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HAROLD PAGE

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Name of interviewer: Gordon Jaremko

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Interview Duration: 1 hour, 49 minutes

Initials of Interviewer: GJ

Last name of subject: PAGE

GJ: So, after the War, then you went on to Aluminum Company of Canada and then Dow Chemical Canada in Sarnia.

PAGE: Yeah.

GJ: When did you first start hearing about the oil sands?

PAGE: I didn't have a clue until 1968 after I'd come back from Europe. And, I was a technical case of a guy that went overseas for five years and didn't fit in when I came back. That happens to a lot of people. I had more scope internationally than there was back in the domestic operation. So, I had moved the family in Etobicoke out of Toronto, just to get reoriented. And, decided to look around for something else because I could see I couldn't fit back into the domestic organization. At that time, there was a headhunting outfit. I don't know what the hell their name was, Stevens-Johnsons, anyway a Toronto firm that does executive headhunts. They had a Canada-wide advertisement for Sun Oil Company for an executive VP of Great Canadian Oil Sands and VP of Sun Oil Canada. So, that's the first I heard of it, it turned out.

GJ: So, why did you apply?

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PAGE: Well, because I was looking for another challenge. And, typical of the majority of Canadian engineers that go overseas into bigger operations, you don't usually fit back in very well. Partly, well there are different circumstances, sometimes because they fill in behind. Other times because you're expected to go to head office in the States, which I wouldn't go. Other times because you had a bigger job overseas than what exists in the domestic organization. Plus, the fact that you've been put on a separate or different payrolls and different pension plans.

GJ: So, how did you get the job?

PAGE: They asked me to take one of their psychology tests; you know how these industrial psychologists work, interviews.

GJ: So, when did you first see the oil sands?

PAGE: After I accepted that job which was either June or July in 1968. And, met the so-called Canadian president in Toronto and it was obvious that even from a preliminary discussion, that they were in deep trouble. The whole plant wasn't running and they couldn't get it started. I said, "Hell, first thing I'm doing is to go out there and we're going to look at this plant." So, it would be about either June or July in the summer, certainly the summer of '68 that I had my first look at the Great Canadian Oil Sands.

GJ: How did you get them out of trouble?

PAGE: I didn't.

GJ: What was the trouble? Was it the whole plant?

PAGE: I've got to back up a little bit. My experience with my whole activity in Europe, I was responsible for Dow's building and operating plants in Europe. Dow Chemical, like many other multi-national companies was heading into Europe. And, in Dow's case we had a very substantial market for a lot of our products both in the United States and Canada in Europe and in the UK. And, the post-war several things happened: one thing was that the Marshall Plan made available multi-million dollars for the reconstruction of many of the European countries. In addition to that, six of the European countries, specifically, Germany, France, Italy and the three Benelux countries [Belgium, the Netherlands and Luxembourg] formed the European Common Market. And, that's grown now to too many countries but that's another story. And, those two developments of course were inter-related. And, one of the objectives of the European Common Market was to -- they did establish a plan whereby they went over a period of, I think it was about five years, reduced to zero their tariffs amongst themselves. So, that the six countries would have a free market amongst them and simultaneously raise by an agreed amount the external tariffs. That put Dow's export market in jeopardy, that portion of its export market; which necessitated building or acquiring plants inside those countries and that's what prompted them. But anyway, I don't know how I got onto that. So now, being a big American company that knew all the answers, they decided to do all the design of their plants in America and that's how they were going to build them in Europe. And, I found out

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when I got there that, "Hey, that doesn't work." For example, in Italy and in Greece these American engineers had specified structural steel supports for all the process area. Well, in Italy and Greece they didn't use structural steel supports. They used reinforced concrete. They also specified American compressors, American pumps.

Well, Italy and Germany make better compressors and pumps that are just as good, if not better than Americans. As a consequence, those two projects and some of the others were months behind schedule and over budget. Plus, the fact that the bloody equipment had arrived had English on it and the Italians operators don't speak English. So, I learned very quickly that the only way a company could become successful internationally was to first of all identify its own technology, what its technology is. And, it boils down to this: that Dow Chemicals' technology lies in the process itself, not in how to put them up on the third floor and the second floor. And, the technology is say you're compressing a gas for example, that technology is not a Worthington Compressor type 34V, it's to know what the input conditions are and the ethanol be at a temperature and pressure and the output temperature. That specific piece of American equipment is not technology for export.

Anyway, I'm getting into too much detail. To get back to answer your question: the Sun Oil Company, well Sun Oil Company had retained Bechtel to do the... they relied totally on Bechtel. They gave them a cost plus contract to just build the bloody thing. And, of course, part of the incentive there is it goes back to Sid Blair and the study he did for them, but Bechtel is a big deal. They had other things early. But, another aspect of what I learned from the European experience was that in addition to specifying what plant you want, you'd better identify the local people that are expected to run that bloody plant and maintain it. I'm going perhaps a little too far back. But anyway, I've got all this experience and I find that here's this first ever oil sands mining plant, part of it has been designed in California and the Sun Oil Company that owns the bloody thing have only assigned two junior engineers to be there to do engineering, not even to run the plant.

They didn't have anybody with any manufacturing experience that had been involved, should be involved at the design stage in order to know how to run the bloody thing. In Europe, of course, one of the first things we did once we decided we were going to build a plant as we did at Southern Holland for example, from the time we made that commitment and started the design we had selected Dutchmen to go there and be in on the design stage of the plant. So, that they knew what the hell was being planned for their operation. So, I had just come back from several years of experience realizing that a successful industrial project in the chemical industry dictates that the design team has to include the operational and maintenance people. So, that I would identify as the most serious and the most basic problem of GCOS which was compounded by the fact that it was new technology.

GJ: So, did you wind up having to try and overcome these things as executive VP, was that your job?

PAGE: I tried to. It was frankly, very difficult. I was reportable to and was identified as the ultimate replacement for -- the ultimate successor to the president of GCOS who had his office in Toronto. And, apart from them having a refinery in Sarnia, the Toronto office was mainly a sales office. And,

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although I was the director of the -- I was named as the -- I forget what they call it, Sun Oil Company they call it, the Canadian subsidiary anyway. The board meetings were controlled entirely by the vice president of Sun Oil Philadelphia. They were also on the board, yeah. But, what the president of the Sun Oil Company and the president of GCOS based in Toronto had his own little group and they had set them up mainly for the little refinery in Sarnia, including a personnel manager. I guess the term now that is used is: human resources; and, a lawyer and whatnot. But, the human resources were the main thing and he had named two people to flush around and hire people but they were not very effective. Plus, the fact that the need was obvious; we needed people with operating experience.

But, Fort McMurray in 1968 was not a very attractive community. In fact, it was designated by the Alberta Government as a new town; legislation which they introduced specifically for Fort McMurray, which meant that it was controlled by a provincially appointed bureaucrat. There was still a hundred miles of gravel on the road or highway. There was no dentist in town. There was an oriental doctor. The school system was still operated -- was part of the Northland School District of which you may have read some pretty -- some recent reports on it; which was set up specifically to make sure that some semblance of education was available for aboriginal children. So, it was very difficult to retain people even though we could. But, McMurray's a different place than that. In 1968 to 1972 the population was about 6,600.

GJ: Not much there.

PAGE: It's different now.

GJ: Did you go and visit the place personally much? Were you stationed in Toronto during this period?

PAGE: I lived there. I moved there. I moved my family up there. I felt that where I needed... if I had it to do over again, I'd stay in Toronto or Edmonton.

GJ: Why is that?

PAGE: Yeah.

GJ: Was it a pretty hard place to live then?

PAGE: It was a little different Zurich, Switzerland and even different from Toronto, yeah. It was a frontier. Which brings up another thing that might seem critical, but I think it's certainly my impression that neither the Provincial Government nor the developer which was basically, Sun Oil, either certainly didn't adequately appreciate the fact that the oil sands industry is a different game than the conventional oil patch. The oil sands industry has a great deal more manpower requirement, much higher manpower requirement. And that, in a remote area such as it is, there has got to be a community, a viable community that provides enough of the essential amenities to retain

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people and a hell of a lot of well-trained, well-paid people. And, I don't think that was recognized that the Sun Oil Company's entire concentration with refining.

GJ: Oh, okay.

PAGE: And, indeed you might apply that to much of the oil industry. And, even in the upstream part of it, it's drilling holes. The oil sand mining industry which is what was involved here, involves surface mining currently and very quickly, its development involves surface mining more material than the rest of surface mines put together in the rest of Canada. And, much more technologically demanding and that in turn, requires a very large manpower force. Not only to operate it but also to maintain very complicated equipment in winter. The mining aspect of the thing was a real dilemma.

GJ: Did they get out trouble during your five years there?

PAGE: Yes, yes. Specific to mining, the oil sands is variable like most natural ores, it is variable; first of all, it underlays different levels of overburden that has no bitumen in it. The lease that the Sun Oil Company acquired was a choice lease because it had an oil sand deposit of 100 feet deep roughly, but overburden only about 50 feet deep. The mine development, everything was planned and well-planned that it would take the overburden off down until you got about 6% bitumen. And then, excavate down to the bottom. But, the bitumen varies in that lease anyway from 6% near the top to 18% at the bottom. When you expose the face in the summer the bitumen which is more properly called tar, runs like syrup and the mine face is very unstable.

In the winter, it turns hard as concrete. Bechtel, of course, are recognized world-wide as mining experts and the plan they devised was to remove the overburden with scrapers and that worked all right; and to mine the oil sand face with bucket-wheel excavators which they got from Germany. Like most thing in Germany, they are very, very well advanced. They have used bucket-wheels for their coal industry and they manufacture and sell them all world-wide. And, they are very efficient except in the winter in the oil sands when it turns to concrete. Plus, the fact that the steel that they use in the bucket-wheels that were purchased for GCOS had a critical temperature of, I think it was in the region of -30° to -40° Fahrenheit. Anything below that, you ran the risk of the steel cracking.

Well, the winter of '68-'69 that's when your general used to issue diplomas for people that lived through a week of -40°. We were measuring temperatures on the mine face of -52° Fahrenheit. But anyway, I could go on and on and some of the stuff may not be to any interest. Better you should ask what aspects you're interested in.

GJ: I'm interested in...

PAGE: I will just finish that cold weather story. Bechtel had no answer to that. The first thing, of course, Sun Oil is going to do is call Bechtel, call Bechtel. They flew in and looked at it. I hired a mining engineer, incidentally, Sun Oil had gone already before I arrived, had gone through two damn good Canadian engineers. One of whom had served World War II with Royal Canadian

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Engineers. And, they had different ideas that didn't fit with Bechtel so they got rid of them. Another guy was a PhD in mining and he couldn't get along with Bechtel and Bechtel wouldn't do anything he wanted done. This non-descript mining engineer that I hired said, "Hell, we'll fix that." And so, I think he got in touch with a professor of Queen's that he'd studied under. And, he came up with a plan to use explosives. Well, everybody just shit their drawers. "Wait a minute. You cannot do that." You had to do it. And, Bechtel's answer was, "But a butane torch on the end of the bucket-wheel and try to melt that part of it." And, they even patented the bloody thing. Anyway, my mining engineer said, "Well, we're going to blast it." I thought, "Oh, Jesus." Because, the mine face at that time was only, "Oh hell, 300 yards or so from the upgrader."

In any event, they decided, "Well, what the hell. This has got to be done." So, we brought in a drill, brought in ammonium nitrate, put a fuel line on it and blasted the face. That's the only way that we were able to mine the oil sand face in the winter of 1968-1969. The only way it could be done. But, that's a local solution. It should have been looked at it. It was obvious before the money was ever committed that that stuff was going to freeze over winter. However, I don't know if that's what you need. I could go on and on. I shouldn't but…

GJ: So, you had to almost invent the whole operation as you went then?

PAGE: Exactly.

GJ: It was kind of trial and error?

PAGE: Exactly. It was a mining process on that scale. See, Bechtel and Sun Oil declared GCOS completed and ready to operate in the fall of 1967. And, it was a huge ceremony. NAR ran a train up there of officials and fortunately, none of the Natives shot at the train that day. They did shoot at the locomotives at times. But, it just didn't. It just bloody well wouldn't start. This was before my time, but I knew from talking to people once I got up there. In the winter of '67-'68 they had created the biggest ice sculpture that had ever been made. The steam plant designed by Bechtel in California when they did the design, it did not take into account the fact that the extraction plant which required steam to mix the oil sands, water and caustic to extract the bitumen demanded more steam when the incoming grade of bitumen was low. And, the steam plant was not designed to accommodate those variations. And, as a result of it, their condensate tank overflowed at -30° to -40° and it just froze up the whole thing. But, I'm not sure this is helping you. I could go on.

GJ: During your time there as executive vice-president, was all of this overcome?

PAGE: No, by no means, no, no. I didn't have the resources. The person I reported to in Toronto was more of a sort of a communications circuit with Philadelphia. And, the person that they had that was in place at the plant site was a very intelligent American who had been in charge of inspection for Sun Oil during the construction. And, he was a very competent engineer but had never had any operating experience. And, he was in direct contact with Philadelphia continually.

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And, he had access to them whereas even the guy in Ottawa and Toronto didn't. So, it was almost a dysfunctional organization totally.

GJ: Was that why you left in '72?

PAGE: Partly. I guess I was beginning to realize, well if there is no other aspect to this thing. There were several areas where I felt there had to be some improvement very promptly was in the tailings, which has become a public -- pictures on National Geographic and all that. In my Alcan experience with manufacturing and extracting aluminum from bauxite, which we brought in from what was then British Guiana [now Guyana]. Once we extracted the aluminium out, we were left with what you call red mud, all the stuff we didn't want.

So, we had tailings ponds, enormous tailings ponds. It was obvious that every day it was a matter of balancing which problem we were going to deal with. Until one day, they decided they were going to look at tailings ponds. It was obvious that the tailings pond which is right smack on the Athabasca River wasn't going to serve the purpose because we weren't able to recycle as much water as we were sending out there. What I set up was a contact with the aluminum company to get information on some of our experience back there. But, the Sun Oil Company had nothing to do with that. They wouldn't do it. So, I hired a guy, a PhD actually, to look at what was happening in the conditioning drum. It became apparent that the basic problem in the tailings pond is the clay.

Now, this gets into the whole area of physical chemistry. And, it's an area that I'd be surprised if you could name me an oil company that knows what it's all about. And, I don't profess to except that I know that there are people that do know. What happens is that the clay that goes out the tailings attracts much of the bitumen and the bitumen comes attached to it. The clay is very complex; there are different types of clay. We found out that of what we were discharging from the conditioning drum over the screens were clays. And, I put this guy to work and said, "You've got to tame and study that." Because, if we're removing clay in the conditioning drum, you find out what the mechanism is by which we do that, we can take the clay out there and we won't have a tailings pond problem. Well, we were working on that for a couple of months. And, I began to see a little bit of light. But, the Sun Oil people from Marcus Hook [the Marcus Hook Refinery, south of Philadelphia, which was owned by Sun while Page was with the company] who were their research department, they made frequent visits up there to check things out.

They found out that we were doing this and instructed the guy that was running the extraction plant to send the samples to him. I had already set up meetings, provided samples to our Canadian Federal Department of Energy, who had an excellent research lab in Devon and were working with them on that. But, the people from Marcus Hook took that project over and I heard nothing more about it. All of that is by way of explaining one other thing that convinced me that we wouldn't under those conditions, be able to put these things right. By that time, certainly the people in Philadelphia were getting pretty pissed off with my doing things differently and not telling them. I think it was sometime in 1970, I wrote a letter to the guy to whom I was reportable in Toronto and set forth a plan whereby, I would plan to move my office to Edmonton where I could access more

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of these facilities and hiring good people and access to more Canadian labs. I guess, in effect, he seemed to go along with that but just by way of -- and, I made the move in 1970. But, at that point, was not kept in touch of what was going on. By mutual agreement, I think we decided we couldn't work together.

GJ: So . . .

PAGE: By, 1972 they said after a year or so they said, "We don't need your service any longer." And, I said, "Wait a minute. The conditions under which I accepted this job with the head-hunters were that we were going to Canadianize this operation." But, the observations I had made convinced me that it is just the reverse every time something comes up, they would send someone from Philadelphia or Marcus Hook. So, I sued them for wrongful dismissal and they settled out of court.

GJ: You were pledged never to tell the settlement, probably.

PAGE: Well, there was the usual legal document, of course. You've seen those.

GJ: Yeah. So, then you set up Hydro-Carb Consultants.

PAGE: Yeah.

GJ: And, you did an environmental study of the Alberta Oil Sands. Why an environmental study way back? People nowadays think nobody cared about the environment and yet, here you are in 1972.

PAGE: That's one thing that did concern me were the tailings ponds. Do you remember Bill Yurko?

GJ: Yes.

PAGE: Alberta's first Environment Minister. He commissioned this study. We put together a group of people that bid on it and we got it. This is the only copy I have left, but of course, it's available at Queen's Printer. If you're interested at all, you can read it.

GJ: I'm just going to scan through before I leave. I'll be damned. I bet you I know where I can get a copy of this, right in the ERCB library. I'll bet you it will be right there.

PAGE: While we're on the reasons for why we came apart. I explained about how this young mining engineer I hired came up with blasting -- which turned out to be the only way they could mine... This Canadian mining engineer got interested in this blasting project. The guy that was the mining manager at the time was an American that Sun Oil had sent up from California. And, the only experience he'd ever had was running a mercury mine. A mercury mine would be about the size of that kitchenette there. And, he absolutely refused to even consider this blasting program at all. In fact, the first thing he did was to phone Philadelphia and say, "This guy Page wants to put blasting in my mind." So, we couldn't work. I just couldn't work under those conditions. But, it was just a classic example based on my past experience, where a company just did not -- a company wanted to

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develop in another country and didn't comprehend that there is talent available in Canada. And, not only talent but technology; particularly, technology which the developer himself doesn't have. I experienced that in aluminum for example, where the company bought a polder to build a plant. Polder, as you probably know, is land recovered from the sea. And, the American engineers insisted on specifying the foundations for the compressor plant. Well, hell that didn't work because the ground is not firm. So, I had to go over to the Delft University of Technology and get a Dutchman to tell us how to design a foundation.

GJ: It's like prophecy, this report.

PAGE: You might get something out of it if you hadn't had any direct exposure to the place.

GJ: Oh, yeah. I'm sure I could find this in the ERCB. So, Intercontinental Engineering was the sort of the name on this. And, your Hydro-Carb was involved...

PAGE: At that time and still to a certain degree because all the engineering in Alberta especially at that time, in 1970 or whatever it was, '72, was in a very formative stage. It went to little tiny companies mostly that had done civil engineering and built a couple little bridges; competing with each other and depending on especially the Provincial Government for at least 40% of their contracts. Now, it's changed now with Stantec. It has become big and international and some other companies. And, simply that Innovations thing is a good write up on all that. But anyway, when Yurko put out this request for proposals it was one of these typical, small-time but aggressive and surviving consulting engineering firms. And, it was headed up by a guy named Percy Butler. And, like many other consulting engineers he had to keep a sharp eye and keep close contact with government and hope that some of these contracts might fall his way.

When this thing came out, he got in touch with a foreman in Vancouver; this Intercontinental Intex, which was an on off-shoot of Balfour Beatty Engineering in the UK. And, said, "Well, let's put together a team." And, I had just started my consulting to stay alive, sort of thing; anybody that wanted some information. And, he told his contacts in Vancouver that he knows a guy that just came out of the oil sands industry. So, they propositioned me to head the project. And, they would provide the horses and the back-up in the office and what not. So, we put it in and we got it.

GJ: There is some pretty strongly worded material on here.

PAGE: If you want to borrow it, you can. It's the only copy I got, so give it back to me, will you.

GJ: I'm pretty sure I know where I can get a copy of this. But, when I read this, it's quite strongly worded. It describes a whole lot of problems and it leads me to ask, whether the environmental criticism that is going on of the oil sands nowadays, is correct?

PAGE: Much of that criticism has merit, yes. I remain convinced that the research project I tried to start is still a possible solution to the tailings problem. And, I'm absolutely convinced that at the time of at least... in fact, I initiated contacts with people that I know damn well that had the technical and

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specialized skill and knowledge for physical chemistry to deal with it, which I don't pretend to have. But, I can recognize people who do have it.

GJ: So, you're absolutely convinced it could have been solved?

PAGE: Yes. But, every attempt that we made under my direction at improving or changing something went nowhere, because my impression and my conviction are that I hope to hell that some of this stuff is going to the public, so if I could talk freely about anything and everything. And, I cited what I thought was a ridiculous example where mining engineers in my time, put a propane torch on the end of the bucket-wheel excavator. And, they wanted that to illustrate why I convinced them that they actually did get something like, I think I have it on reasonably good authority, can't prove it, but I think they've got something like over $100 million from Syncrude by selling them their extraction technology. Even though, as a Canadian that bristles at that because the hot water extraction process was designed by the Alberta Research Council.

GJ: Then you became managing director of the Alberta Chamber of Resources.

PAGE: That was essentially semi-retirement, yeah.

GJ: Okay, okay. But, during that period though, according to my timeline here -- it was in 1984, you started at the Alberta Chamber of Resources its Oil Sands Task Force, to promote national benefits and wanted to encourage Alberta and federal governments to establish a fiscal and regulatory regime against which the industry can evaluate oil sands prospects. And, if deemed to viable, proceed with confidence. What did that mean in the context of the times in 1984? What does that statement mean?

PAGE: Back up to 1977. As a lot of other guys were, I was active in two or three organizations. I had been a director of a -- The Alberta Chamber of Mines went through a whole series of changes of names. It started out as Alberta Chamber of Mines and Mike Finland started it. Mike was a pilot and a geologist who worked for Cominco. And, he was involved in that capacity with Cominco when they developed Pine Point Mines. And, he was primarily instrumental in setting up the Alberta Chamber of Mines. In its initial form, it provided information to local investors who wanted to put a little money and gamble in the mining industry in the Northwest Territories. And, it morphed into an association through which Edmonton suppliers and manufacturers could sell their goods and services and professional services to the northern mines. In addition to that, it morphed into a hiring hall for miners. So, the northern mines that needed help to get desperate to get people up there that could stay sober or hoped they could stay sober and do some mining, have some mining experience. And, the Chamber of Mines would arrange to get people primarily from the Cecil Hotel and arrange to get them dried out and had a deal with the Baker Clinic to test them to make sure they didn't have too much syphilis and send them up there to the mine; all for a fee. Another thing the Chamber of Mines did was sell claim tags for people who wanted to up there and stake claims. And, mining maps to go where people -- In fact, there were several very colourful people living in Edmonton who had been and still were prospectors, like Mike Zanick. Northern Transportation Canada Limited under

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Bruce Hunter was a stalwart member of the Chamber of Mines, because they had contact with all the mines.

By about 1977, I was looking for something more involved than just advising people or giving information; teaching about the oil sands, sort of. And, there wasn't that many people interested in the petro-chemical industry anyway. And, I was looking more for a hands-on thing. In any event, I was through that time attending meetings; Alberta Chamber of Mines and Chamber of Commerce to keep in touch as you have to do when you're looking for jobs. And, it turned out that Finland was finally serious about retiring. And, his replacement wasn't working out. And, I was on the board at the time and we had a guy come in as president, Murray Trigg, who was a PhD in geology at the time. And, he and his partners had actually developed mines that became open. His partner developed a mine that became a uranium mine.

Anyway, Trigg decided he'd be president of the Chamber of Mines provided we reorganized the damn thing, clean it up and get it the hell out of the hiring nonsense and all that crap. Besides, the Northwest Territories had created their own Chamber of Mines, I take it. So, I forget I was vice-president, but anyway we decided we'd take a good hard look at the bloody thing. And, either fold it up or turn into something useful. I hired another guy, looked into that and wrote it up. And, it was the sort of thing I liked doing anyway. So, we laid out a plan whereby we got out of that nonsense. And, for one thing recognized that the mining part of this thing, as just one of the resources, Alberta was already the biggest surface miner in Canada with very advanced technology; draglines bigger than anybody else in the country. With computerized electronic systems that nobody else ever had and hell, that's the kind of technology and development we should promote and recognize for Alberta. And, let's get out of this crap of selling tags and whatnot; leave that to the bloody government and maps and crap. And, let's get the hell out of this bloody little building and whatnot.

The guy that was managing at that time wouldn't buy it. He wouldn't go along with us. So, I agreed to temporarily only look after it. I ended up saying, "Okay, I'll run the damn thing." Throughout that whole background, the Alberta Government had representatives on the board of directors. It was the Deputy Minister of Mines, who the hell was that, he was a real colourful character and his name escapes me. Anyway, he got interested and certainly the oil sands rang a bell with him. And, that's how the organization got initially in cooperation with the government more into oil sands and understanding it and doing something about it, which is does now.

GJ: Yes. Well, very much.

PAGE: The main thing that turned it around was the recognition that the oil sands represented one of the principals of Alberta's Natural Resources. Oil plants included.

GJ: Was Alberta missing something? This makes it sound like it was missing...

PAGE: What is that?

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GJ: This is your Alberta Chamber Resources history. And, so that they say that when you set up that Task Force, the Chamber had stated that it wanted "to encourage the Alberta and Federal Governments to establish a fiscal and regulatory regime against which the industry can evaluate oil sands prospects. And, if deemed to viable, proceed with confidence." Did that mean there really wasn't any kind of yardstick that you could use to figure out whether a project would work?

PAGE: The ACR hired some guy to go through all those records. Is that what this is?

GJ: Yeah. This is the history.

PAGE: He went back through all the bloody records and meeting minutes and everything? Yeah, I met him.

GJ: Yeah. Was that...

PAGE: I can't get that in context at the moment. 1984?

GJ: Yeah. Was Alberta missing a policy that enabled companies to make decisions about whether to go ahead?

PAGE: I am having difficulty putting that into focus. I think he is referring there to the approval process. Where a developer is required to have public hearings and that's where George Govier used to shine forth; sit up on his high pedestal like the Lord almighty and question everybody. And then, Norbert Berkowitz [deputy ERCB chairman] got involved in it. And, then of course the environmental people came out in droves and were paid to protest. And, I think that is what they're referring to. I'm having a little difficulty getting the items right. 1984, Syncrude started up in 1978.

GJ: I guess what I am asking you: you didn't have at that time, a federal tax and royalty regime that was set up to be the same for everybody did you?

PAGE: Oh, yes. Well, that's correct. It was negotiated with each developer. That's correct. The deputy energy minister was Michael Day. And, Michael Day was the Alberta Government representative on the Alberta Chamber Mines and what had become the Alberta Chamber of Resources. And, I think that is what that referred to. Michael was really the author of most of those regulations and negotiated with developers from time to time. But, beyond that I have difficulty putting that into any clearer focus.

GJ: What did you want that task force to achieve?

PAGE: Where the hell was I in 1984?

GJ: Let me put this way. Instead of thinking back to 1984, think ahead to the whole job, the whole period. Like, that task force worked for more than ten years. What was the main thing that it achieved from your point of view?

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PAGE: I have difficulty recalling. I don't know. I'd have to reflect on that. And, there is reference here... I don't recall when I was around at that time.

GJ: It says it worked for a number of a years, a couple of years and it proposed the concept of a regional upgrader?

PAGE: Oh, yes. Yes.

GJ: What was the thinking behind that? Why did you need that?

PAGE: It was prompted partly by the concept of exporting bitumen. Some of the developers and their preliminary approach to the province were suggesting shipping the bitumen out. They didn't want to upgrade it on the site. As a matter of fact, some of that has been done already by bringing it -- Shell was bringing some down here. And, in today's situation of course, the whole Keystone XL pipeline would export diluted bitumen to Texas. That concept surfaced way back there in the 80s, where some of the developers were saying they would mine the oil sands, extract the bitumen and then move it somewhere else to upgrade it. And, I think that has reference to saying, "Well, wait a minute now. You should do it at least in Alberta." That is as close as I can come to recalling what that is saying there.

GJ: Was that your view? Did you think that?

PAGE: Yes, yeah. I would certainly want that. Incidentally, that brings to mind at least my concept of the product from what has become the Alberta oil sands, of synthetic crude oil I think is unfortunate. And, it obviously reflects the objective of the oil companies who acquired essentially control of all the leases. That their concept was strictly to get a crude oil that could be synthesized, similar to what they get from conventional oil patch by drilling and bringing it up. And, that's understandable, perhaps inevitable in oil company objective. If you look at it from a chemical perspective, there is no technical reason for stopping once you get the bitumen fluid enough to go into a refinery. As a matter of fact, the synthetic crude oil which we finally succeeded in producing at Great Canadian Oil Sands was of kerosene quality.

We operated all of the mining equipment with our own product. For a full season in 1969, we supplied a substantial quantity, admittedly of selected petroleum product from the product tank, of that so-called synthetic crude oil to the CNR and convinced to run it on their diesels in the mountain division. Now, that's a hell of a lot better than crude oil. As a matter of fact, the industries that we're involved in and especially Sun Oil and Shell Oil, our production of so-called synthetic crude oil from GCOS, 75% of it went to the Sun Oil refinery in Sarnia. 25% of it went to Shell Oil at their refinery in St. Boniface [in Manitoba, a plant that closed in 1983]. At the time, the value that was put on that was 25 cents above the $2.50, which was the standard price for conventional crude oil. So, that product even refined to that point, was a damn sight better and more valuable more so than what was being mechanized. The limitation in how the whole process is reduced to its ultimate simplicity is reacting with hydrogen -- And, the limitation of that is the availability of natural gas from which you make the hydrogen. But, the chemical process as such, adds more hydrogen and

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would it take it right to the clone of gasoline. Well, somewhere along the line you have got to do the economics and the cost of natural gas and availability. But, the whole thing to my mind sort of represents the objective and mentality of oil industry. Give me a crude oil because I've got the refineries.

GJ: So, we short-change ourselves then in the oil sands? We could do better?

PAGE: Well, I don't know. It's always easy to do this in hindsight of course. But, there are some areas in which I think Alberta could have done better. And, it starts with the sale of the oil sand leases. And, I don't even know the exact time, but obviously certainly sometime prior to the 1960s, the Alberta Government was enamoured with and indebted to the American Oil Industry for developing Devon [the Leduc field] and all the conventional oil. And, the oil industry as such, was drilling a hole in the ground and if you didn't want to drill there, that's right. And, by the way you get yourself there and build your own bloody road.

Surprising though that it was the Alberta with their Alberta Research Council that invented the hot water extraction process. It was the Alberta Government that recognized the sufficient recognition of that invention to fund the bitumen pilot plant, forgetting the fact that the feds tried a different approach. Although, that was a totally Alberta operation at Bitumount and even with Karl Clark in charge of it, the inventor, either didn't look beyond that or didn't have the resources. But, Bechtel in California had the foresight and the resources and the financial clout to study that. And, that's where they hired late Bob Blair's father Sid Blair to look at it and decide what to do with it. And, I don't think a guy could criticize the Alberta Government or Alberta people at that time. It's not surprising that they felt that, "Well, hell this is oil. This belongs to our patrons in the oil industry to do that. That's fine. They're doing that." And, of course, based on Sid Blair's work a consortium of companies would end up with Cities Services. They built a pilot plant which is located on what is now the Syncrude lease. So, they recognized the potential.

Now, perhaps that's not too surprising either technologically, except that and presumably the Alberta Research Council or the government didn't have those kinds of resources.

GJ: Didn't have the resources to build their own...

PAGE: Presumably. They had the knowledge. They invented the bloody thing. And also, should have been apparent, like in hindsight. But, that bloody process would involve moving hundreds of thousands of tonnes of soil. It is going to involve thousands of men and equipment. And, wherever you do it the people are going to have to live. So, if one would want to be really critical and I don't think I could be, but anyway, once the potential is recognized which Bechtel did with their resources and the American oil companies did. Then the ball was clearly in Alberta's court when it came to the matter of how do you authorize this, this is our oil sands and I think that's the only point at which I would not hesitate to be critical. It's in the sale of those leases where I think the error was made. And, they put them up for sale if my memory corrects me, about 10 cents an acre for 21 years automatically renewable for 21 years with the sole right of development. All of the American major

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oil companies snapped them up along with scores of American wealthy investors. Some of those leases are in private names and families. Later on, about the time that J. Howard Pugh who sent copious quantity money to Ernie Manning's Back to the Bible Hour, strictly for religious reasons and managed to get the first permit; and up somewhere along the line before the Alberta Government, raised the cost of those to 25 cents an acre.

GJ: So, we could have done a better job with the oil sands?

PAGE: The leasing. And, it should have gone more progressive. See, presumably the incentive was getting the money for those leases. If it had been done more slowly it could've made a mint more progressively. And, had time and money to develop a community that was viable or build it into the requirement, the permit part of the cost. But, the whole subject of oil and oil sands, of course, is to me it's sacred in Alberta. To criticize any aspect of it is a no-no. That's Alberta's wealth.

GJ: Okay, 1995. Were you still involved with this in 1995? No, you retired at Edmonton.

PAGE: Yeah, long gone. I don't even know if I mentioned this here. Oh, yeah, yeah. I worked half-time and was retained by consulting to the Alberta Department of Energy. They were on this kick of hydrogen as the ultimate fuel. So, we did hydrogen research.

GJ: Was that a good kick?

PAGE: Yes, yeah. Technically, hydrogen is the ultimate clean hydro-carbon fuel. Because, when it reacted with oxygen the only result is water. The Germans invented internal combustion engines that will operate on hydrogen. Fuel cells use hydrogen. For transportation purposes the hooker is, how the hell do you store hydrogen? That is such a small molecule that it takes very high pressures to store it. But, I think there are some places like Iceland, for example, that are farther along than any other country on this. Because, they've got huge geo-thermal sources that are generating energy and electrolyzed water to make hydrogen.

There are some experiments in the automotive companies and they've got some test installations for hydrogen stations that derive a light hydrocarbon dissolving the bitumen out of it. From a technical point of view, that's an obvious first approach. That project I know had some pressure on it because it was the early part of the war when the Germans were sinking some of the ships out of Venezuela. I don't know of the specific dates. If I've read them, I've forgotten them. I think it was within a few years subsequent to that, that Alberta developed a pilot plant at Bitumount downstream from Fort McMurray. And, their approach was the hot water extraction process. Anyway, just curious to know, to me that is the beginning of the industrial -- well, I'm sorry, it isn't the beginning. You go back further than that and Cities Services ran a pilot plant on what is now the Syncrude lease. So, it depends how far back you want to go. Another aspect to that is Bob Blair's father, Sid Blair, you got that part where he was working for Bechtel at the time and studied the Bitumount operation. So, you must have a handle on the Bitumount thing.

GJ: I think we do, yeah.

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PAGE: Anyways, I'm just curious to know, because I don't have any recollection. Any direct involvement I had doesn't start until 1968.

[END OF RECORDING]

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