

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: George Kostashuk

INTERVIEWER: Tina Crossfield

DATE: July 2001

TC: Today is July 17 and we are with George Kostashuk at his home in Calgary and my name is Tina Crossfield. Perhaps you'd like to say something and I'll play it back and make sure that we're a-okay.

GK: I just am ready to answer the questions, offer any information that I might have.

TC: So I think we're ready to begin. Can you tell me where you were born and when?

GK: I was born in Vegreville, AB on May 11th, 1927.

TC: Can you tell me what your parents did?

GK: My father had a feed mill in Vegreville and he would grind oats and wheat for farmers to feed cattle and chickens and supply food for the farm people. I had four sisters and one brother, there was a family of six growing up.

TC: So your mom must have been pretty busy?

GK: Everybody was. The parts I remember was just after the Depressions, there wasn't a lot of money but we ate well, we had chickens, we had cows. Although we lived in town. And a garden, so there was no lack of food obviously, I'm not malnourished. We had a good life, it was easy and simple. We didn't have very many nervous breakdowns in those days.

TC: I think one of the real benefits in the Depression were farm families because they did have food, they grew it.

GK: They did, a lot of them. They didn't have the best clothes, some farm people would walk 2 miles into Vegreville to go to school and in the spring a lot of them and the summer, would carry their shoes to school because their soles were just like leather, the soles of their feet, so they'd walk around barefooted in the country. But I wasn't one of those.

TC: You lived in town.

GK: Yes.

TC: Tell me about your schooling, what was that like?

GK: I liked it. I was the youngest of the family so I had a brother that's 10 years older than me and he was an excellent student. So in school they thought I would be like my brother and they just made. . if I did something wrong they thought Stan's brother couldn't be that bad so obviously it was a misunderstanding. A very poor writer so half the time they couldn't read what I wrote on the tests, so I got along just fine.

#031 TC: That's the problem when you have an older. . .

GK: Well, it was a benefit to me. He was a role model for me. But I got into my share of trouble with the misbehaviour, as my brother did. He was more experienced at it, but he was as I say, an excellent student. In 1937 he was one of about 400 students across

Canada chosen to go to the Coronation of King George VI in 1937, which was a big thing for a small town like Vegreville. My parents didn't have the money to support him but the community got behind him.

TC: What a wonderful experience.

GK: It was for him, yes.

TC: What were your interests growing up?

GK: We did the things all boys did, get into trouble when nobody could see us. But never any malicious damage. We tried to imitate the adults, we would run, we would set up a boxing ring and box, we'd play softball and baseball, football, just everything that other people did. There was always some child in the neighbourhood who had an idea. We'd play cops and robbers a lot, we'd have guns that shot elastic bands that we cut from inner tubes and a clothes pin for a trigger. If you got hit by an elastic then you were dead and hide behind cars and chase each other.

TC: Lots of outdoor rumble tumble stuff.

GK: Yes. Some of us had bicycles, some of us borrowed bicycles, we'd go for bike rides and because we had this little boxing ring we would train, we'd go jogging for a mile or so up and down the highway.

TC: And in school, what subjects did you find you were most attracted to?

GK: Well, I guess later on, in the early stages, I was adverse to English and History, Social Studies it was called and Math and Science, Chemistry, Physics were the things I liked. This was in the earlier stages.

TC: So that would have been, well, tell me about the school in Vegreville.

GK: Well, in Vegreville the school, the public school was just across the road from our house and the school was at one end of the block, it was a whole city block and the playground yard was there. So I didn't have to be at school very early, I could just jump across the fence and when the bell rang I could run with the others. Grade 1 was in a separate building and grades 2 through 9 were in an adjacent building. The war broke out when I was about in grade 9 I guess, 1939. Some of the teachers liked me because of my previous family. One sister was very artistic, she wanted to go into journalism, she did in a way, her own way, as a career. So the English and the Social Studies teachers, they tolerated me and they encouraged me. So I enjoyed school. As a matter of fact, I think I went right through high school, which was grades 10, 11 and 12, without missing a day. I didn't get sick very easily and I was so close to the school.

#077 TC: So you did 10, 11 and 12 in Vegreville too.

GK: Oh yes. The high school was a few blocks away, it was in a different building. I think there were 20 people in my grad 12 graduating class, it was a small school. And that was quite an advantage because you got a lot of personal help and by that time I had sort of really got oriented towards math and science and the principal of the school was our math teacher and he tolerated a lot from me because my marks were always very good. And the same with chemistry and physics. I wasn't that great at chemistry because it required a lot of work, we used to lug a bunch of books home every night, pile them up on the table and lug them back to school the next day and never open them. But because of the personal

attention we got. . . I took French in high school and did very poorly at that but I got through. The war broke out so in Vegreville they formed an Air Cadet group. We had our own little group of friends, the good students. People sort of gyrate that way, either that or you're motivated by your peers.

TC: So you were just a shade young then, to be drafted or conscripted?

GK: Actually, the war ended in Europe 4 days before my 18th birthday. But by that time I was a sergeant with the Air Cadets, that was the highest student rank they had. I was the guy that led the drills and all that. And in Air Cadets, we had a basic knowledge of what they teach when you first join the Air Force. You have a manual similar to the same manual. Of course, you go through in 3 years instead of 6 weeks. So I'd written some tests to join the Fleet Air Arm, I thought that was a glamorous type of thing, this was before the war ended. And I was accepted as were two of my friends, and thank god the war ended or I would have wiped out half the British Navy. The Canadian Navy didn't have aircraft carriers in those days. I didn't realize that my reflexes weren't as good as the average person.

TC: So you would have gone in to be a pilot would you?

GK: Well, that was my hope. And I had a lot of basic training to start so it wouldn't have been difficult for me to have been accepted.

#114 TC: But it didn't happen, did it?

GK: Well, they just stopped hiring people, taking them on, after, I think the war ended May 7th, 1944.

TC: So the Fleet Air Arm then folded, did it?

GK: No, it kept on going but they didn't need a whole bunch of people. It was really supposed to be a two year training course. First you learned to fly, then you learned to land on small land strips and then you learned to land on moving ships. So they just stopped recruiting.

TC: Sometimes you might be tempted to think of the what ifs, eh, what if the war hadn't ended in Europe and what if they hadn't dropped the bomb in Japan.

GK: Yes, well, later that same year of course, just before I started university, the atomic bomb was dropped on Japan. That was quite a surprise really, I was a good math and physics student and by that time, some of my early training, way back, because I read a lot of scientific books and text books. A fellow called Rutherford, a very famous nuclear scientist said that they would never get energy from the atom. And of course, what they were doing in the U.S. with Einstein and Oppenheimer was all top secret. As soon as it happened of course, the chemistry teacher, it was very simple to say, okay, here's what you start out with, here's what you end up with and the rest turns to energy. And Einstein's theory, $E=MC^2$ was known then but they thought, well, they would never be able to get that energy from the atom. At least the people in my circle in Vegreville, Alberta. I'm sure there were 100,000 people in the U.S. who were working on it, and in Russia and in Germany knew that this could happen. But we didn't.

#146 TC: It's a very interesting time in history.

GK: I think all times in history are interesting, I really do. But you don't realize that till after

they're over, when you look back.

TC: So after grade 12 what did you decide to do?

GK: Well although my parents didn't have very much money it was just sort of understood, I was going to go to university. I was a good student, I wanted to be an engineer, electrical engineer. My brother took one year of engineering before he joined the Air Force. Actually he was quite active in radio, he had a ham radio set in Vegreville so he was just a natural, when he joined the Air force they put him into this new fangled thing called radar and he was in the first class in Clinton, Ontario, to graduate in radar and they kept him on as an instructor at the research lab for the rest of the war, he never did go overseas.

TC: Oh really. What is his name, your brother.?

GK: Stan. So when the war ended he was in the east so he went to the University of Western Ontario and took a new course called radio physics. Actually as a student there, because of his knowledge of electronics he helped the University of Western Ontario, he did the physical putting together of the electronics for one of the first cardiograph machines in Canada. It was just a bunch of wires hooked up where you could measure electrical impulses from the heart, it was very crude but he was doing that. So I wanted to take electrical engineering but the war had ended and there were a million veterans coming back to Canada and they had priority for university entrance. The University of Alberta had about 3,000 students and they were filled to capacity. So I couldn't get into the School of Engineering but they let me in to Arts and Science and I took a course called Honours Physics, which was mainly physics and math.

TC: So that would have been like a straight science degree?

GK: Well, it was a 4 year degree, a straight science degree or a straight arts degree you could get in 3 years at U. of A. in those days. But the honours course was a 4 year course. The last year was a lot of post-graduate math and physics. There were 40 of us who started the class and 8 who graduated.

#189 TC: How many graduated?

GK: 8.

TC: 8 out of 42.

GK: 8 out of 40.

TC: 8 out of 40, wow.

GK: Well, some lost interest and others, you had to maintain a fairly good average to stay in. I just sort of sneaked in under the gun this time. I wasn't a good academic.

TC: Those are pretty difficult courses.

GK: It wasn't for me because I liked it, I was motivated.

TC: Did you do other courses, like geology?

GK: Yes, I took a course in geology. We had to learn German and that was a real ??? for me because it was a language again. It's an easy language but I had an aversion to languages.

TC: Why German?

GK: I don't know why. My parents were Ukranian, half the voices I heard in my first 15 years of life were in the Ukranian language. I could understand it but I never spoke it. I wanted

to be a Canadian, I didn't want to be a Ukrainian. It was a silly thing but when you're a young teenager you do a lot of things. . what's best for you and what's most fulfilling for you. And I suppose, looking back, it would have been better had I learned it, I would be a fuller person. And in German, the head of the department of modern languages was married to the sister of my chemistry and physics teacher in high school. So my marks were lousy but he just kept pushing me through. So my second year of university I took German 1 over and took German 2 and just to get rid of me they gave me high enough marks to graduate. I took philosophy, chemistry. .

TC: But the level of German that was expected of you, it wouldn't have been the scientific. . .

GK: Yes, it was the scientific, the idea was we were going to learn to. . because a lot of the best scientific papers were published in German. And that's why it was requisite for the honours degree in physics, a prerequisite.

TC: I guess the Max Plague??? Institute and. . . .

GK: Well, a lot of that, there are English translations. But it was a good thing and German isn't that difficult a language.

TC: I'm married to a German actually.

GK: Oh well, you would know. Half the words in the English language stem from the Teutonic language.

TC: That's right. I did a year of German too in university and I just squeaked through.

GK: You could go through there and just breeze through there now, because you have motivation. But he was a great person and we got along fine. He had some wonderful stories to tell, which made the course more interesting. To have the head of the department teach a class of 20 or 25, it's a real privilege, I don't think that happens in universities these days. But the University of Alberta has what, 30 or 40 thousand students coming and going, when there's 3,000 you get to know the heads of all department personally. You go to their house and have coffee with them and things like that, it's just the way they ran universities in those days.

TC: Yes, I think it's much tougher today.

GK: I'm sure it is.

#244 TC: They're a number, they don't even get to know the professor in a lot of cases.
Now, what year did you graduate?

GK: 1949.

TC: With a . . .

GK: Degree, Bachelor's of Science in Honours Physics.

TC: And then what.

GK: Well, I was going to go on and get a Masters and Doctors. But the spring of '49 when I graduated I got a job with Western Geophysical Company on a seismic crew. And they, in those days all seismic people trained their people, whether you had a university degree in physics or geo-physics or dentistry or pharmacy, you started out in the field in the lowliest job and you spent anywhere from 6 weeks to a year learning the field operations. So I went from May to September with Western Geophysical and I'd written to the University of British Columbia where a physicist a year ahead of me at U. of A. had gone for post

graduate work. I got a teachership or something, which would help pay my living costs in Vancouver and I went to UBC. I got a leave of absence from Western Geophysical.

TC: Did Western Geophysical encourage people to. . ?

GK: No, no, they just wanted people to work. The industry was growing so quickly. They had 5 crews and then they had 7 and they just needed more and more trained university students. Because they had to go through this period of training in the field before they'd put them in the office, it was just understood. They would have preferred I stayed but they saw I was determined and they said, yes, they would hire me back.

TC: So at UBC. . .?

GK: Well, I took geophysics. But it was oriented towards mining geophysics, not petroleum. With that and the way my friends who stayed who were with Western, were being advanced, and I got back in the spring of 1950 I decided I wouldn't go back to university. Because the industry was growing so quickly. And it was a good choice I made because within a year I was a Party Chief for Western Geophysical.

TC: How large was the crew that you were working with?

GK: Generally about 20 men.

TC: So you would have been in charge of that. . .?

GK: Yes, the Party Chief job was a wonderful job because you did the interpretation, you actually contoured the maps, you interpreted the seismic records, you contoured the maps, you presented it to the client with suggestions and they drilled wells on where you told them to drill. Or generally they did, depending who your client was. Some companies did their own interpretation as well but you still did an interpretation or ????. I enjoyed the field people and I'd had the field experience. And the second crew I got, I was working in Manitoba at the time, southwestern Manitoba and I moved to a crew that was so well set up, they had a secretary, they had everything. So I didn't have to spend that much time in the office, I could go out and spend time with the field people knowing that the work in town was in good hands.

#325 TC: What town would that have been?

GK: Viriden, Manitoba and Cirrus, Manitoba. And then sometimes when we worked out of town we'd spend a week in a hotel, say in Melita or someplace and the crew would come back for the weekends and I would just go up and see them, drive back and forth. I'd stay in Viriden or Cirrus and visit the crew and maybe spend a night with them and come back.

TC: When you were at UBC and you were doing work that was more geared towards mining, instead of petroleum, when you came back and then got back with Western Geophysical, was there any carry over, like things that you learned at UBC, could you transfer any of that from mining over into petroleum?

GK: Not really because when you come out of university you're not prepared to do very much. You know how to do it but you don't know what's supposed to be done. So really I just sharpened the tools I'd gained at U. of A. and just made them a little more sophisticated.

TC: Who are some of the people you worked with, say, your peer group?

GK: At Western?

TC: Yes.

GK: Oh gosh, so many of them are dead now. The first Party Chief was a fellow called Les Vye and he was. . . all the key personnel in 1949 with Western and most companies, not all, came from the United States, a lot of them from the southeast U.S., Texas and Louisiana. Les Vye I think, was a Montana boy. He was a workaholic, you had to be in those days, he was an awful good interpreter, but they sort of looked down on Canadians as being inferior.

TC: Really.

GK: Well, we were. Hey, they had a work ethic that we didn't have in Canada in 1949. They taught me how to really work. My previous summers, when I went to U. of A., I worked for the Defence Research Board in Suffield, Alberta and when you worked for the government, I don't want to be disrespectful but you learn how to goof off quite regularly. There's no incentive to do anything or a big company, I found out later. But Les Vye was the first person.

End of tape.

Tape 1 Side 2

TC: Les Vye, how would you spell his last name?

GK: V-y-e. That's an interesting story because this was in Callington, Alberta, just outside of Athabasca and Les was always talking to the head office, which was in Edmonton then I believe. When he made a long distance call the operator, no, Vye, V-y-e. I had to make a call to Edmonton once about a personal matter so I got on the phone and just said Kostashuk and just hung up the phone. You see, you gave them your name because they'd call the number back and ask for you when they got the line connected and Les got up from his desk and came and walked around me one way and another way and back and he said, why is it with a simple name like Vye I've been here for 6 months and I have to spell the name and a name like Kostashuk, you've only been here for a week and you say it once. I said, you Americans. . . he didn't have that much respect, we returned the respect we got, so we used to call Les the great Ammarican boy. But we had a relationship that lasted till the day Les died and I had a lot of respect for his interpretive abilities and as a friend. When he had a home in Kalispell, we used to go and visit him every once in awhile. But anyway, what got me about the crew, there were so many intelligent school drop outs on the seismic crew, drillers, mechanics, surveyors. And these were people who to me, they were discouraged from going on to school for one reason or another but their knowledge of their job really impressed me. That's why I've always liked field people, I've always maintained that the money is made in the field. Any of these people could have done, they did do well without the formal education.

#025 TC: But the progression that was being made within the industry, to me would have been more rapid than what they would have been teaching in university.

GK: Oh absolutely. That's what I say, when you come out of university. .

TC: So the more exciting stuff was happening in the industry.

GK: When you come out of university you learn to learn. At least you did in those days and that was a great advantage and yes, technically and all that, it's been driven by economics really, and really driven. Technically, when I first went on the field crew I had the ability to look at a complex circuit diagram and follow things out and help the observer, who quite often was one of these school drop outs but with a natural instinct for electronics. And when something wasn't working, which was almost every night I'd stay up with the instrument man and we'd be following, pointing my finger along wires and doing what we had to test here and there. Whereas I would just do that a few minutes every night and maybe once a week for an hour and after 6 months that fellow just had the instinct to know where the problem was. I never had that.

TC: Tell me a little bit more about the Americans, about their work ethic.

GK: Well, they worked hard and they played hard. The odd one, Western Geophysical demanded that their employees have a good relationship with the community, if not they'd move him to another community and really move him back to the U.S. Because when you play hard, sometimes you're not that popular in a community. There are a lot of stories about them, well, we all drank more than we should have, which is typical. But I remember, they had a shooter in Lac la Biche and the supervisor Pat Mason, from Calgary, by that time the head office was in Calgary, was up and the Party Chief Joe Vitellin???, Pat Mason said, how are the boys getting along with the local people and Joe Vitellin says pretty well, they sort of seem to like us and they're walking into the hotel where Pat is going to register and all of a sudden a body comes flying through a plate glass window. I wasn't there but it's a story Joe told me, the shooter Mr. Eddy they called him, got into an argument with the bartender, they were having a fist fight, I guess he took some beer up to his hotel room which wasn't permitted by the hotel and they went to the manager, maybe it wasn't the bartender, went to tell Eddy he couldn't have beer in his room and they started fighting down the stairs and at the bottom of the stairs was the lobby and the main door and Eddy hit him once. But that happened occasionally, and some of them were real fine examples of church going Baptists that would have nothing to do with us and tried to get us on the straight and narrow. So you had a real spectrum of personalities. Usually any company wouldn't send people to a foreign country, because of the expenses and all that involved, if they didn't think they would work out. But they had the experience and the know how and they were teaching us. 10 years later we were teaching them.

#066 TC: Who made those decisions in the company, that so and so would be a good candidate for international, or for moving up, there wouldn't have been a human resources person like there is today you know?

GK: No, actually, Western Geophysical was owned by, at that time, one man, Henry Salvatore, who came from the Ibutsi??? area in Italy. In those days people like Henry Salvatore worked hard and they became multi-millionaires, but not overnight, not with the signing of a hand, he had 3 crews and then he had 4 and he took a personal interest in every seismic crew he had. He would come around and visit each crew once a year. He would come up to people on the crew and ask personal things about their family and all that, and

I'm sure that he had a book, a list of all the personnel on the crew and while they were going to the crew he would talk it over with the supervisor who would come and see the crew once a week, about this guy and this guy. So he would go out there and he'd come up to Pete, the surveyor and say, Pete, how's that new kid of yours doing. And he made it appear, and I'm sure he was genuine but I can't imagine a mind having that much information. That's why I say he probably had this file and would take a personal interest. We had a way of our accounting, which was done right on the crew, the Party Chief was responsible for it, the chief computer usually did the work, but we would break down the cost of operating each department, each truck, each drill, the survey vehicle. And then the profits each crew made. And he would compare these profits and if you ran a crew with a happy client and that was making money, then you would stand out. If you had a crew that was making money but one drill was costing more than the other, this was all broken down by the Party Chief's so he would look at that every month, we did the account every two weeks, and wonder why and talk to the driller and all that. Or repairs more, is he not looking after his vehicle. This was in 1949, right up to 1955, '56 anyway. He had a pretty good record as to what was going on with each crew, talked to the client and see the expenses, strong points, the weak points.

#100 TC: It also depends, the area that they would have been surveying in.

GK: That was taken into account but if you've got a dozen crews you would see them come and go. The first crew I got was just really lucky for me, because before it went to Manitoba it was working on Beaver Hill Lake, around Tofield. The office was in Calgary and the crew was in Tofield and the Party Chief never got to the crew, they didn't have a Party Manager, the surveyor was supposed to look after the crew and do his surveying. So it was poorly run in the field, the instruments were in terrible shape, the equipment was in terrible shape. The crew moved to Manitoba where they had a Party Chief, a real fine American fellow who I got to know really well, Marshall Bradford, a Texan, 6'6" and he worked to get that crew back together. And the instrument supervisor they had just went through those instruments and just rebuilt everything, it was in terrible shape. So they weren't making much money but it was a reorganization period. Then Marshall was sent back to Alberta, I got the crew. Well, in order to make it work Marshall really leaned on the men, I was just a brand new guy and I didn't have to lean, everything was working. They'd spent all their big bucks fixing it up, so all of a sudden the costs went way down, the client was happy because he had decent equipment that was always working, the client representative was Ed Fulmer, here from Calgary and who I had met, met his wife when I worked in Suffield. And so we just, I couldn't do anything wrong. But it was done for me, I'm not being modest honest. And the guys I treated them nicely so they were happy to bust their butt. And I enjoyed the field people and the field work, it was young, I think there were only 3 of us on the whole crew that were old enough to go in the beer parlour and the others were all under 21. So when they got into trouble, they got stuck or something I was out there with them and it worked very well.

TC: Was it a fairly well paying position as the Party Chief?

GK: Well, it was relative to everything else. It was the best offer I got as a university graduate,

other geophysical companies and of course, I could have gone back to the Defence Research Board at Suffield. But anyway this was an opportunity. Actually the pay was \$275 a month. You could buy a car for under \$2,000 then so relatively. Most other contractors were paying \$250 to start out.

#141 TC: To back track a little bit, what were you doing at the Defence Research Board in Suffield?

GK: I was in the physics and meteorology department. I helped with both. . .we were doing experiments with weapons, one of them was nerve gas, that was all very hush, hush in those days. They were still doing experiments with mustard gas. What they would do is they would drop bombs that would explode above the ground with these things and we would, for mustard gas, we would have cards all over, half metre square cards that liquid mustard was dyed red and we could see the pattern made by various types of bombs by how much was spattered in each card. And in the case of nerve gas we would have animals, rats, goats, covered with, they didn't have plastic then, oilskin and drop a nerve gas bomb to explode above them to see how you could spread the poison. Never killed a thing. Because we decided that the heat of the bomb destabilized the nerve gas, it was no longer a nerve gas. But they used to, to demonstrate to other military people, they would put one drop of this nerve liquid, it smelled like apple blossoms really, on the skin of a rabbit that was shaved and within a minute it would be dead. It's absorbed by your system and it neutralizes something in the brain that it makes your reflexes unworkable. So you can't breathe, you can't get rid of mucus or anything and you just choke in no time. It wasn't pleasant. They had samples they used came from Germany, we wouldn't even know how to build it in those days. And my job was to design and put in the field, test equipment to measure how much of this stuff was in the air. And with the meteorology department I used to go out and measure the winds and the thermal gradients. Because if you're going to use a smoke screen or a nerve gas or any type of gas, when you drop it you want it to stay low to the ground and get the enemy troops or if it's smoke screen, to cover your own troops up. If the air is going up that would be a positive thermal gradient, everything would go up and the people below would be. . .and see what sort of winds, so I'd go out in the field with a bunch of equipment to measure wind speed, direction and thermal gradient. So it was always a nice job. I always managed to get the easy jobs and the high profile ones too.

TC: What year would that have been?

GK: The summers of '46, '47 and '48.

TC: So that was right when you were. . .

GK: It was while I was in university, in the summer. Also a real bonus to that job was, I would take the weather measurements over the weekend, because everybody else, the professionals, full time professionals had the weekend off. And for every Saturday I worked, and Sunday I worked, I got an extra day's pay, which helped for my university. That made it more acceptable so I could save money for university. And it was a good experience too.

#196 TC: Again, with Western Geophysical, how long were you with that company?

GK: I left them in 1954 for a short period of time. The reason I left them was that, because of the crew I inherited and all that, Henry Salvatore noticed me and wanted to send me to Wyoming, they were having trouble there. They had a trouble getting a visa for me, I don't know why, just that Americans were coming here, Canadians weren't going there. And they had to go through a lot of paper work. So I'd left my crew and I was in Calgary waiting to go to Wyoming and they had a lot of going away parties for me and then they said, hey, you're not going, you're going back to the crew, it was in Weyburn, Saskatchewan then. So I felt that was a real intrusion on my personal life. So at that time there was a company advertising for a geophysicist in Calgary called Triad Oils, which was really controlled by British Petroleum. They wanted a geophysicist so I applied and was offered the job. I was the first geophysicist they hired, the Chief Geophysicist at the time was very colourful person called T. C. Richards, from England of course, London. He was a wonderful guy, he was well recognized in England, he was research type person, very positive. He's not alive now, his wife is and we get Christmas cards from her. The BP found all this oil and made the company in Iran and seismic reflection didn't work there and they did what they called seismic refraction, which was a cruder way but it was a way geophysics first started. Way back before reflection everybody was doing refraction. They still do refraction now for building foundations and everything. British Petroleum thought that the Canadian Rockies were going to be just like Iran, we had all these big structures and everything. They were experts in refraction and they were going to show us North Americans how to work. So T. C. was always, no refraction, not reflection. So I got there and Triad were also looking for oil north of Calgary and all that, using reflection. So I was the one and only reflection expert.

#238 TC: Why didn't reflection work in Iran?

GK: Because the quality of the data wasn't good enough in those days. We didn't have the instrumentation and the field know how. And let's face it, British Petroleum had always been a well run, successful company. And I had a great time there.

TC: What is the difference between reflection and refraction?

GK: Well, one measures energy going down and bouncing up from the various layers, stratified layers and the sedimentary basin. Refraction goes down and travels along the fastest moving layer and then back up to the surface. In Canada and in most places, limestone is the fastest layer and a lot of our oil comes from limestone reefs or Mississippian, which is mostly limestone build ups.

TC: Okay, so the energy going down and being reflected, that's reflection.

GK: That's reflection. And refraction, it goes down and travels horizontally and comes up again. Somewhere, I could find it right in a minute, I've given courses on it and I've got diagrams showing how it works and everything.

TC: So how long were you with. . . ?

GK: Just one year because I got a call from Henry Salvatore.

TC: He wanted you back.

GK: Yes. I had him fooled that long. So he called me from Los Angeles, just before the long

weekend in September. I said, I don't know Henry, because you know, when he comes to visit the crews you know him on a first name basis, I'm sort of happy doing what I'm doing and I was. He said, have you ever been to Los Angeles, I said no, he said, there's a long weekend coming up, you come down and talk to us and we'll pay all your expenses and you'll have a nice holiday, we'll look after you. I talked to my friends at Triad, by that time they've got 4 or 5 British Petroleum people, our department was growing quite rapidly, the company Triad, was growing quite rapidly. They said, you're too provincial George, basically I'd never been out of the prairie provinces and British Columbia, go on down there and look at it. So gosh, I went there and checked into the Biltmore Hotel, it was the hottest day they'd had and I'd never been to Los Angeles, it was early September and temperature reached up to 120. And I stepped off the aeroplane into this blast furnace, I guess this is what it's like in California. The Biltmore Hotel wasn't air conditioned. I tried to sleep with the window open, the Pacific Mutual Building was just 2 blocks from the Biltmore so I went to see Henry and he said hello to me and he put one of the executive assistants, Dick Triple, to show me around Los Angeles and take me to the lab and introduce me to people. He wanted me to go to Italy with Western, they were growing there and they wanted Party Chiefs. So I was very impressed and went to nice restaurants and I got on the plane and came back, I told my buddies about the thing in Italy. I always say, they just wanted to get rid of me, they said, George you should go, you've got to see the world. And you know the pay was going to be great and the tax situation was going to be great. So I told Henry, phoned him up and said, okay, I'll go. Great, he wants you to come to Los Angeles for two weeks first, so you can take some of our latest ideas back with you. Here again, it was a great experience in more ways than one.

#315 TC: To take the latest what?

GK: Developments from the lab.

TC: Oh okay, what did you call them, you had a special name for them?

GK: I don't know.

TC: You didn't okay.

GK: It's on the tape recorder, it was unconscious. But anyway, so I got there and Carl Savad who was very well known as a geophysicist and a research man, I was assigned to him for one week. This was, you know, just one on one with a person that was well respected. He wasn't an oil finder but he was a great guy, go through geophysics so I could. . tape recording had just been invented, it was a new tape recorder going to Italy, the first one, they wanted me to take information on that. While I was with Carl I mentioned this refraction we were doing in the foothills because they were doing some in Italy and Western was doing it all wrong. Because they had very low frequency geophones and I told Carl, we just got in these 5 hertz geophones and boy, they made all the difference in the world. And Carl said, you're wrong George and I can prove it and he sat down with a bunch of mathematical formulas. In those days mathematics was simple enough for me to understand, it isn't now. While he was doing it all out, yes, you're right. He got on the phone and he phoned a classmate of mine who happened to be working in the lab, he

went to work for Western when I did and he was quite a research guy so he ended up in the lab in Los Angeles and he was designing these frequency filters for getting rid of all the bad stuff in geophysics and letting the good stuff come through. So he had Art build some filters for me to take back when I left, in my suitcase.

TC: And his name is Art. . ?

GK: Art Bates. Still lives somewhere in the Los Angeles area and comes to Calgary once in awhile and gives me a call. We kept in contact. He had a good mind. The trouble is when you asked him a question, he was like my brother, he would answer and go on and on forever. In the meantime Carl Savad had just come from Italy and he said, look, in your evenings you should learn to speak Italian. He enrolled me in the Berlitz School of Language, which is right downtown and he said, Western will pay for it. Well, after a week with Carl I was supposed to go to the lab for a week. Carl told me before he left, the night before he said, I want you to come here, I want to talk to you before you go to the lab. So I go to the office on time and Carl is not there and I wait and I wait and about 10:00 I get a call from Henry Salvatore at the lab. He's at the lab and he said, you're supposed to be here and I said, Carl said he wanted to see me before I left here. He said, well Carl is not going to be in this morning, he didn't get any sleep, his children. . .

End of tape.

Tape 2 Side 1

TC: You are studying Italian.

GK: I'm studying Italian. And he says you get right over here, everybody over there knows Italian, we're trying to teach you geophysics. So I hailed a cab and in those days it was a long way to the lab and the shop at Labray Avenue from downtown Los Angeles. So I get there just feeling about the height of a snail and there's old Henry, patting me on the back and he says, sorry I yelled at you but you know, this is important, you only have a limited time and all that. That was typical of Henry Salvatore, he's a great person. But great people had their own eccentricities and you had to live with them.

TC: Is he still alive?

GK: No, he died a few years ago, about 5 years ago. He was Chairman of Ronald Reagan's campaign for Governor of California, he was a great free enterpriser guy. And he founded the Foundation for Study of Communism at the University of California, when communism was a big threat. As well, he sold his company to Lytton??? Industries and then he gradually phased out of that but he kept active in charities and politics. But there's a thousand stories about him.

TC: So you went to Italy then?

GK: Yes. I spent a weekend in New York. I always managed to work my business trips in with a little bit of pleasure because I like seeing things. I like history but I didn't used to like it in text books. My brother was going to New York quite regularly with Northern Electric, which was part of the Western Electronics, which was Bell Telephones really. So he was in New York that weekend and I spent a weekend with him and got on a cruise ship to go

to Italy. I wasn't that big a hurry and it was the same price as aeroplane tickets.

TC: Lovely, what ship was that?

GK: It was the Independence, the American Lines, which was supposed to be a pretty nice ship in its day. It was geared for cruises even then. Of course, you travelled 1st class because in the oil industry you always did. So I was there with a bunch of people who really, I thought, weren't my type of people and I was getting bored stuff and one night I stayed up late and I found out a whole bunch of nice people in 1st class stayed up late to party. So about the last 3 or 4 days were great, the ship stopped in Barcelona and you had a day trip there and it stopped in the Riviera, Cannes I guess and then Genoa was where I got off. A fellow from Western met me at the ship in Genoa and sort of guided me to Milan, where the head office was. In Milan I got a few ground rules, it was a new crew I was going to start so while the crew was on its way, the equipment was on its way over, they wanted me to visit the various crews and get to know the Party Chiefs and all that. My company car was picked up in Milan, I got about 2 days orientation there and an auto club book of Europe, showing all the roads all over Europe, I still have that book. And was pointed to a town, Ferrara, and I left about 5 in the afternoon, hardly speaking a word of Italian to find this damn town in the dark. Somehow there was somebody looking after me because I got there, but I thought I was going in circles because I saw the same sign, ??? and actually, that was just a sign saying, centre of the city. Because most of the cities then had ring roads. And my god, I kept coming back to the same place and I couldn't even find it on my map and it was dark, but I did.

#056 TC: So you went there to be a Party Chief?

GK: Yes.

TC: Yes. How was it working with the Italian crews?

GK: It was a piece of cake.

TC: Really. Even without sort of a strong proficiency.

GK: Well, there are very proficient people all over the world. People have good minds and I don't think you can go by colour of the skin or accent or colour of the eyes or religion or anything. We had a pretty good pay schedule, our field people were making about the same as a bank manager, so it wasn't hard to get good people. However communism was a problem, it seemed to be around Bologna was where it was centrally located. Then in the south you had the mafia, so when it came to hiring people the way there, and I didn't dream this up, this is what was told to me, you go to the local priest and tell him you need some people. The Catholic priest isn't going to send you any communists because if they got on the crew they could be trouble makers. So the guys there just were. . .the guy on the crew that worked for me in Canada, Carlo Mugzano???, he and his family moved to the London area of Ontario when the war broke out and his father and his brother were in Italy visiting. So they stayed in Italy and Carlo and his mother were in Canada, so Carlo's brother was in the Italian Army and Carlo was in the Canadian Navy. He was kind of a screwball, he had a university degree, they hired him, he had a lot of good points. So he worked for me for awhile in Canada and so they put him on the crew there as a translator. I also had a fellow with a degree in law that wasn't a lawyer, they use those for permitting

and things on the crew and he spoke in some English. So I could communicate with the crew. Except once, Arrena??? was the lawyer, he came into the office at night, I always worked close to the office and I would go back to the office. When you're a Party Chief and you have nothing to do you go back to the office because it's a 24 hour job if you enjoy it. And that's why it was so much fun for me, I enjoyed it. So anyway Arrena comes into the office and Italian English dictionary, Mr. Kostashuk he says, we want to teach you Italian, the things Carlo is telling us we can't believe that you're telling Carlo. So I had a sort of accelerated course in Italian. But the first job, it was a refraction job really and that was good because I had refraction experience. We had to go through sugar cane fields and all that and I went out with the surveyors to look at the work. You know, if you had the permit, it wasn't very much that was going to be done on the roads in those days most of the work in Canada, Alberta, was on roads, not now but it was then. And so I just, boy I was really discouraged, I was all ready to tell the client we couldn't do it. So I left the surveyor, Scalso??? out there and said, do the best you can. I go back to the office and I'm getting things set up there, so Scalso comes in 2 hours later and I said, how did it go. He said, it's all done. So I learned right then, just let them do their work. Well, I knew that previously, let the field boys do their work.

#105 TC: So I just want to make this clear for myself, in Canada a lot of the seismic work was done on roads?

GK: On road allowances yes, and roads. Because. . .

TC: Like gravel roads and byways and things like that.

GK: Yes. There's a pattern in western Canada, there's a road or a road allowance every mile going north, south, every two miles going east, west. You have access to those for seismic work. Now if you thought you had something then you'd want to go through the fields, you'd have to get permission from the farmer and pay him. So the initial exploration work in the early 50's, most of it was initial work, was done on road allowances.

TC: Would you have been responsible for getting permission from the farmer or the land owner.

GK: Oh yes, usually that was done by the surveyor. Now with the sophistication they have permit men, but the surveyor would be the one to find out where to go and if you had to go into a field you'd have permission to negotiate with the farmer.

TC: How much would the farmer get?

GK: It depends, in those days there would be about 4 holes per mile and about \$25 a hole. In Alberta about 25% of the land mineral rights are owned by the farmers and 80% by the Alberta government. In Manitoba the situation was the other way around, 80% by the farmers and 20% by the government. So in Manitoba they were more than anxious to let you work in their land, they had the mineral rights and the practically ripped down fences so you could go through. There was quite a difference in the way people treated you. But you always managed to do it. I had a surveyor that was very introverted, Joe Lessoway, and he was the best permit man you ever saw. I attributed his success to the fact that he was so pessimistic and negative that the farmer would just feel sorry for him. But he sure got the work done. I tell you, in those days you didn't want a fellow in a suit and a

panama hat, smoking a cigar, asking a farmer to go through his land. They had enough of those people selling medicine.

TC: So how did they do it in Italy then, I mean if you couldn't go along the roads?

GK: Well, you could where it was possible. 65% of the land is owned by the Catholic church. So you'd go to the local priest, they would. And you would pay for damages, in Canada if we went through a field we paid for crop damages too, based on the . . . it was generous, it was based on the best crop and the best price and everything. So the church was, they were always cooperative.

#146 TC: So you would have paid per hole and also for damages?

GK: They'd say we want to go through here and they would just make a price at so much.

TC: Were any of the crews, probably not what you've been telling me but they didn't become unionized or anything like that did they?

GK: To my knowledge they're still not unionized.

TC: So they were able to remain sort of out of that, even though the communist movement was so strong and unions were sprouting up everywhere.

GK: Well, you didn't have any communists in the crews.

TC: Because they were kept out.

GK: And they were so well paid compared to the rest of the population, they just weren't interested. When you've got a guy with very little education making as much as a bank manager, he's not going to want a union. They really enjoyed their work and did their best.

TC: How long did you stay in Italy?

GK: About 2 years, a little less than 2 years. The work was dropping off just slightly in Italy and it was opening up in Libya, so actually, I got married in England. I knew Shirley in Calgary, she was a nurse here. The story I tell you isn't part of history but anyway, you can ignore it or turn off the tape recorder but anyway, I got to Italy and I ate spaghetti and drank wine, I was really losing weight, dropped about 20 lb. So the story I say, I went to see this doctor, he gave me a complete examination, physical, medical and he said, many, you've got to cut down on your sex life, he said, get married. So I sent 10 telegrams to Calgary and Shirley is the only one that answered. But anyway, she came over to Rome and we got married. So the Vice-President in Rome was Milan Bocalari and he was Genoegian and they're the sharpest business people in the world, the Genoegian, they were really keen business men. So I'm going to get married, the crew is off for a week at Easter time, 10 days and I'm going to get married in Rome in this period of time. So they were just a week or so. . . I arranged everything because Shirley was still in Calgary, I arranged everything, it was at the American Episcopal Church, the Catholic Church, we weren't Catholics but actually the Catholic church is the only one that has the right to perform a marriage ceremony in Italy but they have given the right to the municipal governments to perform non-catholic marriages. So we were married by a Deputy Mayor of Rome and then we had a church wedding in the Episcopal church but the legal one was the civil one. So anyway, a week or so before the wedding I got a call from Milan

Bocalari, he said, George, we like you and we're going to pay for your honeymoon. I said, no thanks Bo, because I knew him pretty well by then, he said, oh no, George we want to pay for your honeymoon. I said, what's this all about Bo, I'm going to Capri for my honeymoon. He said, you can go to Capri but we'll pay for it. I said, what else is involved Bo, he said, well after your honeymoon in Capri we want you to go to Tripoli. The oil industry was just moving in there and they just wanted me to look at what was going on, meet some people, see how they were thinking. Western didn't have any contracts for Libya at the time. So anyway, Bo always got his way, so I was allowed 2 nights in Capri, how long does it take to have a honeymoon anyway. But I got deathly ill in Capri, it was just the stress I think and my fever got up, temperature got up to 104 and I was really in bad shape. Shirley was a nurse but she didn't speak a word of Italian. We had a nice wedding and reception at the residence palace in Rome.

#215 TC: Did she go with you to Tripoli?

GK: Yes. She went with me practically everywhere ever since. Except when we were in, oh no, it was another time when we went back to Tripoli later. Oh yes, she went there and we just met some people and got some ideas what it would take. And then when the crews were dropping off in Italy they asked me to go to Tripoli and bid some contracts. So I went there just to meet and entertain people and stay at a nice deluxe hotel, I had a great time, met some wonderful people. They were making a couple of movies there at the time, Legend of the Lost, with John Wayne and Sophia Loren and Elizabeth Taylor's husband, Burt, the Englishman, was making a movie there. So I got to meet John Wayne and have a drink with his wife Pilar and saw Sophia Loren and got her picture but never talked to her. There was a great movie, they were all moving in at the same time and when the oil industry does that, everybody is everybody's friend, they help each other out.

TC: But you said you got sick in Libya.

GK: Just a bug of some sort. Everything was blurred and Shirley said I was delirious, I told her to move the furniture out, I had to survey the room. Anyway, it was so hard to get aeroplane reservations and hotel reservations in Libya, I said, we've got to go regardless and I still couldn't see well, couldn't focus to fill in the forms for customs and all that. We went there, I got over it. But in Capri, Shirley wanted a thermometer to measure my temperature, so she got out her Italian dictionary and thermometro, so yes, si, si, and the maitre D' comes out with the candy thermometer. But there were some people from New York at a table next to her and they wondered why a young single person was having her meals all alone. So they came over to talk to her and they had a thermometer and they loaned her the thermometer and they asked her to accompany them to the store where they made Toreador pants in a few hours. They wanted one for her daughter-in-law who was just Shirley's size, so it ended up Shirley ended up with they buying her a pair of those too but they were inexpensive as heck. So we went to Libya and then we went back there permanently for 2 months.

#260 TC: And then after. . .

GK: After that I got a call from Salvatore saying they've got this new system, playback system

where you took the information on the seismic tape and processed it so it was easier to interpret and made it more graphic. And on the way back he wanted me to stop off in London and New York to talk to BP and Imperial Oil, Esso it was called, Esso in New York and BP in London. Because I had worked for Triad, I knew the BP people. So that made it a nice trip. Came back to Rome and got what we could carry with us and I was supposed to phone Henry when I got to New York. So I called Henry from New York and well, we want you to go to Shreveport where there's a playback centre, you'll learn how to use it. You'll be working on interpreting for an offshore crew while you're there.

TC: Which port?

GK: Shreveport.

TC: Where's that?

GK: That's exactly, when I hung up, that's exactly what I said, where the hell is Shreveport. Louisiana. So I called up the telephone operator and said, can you tell me where Shreveport is. She said, well, there's one in Louisiana, there might be another one. So I called Shreveport and told them the situation and they told me, check in at the Captain Shreve Hotel, which is close to the playback centre there. By this time you know, in Canada and in Italy, we had a policy, it certainly wasn't in the U.S., where when a new man came to an operation he was met at the plane or at the train. We always did that, if a Party Chief was in town in Italy you would take him out to dinner and you would book his hotel room and pay for it and everything, it was just sort of a courtesy to make people welcome. So I was quite shocked when there wasn't anybody to meet me at the airport. So I got to the Captain Shreve Hotel, at 2 in the morning, there's a knock at the door, some night lad saying, sir you better take your shoes inside, somebody might steal them. I was used to leaving your shoes in the hallway and they would be nice and clean and polished when you got back.

#310 TC: So it is in Louisiana?

GK: Yes. It's inland.

TC: It's inland?

GK: Oh yes. Hotter than heck there.

TC: An inland port.

GK: It's not a port, it's just the name Shreveport. That was sort of the centre for oil activity in that part of the world.

TC: But all along I think the seismic technology was getting better and better.

GK: It was, yes. Well, see here they had a playback centre. And there were very few of those around. So I spent 6 months there. Of course, Western had a policy, when you learned something you learned it at night and a client paid for your daytime time. Which was all right. So the idea was that Western was going to do a large job in the Persian Gulf, marine job and they were going to set up a playback centre in the land and I was supposed to go back there to run it. So I was there for 6 months and there was a delay in this Persian Gulf operation so they decided they would set up a playback centre in Canada and so I was familiar with everything, they just sent me to Canada and equipment followed me and I was running the centre in Canada. It was quite an experience. It had

more to do with meeting clients, a couple of good technical people, that's all it took. I did the work for the Western crews.

TC: Was that back in Calgary?

GK: In Calgary yes. After about 2 years, about 1960 we knew that Western was going to send a bunch of Canadian people to the Canary Islands for work in Spanish Sahara. And one of the clients wanted a playback centre right there so I got a call from Henry, how would you like to go to the Canary Islands and by that time we'd heard the other crew people talking about it and we said, hey, that sounds great. But we'd bought this house and we were living here, mortgaged to hell, we thought we were. The maximum mortgage you could get in those days was \$13,000, but I had a bunch of money from my foreign operations and the reason we were able to get it is we could make a big down payment. So we bundled up my whole playback centre here and shipped it to the Canary Islands.

TC: And you maintained the house?

GK: We rented it. First guy to rent it was vice-President in Mobil, Ken Joint???, when we let him know we would be coming back he moved next door and the house was empty for a couple of months so at least it was ready for it. He was a great. . there was some damage done he offered to pay for but I told him it wasn't necessary, you've got to expect. . I should have let him because it was the thing to do.

End of tape.

Tape 2 Side 2

TC: Okay, so you were in the Canary Islands for 2 years.

GK: I had quite an easy job there because I was only working for a few crews. I solicited work from the competition and got some of that and that all worked out quite well. By that time the Spanish people could handle what I was doing there so my 2 year contract was up. We hadn't taken any holidays, every day was a holiday in the Canary Islands. So I had about 6 weeks, so here again, we decided, I had bought a car, we'd tour Europe and come back by boat with the car on the boat. And that worked out quite well. We had a 6 week vacation, drove to Venice, we had the car shipped to Seville from the Canary Islands and we flew there, picked up the car the next day and drove all along south Spain. We went to Granada and Alicampe??? and then all along the Spanish coast, Barcelona and then the French Riviera. We stopped off there on our way to the Canary Islands, then up to Genoa and Milan, across to Florence and Rome and then to Piscary, where Western's shop was to visit some of my buddies there and got on the boat at Venice and came back through Pampas, Greece. It was another cruise ship, it was the Italian line and stopped off in Naples and Sicily and a lot of nice stops that cruise ships do. Got off the boat at Halifax and drove to Calgary. We got the car off with us.

TC: So now, how did the rest of you career sort of. . did you stay with Western Geophysical?

GK: No. Because by that time we had two children, we had a house and people were moving around a lot. So I got a job with Sinclair Oils, which later became part of Atlantic

Richfield. But I was quite bored in that job, they didn't encourage people to express themselves. So I went from Sinclair to Mobil because digital recording had just come out and digital processing and of course, I just come through the processing stage, it was all analogue. So Mobil I thought would be a great company because I thought I was research and technically oriented, which I was at the time and enjoyed. And when I was with Mobil I was asked at one time whether I wanted to go into research or management. After about 6 months or less that they'd been watching me. I knew I wanted to go into research but I thought I'd play it cool and say, let me think about it and talk to my family, my wife because the kids were too young. I was talking to a neighbour just a block away, Hugo Rendon??? who was with Texaco, Texaco and Mobil and maybe Chevron were the ones that got digital recording, who paid GSI to form digital recording. Hugo just came back from Houston, he said, what a sorry situation George, got all these supervisors sitting there in big rooms putting wheels on tapes, my god that's not what I'd consider research. So I went back and I told Dick Jakes, I said, maybe I'll go into management. So they, within a month, they sent me on a management course in Chicago. And I was progressing up the line but I realized Mobil was too big for me. I noticed that, I leave these companies, Triad was little when I started and when they got big I got bored. And Rainbow Lake was just discovered and the key to discovering Rainbow Lake was Mike Hriskevich, ????. He was just nominated for the Petroleum Hall of Fame and we worked together at Triad. Some of the early people who were geologists and geophysicists in 1954 would get together with our interpretations, argue and smooth things out, then go into a management meeting completely agreeing about what's going on. Mike like that, so he got it, and I did too, I'm not saying any of us invented it, but he got a real interest in geophysics and it was geophysics that really found Rainbow Lake. And really brought another new era to geophysics, being recognized as a tool that can find specific type fields. It was used to find Leduc back in 1946 or so, but this was just another renaissance if you want to say, of geophysics, thanks to Mike. So he wanted me to go to Banff Oils, which later became Aquitaine. I said, well Mike, you've already got a boss there and then did have a darn good geophysicist, Bill Hryor, who's also dead now. I remember one article in Oilweek said, Hriskevich and Hryor each find Hreefs. Because they both start with an H. but they hired a few more people, at that time I was with Mobil looking after the foothills and they didn't have any money for a million dollar well in the foothills when the can get a big producer in Rainbow Lake for \$250,000. So I was doing all these reports and they were sitting on the shelf doing nothing and I was bored. So I phoned Mike up and he said, yes, we'll hire you. So I went over to Banff Oils. Just about the time, I was there for a couple of years I guess and about the time they were changing Banff to Aquitaine of Canada, I'd done the work that found the Strachan gas field so I was a big hero. John Rudolph was the President of Banff Oils and he had a policy that when ever there was a new discovery and we had a lot, John would throw a big party at the Shamrock Hotel, or the restaurant across from the Shamrock Hotel for all the people directly involved with the discovery. So here they can have this big party and I didn't go to it because I thought it was not right. You know, everybody in the company, and John had me out to lunch the next day to find out why I wasn't there, I said, John, everybody in

the company was involved with that discovery one way or another. I just didn't feel right going without some of the people that helped me. In my opinion you'd be better off buying a few cases of beer for the whole company than champagne for a chosen few. John looked down, obviously he wasn't pleased and said, thanks George, I'll think about. So I decided it was time I was going on. ??? they had a personnel manager, John never paid any attention to him, he'd pretend he was interested and of course, now, John is a great person in his own way. I'd met him long before then when he was a partner with Richfield on something but that wasn't my style. And this contracting company, Velocity Surveys were looking for somebody to manage it. So I went over there, back to the contracting business, back to 24 hours a day, 7 days a week. I enjoyed it. Back to my field people.

#108 TC: That's a comfort area for you I think.

GK: I guess it was. That's right because all you have to do is. . you know, there's more stress, believe me, when you're with a contracting company, you've got the shareholders, you've got to make money, you've got the owners of the company, you've got the field people, they don't give a damn, they just want to be happy in their job. And you've got the clients, they want to get their money's worth. So these guys want all the money and these guys want their money's worth and these guys in between are the ones that make it. But if you have a proper balance, and I've learned from people I'd admired that the best way to do things is to tell everybody just exactly the way it is. Don't tell one person one thing, another group something else. I think that's old fashioned now but. . .if you had trouble on the crew you tell the client right away, don't surprise him when he's got a meeting with his superiors, find out that it's going to cost more or something. If you're not going to give the guys on the crew the weekend off, tell them and tell them why. And if you're going to have to spend extra money and lower your profits to do the job for the client, let them know, have the authority to do that. So in a way there's stress but it's all your own, you call the shots. When you're a Party Chief on a crew, you're out there all by yourself, nobody is telling you what to do. When you're managing a whole company it's the same thing. And any time somebody tries to tell you what to do, you tell them to get lost. That's the best I can do, if you don't like it get somebody else. At Velocity Surveys I had a permanent letter of resignation written out. Fred McConnell was President, I was Vice-President. Sometimes he wouldn't agree with me so out came my letter. We'd calm it down and talk things over, but it worked fine. Velocity Surveys got taken over by a group in the east who'd invested a lot of money in Spartan Air Surveys. And they were losing money, Spartan were, and Spartan on paper, owned Velocity surveys but we were operating independently. And they were losing a lot of money through Spartan. It was a good company, they just didn't make money, they were doing aerial photography work and mining work, mining geophysics. So they said, hey, look, you've got a contracting company here and we've got seismic. I guess Lytton took over Spartan and Lytton had Western and they said, there's this conflict of interest, we're going to merge Spartan and Velocity Surveys. In so doing they merged all our assets and all our debts. We were making money, we had a lot of good happy clients, but they would take all our money to

pay Spartan's debts and we got behind in our payments. And actually, one of our suppliers who we owed a couple of hundred thousand, talking to him, Ross Pennington at Explosives and I said, Ross, put us on COD, cash on delivery, that's the only way we can get the money, these guys are taking it all. And Ross said, George, you've been there for 2 years, I've been doing business with Velocity Surveys for 15 years, we'll just carry you. So we went into receivership and I went to work for a company called Sigma Explorations, which was a data brokerage company. I had a lot of contacts in the oil industry then at the working level, and we also did speculative seismic surveys. So I went as assistant to the manager and then as we got bigger and bigger, which we did, we did a lot of spec surveys, I was made Vice-President of Operations.

#168 TC: What year was that?

GK: I went to Sigma about, I'd guess at 1972 or sometime in the early 1970's. I've got it in my resume somewhere. And we put out a survey in the Arctic on the ice in the Arctic in the winter. We got together with a fellow called Lorne Reid and we put it out for bids and the bids were all too high for what we had in pre-sales. So we just decided we'd get our own crew and shoot it ourselves, which we did. And we did that successfully for 3 years. Spec surveys, we called it Ice Arctic, '72 and '73 I guess. So about '71 would have been when I went to Sigma.

TC: So you went up to the Arctic to work there?

GK: Oh yes. We designed an operation, Lorne Reid was a consultant, he had some ideas. Lorne is a fantastic person, no technical knowledge but just a great manager and organizer. And we got a light operation because the cost of moving stuff in the Arctic are very high so we got little tracked units which we'd used, when I was with Velocity Surveys, we did a job in the Arctic for BP, which was really successful. We came in at about 1/3 their budget. And they had this heli-portable operations with very light vehicles that could be carried by helicopter. So we used that idea in the Sigma operation. We had a special camp made that could be pulled and it was just a real financial success. So we were shooting a lot of the ice on the Arctic and people who had the mineral rights there, Sun Oil and Pan Arctic and Phillips, they all thought, gee, these guys are making this information available to the whole industry. They said, let's shoot our own program. So they got together and they put a fellow called Bob Koenig with Sun. . he's also dead now, in fact his wife just died about 2 weeks ago, we were at the service. Bob died about 10 years ago. So they put together this program and we got a chance to bid on it, we had a crew out there and everything. And this was to cover all the ice in the Arctic that was owned by anyone. Our operation for them was extremely successful. We would do some private shooting up there but we made a lot of money in a short period of time. And we upgraded our equipment and got better every year until interest in the Arctic sort of faded. And Pan Arctic and everyone just went to drilling, they stopped doing seismic. This was all on the ice in the Arctic. So Lorne Reid and ourselves, with a lot of encouragement, more through Lorne than me, we developed a shooting system that hasn't been changed since 1975 or the last year we were out there. 25 years and it's still the best way to get quality work on the ice in the Arctic. Lorne was very persistent in what he saw and I was

easy to get along with and we came out, the system was really successful.

#228 TC: The working conditions must have been. . .

GK: Well, the Arctic, we learned from BP and Don Walker, who was one of the guys who replaced me at Triad, was Chief at British Petroleum then. That again, is another story. Don, don't want to run out of tape. . Don was hired by Triad when I left. He was a really good technical person, people said he used to own part of Universal Seismic and people said he used to have some problems. I met Don when he was running a gravity crew. He was eccentric and he would flare off, evidently he had a growth in his head, a growth that was non-malignant and when they removed that Don just turned out to be a top notch technical guy. So we heard about this work being offered in the Arctic, so I went to see Don, he took my old job, he had time to talk to me. But he used to work for Velocity Surveys and he said, George, do you really thing Velocity Surveys, I used to work for them, do you think they could handle a job like this. When he worked for them they were a rangy tang outfit. So I said, well, Don, let's have lunch and we'll go meet some of the people and look at the operation. So I drove him back after meeting and he said, George that company has changed a lot, I'm going to let you guys bid on it. And we negotiated a bid because we didn't have a lot of money in Velocity Surveys, where they had all the equipment and our bid was really low but we got a bonus for production. And god, we tripled production in the Arctic, we made a lot of money on our production bonus. Our basic monthly bid just paid for our operating expenses and a little bit of profit. But it was a wonderful contract. But the experience I got in the Arctic was really helpful for the Sigma operation. So we were doing so well, what we did is we bought our own instruments because it was hard to get instruments. We had to buy a set of instruments for \$100,000, well, we did and you paid \$25,000 a month to rent them. You'd have to rent them for 3 or 4 months for an Arctic operation, they were paid for in one year. So we owned instruments which we rented out in the winter and summer and used for ourselves in the spring. And that worked out well. So we got some land crews out and I was looking after those too. Mostly in the U.S., we had a U.S. operation. So I was running that out of Calgary. Finally there was a sort of switch in policy in Sigma, I owned part of it by then and some of my alleged shares didn't get to me so I just. . it was all right, it was all legal and everything. . so I just decided I would leave, I sold my shares back to Sigma and went consulting. And at first I was kept very busy but I just tapered off. It was about 1982 or '83 I started a consulting firm. And I kept my overhead low, I worked out of my office, or out of my clients offices and had a lot of fun and I just tapered off and now I do practically nothing. We'll go to the convention in San Antonio this year and that will be about the end of it.

#289 TC: What have you enjoyed most about your career, I know you've touched on it a number of times?

GK: I've enjoyed all of it really. I noticed you have that list here and all you've got to do is change the order of it because the last part of my career was dealing with people, especially at Sigma, field people, I've always liked field people. Once a week I still go down to the Crossroads and the guys are in from the field. Shirley isn't happy sometimes.

And we get together but I always get together with field people once a week. Discoveries that was nice, I did work that found a little oilfield when I was with Triad too. But that's just nice to know it happened. Deal making, that's a challenge, technology and science, of course, that was the beginning, that's when I got all my basic stuff. So ??? and people at the far end, and I think you'd put discoveries somewhere down the line and deal making too. Deal making is fun, it was when I was doing it because by that time I knew all the chief Geophysicists, geophysical managers and most of the exploration managers, they were all my peers. So you didn't have to have an appointment, you didn't get the voice mail, you just walked up and walk into their office, past their secretary and say, hey, have I got a deal for you. And if you'd done something good for them in the past, you know, professionally and it was successful, they'd listen to you. They had to. I mean, when you're dealing with a client, as long as you don't put him on the spot with his uppers, he's going to always listen to you. But if you shock him with something, he's in a meeting and all of a sudden here's something that really makes him look bad, don't expect him to go to bat for you.

#325 TC: Do you have any regrets at all, things that you would have liked to have done?

GK: Not really no. I was lucky, I just got in the business at the right time. Most people will tell you and we bought our houses when we got in the seismic business, you got a pretty good financial business. And the people I worked with and the people I lived with when I was travelling around, they've all turned out as the ones that are still really good friends. I get together once a month with the Mobil group at the Elks. We'll probably be seeing Mike at a band??? concert, Mike Hriskevich. So no, no regrets at all.

TC: Gosh, I guess contributions too. I think you've already answered that.

GK: Well, anything I did was just part of thing. We don't have John Wayne out there looking at a seismic record saying, there's where the oil is. That's a lot of technical work, it starts with getting that land and the geology, and everything fits together. At Mobil I got excellent training in that because we had little teams that worked, a landman, a geologist and a geophysicist. We'd work out a play and put it all together, they were all part of it. The technical improvements. I've always had good people, like Lorne Reid and Carl Savad and people that I genuinely like and easy to communicate with.

TC: Great, is there anything you'd like to add?

GK: Well, the oil industry is just so different now. Because originally the person calling the shots was an explorationist, he was a geologist or a geophysicist or an engineer that had come up through the ranks and since the early days of the geophysical incentives, drilling, bonuses and PITT grants, the control has gone from explorationists to really, to accountants and lawyers. And right now, it's merging. So really, and this is the way it's got to be, I'm not saying there's anything wrong. But a person like me wouldn't fit into the oil industry. My timing was just right. My birth and graduation worked our pretty good for a person of my likes and dislikes. But right now it's just negotiations and really.

End of tape.

