he sort of always worked for them. But there wasn't always this -- you know, you had other ways to advance your career rather than just going to Normal Wells or other places in just simply Canada. So there were lots of places to advance your career. So that became it.

Then my dad had the opportunity to get transferred back to Calgary which he eagerly took because there'd been the Leduc discovery and it was oh wow, what a great place to be. He often maintained he was the only person who lived in Calgary, worked on the oil business and didn't have some aspect of finding Leduc. So he did that, and did a number of various jobs including being engineers on seismograph crews and other kinds of work. And he left here to go to work in Greenwich, Connecticut to do a turn with Exxon Mobil. Exxon Mobil traditionally has this policy we want to see people so we know you're not big mistakes and we're not going to be sorry. And so what was supposed to be a two-year assignment turned into eight months. So it was really a short assignment for us. Came back pretty immediately. Exxon Mobil was sufficiently satisfied with the quality of the work and said, We don't need to see him anymore.

PMB: So this was an executive development position that he was basically going there for?

EDMUNDS. Yes. And I forget, they always have these guys as being world-wide analysts of natural gas liquids or something, and then finally they get their position where they can do what they want.

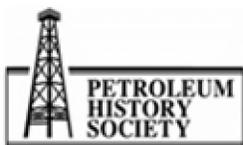
Should back up a bit to my dad's education. High school in Manitoba ended in Grade 11.

PMB: That was in Dauphin?

ARMSTRONG: Yes. So that's where high school ended for him. He then went to Wesley College which was a small university-like college institution at that time.

PMB: It was Methodist, wasn't it?

ARMSTRONG: Yeah, I think so. And then between '35 and '37 he joined the University of Manitoba and then as often as the case with so many people who bump into people who provide them a great course changer, my dad would always describe it as big old sweets, Now, Jack, you need to go get more education, you're better than working down here. And so he obtained a degree in chemical engineering from the University of Queens. And matter of fact, his first chemical engineering professor, I think it was his first; it's either that or his last, said, You'll never make it. Just that typical sort of -- there's always someone saying you can't do it.



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So what I'm going to leave you with is what he's done in life, I don't know if you want to go through it?.

PMB: No. If you've got that material that's terrific.

ARMSTRONG: So he spent most of his life on the upstream side of the business and didn't move much in the downstream side of the business because you can have a good idea, put it on a street corner and 30 seconds later the guy's got the same idea. At least in a -- if I find a well no one can take it from me. So that was his thing, it was always about finding oil because no one can take that away from you. And that's always what he put his emphasis about the corporation put their money behind is that there's just so much oil here and we're going to find it. And it did create a position where Imperial had significantly more oil at one point than other people in the Basin.

And then in 1960 we went out East and dad, for the first time, had a nonproduction job and he became a Director for Marketing

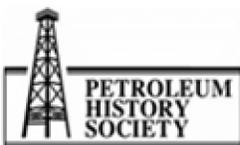
PMB: Based in Toronto?

ARMSTRONG: Right. That was before the company moved. So he'd always do his best to make sure we never stopped looking for oil. And there'd always be cases where people would say, Well, we've got to cut back, we've got to sell this resource or that resource, and dad would resist it as much as he could. And I think at one point they had virtually 100 percent of Rainbow and they only ended up with 10 percent of it because that's all dad could, at that stage in a career, get them to keep.

PMB: Earlier on before we began this interview I asked you whether your father's involvement in Mormonism affected his business style and maybe his management style too. Would you give me a little bit of background on that? I presume that he converted to Mormonism; if yes, when? And how, in your opinion, did that affect his career and his personality?

ARMSTRONG: My dad was a Scots Presbyterian, a good old pipe drinking da-da-da. And when my parents got married they'd agreed that the kids would be raised Mormons until they were 21 and then they got to choose. When I turned 21 my father said, Well, with Mormon kids when they're 12 they get to hold the priesthood. We have a lay priesthood; we don't pay anybody to do the jobs they do for us in church, and so we have that as a lay priesthood. And so he started looking up everything he could just simply about that so he could be able to answer my question. And I was always why is the sky blue? Why is the sky? because the first answer wasn't satisfactory. I was that kind of kid.

So two months after he started looking into the church he stopped smoking and drinking and started to pay his tithing which is 10 percent of your income to the church. And then in February he joined the church.



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And as often as you see those cases that's -- that and one other story I'll tell you in a minute is all you actually need to know about my father.

And when I was about two and a half I had a bad case of convulsions and a really bad one; I'd had some for a long time. And he sent my older sister down the block to find the doc and then just took me in his arms and said, Lord, I've done everything you've asked, let him stay. The convulsions stopped and never had another one.

And so he would continue to provide service to the church while working. Matter of fact, Bill Twaits, who asked him to take the job over, his only question of my father was, Is there anything that you do in the church that would stop you from becoming the Chief Executive? So my dad said, No. And then shortly after he became the -- in those days you became the Executive Vice-President and then the President. And they shortened that cycle immensely since then.

And I've got all sorts of other ways in which it's been a -- he'd go out and give speeches about Christianity and business ethics and that you shouldn't be any different on Sunday than you are on Monday. He'd tell funny little jokes, just think what would happen if Moses had turned right instead of left, all the oil he would have found.

But he served it. And again as a very committed family man, he'd leave the office at quarter to five to get home to be with the kids at 5:30. There was nothing getting between his wife and his kids, and despite travelling a quarter a million miles and year, enduring all those sorts of things, the kids were always the priority.

PMB: David, I'm just realizing the one thing we haven't talked about is when and where did he meet your mom? And when were you and your siblings born and what are the names of your siblings?

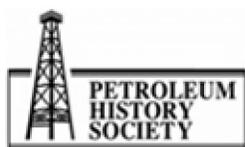
ARMSTRONG: My parents had been unable to have children and my dad felt he was tried even as Abraham was tried (indiscernible) have children.

PMB: David, would you tell me when your father met your mom, and also tell us a little bit about your mother because as a Mormon she would have -- I'd be interested to know where he met her, and I guess the other thing is you and your siblings, when did they become part of the family?

ARMSTRONG: My dad sort of moved around about every six weeks which was sort of natural then, and he went out, did a couple of lines, picked up and left, did some lines, picked up and left, and so he was doing that and just came across this woman he thought was sort of pretty cute. Because he's only got six weeks in each place it's not like you've got a long courtship period.

PMB: Her name was?

ARMSTRONG: June Keith. So her brother is (indiscernible) Keith who built Lake Bonavista, all the rest of the stuff that's around town.



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PMB: Is she still alive?

ARMSTRONG: No, she died in January 1986. She predeceased him by a long way.

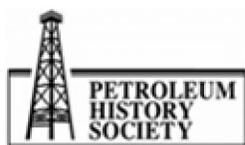
So my dad was sounding like a pretty serious man to her; she was 21 and she'd been in a pretty serious unhappy relationship with this boy for about four years, and the boy finally broke it off. And my dad came up to her one day and wanted to date her and my mother thought, Well, you know, this might be a pretty good time. I'll get to go to those wild geophysical parties and have a lot of fun. And she went, and the first place they met my dad, looked across the floor and said, That's the girl I'm going to marry. And on a second date he said, I pray every night, which was again a fairly -- for a Mormon a pretty good indication, and so she was doing along pretty well. And I think it took all about a couple of weeks for him to get down and serious enough to ask my mother to marry him.

And so when the time came actually my mother sent a letter to her future grandmother (sic) who she'd never met because she lived in Vancouver, just wanted her future mother-in-law to know that everybody in her family thought Jack was great and there was absolutely no reason to change any part of him. And then after about the six weeks they got on the dynamite truck and off they went to Louisiana or someplace like that. And they do that winter and summer on a continuous basis. And they got to meet plenty of people that they kept friends with. Friends in Ecuador are still friends even after half a century, that small coterie of friends when you're in the midst of another language speaking country I think naturally creates friendships because there's hardly anybody to communicate to.

So when my dad got posted back here and a few of his other friends got posted back, matter of fact all of them got posted back. Well, when my parents came back they still didn't have any children and that really stressed my dad and mom. And my mother's younger sister had gotten married early and had a baby and now her husband wanted to divorce her and my dad said, Well, why don't we take him? And my mother said, Only want it if it's a girl. He says, No, you can't make that kind of discrimination; you take the kids regardless of how they are. And so that would become my older sister Diane Elaine.

And then in about early 1951 my mother just happened to become pregnant which was just a great thing. But on the seventh month things turned for the worst and doc went around the hospital looking at the kids, and my brother and my mom seemed a little -- and then by the time she came around in the afternoon my mother and the baby was suffering from toxemia and if they didn't pull him out now my mother would probably be dead in 48 and my older brother in 24. And my older brother managed to survive 36 hours. He died of a two-chambered heart which now is a fixable thing for kids. And so John died and my mother was inconsolable at the loss of her child.

Then as often happens again with compensations, about six months later the same doctor called her up and said, I've got this bright young girl; she's going to have a baby, do you want it? My mother wasn't so sure but my dad was yes, we want to give this a try and so they adopted me. It was one of those funny things, they brought me into the nursery and they saw me. My mom saw me and didn't



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think I looked like much, and took me in her arms and I still wasn't that handsome. And then I opened my big brown eyes and she fell in love. She said she felt like she was in Seventh Heaven.

Then about 18 months later my parents adopted a three-year-old girl who had looked fine but turned out to be severely mentally retarded. So after a couple of years my parents took her up to be evaluated at Edmonton and up there they just told her don't even both to take her home; she'll treat you like a piece of stick and you should not even both. And things have changed today, of course. I think my mom made the right decision because she's had heart problems and her family has had cancer problems and she probably would have not had any more children.

PMB: So she would have been put into one of the homes for the "mentally defective"?

ARMSTRONG: Yes. It was like she won't know your name, she won't be able to play much with you, it was all those sort of typical things that went along at the time. I don't remember my parents leaving without my sister. I do remember them coming back without my sister. But absolutely I think the right decision.

And then a couple of years later my older sister who was 16, died of aplastic anemia. And my mom never went to another funeral after that; they were just too hard on her. So I asked her one time to go to a friend of mine, her brother was dying of bone cancer and just go to the funeral, and after we were in their house for about 15 minutes she said, David, we need to go home.

PMB: You had a brother?

ARMSTRONG: Yeah, that's still coming.

And then again as life gives you compensation, my mother got pregnant, amazingly, at 39 and my dad was 45. So the Mormons share a belief that families are eternal one forever, and my parents were married (indiscernible) all eternity, and all their kids are sealed with them for that length of time too, providing they live appropriately. And my mother may have stopped at three kids, but ended up because some of them died, will now end up with twice as many kids that she thought she would have in the first place.

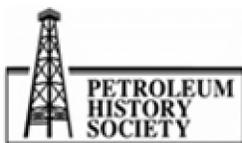
PMB: Your brother, who just recently died, his name was?

ARMSTRONG: Douglas Keith Armstrong.

PMB: He died literally a month or so ago, didn't he?

ARMSTRONG: Yes.

PMB: You've talked about the influence of Mormonism on your father as a businessman, and it did have a very strong moral impact and so on. Now, I wonder whether you would tell me as much as



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you can recall about his involvement with Cold Lake, and with Syncrude, and anything else now that's related to the oil sands and heavy oil.

ARMSTRONG: The Cold Lake Project, they came in a continuing debate inside the organization over a long period of time over that we should build just one big honking Cold Lake, the same way we --

PMB: The Cold Lake Project dates back to the 1960s.

ARMSTRONG: Yes, it was Don Wilson's smarts. So it was debated well, how do you best get oil out of this structure? And people continued to banter and argue and not come to any consensus around it. And the people working on the project would continue to come up to my dad with various spins and ideas on Cold Lake needs to be one megaproject. And my dad had said, No, no, make them small. That's the way you do it, you can just make them small.

It wasn't until Cold Lake, the prices dropped to sort of ten bucks that the corporation caught my dad's (indiscernible) and said, We can learn how to do these small, and that made all the difference in the capital spent on it and all the other anxieties people had as it's not a huge drain on resources all at one time, it's not something that would take up all your money at one fell swoop, which is always one of those big concerns. And you start to make a blank -- CNRL's Horizon investment virtually fed the company. You know, if things had been \$10 Murray Edwards wouldn't be nearly as rich as he is today.

PMB: And CNRL's Horizon Project cost something like \$6 billion, wasn't it?

ARMSTRONG: Right. And they think they caught the sweet spot in the bottom of the -- and even they didn't get it right.

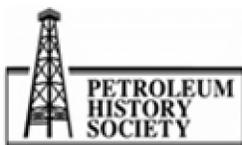
PMB: David, do you happen to know, and I've been trying to find this out, who actually acquired the land that the Cold Lake Project is sitting on? Somebody acquired it in the 1950s, and I don't know who did it. I just thought you might have remembered.

After the project began, obviously it was a small project and it was scaled up a little bit and it still really is developing like that. I think it produces now about 150,000 barrels a day and it's been like that for years.

ARMSTRONG: Actually, I think it's been growing a little more over that, it's (indiscernible) 160, 170. They've always had trouble finding what's the right solvent to use; that's been the other hang up of what's the best thing that we can use to get this stuff.

PMB: Well, traditionally they'd use steam.

ARMSTRONG: Yeah, they used steam, but they spent hundreds of millions of dollars looking at other miscible flood agents in the same way you'd look at miscible flood agents for standard fields.



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So they spent a lot of money trying to make this work and I think the recovery's up to about 26 percent. I think years ago it was 13-ish or 23 (indiscernible). It's been much lower than that. I mean it's been a growing number. So they've been doing a job that's good but they haven't got that bang up change in recovery that would add just billions of barrels to the project. So that's been unfortunate that they haven't found that yet. Hopefully they manage to find that agent or whatever it is that they can make this really work.

PMB: Do you recall in I think 1979 Imperial announced that it was going to build an upgrader there and they were going to put several billions of dollars into a development there, which would include an upgrader, which would include a vast expansion of the plant and so on. And then after the National Energy Program which was in 1980, of course all of that changed. Can you help me with that story?

ARMSTRONG: The government was always after upgrading to help the Crown recover more revenues inside the province. You don't get much out of doing it in this province, and so most times it basically fails on the economic parameters. And I'd often get this in my working around Cold Lake and the guys would come over and say, Hey, Dave, why doesn't Imperial build an upgrader and give me a nudge? Well, we're 13 percent of the heavy oil production, I'm going to lose 80 percent of the upgrade value, there's no value in it for me. And so really unless you have a very large interest in something making that big a change and making that big change in a marketplace, doesn't really help you and helps your competitors a whole lot more (indiscernible) capital.

PMB: David, I didn't quite understand that. Would you explain that to me? You said you had 13 percent.

ARMSTRONG: Yeah, we had 13 percent of all the heavy oil production in Alberta. And so what happens if I've got 13 percent of oil production, I build an upgrader that enables a large chunk --

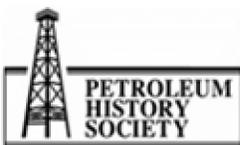
PMB: It enables 80 percent of the producers to upgrade their oil without any capital expense?

ARMSTRONG: Right. Without any operating expense. So Imperial was no way I'm here to give money away. And it's been a reason Imperial hasn't done many things over the years is there's been too much money given away to your competitor because you're such a large interest that if you build they get most of the benefit. And that's just an unseeingly burden to take on one body's shoulders when it's such a small portion of the production.

PMB: Did I understand that it was your father who was promoting the idea of building the project small, keeping it small?

ARMSTRONG: Well, he had been promoting the project small all the time.

PMB: So going back to the early 1970s?



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ARMSTRONG: Yeah, he never wanted big because it was too big, just wasn't the right way to spend the money.

PMB: And, of course, after the National Energy Program that is the route they took?

ARMSTRONG: Right. But it's also he found that unless you challenge people you'll never get them to work hard. And they had an easy out; they'd build an upgrader plant and so they didn't have -- dad wanted to challenge them to work hard to find a better solution, and that's precisely what they did.

PMB: So what they ended up doing was after the in from these small-scale projects they ended up basically mixing it with diluent and sending it through a pipeline to different refineries, I think including their own refinery in Edmonton?

ARMSTRONG: Yeah, that would get some refining from Cold Lake is one of the feed stock that Flint Hills Resources has perfectly tuned in one of its refineries to take that commodity. But yeah, so it's worked out fairly well. We send it to our own refineries in various places, and in Joliette, and doing all those things and we made a very -- we don't send a lot of our diluent far, far away on account that the people are sending a lot of it away.

PMB: So you recover it at the refinery and then pipe it back?

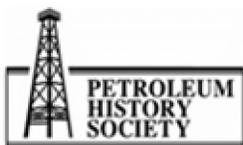
ARMSTRONG: Well, you don't pipe it back but whatever the refinery is, like Strathcona, you then pipe the diluent back and stuff. But this is my refinery, it's really close, I'm not likely to have a problem here so it just means that my supply and delivery point are close, and that usually has strategic and tactical and economic advantages when you do that. Matter of fact, Kearl, that's been the first major project since dad has died when -- now granted, Cold Lake wasn't finished but that's the -- dad has died after, so all the rest of -- they're still living off the stuff in the back cellar.

And it's generally turned to work out very well. Project has worked well, the costs are good. All those things, project's gone along pretty well.

PMB: The next thing I want to ask you about is his experience with Syncrude because as we all know, remember there was a crisis in 1975 when Syncrude appeared about to collapse and then, of course, there had been a number of other crises over the years even before that. Can you recount those stories for me?

ARMSTRONG: Sure. It's one of the advantages of having my dad as my best friend; there'd be lots of talk. Let me just see if I can find a quickie thing in the book; if I can't, that's fine. His early career, Ecuador. There was, of course, always the FLQ crisis, there was so many things going on.

PMB: One of the partners pulled out of the project, and I'm trying to remember which partner that was



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ARMSTRONG: Yes. Cities Service.

PMB: Cities Service pulled out, and they had I think 30 percent.

ARMSTRONG: Could have been something close to that. It was an interesting (indiscernible) because this was a traditional negotiating table. So there would be the producers and the governments, and the governments were always believing that the oil companies (indiscernible) take them to the cleaners, and the oil companies were all there trying to figure out a way to financially make this work.

PMB: This was on February 1st, 1975, in Winnipeg; is that correct? This is the Winnipeg agreement?

ARMSTRONG: I think it's the last one.

PMB: I think that would have been in Winnipeg.

ARMSTRONG: I can't verify your date and timestamp.

So what happened is we were down to \$25 million; that was the amount that came to -- at the final very end it was down to 25 million bucks. They had to find a way to share out.

PMB: \$25 million out of -- how big was the project? It was 1.2 billion or something, wasn't it?

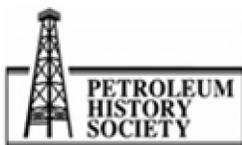
ARMSTRONG: Yeah, it was one point.

PMB: I can't remember the total amount. There was only \$25 million?

ARMSTRONG: Well, I'm saying at the very end. I mean I just did a deal with Enbridge for \$25 billion and you get down to the nits and tiddles.

And this is the way he dictated it to me. "If I hadn't stuck it out in the Syncrude Project no one else would have. The \$2 billion deal seemed to come down to the last \$25 million. I was passing notes between City Service/Bob Sellars, and Gulf/Jerry McAfee. Sellars passed the note to McAfee; it said, 'If you take 25 I'll take ten.' With that, the deal was done. It was the most rewarding and satisfying single event of my career when Syncrude was finally brought into production. Today it counts for 13 percent of Canadian crude production."

And then afterwards he had the problem of going down and telling his chief shareholder that while he had authority to spend \$325 million, he did not have the authority to spend \$625 million. And he said, "Afterwards I flew down to New York to tell Cliff Garvin" - this is the head of Exxon at the time - "I had approval from New York to spend 325 but I committed to 625. I told Cliff he could either agree with me or fire me." Well, I guess he didn't fire me. I know the edge sounds very thin but it's (indiscernible).



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Now, it's the wise guys who get over the razor-thin topic matter and then, of course, it did go into production and then came, after my dad left, the price crashing down to whatever.

PMB: It went down to \$10, didn't it?

ARMSTRONG: Yeah.

PMB: In what year was that?

ARMSTRONG: I think it was \$10 in '86 and \$15 in '98 or something.

PMB: It was an awful period, wasn't it?

ARMSTRONG: And some people said, Well, let's just stop production, and then one of the other shareholders said, Well, how do we get these 4,200 guys back again? So now it was the other fellow.

PMB: The "4,200 guys" meaning the employees?

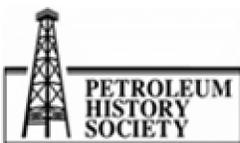
ARMSTRONG: The employees at the mine site. And that's the problem with mining is you can't stop. If crude goes down to \$10 you can't stop. So it begins to create some very screwy economics because no matter if there are \$12 operating costs and \$10 revenue you still can't stop.

PMB: This was not only the case with Syncrude, this was also the case with Cold Lake, wasn't it? It kept running throughout that entire period of low prices.

ARMSTRONG: It kept running, but the nice part is it doesn't have as high an overhead operating costs and those sorts of things. And also you can cycle things like Cold Lake and other things; you can slow down the production and maybe not have to keep it going all the time. But, of course, the problem with Syncrude is you've got the refinery with it, they hydrotreater I mean, in Cold Lake it's just bitumen. So you can do that. So that creates a new dynamic for the oil business is that we can't stop anymore.

Now, in the mid-'90s when we actually had real shut-in in this province something like Syncrude could stop, but the simplified conventional crude that runs along the Alberta/Saskatchewan border, it can stop. Most of those conventional wells can actually stop producing and you suffer little harm compared to these big guys who suffer away those large numbers, and they can't get them back for 50 years or 75 years.

PMB: When the Great Canadian Oil Sands plant and then the Syncrude plants began there was a lot of controversy at that time especially with the GCOS plant, because Canadian light oil, conventional oil production was still going up quite a bit every year. And one of the great controversies of the time was that by creating oil sands plants we were, in effect, going into competition with ourselves. What can you say about that?



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ARMSTRONG: Well, there's hardly a more competitive business than the oil business. It's not going to say, Oh, I'm not going to do this 'cause it (indiscernible) to a production. That's just not the way oilmen think. They're going to do as much as they can get out. It's like the shale oil, and shale gas, you're not going to stop producing \$6 gas and avoid producing \$3 gas; that just violates everything we think about our own business. There will always be ways for people to be more competitive.

PMB: The \$6 gas being what?

ARMSTRONG: The \$6 gas being what it costs us to produce conventional gas, and so we can't really have ourselves in a position where we stop producing everything because we're worried we're not going to be able to produce the other stuff. The whole aspect of our business is to extract as much resources as possible, as cheaply as possible.

I mean there was more innovative work done around the Northern -- the Bakken crude in oil recovery and innovation in any year. There was probably more improvement in conventional production in that place in say 15 to 20 months than there's been ever in the conventional oil business in North America, period.

(Indiscernible) guys that are sitting around their kitchen table. And just like you're going to find there are always going to be people who will cut the costs of something, or enhance the recovery of something and that will drive down costs, that will increase the amount of production. I mean part of this whole aspect about no more oil is the fundamental belief we can't do things better. And the oil business is founded on that.

PMB: (Indiscernible) peak oil.

ARMSTRONG: Peak oil and all the rest, because the business is founded on that.

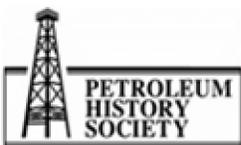
PMB: When your father retired what year was that?

ARMSTRONG: March 31st, 1982.

PMB: Did he sit on a variety of boards as many retired businesspeople do?

ARMSTRONG: He sat on many retired business board before he left. First was my dad never believed in saying no to a good cause with exception of once, and that was the 50th Anniversary of the Duke of Edinburgh Study Conference, since he sat on it and had been involved in it since the beginning, which he just didn't feel well enough to go, even though all the badgering he took from me in order to take it.

He was a director of the Royal Bank of Canada, member of the Conference Board of Canada, member of the Canadian Counsel on National Issues, member of the board of the Toronto General Hospital, founding member and governor of the Canadian Association for Latin America and the



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Caribbean, to stimulate trade between the two, director of the Export and Development Corporation, director of the Trustees of the Fraser Institute, executive member of the International Chamber of Commerce, chairman of the Advisory Committee of the Western School of Business, co-chairman of the National American Association for the Advancement of Science, consultant to Power Corporation, and that actually didn't take much work but Paul Demarais paid well.

Chairman of the Northern Transportation Company. When the natives wanted to get to the point where they could buy the transportation infrastructure on the North from the government they had my dad negotiate the deal and he was one of the "native sitters" on their board. And then just chairman of the board of Great Eastern Oil which was something obviously in the far East of Canada.

He'd always made it a point of doing a lot of things that I think people don't make a function of doing. In a building of 2,000 he'd know everybody by their first name, including the night watchman. He'd always go home in the limo. Sorry, the driver; my father would hit me in the back of the head if I said limo. He'd always go in the front seat with the driver, back home.

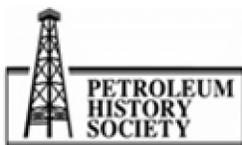
And there'd be lots of things that were his ways of living; he believed everybody have a balanced lifestyle, there should be no reason that someone should work continuous overtime. If you're working overtime all the time says one of two things, one, you've got too little to do in which case a change should be made if you're reading Globe & Mail at 10 o'clock in the morning, and if you're overstressed in which case a change should be made. But he wanted people there to be people who would like what they did, wanted people to work -- actually, he wanted people's kids to work there because that's the sign of a good company. If a dad can tell his boys and girls, Now, this is a really good company, come on career day, you know you're doing something good as a boss.

He'd make sure he'd take his vacation time and make sure other people would take theirs was one of his big deals. I think if he'd been half able, given the schedule it would be hard, he'd walk around the 20th and the 19th floor by 5 o'clock to make sure everybody's left.

PMB: I want to mention that you have given me a copy of a book that you've prepared about your father, as well as there's a file folder of other materials about him, and these will be donated, along with these transcripts and the video to the Glenbow. And I think it's important, this is a very important collection of materials for us to have.

But now I want to shift a little bit, David, and I hope you don't mind my asking this. From everything you've told me it sounds as though you personally have been very heavily involved in the oil industry, and from some of the things you've said it sounds as though you've also been involved in the oil sands. Can you talk to us a little bit about that, please?

ARMSTRONG: Well, I started working; my dad and I had had that Oklahoma business agreement that I wouldn't work for Imperial until the day he stopped being chief executive. And let's see, what, (indiscernible) 31st of December, the next business I joined Imperial Oil.



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PMB: And prior to that what did you?

ARMSTRONG: I had been the chief policy advisor to the leader of the Opposition. I've been the chief of staff to the Minister of National Health and Welfare.

PMB: Leader of the Opposition, which Party?

ARMSTRONG: I'm a Conservative, which was Joe Clark's short little tenure. They gave me a short little job. And then before that I worked for a mining company.

PMB: And now once you joined Imperial what was your involvement there?

ARMSTRONG: I was initially hired to procure ethane for an ethylene plant that Imperial was going to build with HBOG and somebody; I forget who the third partner was.

But in any case, Dome bought HBOG, and since they were a competitor to the plant we were going to build the plant didn't get built so I then went buying miscible flood materials to create miscible floods to extract more oil out of the ground out of conventional oil resources.

PMB: Out of conventional oil resources?

ARMSTRONG: Yes. Because initially we'd set up Judy Creek to extract used ethylene to extract stuff out of Judy Creek. And then I started doing that, which was a really great job. We actually had to offer -- because miscible flood ingredients have different quality of use in the reservoir and so they need to be valued differently. And so I was the chief guy to get the thing across the road. But it was funny because that agreement had 31 drafts to it, and was constructed in 1986, and it still goes.

And then I started working in the conventional oil business unit which looked at some strategic issues around potentially having Canadian oil shut in which of course has huge consequences to our (indiscernible). And even now, looking at things that we have to assess since miscible flood -- sorry, not miscible flood, but shut in could be upon us again potentially depending on how things go.

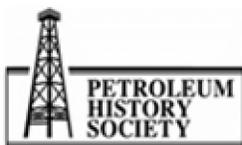
PMB: This is because of the pipeline constraints?

ARMSTRONG: Because of the pipeline constraints that have developed.

PMB: Did you do anything in your career with oil sands or heavy oil?

ARMSTRONG: None of the companies that I ever worked for allowed me to touch anything we own or operate. But really never that much other than making sure we could get the stuff moved and we could do those. You know, that was the big stuff is to get it moved okay.

PMB: This is the last part of my interview with David Armstrong, and he's going to give us some of his world-renowned Armstrong sayings as a final good-bye



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ARMSTRONG: Well, my father's sayings that you always make sure you sign a good deal, if not a fair one.

This is a small town and what goes around comes around.

Too many people today manage the people who work above them rather than the people who manage them -- you're responsible for managing below you because the people below you help you look good. People above you don't do that and eventually you fall apart.

When Imperial fired all those people in the CCEP, it was when Imperial had too many people and it wanted to get rid of the surplus employee so it gave people incentives to leave.

PMB: This was in the '80s?

ARMSTRONG: Yes, this was in the middle of the '80s. He says, Well, now, interesting philosophy; you're paying the good people to leave and you're keeping the bad people. A much better philosophy is to pay an incentive for the bad people to leave and keep the good ones. And always thought that was a shame that instead Imperial Oil shouldn't have spent -- built some complex in Fischer Avenue and employed all sorts of engineering to do all sorts of companies because we were the best engineering company in the country. And so that when things do pick up again, and of course they did, then you've got all these great engineers and you're off to the races so much faster than your peers. Or as you've given some of the good of your -- some of the best of the people that used to work for you, you actually paid them to leave which makes no sense.

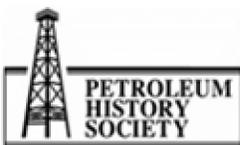
PMB: Can I ask you what exactly happened there? It was a downturn in the mid-'80s, so basically did what with its engineers?

ARMSTRONG: So what would happen, what they did is they just gave people money to leave. So if Peter McKenzie Brown is the best in what he does, then we pay him \$25,000 to leave rather than saying you're the best of what you do, we're going to provide you an incentive to stay and we're going to find the idiot down the hall a bigger incentive to leave.

PMB: That was different from what they did in the end?

ARMSTRONG: Yeah, they just let money go to the good people. And so you didn't end up with the best people all the time. And you also have this drive to fire the worst five or ten every year. Well, if you think you've hired the best for the past ten years then you shouldn't be going through this continuing round of -- because it's all about the people. I mean as much as people may talk about it, it's not the assets, it's the three pounds of grey matter that walks out the front door.

And so I left Imperial Oil because they worked me too hard. They couldn't get me back. I was all their knowledge, I was all the institutional knowledge. And so Riley would take people aside and say, Okay, I mean if you really got serious you'd sit down and you'd value each one of your employees like an asset and then you say okay, I really don't want to lose Harry James so I'm going to make



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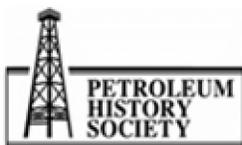
sure that Harry James stays happy. That doesn't always mean money, that doesn't always mean a big raise, that's just we're going to find a ways to make him happy, and if he's happy then things are a lot better because it's the employee who thinks about things in the shower - and that's my dad's expression - think of people in the shower who will continue to bolster and make the company grow.

When I was about 15 or 16 and there was all this turmoil over Canadian foreign investment and multinational companies, I walked in as a cheeky 15 or 16 year old and said, Dad, what makes you think you do any good in the world today? He said, David, I employ 15,000 people. And I bet you not one of my dad's peers today would say something like that. And so I mean it was just all about treating the employee right because he's the way you make your money.

And, you know, there was no reason to keep Don Thompson; real bright idea, they did. So I think that's about it. But I thought I'd (indiscernible).

PMB: Thank you, David, that was really, really terrific.

[END OF RECORDING]



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