BOEM DEEPWATER GULF OF MEXICO HISTORY PROJECT

OFFSHORE ENERGY CENTER HALL OF FAME

Interviewee: Curtis Burton

Date: September 25, 2010

Place: Houston, Texas

Interviewer: Tyler Priest

Ethnographic preface: Curtis Burton grew up in both Mississippi and India, and graduated from the University of Texas in 1979 with a degree in engineering. Burton took on with Otis Engineering, and was able to work on the landmark Argyll floating production system in the North Sea, the first of its kind. Next employed by Seaflo, Burton relocated to London to help establish its office there, and became involved in the Balmoral development in the North Sea, and TLP projects like Snorre. Burton later worked alongside Petrobras on electro-hydraulic control systems in the Campos Basin of Brazil. In the early 1990s, Burton became involved in contracting with Texaco and the nascent DeepStar group, helping to get the deepwater oil and gas industry on its feet in the Gulf of Mexico.

File 1

TP: This is an interview with Mr. Curtis Burton for the 2010 Offshore Energy Center Hall of Fame. Interviewer is Tyler Priest. We're in Houston, Texas, at the Galleria.

Tell us a little bit about yourself, where you're from and where you went to school.

CB: I graduated from the University of Texas in 1979, I guess it was, and I kind of grew up, more or less, all over the world. I lived in Mississippi until I was thirteen, went to live with my sister in India, and then when I came back from there I got married when I was seventeen. Still married to the same gal after thirty-some years, I guess, now. Worked my way through school at U.T., and I got an engineering degree. Because I worked my way through school, I thought probably it would be fairly easy, there was an oil boom going on at the time, people were looking for folks, and I thought with a lot of the background that I had, I would probably do pretty well out there.

Much to my surprise, I only got interviews with people that came to campus. I got seventeen job offers and really wanted to stay in Dallas, and the only one that I got that was in Dallas was with Otis. I was more interested in aviation. I had an offer from NASA to go to work on the Space Shuttle, but I didn't want to move to Houston. So went to work for Otis Engineering, which was a Halliburton company, [unclear] tool design, and had always said didn't want to be a design kind of an engineer. I wanted to do other things. They made the pitch that design engineers at their place weren't like other design engineers, and I soon found out they were right. They were more like draftsmen. [laughter] It was even worse, and that was probably one of the worst combinations of what they were looking for and what I was looking for that ever happened.

But I'd sent out a lot of résumés while I was finishing out that last year, and one of the ones that I'd sent out landed on the desk of the people at Sedco Hamilton. What was really fortuitous and neat about that for me was that subsea had only really kind of just gotten a toehold. Argyll, which was the first floating production system, had been brought on line in '75, and as a result of Argyll, Hamilton Brothers Oil Company, who had done the field, formed a joint venture with Sedco, who provided the floating rig, because there were a lot of spare rigs around at the time, and so they had formed Sedco Hamilton Production Services.

TP: Argyll was in the North Sea?

CB: Argyll was in the North Sea. It was the first floating production system, and it was one of those deals where you had a number of industry pioneers that had gotten pulled into that. I was very privileged to sort of walk right into—they liked some of my background, and went to work for them within six months, was the acting chief engineer there, and literally got to learn at the feet of a lot of just really notable industry legend-type people.

TP: Like who?

CB: Dillard Hammett was one. Clements had just been elected governor, and even though he officially wasn't involved with Sedco anymore, he was still seen around the building. So all of the guys that had really made Sedco work and a fair number of the people that had been involved in the actual engineering and development work on the Argyll, and at that point they were doing the BP Buchan rig. I think I was all of twenty-four at the time, and I was pretty jazzed. I remember going home one night and telling my wife, because *Dallas* was big then, and saying, "Well, that's a TV show. I'm living this down here." It was pretty heady stuff.

The first year that I was there, they were doing some refit work on Argyll that I got caught up in, and they were finishing up Buchan. The guys that I went to work with were doing papers here at OTC. I thought, "Well, that's pretty amazing." Through a series of fluky things that happened, I wound up being the project manager for the next major project that they did. I was there about two years, but I got about ten years worth of experience.

TP: What was the next project?

CB: It was the Occidental Claymore Field extension. We did a lot of engineering. They never actually developed the field, but we did an enormous amount of engineering and met a lot of the guys. Of course, with doing that and doing some work on projects in Canada with Mobil, met a lot of the guys that eventually would play a role in DeepStar, and just started that process of getting to know people in all the different R&D groups.

But after two years I was really wanting to work—one of the reasons I'd gotten into the oil and gas business in the first place was I wanted to go international and I also really felt, and still do feel, that this is a pivotally important industry to the industrialized world. We get a lot of flak, but I've always felt really good about the quality of work we do, the products that we deliver. We're just doing a very important service to the world, even when they don't know it. I believed that then, and that was a big driver.

So, since I wanted to go international and there wasn't going to be an opportunity to do that where I was—a small subsidy consultant outfit had formed here in Houston made up largely of, again, some very notable, for a young industry, all the names that were names in the subsea world, Preston Mason. The company was Seaflo [phonetic]. Preston Mason ran it, Bill Baron [phonetic] was one of the senior guys there, John Kleinhans [phonetic], who was another fairly

well-known individual. These were guys that had excellent résumés for a new industry.

Here again, I wound up right in the middle of that, was hired to go move to London and open up Seaflo's office in London, as well as there was a big project that I had been working on with what was to become North Sea Sun Oil Company and the Balmoral Project, which looked set to be the first custom-built floating production system. Everything else had been a conversion. This looked like it was going to be a good candidate for a ground-up deal.

So I took that job, was successful at obtaining that project with some other people for Seaflo, and then wound up getting to do some of the major design work on the subsea template, subsea trees, the subsea control system, the subsea pipelines. Had a big interface with the guy that eventually was the project manager for Sun on that and played a role in having them select—again, up until that point in time, all the riser systems that had been put in had been evolutions of drilling riser systems, and Sun, with some dialogue that we had, wound up putting in a flexible Coflexip-based riser system, the first one in the North Sea. Was very closely involved with all of that along with. There was a design engineer that worked on that, by the name of Steve Homer. He eventually was a guy that I wound up doing a lot of things with around the world from time to time.

But, again, what happened was I wound up in the North Sea working on several of the major projects that were poster children for what was to develop technology, and evolve the industry's ability to operate not only in hostile waters, but when I finished up Balmoral, I went to Norway and worked with Saga on the deepest TLP in the world at the time, again, doing that with some ex-Exxon guys that had been involved with the Exxon [unclear].

TP: Which TLP was that?

CB: Saga Snorre. There were a group of guys in Exxon—Preston Mason, Tom Childers, Bill Loff [phonetic]—had been working for EPR [Exxon Production Research] and had developed the SPS, the submerged production system, here in the Gulf. I wound up working with all of those guys on systems that we were doing for very, very deep water at the time in Norway.

TP: What depths are you talking about?

CB: As I recall, that's in a couple of thousand feet, but at the time—this was 1986, '87 timeframe—it was pretty deep. So, again, you couldn't have asked for a better place to be exposed to guys that had really done just about everything that you could do. Preston was chief design guy on the subsea control system for the SPS. Todd had been involved with the template and the ROV system. So I enjoyed some really excellent opportunities to learn from guys that had done things day one.

Came away from that, moved back to the U.S. because that was a short-term deal, moved back over here with Seaflo, and we started then working on a software development deal. What had happened during the seventies and eighties was that boutique firms like Seaflo, working for majors, earned a lot of the money that they earned from doing joint industry programs, getting several different oil companies to fund a piece of technology, which was kind of a blueprint for what we did on Deep Star.

Then the other thing they did was they would develop particular products. They would go ahead and do a field development study for a half million dollars for, say, Terra Nova or, in my case, since my specialty by then had really gotten to be subsea control systems and subsea trees and templates, any one of those. Well, because of the work that I had done on Balmoral and because of the way things were changing, we were having a really hard time selling half-million-dollar studies, which was our bread and butter. We said, well, most of the things that we do could be computerized. At the time we had about, I think, fifteen engineers on payroll at Seaflo and we had one desktop that we all shared, because the mentality was people don't need their own computers. That was before the wave of everybody gets their own computer.

But over the next year or so, we developed a program called SeaPlan, and what that did was, it would with a limited amount of input or very precise amount of input, you could do a field development study where the program would actually do some rudimentary engineering work for you and then it would cost out what all the pieces of the system would be, and it would design the system for TLPs because we had guys that worked on TLPs, it would design a subsea system with remote tieback or it would design a subsea with a floating system. It would take you through a large number of options, and where we would have had to have charged several million dollars to give them the level of detail, we automated this and then went out and started selling that program. So the two roles that I played in that, again, that were kind of a precursor to what would happen in Deep Star, was that I went around talking to all the R&D guys in all the different oil companies around the world, and explained this program to them, what it would do, how it would do it.

TP: You actually sold the program? You weren't selling Seaflo's analysis based on the program?

CB: What we were doing was we were selling the program on the basis of here are the résumés of the guys that have written this, all of whom had worked on major projects and had knowledge of TLP systems, and we had several of the guys that were recognized industry authorities on riser systems, recognized authorities on subsea trees, control systems. So all of those subcomponents were in this program, and so when we went out to sell it, we showed the résumés, talked about what Seaflo had done, and then said, "Here's a way that you can get that [unclear]."

TP: You might have mentioned this already, but what was the timeframe here?

CB: This was end of '87, '88, along in there is when it started. That was a very successful deal for Seaflo and we actually sold that into most of the oil companies internationally.

TP: SeaPlan, it was called?

CB: SeaPlan was the name of it. That eventually wound up being owned by Brown & Root, and I've lost track of it since then. But it was an excellent tool. If you were an expert in field development, you could get down to putting in GORs and flow rates and exact oil parameters or gas parameters. But if you were a novice, you could simply say, "I know this, this and this," and it would make some assumptions and then print out what assumptions it had made. If I do say so myself, it was a pretty neat tool. But, again, that was sort of schooling on not only writing software the industry could use, but I was one of the main guys that got out and sold this to the different R&D groups.

Followed all of that by a stint in '89 where Petrobras had been struggling with some of the higher-tech-type deepwater systems and wanted someone to come down and train some of their guys. So two of Seaflo's guys, along with myself, went down, and we spent a year in Brazil training the Petrobras guys on the deployment of deepwater technology that was, if you will, at that stage Petrobras was using fairly rudimentary—

TP: This was for the Campos Basin?

CB: Right. We went in and worked with them on the deployment of, again, my particular deal was electro hydraulic control systems, because up till that time they hadn't deployed any EH systems that had been successful. In fact, their first couple that they put down had been electro hydraulic and they had failed almost immediately on deployment, and so they had sort of had an ongoing resolution that they were only going to use hydraulic-based control systems. Well, that's pretty limiting when you get into some of the water depths and the system types that they were using. So I spent a year down there working on that and on ROV systems and trees. And, again, you were seeing another group of R&D people working with another mindset in a deepwater basin that was very unlike what had gone on in Norway.

TP: So you were in Rio and Macae at the time?

CB: No, it was actually just in Rio. We were at Sinpez [phonetic] which is the research group. Eventually the guys that joined DeepStar on Petrobras' behalf, and never got around to any of their operational stuff, except checking some of the reports that came in on things that they had done.

But coming out of that, then, we also came back up here, and Shell was working the initial Auger feasibility studies, and I got pulled into working on some of those and pricing out some of the options.

TP: You were still with Seaflo at this time?

CB: Yes.

TP: Interesting.

CB: That went through, I guess, '90, first part of '90, middle of '90. I don't remember now. But at that point, started talking to Texaco. One of the guys that I'd worked with in the North Sea with Texaco was Steve Wheeler. I designed their first

subsea control system and then worked directly with Steve, and we'd had, after a little bit of a rocky start, had a…

TP: How'd you have a rocky start?

CB: Well, Steve was a consummate company guy, and he always believed that if you were an oil company, you just didn't really need consultants, except for if you didn't have enough in the way of shale material to put on the floor to cover up the greasy spots, then you could use a consultant to wipe the greasy spots up.

In this particular case, the guy that ran Texaco's North Sea operations was a fellow by the name of E.V. Turner, and Seaflo had had a longstanding good relationship with E.V. So when I moved to England, E.V. didn't believe that they had in-house the expertise to do scratch-built subsea control system, so he wanted me in, and Steve had lobbied pretty heavily to use his own guys.

So the first day I went into the office there, Steve left me cooling my heels out in the lobby there for about an hour, and then when he finally called me in, his lecture, as I recall, went something like, "You know I don't like consultants, and I especially don't like you, even though I've never met you before. So don't give me any trouble." [laughter]

Steve and I, through the course of that project, I think I convinced him that maybe consultants weren't always a bad thing. By the time that I started talking to Texaco and moved back over here, we were actually very good friends. So we talked a couple of times. The guy that ran that division, Central Offshore Engineering, Phil Wilbourn was his boss. So we visited a couple times. I eventually accepted the job with them, thinking they were looking for a subsea guy. They had a couple of small subsea deals that were going on out of New Orleans.

The first day, as I recall, that I walked in, or nearly the first day, Phil sort of met me at the door and said, "I know you've been working on some of Shell's deepwater stuff. Not a lot people know we're the third largest deepwater property holder in the industry. I'd like for you and Steve to go down and take a look at that."

So we went down and were asked to write an analysis of what Texaco had. There was some disagreement about that analysis early on, but Steve and I prevailed on management to broaden the scope of that a little bit. So we actually went in and did a look at what was going on in the industry in general, and specifically with what multinationals were doing to replenish their reserves,

because in particular, Texaco New Orleans was suffering some fairly serious downturn in their reserve.

TP: Both South Louisiana fields were starting to play out a bit?

CB: They really had no story on what to do to fix that problem. So after several weeks of going back and forth, collecting data, we turned a report in to Phil and basically made a pitch for, in part because the exposure that Steve and I both had had to deepwater in Europe and then mine in South America and the various technology angles, we were of the opinion that there was a necessity for the industry in general to do deepwater. We felt that the guys that were currently attempting to do deepwater, for a variety of reasons couldn't really get that to be an acceptable approach to the industry at large.

Our basic premise was hardware is too expensive and the mentality that I had observed through the time that I'd been in the industry, because I'd been working primarily—most oil companies had a research and development group for offshore. In Exxon that was EPR, and Texaco it was Central Offshore Engineering. Any joint research or development that was done, or indeed any kind of real research and development that was done at all, was done in those groups. Their approach to life was, "We're going to develop the best technology and we're going to deploy it, and by developing the best technology and deploying it, we're going to beat all of our competitors, the other oil companies."

And, of course, what I had seen was that Shell had very much had that approach in the North Sea. They had put the underwater manifold center down using their own numbers. They had spent about $900 million in about seven years putting that system in, and, to the best of my recollection, it had three functional oil wells on it. By comparison, when I did the Balmoral program, we developed a custom-built floating production rig, a custom riser system, subsea system, subsea templates, subsea manifolds, pipelines, controls, and that was about a 400-million dollar project.

What I had seen up close was that the reason our hardware was so much cheaper was that we were getting a free ride off of all the money that Shell had spent developing a lot of that hardware. Not all of it was hardware they'd used, but certainly in the case of some of the key components our price would have been much higher if we'd been buying Serial Number 001 versus literally Number 2 in many instances.

TP: So you were working with contractors who had Shell's technology, and they were able to [unclear].

CB: Shell had spent all the big money developing the technology, and so to me, this premise that—and it wasn't just Shell. I mean, all the oil companies had the mentality that "I'll develop the hardware and I'll beat everybody else by being better, faster, and cheaper with it."

TP: So if you're a fast follower, then you're going to lose out to that.

CB: And one of the fundamental errors in that logic was, well, that's fine, Cameron can build the hardware for you, but Cameron is a manufacturer. The only way Cameron keeps his doors open is he finds a product that works and he sells it more than once. More than once, more often than not, is going to be somebody besides you. So that was one of the tenets that went into the whole Deep Star thing, is that, first of all, we need to take a fresh look at how we do this, and, secondly, we really need to take a hard look at this idea of exclusivity on technology, because it just hasn't worked for us.

There were two things about DeepStar that were very hard. One was you were almost met with audible laughs and gasps when you talked about deepwater being commercial. Another was that when you talked about joint development of technology, even though JIPs have been around for a long time, JIPs had only been used in a very narrow bandwidth of things that couldn't steer the boat, whereas what we were talking about was comparing notes on everything, and that was just not a really popular idea. But even more unpopular was the idea that deepwater would work.

So we spent a lot of time using SeaPlan, because Texaco had bought it, to model different technology developments to demonstrate to operators that we were trying to sell the program to that it would work. The way it ultimately played out, Steve was the inside guy that kept all the old people from shooting me, and I was the outside sales guy, really, to sell the idea, because I already knew all of the different R&D groups.

In fact, George was one of the really pivotal people with MRDC. When we went in and made the pitch to George, like all directors of R&D groups, he had some reservations about, "If I fund this thing, I'm taking money literally away from internal projects." So we had to work with people like George to structure something that gave him a reason to do it. Ultimately that was that we

coalesced around ten technology areas that everybody agreed ultimately—day one they didn't, but ultimately they agreed these ten technology areas are all things that some of us are ahead of others on, but none of us have an answer to, and that we could pool our money and develop these technology areas jointly.

So, to make a long story a couple of seconds shorter, ultimately I sold the idea to all twenty-six multinational oil companies that were out there at the time, and made a strong pitch because I had spent a lot of my career working with service companies. There is a mentality that isn't just in oil companies that they do all the thinking and all the other guys are just there to kind of carry out their orders. I made a strong pitch for if we were going to do deepwater, we were going to have to incorporate the service sector in that process, because I said, "You're not getting the communication you need to have with these guys for them to develop the products that you want and need."

TP: Especially the subsea equipment manufacturers, right?

CB: And the rig guys. At the time, one of the things that we did in Texaco, because our deal with the group that—I had ten people, one guy that was assigned to each of these committees that worked for me in Texaco, and one of the questions I asked those technology guys is, I said, "Okay. Let's just assume that we go from one or two people." At that time Exxon and Shell were about the only guys with anything going on in deepwater. "Let's assume we go from a couple of guys that are doing something to people believe this, and they actually start doing it. What's the consequence? What's the thing we run out of first?"

Well, it turns out, at that point in time the [Discoverer] *Seven Seas* was the only rig in the world capable of drilling in more than 5,000 feet of water, and that was pretty startling to a lot of folks. Sure enough, it was only a couple of years into the process that you started a big ramp-up in building deepwater rigs because the industry recognized that there just weren't going to be enough out there to do what had to be done.

So out of that whole process we went from, in the early days, selling guys on the idea of getting in to get a look at what everybody else was doing, to the reason to get in is for every dollar you put in you're going to get about $100 worth of technology work done. I think ultimately that was the thing that sold not only the oil companies, but there were sixty-five service companies I eventually sold this to. The reason they got in was they said, "We can finally have a dialogue with the oil companies where we can find out exactly what they need, exactly what the conditions are that it's going to operate in."

TP: The trade-off was worth it to them. I mean, if you worked with Shell, if you were the manufacturer of blowout preventers, it was a good deal, but if you could resell it, but you were also trying to anticipate what other companies want. If you didn't know that—

CB: And to be candid, there were a lot of prejudices out there that if XYZ Oil Company had developed this, it would be too expensive. Depending on who XYZ was, it would either be too expensive and too technically convoluted to be of any use to anybody else, although the other end of the spectrum, if it was another player, it would be too simplistic and too primitive to use.

So DeepStar played a big role, in my view, not only in selling to management the idea, because it wasn't in-house technology groups that sold management of the different oil companies on deepwater, in my admittedly biased view, because what I got repeatedly is I went around to these senior management groups, selling DeepStar was a detailed, a heavily detailed drilling on, well, why would this work; what kind of water depth can we make commercial; what kind of flow rates do we have to have; what kind of characteristics does the oil have to have? Because one of the other things that had been done was that there was a belief system that based on the very early work that had been done by Conoco on their TLP, and they had run into some reservoir issues, the assumption at the time was—

TP: The Hutton TLP, is that what you mean?

CB: Well, there was also—

TP: The Jolliet.

CB: And the Jolliet one they had been beset by a number of things that made their deepwater picture look a lot like the Shell water picture. What we argued, and what Steve and I went through a lot of data and made the argument of is, we said, "That's not a sound conclusion. We think the science is there to back up the fact that deepwater in the Gulf of Mexico very likely is going to look a lot more like the North Sea than it is the kind of production you've got up on the shelf."

It took us going around and saying that to senior management to, I think, even plant that seed, and then I don't know necessarily that they believed us, but the fact that they eventually joined the program and funded it—I left after five years, but I think that there was some element of, "Well, these aren't our guys saying this. These are outsiders and maybe they have access to data that we don't have."

One of the things that I repeatedly saw as a consultant was one of those mentalities of "Well, if the guy is not smart enough to know better than to work for us, he's not somebody we'd trust. So let's go hire a consultant."

TP: Not Invented Here Syndrome.

CB: Yes. Anyway, I think the big thing that I saw that DeepStar did was it really, amazingly to me, it took management across the spectrum from "You can never do deepwater and it's not even worth looking at, to "Wow," as I believe was true, "this is what industry has to do." When you looked at the bigger mosaic, there wasn't another place to go. I think, sadly, BP has proven our theory about—and a lot of other people have seen high flow rates out of deepwater that are more indicative of the kinds of things we saw in the North Sea than the very arguably difficult production scenarios you got into in the shelf. All of that was a huge [unclear].

TP: You started DeepStar in '92, and then Auger demonstrated those flow rates in '94, '95, I guess it was. Was there a big upsurge in interest in DeepStar then after that?

CB: No. Actually, at least my take, because I very vividly remember when Auger came on line, Auger also came on line with a number of headlines about how much undramatically over budget they were. I got quite a grilling out of Texaco's senior management at that time, as well as a number of other people about, "So how are you going to make this work?"

I said, "Well, that's the very thing of what we're conspiring to do here is to bring those numbers down. Let's just say for argumentation purposes that Shell has the very cheapest technology that's out there. You already know that when there's only one guy out there using a piece of [unclear], the price is going to be higher than if there are ten of us out there using it. That's part of what has to

happen. You will see those numbers come down," and indeed that has been the case.

TP: I mentioned this, I think to Phil Wilbourn. It really reminds me of something that happened in the early sixties. It wasn't as sustained as DeepStar was, but Shell, after they had developed the *Blue Water 1* semi-submersible—and this was well before your time; I don't know how much you know about it—the RUDAC system, the Remote Underwater Drilling and Completion system, they were the only ones, and in this remarkable workshop in January, February 1963, it was called Shell's million-dollar school, and they invited everyone for $100,000 to come and be exposed to all the technology they developed.

The reason why they did that was because they knew they couldn't be the only one, that there had to be other people and the contractors had—it was something very similar, but it was just a brief thing, and all these new semi-submersibles were being built and that's when subsea wellhead technology was beginning to evolve after that. But it didn't lead to a sustained effort to join forces in developing the technology.

CB: You kind of got a wave of subsea types of things in the sixties. The SPS, as I recall, went down in '65, and at least what I saw in the industry, there was a huge mindset against subsea because I can't see it, touch it, feel it and I'm accustomed to—and I've had guys talk to me that spent their lives on platforms saying, "No. It's going to be dry."

So those waves you're talking about were true. That was one of the things that I saw with subsea. You know, you've got a little bit of a toehold and then a little bit more of a toehold and a little bit more of a toehold, and before long, it was very impossible to argue that there wasn't an area that subsea was better suited for than the way we used to work.

When DeepStar was in full swing toward the end, I had 500 senior scientists across all of the—there were ten committees, there were typically fifty guys on each one of those committees, and the committees typically were chaired by someone by design that wasn't a Texaco employee. So you had people working on things that they loved and things that they wanted to do, but you had fits and starts of progress out of all of that because technology was at different places, people's belief about what could and couldn't be done were at different places, and I think that's probably pretty typical of changing the world.

So, in addition to doing a lot of handholding with people to keep saying, "Yes, this is possible," across all those different areas, one of the things that I felt

like I was the chief pep leader for, I became quite a fan during that time of technology evolution over the ages, and one of the things I kept going back to was you know why you've never ridden on a Santa Fe Railways airline? Because they didn't get that they were in the transportation business. They thought they were in the choo-choo-train business, not the transportation business. I said, "That's kind of where we're going to be if we get married to just one kind of technology. We're going to go out of business with that technology."

Kodak is a more recent version of that. Kodak did everything they could. They ignored digital until it was almost too late. That's what I think, in my opinion, good technologists are about. You can't be wedded to "I'm going to do it this way because it's what we've always done." If I've got a different problem, I'm going to look at it and maybe, if it's necessary, take a blank sheet of paper and start all over. I was very grateful to Texaco for giving us an opportunity with DeepStar to take some blank sheets of paper out, because it was very not the corporate culture [unclear].

TP: Yes. It was different from what their reputation—

CB: I heard that a time or two.

TP: Are there any specific areas of technology where it was particularly successful that you can talk about? Or is it hard to really start talking about it now while—

CB: Yes and no. There were things that we put money into that I thought we moved along quite well, but looking back all these years later, I continue to believe the major thing that DeepStar did was it convinced, in a way that you couldn't, because you have so many strings attached to you when you're inside an oil company that sometimes you don't get to tell the truth the way you'd really like to.

I thought one of the nice things about the work Steve and I did on the front end of Deep Star was we went out and we collected the data, we did a lot of basic research, and went out and pulled the data in and really proved with the numbers and with some pretty good sleuthing that the industry had to do deepwater. I believe that really was the success of DeepStar, in my view, more than any of the particular technology areas. That message was well enough honed that as it got in front of management of all these different companies, they had no reason to fight

it. When they looked at the data, they had to conclude, "You know, these guys are right."

TP: Is there a name for the study you did? Was there a title to it?

CB: Yes. I actually have a copy of that in my personal library. It was simply the feasibility study on deepwater, but I don't remember what it was as far as the name.

I know we did a very, again, untypical thing. I remember talking to Phil about, "Well, rather than just this bland old report, let us do this in more of a magazine-style deal and have some bulleted themes pulled out in there that you can really focus them on, and we'll do it."

At that time, PowerPoints had not really come into their own. That was an evolving technology. So we put a PowerPoint deal together with it and used that package, not only—

TP: I think they called them viewgraphs, or was it really a PowerPoint?

CB: No. It was a PowerPoint.

TP: It really was a PowerPoint?

CB: It actually was an early PowerPoint. In fact, I don't think, outside of a couple of early presentations, we never did anything with PowerPoints. One of the things that really impressed Texaco's—one of my other jobs when I was doing this was I got assigned to Texaco's Deepwater Group to go with the G&G [geological and geophysical] guys to find partners for property. I was using these PowerPoints. The geologists and geophysicists that I was working with had never seen one of these PowerPoint deals, and I remember one day we had two presentations that day on the same property, and in between I had about a thirty-minute break between, and [unclear] to Shell or whoever it was. But anyway, all the way through this thing we had lots of detail about this particular oil company and how this fit their agenda.

Over a lunch break that I had, I went in and redid all of that for this other oil company, and these geologists and geophysicists were, "How did you do that? What did you use?" So it really was the very early days of the canned PowerPoint presentation. In fact, it wasn't even a Microsoft product at that point; it was somebody else that was out there.

TP: That's interesting.

CB: A lot of fun.

TP: It really puts things into perspective, because some people know about Deep Star, but when you hear about deepwater, well, it's Auger, it's [unclear], deep water royalty relief, I mean, that's what got the industry into deepwater, and this is another key element.

CB: I don't know if Phil mentioned it, but coming right out of all of the work that we were doing on this, I spent a lot of time in Washington lobbying and putting together material for deepwater shelf, and certainly had a major role in deepwater royalty relief, but Deep Star played a big role in getting that done and putting material in to people. In fact, as I recall, Phil testified on deepwater royalty relief.

TP: Demonstrating to the policymakers that the technology is viable, the industry is ready to go.

CB: I think that's one of the sad things that, in my view, that has come out of this BP deal. I vehemently disagree with any conjecture that's out there that this has happened because we're in deepwater and we're in an area we don't know what we're doing or how to operate. I think we very much know how to operate.

I've been around analyzing some events like the BP deal several times in my career, and I've never once seen that to be a case of deficient hardware, deficient people, deficient training. You load all that onto one thing, invariably you have the kinds of events that occurred out there because multiple levels of multiple organizations are ignoring things that the industry has learned, documented, and established as standards, and they just simply aren't following

the rules. I believe that when all the shouting is over, that's what you're going to see out of this. Unfortunately, in the meantime, we're going to have a lot of needless rework of some things that work perfectly fine when they're used how they're supposed to be used.

TP: Yes. I would have to agree with that. Well, I don't want to take any more of your time. I appreciate your sitting down with us. This has been great.

CB: I enjoyed it.

TP: Thank you again.

[End of interview]