

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: Dave Einarsson

INTERVIEWER: David Finch

DATE: January 27th, 2000

DF: Today is January 27th, 2000 and are with Mr. Davy Einarsson at the offices of GSI at 525 - 11th Ave. S.W. in Calgary. My name is David Finch. Thanks so much for meeting with us, this is wonderful. Can you tell us where you were born?

DE: I was born in Arborg, Manitoba, about 70 miles north of Winnipeg, right in New Iceland, right by Gimli.

DF: Oh yes. The famous landing strip for a 767 with no gas.

DE: That's right. Well, a landing strip for Bombardiers in World War II.

DF: Is that why it was built?

DE: Yes. Training sessions.

DF: What year was that you were born?

DE: 1932.

DF: Tell me about your education?

DE: I went to Ardell High School in Arborg and then I went to the . . . well, elementary and . . .there was only one school. There was only 500 people in the town. So it was kind of a big time. And then I went to the University of Manitoba and went into pre-medicine. I knew I wasn't going to be a doctor, I realized that doctoring was taking care of sick people. So I got my degree as quick as I could. I interviewed with three companies.

#014 DF: Did you get a medical degree?

DE: No, I got a bachelor's. Bachelor of Science, Physics and Geology. And I was interviewed by three companies, Haliburton, Dow Chemical and GSI. GSI was part of Texas Instruments. I took the one that offered the least amount of money because it sounded best in the way of adventure, travel. And it certainly didn't disappoint me because I went to work in the Saskatchewan plains, I went to work at the end of May.

DF: What year?

DE: 1956. And I was up at the Arctic Circle almost by Christmas, went up there right after New Year's and then the next summer come back and worked in Calgary and around there. And went to Dallas and traveled on to Indonesia, Sumatra and located after being at the Arctic Circle that winter, I was 20 miles off the equator in a jungle tropical rain forest environment. So they didn't disappoint me.

#027 DF: When you were up in the Arctic, what were you doing up there?

DE: We were working on a seismic crew for Imperial Oil.

DF: And what were you doing personally?

DE: I was what they call a computer in those days, first computer. Now of course, it's

different. But I was working as a geophysicist, mostly doing the statics, picking first breaks on the seismic, working up survey notes. Out in the field doing some rodding for the surveyor. And that's for Imperial Oil.

DF: How did you get around up north?

DE: We had trucks, mainly it was in the Beeton River area, east of Fort St. John. Pretty rough terrain and we drove trucks mainly, with chains.

DF: On contract to Imperial?

DE: Contract to Imperial.

DF: Any adventures, any unusual things? What was it like to be up there in the winter?

DE: Dark. We worked two months and we put in all our hours in one stretch. So we worked about 40 days, I think it was 220 hours per month. So we worked 40 days and then we went out. It got bright right about 9:30 in the morning and then about 3:30 in the afternoon it got dark. Very depressing, it was nice to get into town.

#042 DF: Did you have trouble staying warm?

DE: Well, our old trailers were pretty bad. We had these oil heaters and it depended where you were at. If you were in the top bunk you were roasting, if you were in the bottom bunk you were freezing your butt off. So yes, it was pretty rough. They had some high boys and they dumped the camp off there and we came into it at night. And you had to fire up all the stoves and it was about 35 below. It just stayed about that all the time.

DF: Any other adventures in those camps?

DE: We had encounters with . . . a rod man got chased by a moose and had to hang in a tree for about 5 hours. A couple of bears came around. Timber wolves at night used to howl like crazy, scary eerie sound. So we had a lot of that. And I came back to Calgary in the summer and then I got a call from Dallas and went to Dallas in August of 1957 and got transferred to Indonesia working for Caltex, which is a combination of Texaco and Chevron. Caltex, that's California and Texas.

#058 DF: So you're still doing geophysics at this point?

DE: Yes.

DF: Crew member or were you. . . ?

DE: The crews were jungle crews and I went out to the crew first and we had about 800 people on the crew.

DF: Why so many?

DE: Because we carried all the supplies and we had, maybe 20-30 kilometres we'd have these, along the route. . . we called it rentice. Rentice is a line through the jungle where they have an arm, they tie it to the tree with the vines and a log or two logs below. If you stepped off you sunk into the muck up to your waist pretty much. So it was a real tropical rain forest. And the trees were 120-150 feet high. Never see the sun. You never would see the sun. You're pale just like a Canadian in the winter. So I was out there for quite a long time. When I was there we had a revolution, this was under the old rule of Sukarno before Suharto. And we were supposed to get into Singapore every four months for two weeks. I got my first leave out of the jungle after 10 ½ months. But we never did accumulate those

days. We just went for two weeks and come back and you just missed it. But we did have good success there with Caltex and we worked out of that old field called Minas. That was discovered before World War II, in the late 30's, very shallow. And then we discovered several more wells and oil fields which are still producing today.

#077 DF: So if you were working in an known field, what were you doing?

DE: No we were working just out of that known field. We were doing seismic on the new field and we discovered the Duri field at that time. And then they put the pipeline in from Duri and Dumai, through the jungle to the coast just across from Singapore on the Malacca Straits.

DF: So how long did you last in Indonesia?

DE: Well, I got there on August 20th, 1957 and I left there on August 20th, 1959. So I was exactly 2 years there.

DF: What did you do next?

DE: Then I went home for a couple of months leave in Canada.

DF: You were with GSI this whole time?

DE: All the time with GSI. GSI a fully owned subsidiary of Texas Instruments. And GSI was the parent company of Texas Instruments. GSI was formed in 1930. Texas Instruments was the instrument division of GSI who later developed the first transistor and the first transistor radio. Then the electronic company became so much. . or the instrument division became so much bigger, we were just a small part of TI. But we were the parent company. And all the people who had all the stock were GSI people. Like Eugene McDermott, the first President and Cecil Green, very famous man out of UBC. And they owned all the stock so we had a very preferable situation until they got too old and died and retired. Cecil Green today, right now, he was born on August 6th, 1900 so this year he will be 100 years old. Same age as the Queen Mother.

#101 DF: Wow. Where does he live?

DE: He has two apartments, one in La Jolla, California and one in Dallas, Texas, where he has lived for many, many years.

DF: So 1959, we bring you back from Indonesia.

DE: Yes. Then the guy I worked for over there, my immediate boss, Bob Pettersen went to take over the Libyan operation. So I went to Libya in October of 1959. So this is . . .what the guy offered me was adventure and travel. In 1956, that was in May, I had now been in Saskatchewan, northeast B.C., Northwest Territories, Sumatra and now I was in the great Sahara Desert. So you couldn't travel much more than that in three years. So I worked there and became an Assistant Party Chief and then I became a Party Chief and I did most of . . . about 6 or 7 years I worked for a company called Oasis. Oasis was a combination of Conoco, Marathon or Old Ohio, we used to call it then, Amerada Hess, Amerada, not Hess at that time and Shell. And they were very, very successful and we found a lot of oil in Libya under the old regime of King Idris. To skip along a little quicker, I eventually became the manager of North Africa, replacing Bob Pettersen when he left. And I ran 11 crews and we had operations in Egypt too. Then I got offered a job by a geologist . . .they

only had one geologist and some legal people, financial people out of New York. And the guy who was running that outfit was a guy named Chubby Burnham. You remember Burnham Drexel, that's a stock broker outfit, like Merrill Lynch. Burnham lived in a town named after Indians, and Indian tribe in New York called Chapaqua. You might remember the famous Chapaquiddick, Teddy Kennedy and Mary Jo Kopechne, the one who drowned. And that's where he came from so he named the company Chapaqua Oil Company. So I was working for them and they offered me a job as the only one on sight, other than lawyers and accountants, the only professional guy working for the company was me. So I was taking over that company, I was going to become a rich oil man. September 1st, 1969, they had a farewell party for me and the new manager to replace me came in and we partied until 3:00

#146 DF: Wait a minute, what year did you hire on with this company?

DE: '56. We're up to '69 now.

DF: Okay, you stayed there a long time.

DE: Well, in between I had training in Dallas, digital training when we started the digital program, everything was analogue in those days, until we got digital, which TI and GSI received the Distinguished Medal of Honor from the Society of Exploration Geophysicists for that development. That was a revolution, no doubt about it. And therefore we had great success in Libya with the new instruments. We found the new Idris field at that time using these new instruments. And we were working for Occidental at that time. And it was definitely a big technological breakthrough. It was almost as big as the original 1926 breakthrough when Dr. Cartier, our first President of GSI, Dr. Clarence Cartier, developed the first reflection seismograph. Up to that point everybody had used refraction. So that was the major breakthrough. That started a whole new industry. The geophysical industry wouldn't have existed without that. Then the whole thing changed when we built the first digital instruments. Because TI was in electronics and it fit like a glove so TI was a big leader in that. Then TI, later, in about '73, developed the first 3-D, which is another major breakthrough. So in the seismic business GSI accounts for three of the most significant, absolute changes in technology. I'm not talking about evolution, those were revolutionary changes which changed the whole business. Today the billings for 3-D versus 2-D are probably 75% 3-D now due to that technology. I was kicked out of many offices trying to sell that thing, when they'd tell us, it's another GSI rip-off trying to get more money out of us. It's too expensive, get out of here. Nowadays the same guys are talking to us, bragging about how good 3-D is.

#174 DF: So they couldn't see that it was a better technology, they just thought. . . ?

DE: Everybody resists change. And it cost more. A guy named Carl Savitt who was the head of Western Technology wrote a paper and made several speeches talking about, this is another GSI rip-off. And then later he claimed to have invented it. But there was lots of those people. Anyway I was in Libya and I quit because Chapaqua and Chubby Burnham's men offered me a job which doubled my wages and gave me a bunch of stock. I didn't want to leave GSI but it was such a good deal that I had to give it a go. That very

night, September 1st, they had my party. We got home about 3:00, about 4:00 in the morning with a hangover and all, the tanks are rumbling down the street and the revolution occurred. So Ghaddafi took over. So I tried for about a year, tried to get that company back and tried to hold it. When the revolution came I went to the office. We used to send a few cases of beer out to the field every week, so I took 24 beers in my station wagon and the radio, because they wouldn't let us go down the street. In fact, when I was going there to get it a young fellow about 18 years old pulled out a 45 and put it to my head. I said, I'm going in there, he said, no, you're not, I said, yes sir. Went around the block and came in the back way. So I was the only one who had communications to the field crews. In fact, the American Embassy was calling me every day to find out what was going on because I had 11 stations including Ben Gazi, where I communicated everyday by radio. And my wife was born in Cairo, she's Italian and Egyptian, she spoke perfect Arabic. So she was the first one to talk to the Revolutionary Command Council. She explained to them that we can't keep the airports locked, we've got 850 people out in the desert, we've got to get the planes to fly out supplies. So they finally came by and gave us a permit and we were able to supply the crews. And we got a permit for our supplier. Under that regime we tried our best to get it back, I tried to talk to all the oil companies to get some support but oil company managers in companies like that are more like messengers than managers.

#215 DF: So you're trying to get what back at this point?

DE: The concessions, the land. They nationalized.

DF: Okay, you're talking in short form here so I'm going to have to ask you some questions to fill in. So you were supposed to be done with GSI but you didn't get out of the country did you?

DE: No.

DF: You're stuck there trying to piece together some . . . ?

DE: I had already resigned but I stayed on with GSI another month to keep it going. That's why I had the radios at home. Then we got it going again, kind of and they got it going under. . . .then I took over the company and for one more year I ran it for awhile, for about 2 more months and then they nationalized me. While I was in Cairo, I was upstairs in the Hilton Hotel in Cairo and the old Nubian bartender, a big black guy, he said, hey, listen to this, they nationalized Chapaqua. So I said, what, but I wasn't very surprised. Anyway that's when we lost. I went back and I struggled away for about a year, till about next October trying to get it back and sitting, waiting for appointments. It got a little dangerous there for awhile, I was too dumb to know it was. And then I got a call from the President, we had one phone, I had the only phone in town for GSI, this office, and it took a long time to get through but he got through to me and he offered me, he said, what are you going to do, I want you to come meet Dick Rainey our President, in London as quickly as you can. We want you to take over the Arctic operation. Arctic operation means Canada and Alaska. So I went to London and met with Rainey and they gave me the best raise I ever got and it was only 11 months that I was away. So I figured I ought to try quitting more often. I came back to Canada here. . .

#247 DF: So sorry, this is GSI hired you back?

DE: Yes.

DF: So you were only with Chapaqua for 11 months?

DE: Yes. Maybe it was 12 months.

DF: Right. By this time you are back in Canada.

DE: Came back to Canada with my wife and I had two kids at this time, two boys born in Libya, red-blooded Libyans. I think one was 5 and one was 7. And we took over the operation here. The operation here was mostly land crews. They were billing about \$5 million a year, losing about 4. GSI had in Canada, I think it was 11 supervisors and one crew running when I got here.

#259 DF: How can that be?

DE: That's why they were losing money. Anyway I remember and this business hasn't changed too much, but I remember one of my supervisors who had the crew out was coming in for Christmas. And he said, I want to pick up. . . we were in our monthly forecast meeting. . . I want to pick up this job, it's only about 4 miles and I want to do it for about \$1,200 a mile or something. I said, why fool with that, he said, this guy's a good fellow and I want to do him a favour because he's giving us quite a bit of work and I said, okay go do it. The next month we have our next forecast and I don't see it on the slide, I said, what happened to that, he said, oh, we lost that job. I said, you lost it, I thought you were doing the guy a favour, he said, no, somebody underbid us by \$40 a mile. So we lost a job by \$160. And I said to myself, I've got to do something different here if I'm going to make a success of this. So we said, where are we going to do it, we're going to do it on the east coast, we're going to do it in the Beaufort Sea, we're going to do it in the Mackenzie Delta, etc. so I went to Dallas and the good bankers at Texas Instruments and I got them to give me a bunch of capital. And we bought a bunch of Flextracs and Foremosts and those track vehicles and put four new crews out in the Northwest Territories, specifically the Mackenzie Delta. And pretty much shut down the operation on the plains. Because I didn't like doing 4 miles and losing it by \$160. So we put those crews out and we made a lot of money but we used our strength off a good banker and lots of money against some of the smaller guys who didn't have capital. So if we had the capital why not take advantage of it. In the meantime, I bought out. . . a company called Catalina went bankrupt here and they had the Calgary Catalina on the east coast and we bought that ship from the bankruptcy. And then we . . .

#292 DF: So now you're going into marine?

DE: Then we went into marine. One of the jobs GSI offered me before was to take over the marine in London when I went to Chapaqua and I quit. So now I get into marine. And then we built a boat in Edmonton, it was called the GSI Mariner. I can't remember if it went by train or truck, but it was cut in 4 pieces, trucked it to Hay River that winter and at spring break-up pushed it into Lake Athabasca, Great Slave I'm sorry, pushed it into the Hay River with a cat.

DF: So you mean you built it, cut it apart, took it up there, welded it back together?

DE: Welded it back together and pushed it in with a cat to unload it.

DF: How big a ship was this?

DE: It was at that time, 100' with about a metre draft, a little over a metre draft. We had to have it very shallow because you couldn't get up or down. Downstream, up north. So I don't know what you call that, up or down. Anyway we took that boat up there that year and started working the Beaufort Sea.

#310 DF: So this had living accommodations on it, all your shooting, everything?

DE: Yes. Instruments, air guns.

DF: So you were using air, not explosives?

DE: This was already in air. The air guns started in the 60's. We did a lot of work that year and started doing spec work, doing seismic which is so common now. That was some of the first that was ever done.

DF: Why did you do that because you didn't have contracts, or between them, or . . . ?

DE: We had a combination. We had some contracts with Imperial and the we did some spec work to fill in. We never stopped shooting, we never took the cable out of the water. Every time you take the cable out of the water it costs you money. So we shot all the time. And now we've got, probably in that area, 60-70,000 kilometres of data. That's about 1½ times around the world, if you put it end to end. And then that same year. . . .

#327 DF: So do you have all that in your system and you still sell it and so on?

DE: Well, that's another story. That's the old GSI, was owned by TI. We're going to tell you about the new GSI as we go along in this narration. So that same year I went over and I got to know an old guy who was manager up here.

DF: What year was this?

DE: 1970. Came up and introduced me to all the guys he knew, he was a very flamboyant great guy named Charlie Moore. And he introduced me to all the guys and I got to know most of the geophysicists and the managers and so forth. And we met with a guy at Chevron, who just died this fall, Chief Geophysicist, David Miles. And Dave Miles and his team drew me up a program of probably 15,000 kilometres of coverage to shoot, to record on the Scotia Shelf and the Grand Banks. So I put the Johnsson on it and got two other boats and did this biggest survey, maybe in the world at that time. And we recorded probably 15,000 kilometres of data that year, all spec, on our account. But having a nice banker I was able to do it. Along with the four brand new crews, along with the Mariner and along with the east coast operation. We had two Texas boats called the Brazos and the Neches, that's two rivers in Texas.

#359 DF: And the Johnsson was your east coast ship?

DE: J. E. Johnsson, named after the Chairman of the Board of Texas Instruments, one of the founders. Johnsson with double s's and strokes through them because it represents all the money he had. So we recorded up there and then we started talking to more people about the Arctic.

DF: Just a sec, I though you said Chevron got you to do this Scotia Shelf work?

DE: Yes.

DF: You were doing this on spec or for Chevron?

DE: They promoted it but they did not commit to it. But Dave Miles said, I will commit to it and on a word basis, I didn't have any doubt, but that was the old days. That was when we had integrity. We didn't need all these goddamn lawyers. Anyway we did the work and by the end of the year we made lots of sales and we made a profit, first year with an investment like that. And we made money on Mariner the first year, even paying for the whole cost of building it and shipping it up there. And those four crews made money. So then we decided we were going into the high Arctic and we built some very innovative things. Of course, Alaska started at that time and the Mackenzie Delta went down and we moved those crews across to Alaska and had a very big operation there. So with the high Arctic work, when we weren't allowed to shoot dynamite in the water, we built an airgun system and a streamer with gimballed phones, self-leveling geophones that we pulled across the ice. So we had just about a marine operation on top of the hard water. We called it hard water crew. You couldn't get much harder than ice.

#389 DF: Did it work?

DE: Worked like a charm.

DF: Wonderful.

DE: We had some very inventive guys and we did that and I was in charge of that. Then we continued on the marine and every year we'd bring marine crews up to the Arctic. And we took our ships recording seismic further west, through the Northwest Territories than, if you remember in 1969, Sun Oil Company tried to take the Manhattan through there and it got stuck in the ice. And the John A. Macdonald pulled them out. Well, the same old captain, when I was going that area, he was stuck at Cornwall Island and we went out to see him. And we had two ships out there in the Arctic. This was 1974. They went further west, not only sailing but recording marine seismic than the Manhattan did and we got a video tape to record that. I can get you a copy of that. It's called Breaking the Ice Barrier.

#409 DF: What was the trick, how could you get through and the Manhattan couldn't, that was a big ship?

DE: It was a different year. The Manhattan was 25,000 horsepower, the Arctic explorer we had was 2,500 horsepower. And old Burdock was the captain. We went aboard, he gave us a shot of cognac and we shot the bull and he told us about pulling the Manhattan out. He said, where are you guys and he was chomping at the bit, I'll come get you. But he couldn't because all the docks were on strike on the east coast of Canada because the stevedores strike, so he couldn't get any fuel up and he didn't have enough fuel to go in and get out and get us. But by law they had to wait for us. So we got phoning Ottawa and I knew everybody in Ottawa, I'd made a lot of trips. So we called Ottawa and Northern Affairs and this and that and I finally got them to get a ship on the taxpayers money. Couldn't get one out of the east coast but they had one tanker in Churchill, Manitoba. So that thing come from Churchill, came all the way up and into the Northwest Passage and sat there waiting for us but we finished our project and we got out all by ourselves. So

burdock was really upset that he didn't have to save us. But we continued that for several years after I left to go to Dallas. And we got it up where our operation in 4 1/2 years, went from that \$5 million to 48, with about 25% profit. So I had a pretty good run here. And then I went to Dallas in 1975, worked with GSI, Texas Instruments and was marketing and then I was running the marine division world wide. And I had 26 ships around the world. Of course, we had about 5 on the east coast of Canada and about 3 on the Beaufort Sea. So we had a very, very big, good, long lasting business up here. In fact at Beaufort Sea we had consecutive years, ships on the Beaufort Sea for 23 years.

#459 DF: So you were still doing some contract work, some spec work?

DE: A mixture of both. We liked doing more spec, it was more fun and more profitable. Then I took over the world wide marine and I ran that for pretty much 6-7 years. A lot of adventure during that time. I was very proud of what we did there, we developed the first digital, real working streamer, we called it the Titan - TI something. And then we developed new airguns which we called sleeve guns which are the standard of the industry today. So we're quite proud of that. Then in 1985 I became. . . running spec world wide and I became Senior Vice-President of Texas Instruments. And I took over the instrument building division. The standard of the art a few years before that was the DFS series, the Digital Field System and it was Model V, DFS V, which, until we went to the distributed systems, the new ones, dominated the market and just about everybody asked for them in the contract. So I took over the instrument division and that's when we were working on a new field system we had developed and we developed airguns and we were going along pretty good. Then the old guys from GSI started getting too old, dying and therefore the new breed was coming up who all came from the electronics school and felt that GSI was just a pain in the ass. So they decided to spin us off and concentrate their efforts on electronics which they've done very well. But there's a whole saga in there too about the arguments and the fights we had on that one. I don't know how much, have you got another four hours of tape, we'll give it a go.

#514 DF: Well, talk all you want. Why the difference of opinion though.

DE: Well, they wanted to spin us off and form another company and put us together with another company. And there was some personal gains to be made by a few guys. I fought it tooth and nail and did get Haliburton interested, I did, in . . . because they were in the same business. They're not in seismic but they're in oil, same clients, same type of business so I thought it would be a perfect match. Then Haliburton entered into negotiations with TI and bought us off. First they bought 60% of us and then they had the right to get the other 40, which they did in a year. And they left us pretty much alone at first but then they bought Gearhart, Haliburton did. Gearhart Industries, which was a wire line company, small but very good technical and a competitor to Schlumberger. With that Gearhart owned a Geophysical Company called Geo Source. And Geo Source was practically bankrupt, in Chapter 11 almost, but when they got to Haliburton they put us together and like most companies don't put things together very well. They made the Geo Source guy President and the Geo Source Financial Officer, Chief Financial Officer. We

had probably the best guy I had ever worked with in 30 some years as our Financial Officer and this other guy was a real jerk. And we let the best guy go. And what happens in the next year, Western is about equivalent to GSI, they're the two biggest companies, Western and GSI, always competing. We were more technical, they were better operational.

End of tape.

Side 2

DF: Okay go ahead.

DE: During that next year of operation they took the instrument stuff off me and gave it to another fellow. But once you get a corporation where the President and the CFO, . . . you know, you can make Vice-President of Marketing, Vice-President of Operations, of Marine, of Processing etc., etc. But the two guys that control it are the President and the CFO. And we run it . . . I couldn't agree with one thing that they did and they hated me, they hated me in those meetings. During that next year, Western reported about \$750 million positive cash flow, Haliburton reported minus \$900 million. \$900 million negative cash flow. That's how bad. The only difference was management between the two organizations. That shows you, if you've got mediocre management, be happy, it's better than average. Anyway it was a disaster. So they went through three Presidents and every one of them just got worse. The guy I argued with the most, they made him President and he was a slob and he fired me so I was very pleased, and about five other guys. They were going to fire us all on Valentine's Day, we called it the St. Valentine's Day massacre. But I was out with a bunch of clients and we got on a long lunch and we were all drinking til about 5:00 so they couldn't find me. So I had one more day than the other guys. In the meantime, we had a lot of adventures, we had great deals. We put the China deal together, we had Alaska, we had 11 crews in Alaska, a lot of fun. They let me off and I went consulting. I got fired on Friday, I went to work consulting on Monday morning.

#025 DF: What year and what month, this is February?

DE: February the 15th, '91. Later on I was doing consulting work and doing very well but I kind of had the yen to get back in it. So I got the opportunity to do some work and I put a proposal together to do high resolution 3-D in the Gulf of Mexico instead of those sight surveys they do, very low technology. But you had to get oil companies to plan ahead and forget it, in the Gulf of Mexico, everything is designed, when there's the least sale, they. . . everything is reaction, nothing is planned. So I couldn't put that together but I did get one job for Penzoil. I had to have a company because of the liabilities. In the States they have what you call a DBA, Doing Business As and you can do business like consulting but when you have liability you're personally liable, so I had to form a company. I went

to this old boy, he's a lawyer and I said to him, I want to form a company to do this work. He said, what name would you like, I said the name I would really like is Geophysical Service Inc., he picks up the phone and calls Austin, is this company registered in Texas, no, calls Washington, is this company registered in Delaware, no, it's available. He says, it's yours. I wrote him a cheque for \$750 and walked out and I had the company. Most famous name in the business.

#045 DF: How come it wasn't registered?

DE: They dropped it. They renamed the company Haliburton Geophysical and they dropped it.

DF: So for \$700 you walked away with the biggest name? That's amazing.

DE: Yes. And then my son and another guy at the convention put up this big sign, Geophysical Service Inc. with the logo and the President, Haliburton guy named Dale Jones came over and looked at it. We had this 10 x 20 booth, Haliburton Geophysical must have been a 100 x 100 booth, we had more people standing around our booth. I know he didn't like that. The next thing we know, we went to Denver to visit some friends at Christmas, this was in October, and I came back on the 7th of January, '92 and sure enough I find a letter from a lawyer saying, if you don't stop using this name and so forth and call us, notify us within 21 days, we're going to sue you. I called the lawyer, I said, how can I fight this big company, even though I'm right, maybe I shouldn't be fighting. But then the next day, they walk in, dated December 31st, a law suit against me. Kind of dirty pool I think. We formed a company GSI and I got a guy from Chevron, he was the head of Chevron Geo-Sciences, Dr. Dan Tudor. He was the former President of Chevron Geo-Sciences and I worked for him a lot and respected him very much and he was a Director of our new company along with my son Russell. And those two guys, I'm usually the aggressive one, they said, look, those guys are wrong, you are right. I said, can I handle it, do I have enough money. We had billed a total of \$4,000 in six months. That was our billings. So we weren't exactly fat cats. So they said, no, we'll fight it. Dan said, I'll put in another \$40,000, I said, okay, I guess I'll have to put in too. So we did and it cost us about \$8,000, it cost them about 140 for their big time lawyers and in the meantime they changed presidents again, one of the guys who worked for me, a Scotsman, named George Steel. We start talking and we went in there and we had meetings with these guys and they'd bring in these different young lawyers, they didn't know what they were talking about, I made hash of them, honest to god, they didn't even know what they were talking about. And they kept changing them. So he calls me, he said. . . the lawyer said, maybe you want to talk to the President of Haliburton Geophysical, he wants to talk to you. So I call him up and I said, George, how are you doing and he said, you know, Davy, we got to quit this, these lawyer fees are driving us crazy. I said, George, you're suing me, I'm not suing you but I'm about to sue you for frivolous law suit. So we start negotiating and the girl who was his secretary went down and got me a retirement badge. Here they're suing me and I get a retirement badge so I can go in and out without going through the. . . So then he said, I know you want that data up north, I'll sell that to you if you give up the name and the logo. I said, George I don't own the logo but you don't either, it's expired. But I won't give up the name, I paid

\$750 for that, I'll give up the logo if you want in the States. So I bought the data set from him. We negotiated with a girl from Midland and some accountant on buying the entire Canadian data set, which was about 160,000 kilometres of data, four times around the world, which I collected, was involved in at least 98% of that data. So I was dealing with. . . there was quite a knowledge gap between the sides. So I got that data at a very reasonable price.

#100 DF: Care to say how much?

DE: No.

DF: Okay, that's fine.

DE: But it was a considerable amount of money.

DF: Yes. But less than it cost to shoot it again.

DE: Yes. But I formed a consortium of 12 guys, of which I held four shores and we each put up some money and bought it and then I let the new GSI manage it. And in northeast Calgary here, all the data is stored in the vault there.

DF: So why did Haliburton sell this to you?

DE: Okay, Haliburton was shutting down their operation in Canada. When you let accountants run things, they don't know what they're talking about generally. They had the spec division and said, they're going to shut down their processing centre because the marine went down after I left. Nobody was doing it. So they were going to shut down the processing centre because it lived off the marine. The boats give you great volumes of data, much more than a land crew.

#112 DF: Why is that, because you're continuously shooting?

DE: Yes. Every 12 seconds.

DF: Wow, hour after hour.

DE: Yes. And on land you might shoot one every hour. So they were going to shut it down anyway and they were going to sell it. They were going to sell it to somebody, so they just sold it to me. They were charging, they had big overhead and they were charging all their overhead against this thing. And they were generating. . . they had a girl in here, taking orders, there was no pro-active marketing, there was only reactive. They would take orders and then ship the data out and this and that. They were running about \$30,000 a month. And they were showing probably about \$50,000 of cost because of overhead. The operation costs were about 20 so you could make \$10,000 even if you didn't do any change. But I came up here and we started pro-active marketing and that April 8th, 1993. Because everything else I did since for this company is not as important as those two weeks. We turned that asset more than ten times.

#127 DF: Now you bought this data but you couldn't have bought this data until you had finished this lawsuit.

DE: The lawsuit was dumped on the basis of me giving up the log in the States.

DF: Oh, that was it, that was the turning point?

DE: Yes.

DF: Are they using the logo?

DE: No.

DF: So nobody's using it?

DE: I am.

DF: Oh you are, in Canada?

DE: I've got it registered in Canada. I never did give it up in Canada. And then their company, they sold off Haliburton Geophysical later, that's another story, got more tape.

DF: I've got lots of tape. Okay so you turned that data around and now you're selling it in Canada. That was the basis of your operations in Canada then?

DE: They we were making pretty good money because we only had three people. And we were generating pretty good hunks of money. If you go back, D-Day was April 8th, 1993. You go back one year, the average sales were \$30,000 a month, go back one year ahead, the average sales were \$120,000. There was no change in the market at that time. The market changed later. But at that time, by pro-active marketing, go out and beat the streets like I did 30 years ago, wear out my shoes, get kicked out of offices, just like when I was trying to sell 3-D and we were ripping them off.

#144 DF: So who was doing this pro-active marketing, you?

DE: Me and Sam Nader.

DF: So you just went door to door to all the companies, big and small?

DE: To get it paid off, we offered some fire sales. And once we got it paid off we went to . . . Then we started putting new stuff together. Then with the money that we generated every year we started. . . we didn't want to pay too much taxes so we wanted to grow. So we kept buying things and since then we've bought more spec, we bought a bunch of instruments. We had a deal in the meantime, working world wide for Geo-Ex here in Calgary. Setting them up on a world wide basis because of my experience in China and Russia and Italy and all over the world. We set up, we became their agents and we set up agents in each country and made some sales, made 3 or 4 sales to the Chinese and put them into the international business. That's their Aram 24 systems. Don Simpson and Don Chamberlain. So we worked for them and our agreement was to get it set up, running and then they wanted to have their own marketing, which they did. But in the meantime we had been generating this cash a bit and we decided to buy instruments. There was a company called Pioneer that went belly-up here. We bought their 2,000 channels of Aram instruments. And then made a deal at the same time with Western Geophysical to lease them on a long term basis. So the three things came together. We made a little profit that year. We had a company going belly-up and Geo-Ex was getting their stuff back and they wanted to generate some cash out of it and Western wanted to start a crew up here and they didn't have any instruments. So luckily those three came together and got us in that business. So that's a pretty good sized part of our business today.

#170 DF: How many crews?

DE: We lease the instruments to the crew?

DF: Oh you just lease them to the crews?

DE: To the crews. They had two crews. And we leased them a bunch of vibrators, which we

have a bunch of those too. But we were able to buy that out of the money we generated from the spec. And we've been completely self-funding. We have not had any banks, line of credit, nothing. And then we did a marine job on the east coast and added 40,000 kilometres, only one time around the world, to our data set on the east coast in the deep water. And we're running the business now of about \$15 million a year and completely self funded. And I've got all three of my sons working with me. One of them President here, one of them a Director and I guess we call him the Financial Officer in Houston and the youngest one is our Boy Friday, if he shows up.

#183 DF: Now you've confused me here, you have an American operation?

DE: It's two separate companies, and American company and a Canadian company.

DF: Okay. But there is a GSI company that's yours in the States as well?

DE: Yes. But we don't have the logo rights in that country. But now that Haliburton is gone and sold off to Western, there is no Haliburton Geophysical and nobody cares. But there's a lot of spec data that Haliburton owned with the GSI logo on which Western would worry about, if they didn't have rights to have that logo on that spec, which we have agreed to. But that's not for publication. But we've got it here. And we operated off the east coast last year, adding a bunch of spec to our data.

DF: You don't own a ship, you just lease something?

DE: No. We own the geophysical equipment. We put it on the ship and . . . we leased the ship and supplied our own seismic crew, he supplied the boat. That's the same way most contractors operate, most contractors don't own their own ships. Not most but a lot of them don't. Like Veritas Digicon, they don't own their own ships. Except the newer ones, the newer, big multi-streamer ships. Anyway that's about where we got to, I don't know how much I forgot and how much I skipped through. There was a million war stories in there.

#202 DF: So data sales has become a pretty important part of your business then. How much work do you do on spec and how much do you do on contract?

DE: All the stuff on the east coast was spec. And that was about \$20 million worth. Reinvestment.

DF: You were shooting old areas, like Hibernia and that or. . .?

DE: We were shooting more deep water, off the Shelf. If you've seen a map of Nova Scotia, they've got. . . all those latest blocks were on the deep water, right off the Shelf. That's the area we covered.

DF: Now what's your strategy there. It seems to me that if the big oil companies know they're going to go to a new area, they're going to want to get their own data and keep it private but you come along and you shoot in an area where you think people might be going. Explain this to me.

DE: That's a map right there. What we did was we got a group of companies, a couple of them to partially fund it. They get the data real cheap, they get it first but there's no exclusivity on it unless they ask for it. There is no work in the Gulf of Mexico today that is done exclusively for a client under contract like we used to do. It's all spec, it's 100% spec. Everybody buys what they want. They try to beat each other to interpretation, and then

they bid on each block and it's very competitive. But the spec business now is the norm, even in 3-D. And these big boats cover a kilometre and a half swath or more. They don't cover. . . you don't get a profile like we used to, you get 3-D volume. In fact I used to charge them by the cubic metre of seismic. This deep, 3,000 feet deep, this wide, it was about .03 cents per cubic metre.

#229 DF: So do you have a big sales staff that goes out?

DE: No.

DF: They come to you now, how does that work?

DE: We've now bought this processing centre, Precision Processing Centre. We now have the rental business and we just put out a field crew. So we've got one field crew out, we've got an instrument rental business, we've got the spec business, data business and the processing. So we've grown quite a bit.

DF: But say, Chevron comes to you and asks if you have data or do you go to them and tell them you have it?

DE: If they don't come to us, we go to them. It's pro-active marketing, we don't answer phone calls only, like they used to. We're doing all right. We're building up all the time. In a couple of years we'll be a \$40 million company I hope, if the prices of oil and gas stays up.

DF: What's the extent of your operations in the States, bigger, smaller than here?

DE: Very little. Mostly supporting the marine. Seeing we had the data base here, all the money is in the company and all the reinvestment and all the capital's in this company. So the U.S. company is kind of a service company to the Canadian one. Because all the marine systems are there. And Houston is a good place to be. We brought in several new players to the east coast to participate in those areas. We brought in Canadian 88 to Nova Scotia. We brought in Anadarko, Marathon, we were influential in bringing in Marathon. So now after all those years when there was just. . . they only new player was Norskhydro, who joined with Petro Canada, we have been very influential in bringing in 3 or 4 new participants. Norskhydro has had a big alliance with Petro Canada. Petro Canada, from the pit days, they've still got a big position out there.

#263 DF: Lots of land, yes.

DE: And a high percentage in Terra Nova, for example and Hibernia.

DF: Tell me about some of these inventions you've mentioned during the course. The air guns?

DE: Well, in the old days, we used to have pretty small boats. And we used to have not room for big compressors to have a lot of air. So when I was a marine manager there was a couple of guys there, and engineer named Harry Harrison and I told them, I said, I want you guys to develop a new gun with air using half of the air capacity and generating twice the energy. So that's the criteria I set for them and they came mighty close to doing it. It's amazing what you can do. Even with engineers you can excite them. And then the hard water marine system up there in the Arctic was a fantastic. . .

#278 DF: Tell me more about that?

DE: We put a compressor in a trailer and then we put davits on the side and put airguns on these davits, small airguns. And when they wouldn't let us shoot dynamite we got a drill and the drill would drill through the ice and we couldn't wait too long because it would freeze pretty quick. And then we'd bring this thunder wagon, we called it, I said I wanted it environmentally safe, I wanted to call it the burp gun or something. What do you think the guys name it and it sticks, thunder wagon. That's all I need with the environmentalists. So we go down and we drill these four holes and then put the airguns down into the water.

DF: How far apart are the holes?

DE: The holes are about 8' apart. And 40" gun and pop it in the water. Beautiful records. And then we pulled the streamer. We hooked the streamer to another cap and trailer and had that hooked up and the geophones on little pigtailed so that you could hit. . . the ice is rough you know, you had to have 5' pigtailed or so, so the. . . but the phones were self leveling, they call them gimbaled geophones. And no matter how you set the case, the velocity phone, which is a moving magnet in a coil or a coil in a magnet, whichever you want. And it moves up and down and causes those wiggles on a seismograph. Well that thing would always level because you had a leveler in it. And then we just had an indoor operation. And then that's the first use of GPS, we used Differential GPS up there back in the 70's and that was the first use in seismic of the GPS. And of course, that GPS has changed the world for us. So that was a very, very innovative thing.

#307 DF: So you could record right through the ice, the ice is different thicknesses and everything. . . .

DE: What you did was practically put the marine system on ice. And an indoor operation, nobody had to be outside. I called it the shirt sleeve operation. And then we did it up in the high Arctic. For the Arctic Island offshore group. Charles Hetherington and son and Dome, those promoters, Hetherington and Jack Gallagher, probably the best salesman in the world I ever saw. Both dead now.

DF: How much of that hard water marine did you do?

DE: We did it about 3 years.

DF: Yes. But is that like 5,000 kilometres or 100,000 kilometres. It wasn't quite as fast as. . .

DE: Probably 2,000 or 3,000 kilometres of that stuff.

DF: So not as fast as water but still.

DE: But it was faster than. . . .

#323 DF: Land yes. What other innovations?

DE: We built the new system. We built the first 24 bit land system. I paid for that development when I was running it. It was an outfit out of Austin, ex-TI guys that our engineers knew. And they developed the first 24 bit crystal or 24 bit A to D converter. And we funded it for them.

DF: And A to D means?

DE: Analogue to Digital Converter. So we built that and then when we joined with Haliburton

Geophysical they cut the program off, after we'd paid for it. They said, you can't sell that to the Russians or Chines. And then IO took it, Input/Output, which became the leader and they were at least 1 ½ behind us. But they took it and just got a free ride after I had paid for the development out of my department. Well, it was TI money. I have to say TI was a hell of a banker.

#343 DF: Really helped you out there eh. What do you consider your most important contributions to this industry?

DE: I think our innovative techniques. I think the hard water marine, the development of the 24 bit system, the sleeve guns.

DF: What are they?

DE: They are a much more efficient guns than the old guns. What you had the old guns, they had ports, and they ports would open with no backbone in it. This one had a kind of a valve, upside down valve with a sleeve on it. And when the solenoid on the top gets a signal, it would have the 2,000 PSI pressure and then it would open up the sleeve. Therefore a much quicker release of data and a more rounded release of data. And that's how we increased the power, output versus input. And once we did that. . . and then they had way less parts. And they were very efficient, they'd last forever. Millions of shots you could get off of them without any problem. And that became the standard of the industry. Until Haliburton or IO got it finally. It went from GSI, TI, to Haliburton to Western to Input/Output. They sold the instrument division. And in this spec business I made very good profits for TI. I was involved in probably the most profitable operation.

#372 DF: Any regrets?

DE: Didn't get fired 30 years earlier. That's my biggest regret. But this has been fun. When I was with Haliburton those two years, I used to hate Monday mornings. I used to hate to get up and face going to that miserable place. Now, since I've been a consultant on my own and this new GSI, I can't wait to work. The weekends are boring for me. My hobby is geophysics.

DF: What are your plans for the future?

DE: Well, we're going to build this thing up. And then we're going to form an instrument division and then that instrument division is going to build something equivalent to the breakthrough as the transistor that TI did. And then we're going to build another electronic giant, like TI. \$14-\$15 billion company, we'll settle for that. We'll headquarter it right here in Calgary.

DF: Good for you, great. Well, Mr. Einarsson, I'd like to take this opportunity on behalf of the Petroleum Industry Oral History Project to thank you so much for spending this time with us and we'll end the interview at this time. Thank you very much.