BOEM DEEPWATER GULF OF MEXICO HISTORY PROJECT

OFFSHORE ENERGY CENTER HALL OF FAME

Interviewee:	George Lagers
Date:	October 10, 2009
Place:	Houston, Texas
Interviewer:	Tyler Priest
Ethnographic preface:	George Lagers was born in Maastricht, Germany, in the middle of the Second World War. Lagers eventually became interested in naval architecture, and in 1968 earned his degree from Delft University. Lagers' first job was at a shipyard near Rotterdam, one engaged in offshore work (including fabricating jack-up rigs). After nine years, Lagers left the yard in 1977 after having analyzed primarily dynamic positioning systems. Then at the Ocean Minerals Company, Lagers worked on dynamic positioning issues in 1978 for a seafloor manganese nodule mining concern. In 1992, Lagers formed his own one-man consulting company. In the late 1990s, Lagers gained fame in the historical community when he co-published *Fifty Years Offshore* with Hans Veldman.

File 1

TP: This is an interview with Mr. George Lagers for the OEC Hall of Fame induction 2009. The interviewer is Tyler Priest. We're in Houston on October 10th.

Congratulations.

GL: Thank you very much.

TP: Thanks for joining us. Let's start off with a little background. I see you were born in Maastricht in the middle of World War II.

GL: Yes. Well, actually I didn't notice very much of World War II, because in '44 Maastricht was liberated, half a year earlier than most of Holland. So we didn't suffer very much in Maastricht, and I was too young.

TP: So tell us a little bit about where you grew up and where you went to school, and how you got interested in this whole business.

GL: I grew up in Maastricht, went to school out there. The Dutch school system is not exactly like the American, but it has a first school, second school, and then you go to university. So up to my eighteens I lived in Maastricht, and then I went to the Delft University, doing naval architecture, which was kind of strange for somebody from Maastricht, which is in the hills. There's no water. Well, there's a river passing through Maastricht.

TP: So how did you get interested in naval architecture?

GL: I loved ships, and my father was involved in a small shipping company as a sleeping partner. So I got stories, I got photos of ships, small ships, and I found it very interesting. So that's why I chose this profession.

TP: What year did you start studying naval architecture?

GL: 1960 I went to Delft University, and I got my degree in 1968.

TP: I'm just trying to think timing, because Bruce Kolaf [phonetic]—you must know Bruce Kolaf.

GL: Yes.

TP: That's about the time he was converting the *Bluewater* to the first semi-submersible, right when you—

GL: 1967, I believe.

TP: Well, it was early sixties, right when you were going into your university. But, yes, in the early sixties, and then you had the first generation of the semi-submersibles.

GL: I had the pleasure of interviewing Bruce Kolaf while we were writing this book about offshore history.

TP: Yes, I've talked to him a few times, too, researching the Shell thing. So I didn't mean to interrupt. So you graduated, you said, in '68 from Delft, is that right?

GL: Yes.

TP: And where did you go from there?

GL: My first job was a shipyard in the Rotterdam area. Well, enabling the city of Rotterdam Schiedam, which is primarily known for its jenever production, but it had a shipyard that was specialized in special equipment, dredging vessels, and in the mid-sixties they started to move into the offshore designs, offshore constructions. So I didn't even know what offshore was at the time, but I joined a shipyard and got involved in offshore projects from day one, more or less.

TP: What kind of things were you working on?

GL: The yard had built a five-legged jack-up platform. Only two of that type have been built ever.

TP: Five legs?

GL: Five legs, two too many, really. And the first thing I got to do was analyze the motions of that platform with elevated legs and with legs half down and legs just above the seabed, to try to analyze impact forces when the jack-up is lowered down to the seabed before it's jacked-up above the waves. It was interesting, getting involved in model test results.

TP: I know there were a lot of problems with jack-up rigs in the early days, I guess, maybe more in the fifties and sixties, a lot of problems with stability, right?

GL: Yes, they weren't really fit for ocean tow on keel. That's where most jack-ups were lost, during ocean tow. Once you had them in more quiet

waters or in tow somewhere, generally they were okay. But also the stability standing has been a problem sometimes. There aren't a lot in the industry.

TP: You said the company you were with was—how do you pronounce it?

GL: In Dutch we would say "Husto."

TP: Okay. G-u-s-t-o. And you stayed with them for—

GL: Nine years, until '77.

TP: And you were still mainly working on jack-up designs?

GL: No. The main job I've been doing there was in dynamic positioning.

TP: Tell us how you got into that.

GL: The yard had secured an order for building a drill ship for a French company, Foramer [phonetic], and that ship had to be dynamically positioned. Now, people at the yard didn't know what that was. Neither did I. But my boss said, "Well, you know other things on hand at the moment. We'll make you responsible for the working of the dynamic positioning system," and that's how I got involved. I had to specify the system and find suppliers, and then follow the assembly of the system and see that it would work well.

TP: This was the *Petrol*?

GL: That was for the *Pelican*. *Pelican* was the first of that series of ships. Actually, the design itself has been repeated twelve or thirteen times, although they grew a little bit bigger starting from *Pelican*. But the *Pelican* was number one with a French DP system from a firm which is very well known at the moment, but was not known at that time, Alcatel. The second ship had a Honeywell system, and I just saw the photos of people nominated today, Henry Van Calcar.

TP: Yes, we talked to him earlier.

GL: I worked with him in those days.

TP: Oh, you did?

GL: Yes, a very interesting time. I've been to Seattle several times. That was for the second ship, and then we worked for the French again and we had French systems again.

TP: What were your contributions? What kind of things were you trying to do with dynamic positioning on these ships? Tell us about your involvement.

GL: I was trying to understand how the system would work, and setting up simulations off-line and not in combination with the supply, but independent from the supply, to check out that the system would work well. For that, we involved a Dutch institution, TNO—the name may be known or it may not be known—and we set up hybrid simulations, because at that time digital computers were very small things, very slow.

TP: Hank was talking about that too.

GL: Yes. So by having an analog computer and a digital in combination, we could do the simulation at a reasonable speed, more or less one-to-one. My task in the simulations, in particular, was to obtain the ship-motion data, which we did by calculations not by model testing, and to get the data on thrust behavior when you change the pitch of the propellers. This was a ship with controllable pitch propellers, and that involved a lot of model testing because there you could not rely on mathematical models. They just weren't available. So we ran tests at the Maryland tow tanks, and got a whole bunch of data which we then worked into the simulations, and finally then we included the control system software supplied by Acatel, the DP system supplier, and ran complete simulations, and saw that—well, there were problems, as you could expect, teething problems with a new system like that. But ultimately when it was built on-board, and finally started, we still had problems, but it worked in the end.

TP: This is the *Pelican* you're talking about?

GL: This is the *Pelican.*

TP: Where did it do its drilling?

GL: It started with sea trials in a deep fjord in Norway, and then very early on its lifetime it went to Labrador and was drilling in the iceberg lanes. Drilling with other equipment, other than dynamic positioning, is basically impossible, so not really deep water at that time but a difficult area. They drilled in many other places too. I'm not aware of the complete record of the ship. It's all over the world.

TP: And so you were with GUSTO until '77?

GL: That's right, yes.

TP: Were you were still working on dynamic positioning on other vessels?

GL: Dynamic positioning for [unclear] vessels, and also I was working on the design and construction of the big semi-submersible pipe-laying barge, which at the time was named *Viking Piper.* I think it's still called *Acergy* [phonetic] *Piper* at the moment, but I think it has changed hands again.

Anyway, that pipe layer was commissioned in 1975, and was built specifically for North Sea conditions for crossing the Norwegian Trench, deeper water, and medium-sized pipes.

TP: And it was a dynamically positioned pipe—

GL: No, it wasn't. No, that came later. And I wasn't involved in that project.

TP: Then when you left, you said in your CV, you were seconded to Ocean Minerals Company.

GL: That's right. I left together with a number of friends, and we started a small engineering company under the wings, so to say, of a Dutch dredging company, Boskalis [phonetic], and Boskalis got involved in an ocean mining program which was managed by Lockheed.

TP: This was for the manganese nodules?

GL: That's right, yes. In '78 that was hot stuff. I was seconded to that program because of my understanding of dynamic positioning. Again, this ship would have to be dynamically positioned, and more particularly it would have to trail over a certain area to pick up nodules, and at the same time have a long pipe dragging under the ship over the same trail. So dynamically it was a complex picture, but very interesting.

TP: You also worked on the *Glomar Explorer*, is that right, or conversion studies?

GL: Yes, conversion studies. I've been on the ship itself once during testing of the mining system, because this ship was virtually the only one which was not particular built for the purpose, but which could handle a deep-sea mining system.

TP: And Hank worked on this, too, right?

GL: Yes, I think so. Certainly in the early application of the *Glomar Explorer*.

TP: The Jennifer Project.

GL: That's an interesting book, by the way. You probably—

TP: I've looked at it. I haven't read the whole thing, but I know the story. We also, a number of years ago, interviewed Curtis Crook [phonetic], who was with Global Marine and involved in that. I think he even headed it up.

GL: Yes.

TP: And so you got involved in ocean mining.

GL: That's right, yes. We lived in California for a couple of years and had a wonderful time out there.

TP: Do you think it'll ever become viable again? Every now and then there's a revived interest in this whole idea.

GL: Yes, it lived on for a while after the turn in '79, 1980, when we found out that the market for nickel was dropping, and the cost of the projects were rising. So that project was abandoned, and there were several other mining projects by other companies and also they stopped the development. But some countries went on for a while. Japan was interested, France was interested. But also they ultimately stopped developments, but it may come back. I don't know. I'm not too sure about that because the value of nickel, on which the whole project was based, dropped in the early eighties, late seventies, and the industry has found substitutes for nickel in its various applications. So whether the price of nickel will go up again sufficiently to justify another deep ocean mining project, I doubt it.

TP: Probably not, yes.

GL: But you never know.

TP: So after Ocean Minerals, you started your own consulting firm, is that right?

GL: No, I went back to MSC, the company that we formed in 1977. I managed the company for a number of years, and then when we ran into difficult times, we sold the company to IHC, to our former employer, so to say. I

stayed involved for a couple more years, but then I formed my own company, one-man consulting company.

TP: In '92?

GL: That's right.

TP: But during the eighties, you continued to be involved in a lot of different—

GL: Very different projects. And at that time the main line of MSC was jack-up design. We did some dredge design too, and little bits of semi-submersibles, but the main product, if I may call it that way, was jack-up platforms.

TP: But you still worked on DP systems and a lot of things?

GL: Yes.

TP: Catamaran ferries.

GL: Yes, it was an inland ferry.

TP: Was there any particular projects that were memorable, that posed unique challenges that are worth recounting?

GL: Less in those days than in the days at the shipyard, because there we were completely in new projects, things that had never been done before. In my days at MSC we were forwarding technology, I believe, but it was not so much a breakthrough as things were in the days of the GUSTO shipyard. But there were interesting projects, nevertheless. I'm trying to remember anything in particular. I was managing director, so my involvement in the projects was limited usually.

TP: Yes, you were away from the technical side.

GL: Maybe the most interesting thing to mention here was the development of a small spar for Shell. Shell had an interest in a small platform floating but which could be built at low cost, typically for step-out wells or what have you.

TP: The mini floater?

GL: They called it the mini-floater. It looked like a spar, but it was much smaller in diameter, but large draft, also like the spars we have now in the

Gulf of Mexico. I got involved in that project more personally, because everybody else was occupied with other things and I was a naval architect too, and it's fun to stay in touch with technology.

TP: We've honored a few people in dynamic positioning. Howard Shatto. is the other one, I think. You must have contact with him.

GL: Yes, but that's long ago. That's again in the probably mid-eighties.

TP: Is there anything else you can tell us about yourself or about other individuals in your area, or any stories that you might have?

GL: Oh, yes, there are very nice stories, of course. On dynamic positioning, I had a nice adventure when we were testing the *Petrol.*

TP: Go ahead and recount that story, the sea trials of the *Petrol.*

GL: That's right, yes, and because of the need for deep water, we went to the Gulf of Biscay, or, as the French call it, the Golfe de Gascogne, because there we had the deep water and unfortunately we also had the rough sea conditions. We had a big problem to get on board in the first place, because we took a little fishing vessel from the port of St. Jean de Luz, and sailed up to the ship, to the *Petrol*, but the wind was increasing all the time, so the captain of the *Petrol* decided that it was too tricky to stay close to shore and he moved out, and then the skipper of our boat says, "We'll go back."

But my boss was with me, and he was very intent on getting on the ship and getting the tests started and the ship commissioned, and the final installment for the ship, of course. So he offered a bundle of dollars to this captain, skipper of the small boat, and we went on for another three hours, and finally came aside the *Petrol* and could go on board.

Then we had to test the system. Well, with the usual problems. There's always something that doesn't click immediately. So at one time we had the taut wire out, which is a way of sensing the position of the ship, with a steel cable connection between the bottom and the ship, and the weather was bad and then we had a problem with the DP system, with the computer. So the ship started to drift off and to drag on that tiny little cable. I tried to keep the ship in position for a while with the joystick, and the captain and the first officer were just laughing. They didn't believe it could be done, and they were absolutely right. It didn't work. So we had to get that weight off the bottom again, restart the whole test at a later time. And all the time there was this ton of pressure, because every day we couldn't deliver the ship it was costing the yard so many dollars a day,

which is much less than ships cost these days, but still it's a lot of money for us in those days.

TP: That seems to be the common story, the time pressure offshore when you're working on day rates. I hear it in every interview we talked about it. This is always the driving factor.

GL: It is, and it's a good reason for some developments in the industry, like the [unclear] big cranes, systems that can be self-installing like jack-up production platforms. Anything that saves time at sea is worth a lot of money.

TP: So in recent years you've mainly been working with drill ships, right, not so much jack-ups anymore.

GL: Not so much jack-ups, since I have been—I should say, because I'm retired now, an individual consultant firm, a one-man company, I have worked more on [unclear] systems. I got in touch with Bluewater in Holland, and I was their consultant vis-à-vis the banks that finance the ships. So I had to report regularly on progress, potential problems, and what have you, and if the banks were satisfied, then they would send another check to Bluewater to pay its bills.

TP: Do you do any work in Brazil? I know they use a lot of [unclear].

GL: No, I've never been there. There are a lot of [unclear].

TP: I was wondering how you got involved in the *Fifty Years Offshore* book.

GL: A good friend of mine was Professor Wertz [phonetic], who worked for Shell and then moved on to teach at the Delft University, and he wanted some record of the history of the offshore. That was before [Joseph] Pratt and yourself got involved in history writing. He was feeling uncomfortable with the fact that there was not a good book about this history, and was afraid that things would move out of sight without being recorded. So he found Hans Veldman, but then Hans Veldman could write a history book, but was not at all involved in offshore. At one time Hans and I were having a meeting with some other guys, and he told about this project. And I said, "Well, I've got some time. Maybe I could join the project and help out from the offshore side of it." So that's what happened. His intention was to have the book published in '97, for two reasons. It was fifty years since the first—

TP: Well, the so-called *Out of Sight of Land*.

GL: That's right, and the other reason was that the [unclear] Conference was held in Delft at that time under his chairmanship. So he wanted kind of a present for the [unclear] Conference.

TP: Are you still interested in recovering history?

GL: Very much, yes. Once you're in that, you cannot leave it alone anymore.

TP: There's a Norwegian historian, Gunnar Nerheim [phonetic]. I don't know if you've ever met Gunnar. He's probably the most knowledgeable person on the history of the North Sea, I think, Norwegian history. There are more and more people sort of popping up.

GL: Yes, fortunately, because it would be a shame to let it pass without some nice books about it.

TP: Is there anything else you'd like to share with us at this point?

GL: Well, certainly that I'm very glad and proud to be nominated for this.

TP: Well, it's a nice honor. It's a very exclusive club.

GL: Yes. I looked at the photos outside before we came in.

TP: I think they'll probably put you down—you've been to the Ocean Star Museum down in Galveston, the Offshore History Museum?

GL: No, I haven't. Both Hans Veldman and I were in Galveston in '96.

TP: You were there before they actually started the museum.

GL: Yes. Well, this was while we were collecting material for the book.

TP: I think we can stop here. Thank you for your time, and, again, congratulations.

GL: Thank you very much.

[End of interview]