CHEMICAL HERITAGE FOUNDATION

JACK B. ST. CLAIR

Transcript of an Interview
Conducted by

James J. Bohning

in

Houston, Texas

on

7 February 1995

(With Subsequent Corrections and Additions)

ACKNOWLEDGEMENT

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Chemical Heritage Foundation
Oral History Program
315 Chestnut Street
Philadelphia, Pennsylvania 19106

JACK B. ST. CLAIR

1919 Born in Roanoke, Virginia, on 17 August

Education

1940 B.S., chemical engineering, Tulane University

Professional Experience

Shell Oil Company

1940-1944 Technologist, Houston Refinery
1944-1945 Assistant Manager, Control Laboratory, Houston Refinery
1945-1948 Assistant Manager, Manufacturing Technological Department, Head Office, Design of Fluid Catalytic Crackers, New York
1948-1949 Senior Technologist, Wood River Refinery
1949-1950 Assistant Manager, Lubricant Department, Wood River Refinery
1950-1952 Assistant Manager, Gas Department, Wood River Refinery
1952-1953 Assistant Manager, Cracking Department, Wood River Refinery
1953-1954 Department Manager, Aromatics, Wood River Refinery
1954-1956 Manufacturing Technological Department, Head Office, Assistant Manager
1956-1958 Assistant Superintendent, Martinez Refinery
1958-1961 Superintendent, Wilmington-Dominiquez Refinery
1961 Superintendent, Houston Refinery
1963-1965 Manufacturing Organization, Head Office General Manager
1965-1966 Transportation & Supplies, Head Office General Manager
1966-1967 Vice President, Transportation & Supplies
1967-1979 Director
1975 Executive Vice President, Manufacturing-Transportation-Marketing
1975-1979 Executive Vice President, Products
1979 Retired

Shell Chemical Company

1967-1979 President
1979 Retired

Shell International Petroleum Company

1961-1963 Head, North American Division

Brookings Institution

1965 Public Affairs Fellow

Honors

1975 Outstanding Alumnus, School of Engineering, Tulane University

1977 Distinguished Alumnus Award, Tulane University

1978 Chemical Industry Medal, Society of Chemical Industry, (American Section)

1980 Doctor of Science, Tulane University

ABSTRACT

Jack B. St. Clair begins with a description of his background and early childhood in Roanoke, Virginia, where his extended family was involved with the railroad. His father's work with the Public Health Service in 1931 led the family to Shreveport, Louisiana, a center for the oil and gas industry, where St. Clair was first exposed to engineering. Excelling in science and math, he won several scholarships and with the guidance of his high school principal decided upon chemical engineering studies at Tulane University. He graduated in 1940 and accepted a position as technical trainee, gas department, at Shell Oil Company's Houston, Texas refinery. During World War II, he worked in sulfuric acid alkylation and toluene extraction plants and was promoted to control laboratory assistant manager. In 1945 he became assistant manager, manufacturing technological department, New York, then moved to the Wood River, Illinois refinery, where he advanced through a series of assistant managerships before becoming department manager of catalytic reforming, gaining experience with facilities' operations and later with design work through his 1954 return to New York as assistant manager, head office, manufacturing technical department. Despite the lack of formal training, St. Clair readily accepted increasing responsibilities, recognizing he was being groomed for higher management. In 1956 he was sent to the Martinez, California refinery as assistant superintendent and undertook a six-month study of the outlook for West coast operations. The study and ensuing arguments proved good training for St. Clair, whose next position was plant superintendent in Wilmington, California; with responsibility for all operations, he acquired experience with government and environmental concerns. After briefly serving as Houston refinery superintendent, he followed mentor H. M. L. Love's urging and reluctantly moved to England as Shell International Petroleum Company, North American Division head. In this and subsequent positions as New York Head Office general manager, he interacted with top Shell executives, acquiring experience which proved key to his success. In 1965 he became a Brookings Institution public affairs fellow, gaining training and insight in government-business interactions through assignments with the U.S. Interior and Congress. He returned to Shell Transportation and Supplies as general manager then vice president, but was quickly promoted to Shell Chemical Company president in 1967, a position he occupied until his retirement in 1979. As president he undertook a major reorganization, focusing on expanding olefins business and integrating the oil and chemical sides of the company; his success is reflected in growth in sales and profits at Shell Chemical during his presidency. Here St. Clair describes relationships with Shell Oil Presidents H. Bridges and J. F. Bookout, the energy crisis, and Shell's experience with detergents and Saudi Arabian crude oil. Also discussed are fragmentation and government control in the chemical industry; the EPA; and creativity, innovation, and new technology. The interview ends with reflections on St. Clair's Society of Chemical Industry and Tulane University awards, and a description of his children's careers.

INTERVIEWER

James J. Bohning is Professor of Chemistry Emeritus at Wilkes University, where he was a faculty member from 1959 to 1990. He served there as chemistry department chair from

1970 to 1986 and environmental science department chair from 1987 to 1990. He was chair of the American Chemical Society's Division of the History of Chemistry in 1986, received the Division's outstanding paper award in 1989, and presented more than twenty-five papers before the Division at national meetings of the Society. He has been on the advisory committee of the Society's National Historic Chemical Landmarks committee since its inception in 1992. He developed the oral history program of the Chemical Heritage Foundation beginning in 1985, and was the Foundation's Director of Oral History from 1990 to 1995. He currently writes for the American Chemical Society News Service.

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LOCATION: Houston, Texas

DATE: 7 February 1995

BOHNING: Mr. St. Clair, I know you were born in Roanoke, Virginia. It was 1919, I believe.

ST. CLAIR: That's right. On August 17, 1919.

BOHNING: All right. Could you tell me something about your father and mother and your family background?

ST. CLAIR: Well, Roanoke at the time—and still today, in a way—is a railroad town. Both sides of the family at the grandparent level were involved with the Norfolk and Western Railroad, and the Virginian Railroad, at that time. My father and mother were native to Roanoke, came out of those families. My mother was a high school graduate. My father had some college and, I think, perhaps almost finished a degree at VPI in Blacksburg, Virginia—now Virginia Tech—which was interrupted by World War I. He was an army lieutenant, and took his bride to Wisconsin and was training infantry in Prairie Duchien, Wisconsin. As far as I know, he never saw military action. He didn't go overseas.

Afterwards, after the war, he went into public health work with the U.S. Public Health Service. That lasted until the Depression years, at which time the work simply—the funding—wasn't available in Virginia. But at about that time, there were major floods on the Mississippi River, and very severe public health problems—typhoid fever and dysentery, things of this sort. So he went to northern Louisiana and southern Arkansas and worked as a public health officer for, again, the U.S. Public Health Service for about seven or eight months. He came back to Virginia, picked up the family—including me—and we moved to Shreveport, Louisiana. Now, I don't know whether that's all or something that you want to know. [laughter]

BOHNING: How old were you when you moved to Shreveport?

ST. CLAIR: I was eleven-plus, almost twelve.

BOHNING: So, you'd had some early schooling already.

ST. CLAIR: I'd had schooling.

BOHNING: When you got to Shreveport, it was during the Depression.

ST. CLAIR: It was the Depression. Very, very tough times.

BOHNING: What was schooling like in Shreveport?

ST. CLAIR: Well, schooling was fine. I had, as I recall, about a month-and-a half wait from the time we got there until I was able to enroll as a freshman in high school. I went to Byrd High School—totally segregated, of course, at that time all white. I actually finished my work in about three years, but laid off for nine months before I took the scholarship at Tulane.

At the time I had offers for scholarships at Cornell. I didn't have the money to get there, which eliminated that. I wanted to go very badly, because I knew by then I wanted to be an engineer. I also, of course, had offers at LSU and one or two other smaller places. But Tulane had a state scholarship which paid all the tuition and all the books for all four years of my undergraduate work. That seemed like a very good deal.

BOHNING: Was that a competitive scholarship?

ST. CLAIR: That was a competitive scholarship, yes.

BOHNING: How did you develop this interest in engineering?

ST. CLAIR: Well, particularly in the course of the high school education. Of course Shreveport was, in a way, a center for the oil and gas industry at that time. In fact, there were a couple little refineries. Well, now of course, they would be looked at as little refineries, but there were oil fields around in northern Louisiana. East Texas had already blossomed in terms of oil production. In fact, as an example, in being interviewed for the Cornell scholarship—this was

by an independent oil and gas producer who was a Cornell alumnus—we visited some of his facilities. In fact, we had a couple of really hairy experiences—particularly one day. [laughter]

BOHNING: Could you describe one of those?

ST. CLAIR: Well, yes. We went up to Rodessa, which is right close to Texarkana, on the Louisiana-Texas border. There was a gas play, a natural gas prospect. This well sat basically next to a highway, but was ready to be brought in, if you will—ready to be put on production.

To make the long story short, the drilling mud did not contain the gas. The gas got loose—not in an explosive way, but certainly plenty of it. Everybody running like mad; closed down the highway, evacuated a bunch of people. That scared the dickens out of me, particularly since Mr. Wheless, which was his name, in running, broke his leg trying to jump over a pipe rack that was about this high, I guess. I wound up driving his car back to Shreveport with him as a passenger. [laughter]

But in any event, back to the subject. Through all of that, I was doing very well in my studies, particularly science and math. So I developed an attraction for the engineering profession, more or less through exposure of that sort.

BOHNING: You also had mentioned that one of the people who had an influence in your life was Grover [C.] Koffman, who was your high school principal.

ST. CLAIR: Yes, he was the high school principal.

BOHNING: In what way did he influence you?

ST. CLAIR: Well, he was the guy who rounded up these scholarships as an example of the opportunities for me and was very, very influential in my decision. Well, I can remember him saying, "You don't want to mess around with this. You don't want to go to LSU if you've got a chance at Tulane. The education's much better. You've got a <u>real</u> good deal here in terms of tuition," et cetera. So he was a very major influence in that respect. No question.

BOHNING: All right. What was it like when you got to Tulane in, I believe, 1936?

ST. CLAIR: In 1936. Well, it was difficult. There was a major social adjustment problem for me. It's not so much that way nowadays, although all the vestiges of it are not totally eliminated, but Tulane is oriented to New Orleans, particularly to uptown New Orleans. Its fraternities and Newcomb College's girls associations, et cetera, are oriented that way. The structure's that way in terms of not only the social aspects, but also the money for supporting the university. It was particularly so at that time—tied into carnival krewes, and who's going to be this or that, and the influence in the community. In that respect it was fairly tightly knit, to the point that someone from north Louisiana—regardless of any Virginia background, whatever—was a redneck, automatically. I had real difficulty with that at first—I'd say the first year. I did not join a fraternity. I was invited to one, but I didn't pledge. It just didn't seem to be the right kind of thing for me, so I spent my time basically in doing my college work.

Then by the time we got to the summer vacation each year, I was fortunate enough to get a job for each summer—each of the three summers. That basically paid for the rest of my expenses for the year. What I did was, I was again lucky enough, through my mother, to have a ladies' group in the Episcopal church in Shreveport loan me money at the back end of a particular year. The first part then of my summer work would go to pay that loan and to get me through, say, the first few months of the next year, and then pay them back again. That happened until I graduated and came to work for Shell. One of the first things I had to do was pay off the last loan.

You know, there are a lot of stories about Tulane.

BOHNING: What was the department like—the Chemical Engineering Department?

ST. CLAIR: It was good. It was good. In retrospect, it was even better than I realized at the time. A man named Charles S. Williamson, who was one of the founders of the American Institute of Chemical Engineers—one of the originals—was the professor. He retired during the course of my stay there, and a man named Francis M. Taylor became the professor. Taylor was an influence as well. Williamson had a major influence on my thinking and my career, and Taylor even more so as time went on. We formed, while I was there—and in fact, I was the first chairman, or president, whatever the title was—the Student Chapter of the American Institute of Chemical Engineers. First time they'd had one. So these professors were at the heart of it.

I look back on the facilities. If anything, they were only barely adequate, although I'm sure the program was properly sanctioned—secondary school-type associations, et cetera. But the equipment, by today's standards, was just dreadful.

BOHNING: Was petroleum engineering a separate function?

ST. CLAIR: There was no petroleum engineering as such at Tulane. Petroleum engineering, as I understand it, and as practiced—particularly still today at places like Texas A&M—is more oriented to the exploration and production side of the business than chemical engineering, although both have many, many things in common.

BOHNING: You graduated from Tulane University, then, in 1940.

ST. CLAIR: Yes, sir.

BOHNING: You had a loan to pay back.

ST. CLAIR: I had a loan to pay back. I had a brother who had laid out of school for a year, between high school and before he went to college—my younger brother. So I had him to put through school. These were tough times. My father and mother were working to some degree, but they certainly couldn't cover all the bases by any means. So it was pretty much a self-generated situation.

I'll tell you a story about how I happened to get a job, because it was still at Tulane. In the senior year, in the unit operations lab, the schedule was a couple of mornings a week. They were basically all morning. Of course some dirty work, so you were dressed in khakis or something of the sort. This particular morning, Dr. Williamson came in and said, "There's some people from up at the Norco refinery of Shell who are here. If any of you guys would like an interview, well, they'll listen to you." So I borrowed a necktie and went to see them. I got in early. William P. Gage was the guy. I had great difficulty with Mr. Gage. He had a wall eye, like that. I had trouble focusing my attention in that regard.

But they seemed most impressed, not necessarily with the grades or anything like that, but with my experience during the summer—during which time, I had been running a WPA crew with about fifty men in it. I was the foreman, if you will, building outhouses in the country, in southern Louisiana. They seemed to be impressed with that. So a few weeks after that, I got an offer by telegram saying, "Report to the Wood River Refinery in Illinois." A month later—and I had to look up on the maps—another telegram came saying, "We changed our minds. Report to Houston." Well, that was much easier for me.

So that's how we started with them. I did not have enough money, because of these other obligations, to get here any other way except hitchhiking. So I hitchhiked over here and found a room at the YMCA and went from there.

Was that interesting stuff?

BOHNING: Oh, yes, absolutely.

ST. CLAIR: Okay. [laughter] You know, I don't want to bore you.

BOHNING: Oh, no. That's exactly the kind of thing that I'm looking for. Was it an exciting time for you? What were your feelings as you were hitchhiking?

ST. CLAIR: Oh, I was just on cloud nine. I was just really so happy to get the job. Only three people out of that whole class of engineers—not just chemical—had a job at all at graduation day. One of them went to Texaco, at Port Arthur; one of them went to what's now Exxon, at Baytown; I was with Shell. That was it. But we came at different times, under different circumstances, so there was no commonality there. But I was excited. I was looking forward to the challenge. I had heard a lot of things about what happens to people in the first few weeks that they're in an oil refinery, and this sort of thing, and so I was really charged. No question.

BOHNING: What was your first assignment?

ST. CLAIR: My first assignment was in what was called the gas department, as a technical trainee, at a hundred and fifteen dollars a month. The job involved technical work in and around the first sulfuric acid alkylation plant. Now, remember this was 1940, before World War II. Of course, alkylation turned out to be one of the major, major contributors to the war effort. So I had fun at that.

BOHNING: When the war started then, did that have any real effect on your new position? Was there ever a chance of your being drafted?

ST. CLAIR: Oh, yes. I was 1-A over and over again throughout the entire war. Every six months I'd get a deferment 1-A classification again, hope it would be deferred. Someone was looking after me. I really never did understand, just exactly, that process. But in the early stages of it, I had a Navy commission, and bought the uniforms, and was within three days of shipping out—and got called back. It just simply had to do with the kind of work that I was doing. Somebody, for a change, in the government—I say a change; they're not always alive to this—decided I was going to be worth more there than on a battleship somewhere.

Meantime, towards the end of the war, my younger brother, who was finishing up at Tulane by this time, got his Naval commission. He was Naval ROTC, and then he went to the Pacific. So we were represented.

BOHNING: When you first started here in Houston, did you find the people you were working with helpful?

ST. CLAIR: Very much so. Very supportive. Very quickly, of course, we were in a position where we were working six days a week. If you didn't have your colleagues on the same ground with you and being supportive, you had real problems. I did not. They were wonderful. We did a lot of very, very good things. Shell's refinery at Deer Park here turned out to be the number-one largest aviation gasoline blender and shipper. I don't remember the numbers, but they were big. I participated, as the technologist, in the start-up of the first-ever toluene extraction plant—phenol extraction, which was a Shell process—the first one ever built anywhere. Of course, that toluene was all part of the war effort too. So we had a lot of fun things going. No question.

BOHNING: What does this term, "technologist," mean?

ST. CLAIR: It's engineering. It's still used at Shell. It's less than an assistant manager, but it is pretty much what it sounds like. It's technical work. Mine was widely different types. I got moved around all through the complex in different jobs at different times, but it was always in that category.

The last year or so of the war, I was an assistant manager. There I worked in the control lab. That meant dealing with the army and navy inspectors and running the control situation on the manufacturing quality aspects, the blending aspects of aviation gasoline, et cetera, and shipping. One of the most difficult parts of that was because most of the men were off to war. So at one time, I had ninety-five women and six men doing this. That presented some fairly significant problems from time to time. [laughter] The ladies were not always on their good behavior.

BOHNING: I assume also that most of these people's background or training was limited.

ST. CLAIR: They were at best high school—and a number of them were not, certainly during the war years. That applied not just in that laboratory, but throughout the complex. There were

often women operators. There were even assistant mechanics of one sort or another—pipe fitters, boilermakers, machinists, et cetera.

BOHNING: I can see now why they were interested in your WPA supervision experience. [laughter]

ST. CLAIR: Well, it was great experience. I certainly learned some lessons, no question about that. [laughter]

BOHNING: It sounds like you were given a great deal of responsibility very quickly.

ST. CLAIR: I was. I'm very lucky to have had that, very pleased to. It presented some real challenges from time to time. But I mean, on the technical background, Jim, it just never seemed to pile up on me to a point of feeling, "Well, my goodness, I wish this would go for a ride; I'm overloaded." This didn't happen. I was interested, critically interested, in what was going on. I also had enough of a role of responsibility to feel that from time to time I was really doing some good. I think that's kind of an achievement.

Outside of work itself, I also had no family to deal with, so there was no obligation there except to write my mother once in a while. But I had some church life. That helped a great deal. So I'd say I was pretty balanced.

Immediately after V-J Day, I got shipped to New York, and things changed. [laughter]

[END OF TAPE, SIDE 1]

BOHNING: Yes, how did you end up moving from Houston to New York? You'd been with the company four or five years, when all of a sudden, you were sent to headquarters.

ST. CLAIR: Well, apparently I had a good enough rating, through the years at Houston, where I was on some kind of list as a technical type. So my first job in New York was in the manufacturing, which is refining—the manufacturing technological department. In the first part of it, a good deal of work was involved with the materials that the armed forces had extracted from the Germans after the war on Fischer-Tropsch and other synthetics, et cetera. There was a good deal of work going on even <u>then</u>—not confined to Shell, but broadly speaking—for synthetic fuels in the U.S. There was a rather famous one called Carthage Hydrocol. It was in

Carthage, Texas. Shell was involved on the fringes of that. I say the fringes—we were evaluating the process. I had some role to play there. As time went on, I became more involved in catalytic cracking.

BOHNING: That began a whole series of moves. [laughter] It seemed like you didn't sit still very long in one place.

ST. CLAIR: Well, the old saying goes, of course, you're not there long enough for them to really find out what your weaknesses are. [laughter] But yes, that was typical of Shell's promotional policy—the developmental aspects for people. So we did.

I had, of course, met and married Mrs. [Jean] St. Clair while I was in New York, and so she then was subjected to a number of these moves. [laughter] God bless her for her patience and her fortitude, because a number of them were difficult—I mean, physically difficult in terms of moving one place to another. People by and large were very supportive—no problems or things of that sort. We found our way in the communities, I'd say, pretty rapidly.

BOHNING: I'd like to look at the chronology of some of those moves. Again, I'm looking at how you were given increasingly greater responsibility and how this affected where you eventually ended up with Shell.

ST. CLAIR: Well, the first move out of New York was to the Wood River Refinery in southern Illinois. I went for the first few months and was basically in the refinery technical department. I had a number of things to do. Then there were a series of assistant department managerships, each one in an operating department. Now we're into operations of facilities, as opposed to just technical work in engineering design, or that sort of thing.

The first one of those was in the lube department. It turned out that the assistant manager there was basically the boss, because the department manager was really a figurehead. That was an eye-opener to me, that people like that could be tolerated and kept. But he was, and I had that responsibility. Then I moved to what was called the gas department.

At each one of these, incidentally, there were some bad accidents, et cetera. In the lube department—who would believe that—we had a tornado come through where we were. It basically sat down on the lube side of the Wood River Refinery and tore down the cooling water tower. So instantaneously, we had five major units—you know, solvents extraction, dewaxing, et cetera—that had no coolant. That was a very, very tough day or so.

I went to the gas department. We had great experiences there, one of which was a record all-time cold spell—during which time, the maximum daytime temperature was like ten degrees above zero. That lasted for about twelve days or something similar. As a consequence of that, a number of the volatile liquid lines froze. Cat cracker liquid products would come to the gas department for gas fractionation and extraction. The cat crackers had a major water valve, as a matter of fact, rupture in the freeze. It shut them down. All the lines between the plants froze solid. So here we were, in that kind of weather, with rotating crews of people in the pipe racks and elsewhere thawing the lines. The first pair of longjohns I've ever owned was at that time. [laughter] Very, very tough. That also was a period when hydrogen blistering of steel columns and vessels, et cetera, showed up for the first time, which became a major problem and required extensive shutdown, inspection, repair, and so on.

I moved on from there to the cracking department. The cracking department had two big fluid catalytic crackers, two thermal crackers, a vacuum distillation unit, two delayed cokers, and some other ancilliary stuff. So that was a big job. There was one assistant manager—me—who had a number of people who were on these various units. We did pretty well most of the time, but I was on vacation in New York in the summer—I'm going to say 1952, possibly 1951—right when they had a terrible, terrible accident in one of the thermal crackers, in which twenty-one men were killed. This is something that I guess I'll never get over.

In any event, after the cracking department, then came catalytic reforming, or so-called platforming in those days and in that era. We had built a little platformer at Martinez, and now it was time to do a big one at Wood River. We needed a new department for that to be manned and operated, so I became the department manager for that. I was there until I got moved again—back to New York. [laughter]

BOHNING: That was what, 1954?

ST. CLAIR: Back around Christmas time in 1954.

BOHNING: Could you please explain the relationship between Shell Chemical, Shell, and Shell Development as well. Was Shell Chemical also operating at some of the plants at which you were stationed?

ST. CLAIR: Shell Chemical operated starting during the war, at Houston, out here at Deer Park. They had butadiene extraction and isopropyl alcohol and acetone. That was built from scratch in like 1944, something like that. Shell Chemical had separate management from the refinery, totally; no common facilities; and very little—ridiculous as it may sound—communication. That will bear on some things that I will talk about later on, because it impressed me as being

stupid at the time. At Wood River, no problem there at all, because there was no chemical operation. It had the chemical operations at Wilmington, which I'll go into later, and Martinez, where I went to later. I never worked at the Norco, Louisiana, location.

Shell Chemicals came out of, basically, the ammonia business. The first Shell Chemical plant was at Shell Point in the San Francisco Bay area, upstream from Martinez. It was a basic ammonia facility—ammonia and eventually urea. It was the first entry of Shell Chemical into the chemical field, certainly in this country and I think maybe even worldwide, and it grew out of that. It had separate management even from the beginning. Through the years, Shell Chemical has had the position of a subsidiary, if you will—technically a subsidiary—of Shell Oil, as is Shell Development, as a matter of fact. There are a number of others, but these are the major ones. So in terms of not having any sort of stock or any financial separateness, or anything of this sort, it operated as a subsidiary, typically through the years—but not today, because that had a lot to do with later changes. At that time it operated pretty much on its own. Does that help that?

BOHNING: Yes. One of the things I wanted to ask you about your first sojourn in New York was this. I don't want to say you were a country boy, but what was it like ending up in New York City after your experiences in the South?

ST. CLAIR: Well, it was very bad timing in that the transfer was effective right after V-J Day, which basically put me into New York just before Christmas. I was single, again staying in the YMCA, and I was by myself. It was a terrible Christmas, I can tell you that. [laughter]

BOHNING: You were now back in New York City.

ST. CLAIR: Yes, New York. Oh, after Wood River, you mean.

BOHNING: Yes.

ST. CLAIR: Yes. Well, this time, I came back as an assistant manager in the head office—manufacturing technical department, you know—the same place I'd come from. There were a number of groups in the department basically organized along lines of which sort of process or what sort of developments they were following or designing. In other words, there was a catalytic cracking group and there was a catalytic reforming group, et cetera. I had about half of those as my responsibility. So we were basically in design work. We interfaced very intimately, of course, with both the refinery to which that plant was going, and also the

manufacturing-engineering group, which was basically—let's call them the hard engineers: construction types, estimating types, and this sort of thing. So to put together a project, it took a combination of these. That was basically the work.

BOHNING: Now by this time, you're thirty-some years old—thirty-three, thirty-four, maybe.

ST. CLAIR: Yes. Thirty-four, thirty-five, maybe.

BOHNING: As you moved into these positions where there was more and more, quote, "management" required of you, how did you feel about that?

ST. CLAIR: I felt fine. It didn't scare me, nor did it seem to overwhelm me in any way. I had increasing reluctance to move as often as we did, for family reasons. But that seemed to be a part of the scheme and everybody else around seemed to accept it, so we accepted it. But in terms of the techniques of management, or the formal training: nonexistent. It was, I either had it, or I learned it, or I didn't—that kind of thing. So obviously, as time went on, it was clear that I was on somebody's short list, and that steps taken in moves were quite deliberate if you look back in history—in terms of my development. So the step-ups in management responsibility all fit right as a part of that. I don't think that there was any kind of what you would call a classic long-term program or design for me. But as long as I was producing, it struck me that there was a next step that could be taken, and sure enough, there was.

I was very lucky. A lot of times, you know, it's just a matter of who's available for what kind of spot at a particular time.

BOHNING: With all these moves, you ended up reporting to many different people.

ST. CLAIR: I sure did. [laughter] I sure did.

BOHNING: That sort of answers my question, just the way you said that.

ST. CLAIR: Well, you know, there were a number of them who were absolute princes—just absolutely first-class people, and wonderful friends as well as bosses. There were a few who were not. You know, just that way.

I'm going to confine my remarks now to the moving-around part that we did. I didn't have a real serious one-on-one conflict with any of them. I had some differences of opinion and position. But I did find, through all my career—and this was true to the very end—that I was never penalized for stating my own opinion. I think that's a real tribute to Shell. That's the way they have operated, and it's to be greatly admired. There are a number of companies—and you would know them, Jim—that if you spoke up at a particular time, you could get buried somewhere. [laughter]

BOHNING: I'm quoting from one of your articles. This one appeared in 1978, but I believe it applies here. "We look for the best that can be done for use of a resource and for our stockholders. This certainly leads to plenty of internal arguments, but in the end, it works" (1). That seems to fit with what you're saying.

ST. CLAIR: Yes. Well, internal arguments basically have to do with the allocation of resources. Of course, in an oil company that's fully integrated and with a major chemical operation, there is a battle that goes on <u>all</u> <u>the</u> <u>time</u> for resources. The degree to which the entire management structure—whether it's that level or the other level—can agree that, "that's better on <u>that</u> side than on my project over here," is very difficult. It does spawn some real problems. But as long as it's an honestly held, open debate, with the acceptance of facts and numbers as best you can develop them, then okay, it's going to come out for the best. That's pretty much the way it has.

There are some classic examples in Shell, in my opinion, of the misappropriation of money on both sides—but, in particular, on the exploration and production side—which I fought all the time. It <u>usually</u> involved forward assumptions—assumptions of the future price for oil and gas. You know, when people were projecting sixty bucks a barrel and this sort of thing, you could justify anything.

I cannot recall a time when we would argue about the technical aspect, you know—whether you could build a production platform of such-and-such depth or you could build a new Shell Development Research original process, and make a success of it—no arguments about those kinds of things. You didn't expect a challenger to say, "Well, all right now, how about this?" But the basic problems had to do with just who's going to get their piece of the pie. That's what it amounted to. That's true, I think, of any outfit. It was true in each of the companies on whose board I've served. It's true on the ones I'm serving now, and I think it's probably true of all the oil and gas industry, too. [laughter]

BOHNING: We'll come back to this in another context a little later. This business of being able to state your case without worrying about paying for it later seems to be very important, doesn't it?

ST. CLAIR: Pretty important, isn't it? I think it's very important.

BOHNING: I think it has to affect bottom-line productivity somewhere along the line.

ST. CLAIR: Oh, I think so. I think it does.

BOHNING: You went to California in 1956. You left New York again.

ST. CLAIR: Yes. Martinez refinery, this time. I was assistant superintendent this time. There was a manager; there was a superintendent; and then one assistant superintendent. Chemical was operated separately. It had a superintendent over on the chemical side. Martinez was not all that big a place as a refinery, at that stage, and it was fairly obvious that it didn't need all three of us. So my vice president, who was a man named M. P. L. Love at the time, called me to New York and said, "I want you to do a special study. Take whatever resources you need to do so." What he wanted was a long-term look at the make-up of the West Coast transportation, supply, and manufacturing facilities. We were shipping—and to this day, to some degree, this still happens—major quantities of unfinished oils, stocks of one sort or another, between refineries; because there was capacity there, and not here, to do that particular piece of the job. All of that was heavily influenced, then, by the oncoming availability of Alaskan crude. The Anacortes refinery in Washington had been built by that time, and been designed on the basis of a crude oil, which it never saw. It had been built, and it never saw a drop of that crude. But all of these things had an interplay, and it was obviously inefficient to be moving all this stuff around.

"Do we need three refineries?" Wilmington, Martinez, and Anacortes. "What kind of crude oil supplies?" et cetera. So I spent close to six months on that and reported, and made a number of recommendations—including one that was to shut down a big hunk of manufacturing capacity and basically do the job elsewhere, which ultimately got into a very high-level, king-sized argument at the head office level.

BOHNING: I can imagine. [laughter]

ST. CLAIR: It was rejected.

[END OF TAPE, SIDE 2]

BOHNING: How did you feel about that?

ST. CLAIR: Oh, I felt very disappointed. To this day I can defend in a very real way the conclusion that was reached—that I reached. I resented, really pretty profoundly, the manner in which some senior people tried to talk me out of my position—including a meeting in the man's home on Saturday morning for breakfast that lasted essentially all day, in which he did his level best to get me to buy off on a different scenario, which I never did. I resented that. I really did. But you know, they were wrong. [laughter]

BOHNING: But it may have been good training ground.

ST. CLAIR: Boy, it was training. [laughter] It was training, that's for sure.

BOHNING: Well, let me ask you, in view of that, had you ever thought at any time of leaving Shell?

ST. CLAIR: Not at that stage.

BOHNING: But at any other time?

ST. CLAIR: Well, later on, after we were in Houston, I thought at one time, yes—back when I was at the head office for the last time.

BOHNING: That still wasn't enough to discourage you, however.

ST. CLAIR: Oh no, no. No, no. Almost at about that time, they had the superintendent's job at Wilmington ready for me. So you know, I basically just went on to do a little bit bigger thing, that's all.

BOHNING: At Martinez, was the chemicals department still separated from the oil refinery?

ST. CLAIR: Yes. Very, very separated. Again, no communication.

BOHNING: This was so, even though the Martinez refinery was smaller, then.

ST. CLAIR: Smaller. I knew the guy who ran it, who was on the top of the organization. Once in a while you would meet somebody—not on a business basis, but you know, meet them in a restaurant or some place—and you knew they worked over at the chemical plant. But that's about it.

BOHNING: What does it mean to be the superintendent of a refinery?

ST. CLAIR: It basically means you're responsible for all of its operations—not necessarily its finances or its planning, but its operations, yes.

BOHNING: If there was going to be an additional unit built or something like that, would someone else negotiate for the resources, or would you be involved in that also?

ST. CLAIR: Well, you might get involved in it, but it wouldn't be your prime responsibility. You might be involved in it. Certainly, by the time you had an okay to build it, then that superintendent had a lot to say about it—you know, the facilities that are there. That doesn't mean he has the authority to go back and change the design or the location or what have you, but he does have a lot to say about just what goes into that plant, yes.

BOHNING: I'm going to quote something you said many years later in your address to the Society of Chemical Industry, when you received the Chemical Industry Medal award (3). In this address, you spoke about the chemical industry being good citizens. In the time frame we are now discussing—this would be the late 1950s, early 1960s—what was the attitude of an oil refinery towards the community in which it operated?

ST. CLAIR: Well, it was certainly not what it is today. But it was not really—in Shell, at least—devoid of any sensitivity to its neighbors or what was going on around it. This, of course, was particularly true in the two California refineries. In California, even at that time, there were major environmental pressures and concerns with smog in the L.A. basin area—air

quality aspects and water quality. Wilmington was a real experience and an awakening, for me, in terms of what government can do and how silly it can be at times and how it can influence your basic thinking—not necessarily in terms of your sensitivity as to what's going on, but your basic evaluation of what things are important to be working on, et cetera. That was gainful to me.

BOHNING: Do you have a specific example of that?

ST. CLAIR: Yes. Let's take the water discharge from one-half of the Wilmington refinery. It went into a common stream that ended up in the L.A. harbor. It had effluent from Mobil, Texaco refineries, Arco's refinery, John Mansville Asbestos plant, as well as Shell—a bunch of streams going into it.

It was monitored closely for certain compounds by the California Fish and Wildlife, I think they called it—anyhow, an environmental agency. In doing so, of course, we monitored our own. Well, you know, it was just very revealing to find out that our stuff was so much better than anybody else's—that there was no comparison. [laughter] Yet the rules and regs, you know, were just blank in that regard. Whereas you could make an argument, you ought to really do something about that asbestos stuff—far more important than the pH of something on one day out of the month, or something like this—but that was how it was. It was an awakening as to how a regulated system can control your basics. It can go right back into your processing, of course. As time went along, people became more and more aware of that. So that's an example. Is that all right, Jim?

BOHNING: Yes. So you feel that Shell has always had a good concern—or has had a continually developing concern—for their role in the community?

ST. CLAIR: They've been, I would have to say, close to the forefront of this. In fact, as time goes on, and after you've been around the industry as long as I was, you had some very specific ideas about who the good actors were and who the bad actors were. In fact, that showed up in a speech of mine, I'm sure—not by name. But at the very top of the people with the most sensitivity and the most cooperativeness—the most talented in this regard, also—you would always find Exxon and Shell. You could separate those by a wide gap from a bunch of the others.

BOHNING: You came back to Houston in 1961, but not for long.

ST. CLAIR: For all of ten months. [laughter]

BOHNING: I wasn't sure what the time frame was, but I knew it was short. [laughter]

ST. CLAIR: Yes. Ten months. That was as superintendent again.

BOHNING: Was Houston the biggest refinery in the system?

ST. CLAIR: It was. It and Wood River were side by side in terms of how much crude oil it was running. They're pretty close, yes.

BOHNING: Who tapped you to go overseas?

ST. CLAIR: The vice president of manufacturing, this man Love whom I've mentioned before, who put me on a special assignment on the West Coast. He's the guy who didn't just tap me, he took my arm and broke it. He went totally around the chain of command and called me and said, "I want you to do this." I turned him down. I had no idea of going out of the country. I had family obligations. Nothing severe, of a sort that would say that the family would break up or anything—nothing like that. But you know, it just didn't sound right to me. He worked on me by phone and otherwise for the better part of a week. It was pure turmoil for me, and I eventually gave in.

I'll tell you, Jim—and I don't know whether you want to use this or not, but I've said it to people who have been at the very top levels of Shell, both overseas and in the U.S.—to this day, I'm not sure that I made the right decision. I recognize full well that if I had continued to turn it down, that I would have been stopped at a particular level—maybe at a refinery manager's spot, maybe one notch above, a general manager, say. But that would have been all right.

It isn't that that time in England was all that dreadful, although it was not very pleasant. It was very pleasant from a family standpoint and a living standpoint. It was very unpleasant from a working standpoint. Again, it was a learning process for me. Unfortunately, the things that I learned are things that I have hated ever since. It had to do with class structure, social structure, classes, snobbery, control, the total insensitivity to their fellow man. This is both British and Dutch, although the British are far worse than the Dutch in that regard, in my opinion, again.

BOHNING: Why did you say that you were not sure that this was the right decision to make?

ST. CLAIR: Well, I could have been at a refinery manager job until I was 65, and enjoyed all of it. It was certainly adequately paid. You know, I'm not a rich man and I have no idea what I would do with a bunch of money. I have trouble getting rid of what I've got now. [laughter]

BOHNING: Did ambition play a part in your decision, as to why you gave in, as it were?

ST. CLAIR: I gave in more because Love had been a booster and a supporter through a number of these steps—a believer, if you will—a man who confided in me from time to time, along such lines as, "Well, what do you think of such-and-such a guy?" This might be a guy at my level, which was not a fair thing. But I mean, he used me as a confidante. So the relationship was there, and it was a friendship also. I respected him. Finally it got to the point where I guess I just couldn't let him down. I don't think it had a thing to do with ambition. I really don't.

BOHNING: When you came to Houston, had you thought you were returning home and could settle down for awhile?

ST. CLAIR: I thought we would be here for quite a long time. I really did. There's another instance—there's another sequence—later on in that career that I can really relate to that, just that point.

BOHNING: As head of the North American division of Shell International, what did your duties entail?

ST. CLAIR: It basically was the American desk, if you will, in the Shell group's headquarters. You remember now that Shell is sixty percent Dutch, forty percent British—its shareholding and its operations. It operates two headquarters, never been able to put them together—another silliness, but that's the way it is. My job was to represent both from an American standpoint.

I had a small office. It was a post office, certainly. It got into things like the Shell Oil budget—if it had to be presented at the management level, I had to do it, and this sort of thing. I had a staff of about oh, seven people, something like that. So it was a representation. It was a representative-type office. If people wanted to know something about Shell Oil that wasn't in

the papers that were flowing all the time, well, they would come to me. Hopefully, I would either have it or find it.

It was the first time that there was an American in that job. They had had an office called the American division, but it was manned by a Britisher—in fact, a man who was knighted. At that time, I could never discover anything they did except shuffling the papers in and out. They didn't even ask the guy anything. A pretty cushy job, as a matter of fact. [laughter]

But that changed when I got there. It changed basically because I did it. I did it because I was wasting my time otherwise. In fact, I really wasted my time most of the time I was there. I was not challenged in any way. I didn't even have a full day, most of the time. Spent interminable time running over to The Hague to talk to somebody, because they were over there. So coordination, meetings—basically a scheduler.

BOHNING: What was Love's connection with this position?

ST. CLAIR: Love was a promoter of St. Clair, period. Somewhere along the way, I'm sure, although I can't ever remember it being said to me—somewhere along the way, there had been by senior personnel placement types—set up on both sides probably, both in New York and on the other side—there had been a list. Love had put my name on that list. That's the best I can figure how it came along. See, the next guy who came after me was an exploration/production man from Shell, and so forth.

BOHNING: Did you make it known that you weren't terribly enthusiastic about being there?

ST. CLAIR: Oh, I certainly did. [laughter] I must say a number of the British—particularly the people on my staff, and they were all British—were very supportive, very friendly and very helpful in terms of getting settled down, including the man who was leaving the job. You know, very special treatment—taking us to the theater and to dinner, all this sort of thing. So it didn't have that flavor. I didn't have to get up there in some meeting and shout that, "I don't like this!" No, I think most of the awareness of how I really wasn't enthusiastic rested back in New York. Love, I'm sure, told people that I wasn't very happy about the whole thing. He certainly knew it. To some degree, maybe some of that filtered over, I don't know.

BOHNING: All right. Well, you came back in 1963 as general manager, technological department.

ST. CLAIR: Now see, I went back to the manufacturing tech jobs at the technical level, and then the assistant manager level, on various sequences. I mentioned that then there was an engineering department.

Now, when I came back as general manager, I had all of that. I had the technical department, I had the engineering department, I had the products application department, the research department, answering to me. That basically was a management job that put me—kind of for the first time seriously, I guess—over some people whom I had worked for before. That worked all right. It worked okay.

That period was also marked by the major project—in today's figures, it must be two billion dollars—at Martinez, an entire new complex.

BOHNING: You would have been heavily involved in that, then.

ST. CLAIR: I was heavily involved in it, yes.

BOHNING: Did this now put you in touch with the upper reaches of Shell management for the first time?

ST. CLAIR: Oh, yes, yes. Very definitely so. Well, of course, one thing about the job in England, I was certainly in touch with the upper reaches, because I was the only American in sight. So the chairman of the managing director's committee, John Loudon—he was the guy I answered to, my direct boss. He was the very top of the whole Royal Dutch Shell group. I had also responsibility for some other companies based in the U.S., Asiatic Petroleum being one. I say, "responsibility" from the standpoint of that American desk. There was a managing director who had the Asiatic responsibility, so I answered to him. So there was exposure of that sort right along. Of course, from the standpoint of the Shell Oil types—the president, executive vice presidents, et cetera—I was exposed to them, if for no other reason than because they would bring their budgets and other proposals. We would have things to do in common there. But on a day-to-day basis, well, that was the job that got me to the senior dining room. [laughter]

BOHNING: All right. Earler, you mentioned class distinctions.

ST. CLAIR: They have them. I don't know if they do any more. But back to the British thing, you know—I'll never get over it—in the London head office, they had <u>seven</u> <u>different</u> layers of

lunching facilities. Now, two of them were for women. There was a senior women's, and then there was one for other women. The other five were managing directors, coordinators, blah, blah, blah. You could not, by any means, even be invited by one of those people to their assigned lunch room. Totally, totally ridiculous. So I'm sorry. [laughter]

BOHNING: No, I was at Bethlehem Steel for awhile. They had similar dynamics there.

ST. CLAIR: Oh, they were that way? Oh yes, sir.

BOHNING: I understand that if you received a promotion, you actually had to change your neighborhood.

ST. CLAIR: Oh, I hadn't heard that. But being close to Allentown, I heard some of that stuff. [laughter]

BOHNING: You also came to the Brookings Institution at this time.

ST. CLAIR: Yes, in 1965, I think it was. Is that right?

BOHNING: Yes, 1965.

ST. CLAIR: Yes, that was at the end of the general managership in manufacturing. It was what they called a public affairs fellowship program. Shell participated in that, and a number of other big outfits did. It involved sending someone for basically six months to work in the government and be exposed to Brookings: how the federal government works and so forth, and basically training for broader responsibilities. You were learning, if you could, how to interface with some of these people, and some of the sorts of things that go on. I'm going to say there were about fifteen guys in my, quote, "class." There was a GE guy; there was an IBM guy. I was the only oil guy. There were a couple of telephone people from different parts of the telephone system, and others.

Each one of us got an assignment in different segments of the government, which lasted a good bit of the time. Then each one of us, toward the end, had an assignment all in different places, in a congressman's office. So in the process of all of that, it was very interesting. I commuted back and forth to Connecticut, because we had moved in there when we got back

from England. As a matter of fact, that reminds me, that was the time I said, "Well, the headquarters are here in New York. We will not move again. We will not move again." Of course later on, we moved the headquarters.

BOHNING: Where in Connecticut did you settle?

ST. CLAIR: New Canaan. Still back home, in New Canaan. Jean St. Clair will never let me forget it, because, "Oh, you told me such-and-such." [laughter]

My assignment was in the Department of the Interior. It was with a small office called the science advisor's office—science advisor to the secretary. There was a man named John Calhoun who was, I think, provost at Texas A&M. He was on assignment as the science advisor. I was with him. I took on an assignment of analyzing the Interior Department's research make-up and budget. That cut across all the different bureaus—everything from the Bureau of Mines to Coal Research to Bonneville Power to Indian Affairs, et cetera—the whole works. Of course, as you might guess, I found unbelievable duplication and wastage—you know, stuff that was going on that didn't have a remote chance of being of any use to anybody.

So I wrote a big report on all of this, with recommendations, and it was submitted through the science advisor to Secretary Stuart Udall. That has never been heard from since—which is not really surprising, you know, once you realize how government works.

My congressional assignment was with a man named Emilio DaDario from Connecticut—the Hartford area of Connecticut. I really enjoyed that. I got on the House floor, saw how a Congressman's office works in terms of incoming mail, phone calls, et cetera—his obligations and whatever. I really enjoyed that.

[END OF TAPE, SIDE 3]

ST. CLAIR: Then I went back to New York. [laughter]

BOHNING: Now we're coming back to something that you had said earlier, when we were discussing the report you had to do on the West Coast on transportation and supplies. At this point, you were general manager of transportation and supplies.

ST. CLAIR: Yes. The way that organization was set up was, it had responsibility for all modes of transportation: pipelines; rail, truck and car; marine barges; and tankers, et cetera. The

department was divided in two: transportation, which covered those things that I've just mentioned. Shell Pipeline, incidentally, answered to that transportation side, although it had a president and so forth. The other side, supplies, really had to do with the provision of crude oils and other raw materials for the refineries. Of course, it had to interface with exploration-production as to what was being produced—what types and amounts of crudes were coming in what places, et cetera. It involved day-to-day scheduling at times, and then filling in with purchases of crudes to fill our refineries, because Shell has never been self-sufficient in crude. At that time, roughly two-thirds of the crude we refined was our own. The other third was purchased. Also at that stage, very little of it was foreign. Most of it we acquired in trade by and in the States. There was also trading in refined products such as gasoline, heating oil, aviation turbine fuel, et cetera. At that time it was much more limited in scope than it is today.

BOHNING: Going from general manager to vice president, was that a step up?

ST. CLAIR: It was a step up, yes. Yes, that was a step up. I don't know—it just seemed automatic, Jim. I wasn't at the general manager level very long.

BOHNING: It was for a very short period.

ST. CLAIR: Very short.

BOHNING: What was the situation at Shell in terms of people with technical background moving into upper management positions? For example, at Dow Chemical at one point, you couldn't get a job with Dow if you didn't have a degree in chemistry or chemical engineering, no matter what part of the company you were in.

ST. CLAIR: Right, right.

BOHNING: I'm just curious as to what the Shell situation was like.

ST. CLAIR: The Shell hierarchy was, we were all technically trained. To a very large degree, that's still the same. It doesn't mean that everybody was a chemical engineer or a chemist, because there were physicists, there were geologists, geophysicists, et cetera, who got to that level. But they were technically trained—scientifically trained, I should say.

In the early, early days of Shell's presence in the U.S.—this is when the Royal Dutch group first entered the U.S. on the West Coast, as an example—some of the Englishmen were financial types. They came to basically manage the situation. Well, certainly from the war years forward, it's been all technical.

BOHNING: What's your opinion about the advantage or disadvantage of that in today's climate?

ST. CLAIR: I don't see it as a particular advantage, but I don't see it as a disadvantage either. I think it depends on the individual, and it depends on his surrounding staff. I would have great difficulty in the oil business of just appointing a lawyer, say, as president of Shell Oil. I think he'd have a terrible, terrible time. A financial man might be a different story, depending on the individual. But if a man is technically trained, he has at least a fighting chance of understanding the technicalities of the business. A lawyer has a tough time with that, at least the ones whom I know. [laughter]

BOHNING: You were in transportation and supplies only a short time before you became President of Shell Chemical.

ST. CLAIR: Yes.

BOHNING: Was Love still behind the scenes at this point?

ST. CLAIR: Love was still around, but he was not the driving force there. The driving force was a man named Richard C. McCurdy who, by that time, was president of Shell Oil. McCurdy had been president of Shell Chemical for twelve years. He is, incidentally, a geologist from Stanford. But here he was, out of that kind of background, into Shell Chemical as president for twelve years, then on to president of Shell Oil.

When he moved on, there was a Shell Development man, Cecil Humphreys, a chemical engineer from Purdue who took the Shell Chemical job. But that was for, I'm going to say, a couple of years at the most. He was at retirement age. I guess when he moved into it, people kind of looked at it as an interim situation.

I didn't have any idea that this was in the cards for me, or that I was even being considered, but McCurdy was the guy. He just called me up and said, "Here's your next job." [laughter] So there it was. I'm forever grateful for that, because that was a good job.

BOHNING: Well, let me ask you a two-part question. One is, what was the Shell Chemical Company like when you started there? You had had no previous association with that.

ST. CLAIR: It was a mess, very briefly and bluntly. [laughter]

BOHNING: What was your agenda for the company?

ST. CLAIR: My agenda was to straighten it out. That meant straightening out organization and product line, and so forth.

It was organized along pretty ancient lines. It had product divisions, with a general manager in charge of each division. There were six of them. Each of those were essentially autonomous. They had their own research liaison, their own legal, their own finance, their own manufacturing plants, et cetera—they were little fiefdoms. That's why back at the refinery and chemical plant level, you could never communicate.

Well, I was determined to bust that up, because that just simply could not be in the proper interests of the shareholder from a productivity and efficiency standpoint. It just simply couldn't be. You can't afford that sort of thing. In addition, it also sheltered nonperformers, and there were a number of them. So I set out to change Shell Chemical. I visited every plant, every depot, every sales office, every lab, within the first eight months that I was there. What I wanted to do was find out what really was there. It just simply confirmed that it was not in the best of shape. It was small; it was not motivated; it had trouble making a profit at the bottom line. If you had any realistic assignment of transfer prices or overhead loads from the parent, what have you—if on a real basis—you had great trouble showing any kind of a profit at all. We were just kind of subsisting.

Every once in a while, a decent idea would come along, and somebody would do something about it. But even there, the lines of organization and the discipline—the lack of discipline therein—were just pretty awful.

I found as an example, in the first three months, a general manager who had signed off on an authority for an expenditure of, like, seven or eight million dollars in one of the plants. The manual on capital expenditures clearly said that wasn't even the president's authority. That had to go to Shell Oil's Board of Directors. He'd signed off. Well, I just wrote him a little note and said, "Who authorized this?" Oh boy, that really hit the fan. [laughter]

There were a number of things like that. So we gradually got a hold of that. As a consequence, we began to be able to attract resources to expand our business, to sponsor more research, to really gain some respect in the other parts of the Shell house. We just kind of went from there.

BOHNING: Was there a lot of kicking and screaming as you did this reorganization?

ST. CLAIR: Just bloody screaming and kicking, absolutely. In fact, there were some people who said that they could live with the change, but then I had to let them go because it turned out they didn't. There were some others who said, "I can't live with it," and just left. But then, of course, there were the winners, too. We had more winners than losers.

We had some troublesome times in terms of developing personal trust, I guess that's the word. My own approach was that, if you can't really trust your fellow man—it's your colleague; he's working for the same outfit—then one of my favorite lines in talking to them, throughout the system was, "We are all drawing the same color paycheck, fellows—all of us. If we can't develop that, we don't really have any chance of working like a team. If we're not a team, then we're all going to be trying to do our own things. That's just non-productive.

"We do not all have to go to every meeting. We can at least trust the next guy to represent us in our view, whatever it may—if it even comes up. Most of the time it doesn't come up." This is the kind of preaching that I did—the kind of sermonizing I did. [laughter]

It took hold. It took a long time, too. There were very many days when it would be very discouraging, because somebody would go and do some silly damn thing—at least, what I considered silly.

Then, though, we got to the point where I could legitimately address them. I put together a semi-annual state-of-the-union-type of thing. I carried it around to different places. I would talk to them about not only how we were doing, but where we were going. It got to a point, after a while, where they really could begin to believe that when I said, "We're going such-and-such," that we really were. You know, at first, many thought it was a bunch of hot air. You couldn't blame people for that at all—that was just the viewpoint. But as we got particularly into our olefins position, et cetera, and expansion there, and the concept of integration with the refineries, and the interplay of downstream chemical products with the raw materials supplied from the olefin crackers—back to the oil base itself, and you began to get all that together—then they got on board.

My concept, very simply, is that an olefins cracker is just as much a piece of the refinery as it is a piece of the chemical operation, because it is basically a conversion process, just like cracking is—just like catalytic cracking or catalytic reforming, whatever—it's a conversion

process. If you could not integrate the olefins operation with the refinery itself, you're just missing a bet. At times, you want to take your heating oil out of the heating oil business because it's not going to carry its weight—and cracking it and make olefins out of it, because it's going to do that. Other times, it may go the other way. But if you don't have that understanding, and you can't bring it to bear in your thinking and your planning—particularly long-range planning—then I think you just missed a bet.

That, then, is basically the theme—after I got the next job lined up—of how I mashed, if you will, the oil and the chemical pieces together. I will have to say I was really the architect there, whether people like it or not. [laughter]

BOHNING: Apparently, around the time you first started, there were six divisions.

ST. CLAIR: Yes.

BOHNING: You have commented that at least one of them, synthetic rubber, had a lot of tough competition at that time.

ST. CLAIR: Oh, yes. The synthetic rubber story is an interesting one in that it proves the point, if you will, of what I was saying about the chemical side just kind of surviving. No one was doing anything.

If you'll remember, the government sponsored the synthetic rubber business. Shell and Dow co-operated pieces of the complex at Torrance, California. Since Shell was foreign-owned, that took a special act of Congress, or some government action. I don't remember that end of it. The other end I do remember.

That operated during the war, quite successfully—synthetic rubbers production. The war ended, and Dow really didn't want to keep going on it. So Dick McCurdy, then the president of Shell Chemical, bought the whole complex. To do so, it did take an act of Congress to do it—privatizing, if you will, among other things—but the foreign ownership was also involved. Then so it proceeded to operate as a division of Shell Chemical, for synthetic rubber. It lost money steadily. When one looked at it, it was producing the exact same materials that the Firestones, Goodyears, Goodriches, et cetera, were doing. <u>They</u> were Shell customers, as well as their own suppliers. Therefore, they set the price on any and everything.

So it just seemed like a losing proposition. We had <u>no</u> way in the world, visible, to develop another process that would, say, step into a more efficient production. We had nothing in the works of that sort; we had no real strengths—couldn't identify the strengths. We just had

a plant. We were trying to sell stuff on a contractual basis to Firestone, as an example. So it just seemed like a total loser to me.

So one of my vice-presidents, a fellow named Cunningham, Jack Cunningham—who had been in the synthetic rubber division as general manager and who had it dear to his heart—he and I went to Akron. We visited the top four, at the seniormost level. We basically said, "We're going to get out of the business." Do you know what? In all four cases, the answer was, "We wondered when you were going to do that. Why haven't you done that before? How in the world could you compete?" So we shut it down.

By this time, McCurdy had retired. Since he had bought the thing, I felt an obligation to call him and tell him that we were going to shut it down. He said, "Okay, okay." Didn't seem to bother him a bit, but I did feel an obligation to do that. So we did, and actually sold the property, I think, to Cabot. It was basically a land proposition. So that was one of the divisions, gone.

BOHNING: That means that that synthetic rubber division kept going twenty years after the war was over—at least twenty years, maybe even more than that.

ST. CLAIR: Ridiculous, yes. Absolutely ridiculous.

BOHNING: I didn't realize it until I looked at the dates. That's a long time to keep it going.

ST. CLAIR: Yes, yes. I think Shell bought it in maybe 1950, something like that, yes. You look back on those records at the time—and I don't remember any of the numbers—but you just shook your head. "Why are we doing this? We're not doing anything for the shareholder."

BOHNING: Well, there was new technology emerging.

ST. CLAIR: Oh, a new technology. Everything was happening, sure. The ammonia division: we got that shut down pretty quickly, but that came a little later. I think it was a little later. We basically rolled that into the agricultural chemicals division—at least got rid of the hierarchy, the duplication, and so forth—and, in the process of that, shut down the old, original ammonia plant at Shell Point, the one with the German fixtures that I mentioned. Meantime, they had built an ammonia-urea facility up at St. Helens, right at the foot of the mountain in Washington. It was about as vulnerable a set-up as I could ever have imagined. Of course, natural gas was the raw material, and its supply was Canadian natural gas, which was interruptible. Under any

circumstance, you could not get a guaranteed supply, and indeed, it would interrupt. If it got cold, it shut the plant down for a month—this kind of thing. [laughter] How in the world can you make any sense out of that? So we sold that plant—shut down Shell Point. There was an old smaller one at Ventura, which went way, way back; it was really of little or no consequence.

BOHNING: Did plastics become a major emphasis?

ST. CLAIR: Plastics became an objective—not necessarily the number-one thrust, by any means. We had a polypropylene facility at Woodbury, New Jersey, that was operating by the time I came into the job. We had no polyethylene. We had a little polystyrene operation, up on the Ohio River: Marietta. It's still operating today, but the polystyrene operations have long since been sold. Polypropylene was an older technology and has been replaced by the UNIPOL technology. Woodbury was sold also. Huntsman Chemical seems to have been real big at picking up this kind of stuff, and so they have that plant.

BOHNING: What became your primary focus, then?

ST. CLAIR: Olefins. Olefins, because they fit the concept of integration that allowed things to be done organizationally and in an efficient way, as well as the allocation of internal resources. Now, I'm not talking about money. I'm talking about people. It is almost a given in this business that you will not be in an expansionary mode in refining both oil products and chemical products at the same time. Very rarely does it happen that everything is moving up—or, for that matter, moving down. Now, I'm talking a five-year time frame.

[END OF TAPE, SIDE 4]

ST. CLAIR: The allocation of resources here involves those who are in the design, development, and construction of facilities—engineers, and all the support. If you combine, say, your engineering departments, you can handle, with this group of people, a major olefins construction. Two years later, you can have those same people with a major refinery expansion—a big coker, or a coal conversion, or whatever. That means not only that you are in a reasonably stable employment situation, but that you are able to recruit people into the system from the universities on a steady basis without the disruptions of ups and downs.

This is a point that I have tried to hammer and hammer. It is critically important in terms of the relationship of the industrial concern to the universities, but it also is critical in terms of the people who are involved when you do this. You can not, like a major engineering

contractor, hire a hundred and lay off a hundred and expect any sort of performance. Sure, they'll do a job. So in terms of the preservation of our people's sanity—security is the word I'm seeking—and their ability to perform productively within that—including salary, benefits, promotions, opportunities, et cetera—that seemed to me to be the way to do it. Now, there seemed to me to be a real plus.

Therefore, olefins I've looked at as a big hunk of that thinking as well as the integration of the facilities, et cetera. We tore down the fences between the chemical plant and the refinery in every one of these places literally, to the physical point. For the first time in the history of Deer Park out here, as an example, in—I'm going to say, 1975, 1976—we were able to shut down a plant for maintenance at one end of the complex or the other, and use craftsmen from the other end to help out the base craftsmen who were already assigned there. You couldn't do that before, even though they all worked for Shell.

We had to pound the union on that, of course, but that was a part of literally tearing down the fences. Of course at the same time, we have a complex manager, and he has a superintendent at each end, and so forth. But you've got a common treasury, and you've got a common warehouse, and you've got a common transportation setup, and you've got a common planning operation. You've got to have your scheduling; your planning has got to fit both at the same time. So it just made good sense to me. That took some doing too, I can tell you. [laughter]

BOHNING: I was going to ask whom you had to sell on that. Also, this leads me to another question: whom, as president of Shell Chemical, were you reporting to?

ST. CLAIR: I was reporting to the president of Shell Oil. When I first got the job—this was when headquarters were still in New York—a man named Dennis Kemball-Cook was the president of Shell Oil. He was an interim man between McCurdy and the time that we moved to Houston. We moved to Houston, and another Britisher by the name of Harry Bridges became president of Shell Oil. He had been president of Shell Canada—another exploration-production-side guy, and a real prince. I was lucky enough to hit it off—particularly with him—to where he had sufficient confidence in the kinds of things that I was trying to do and would try to explain, to where I didn't have a free rein, but I had leeway. That's very important. I was lucky enough to have that kind of mentality and personality at the top at that time. That changed afterwards. But we won't get into that until later, maybe.

During the major phases of knocking down the fences, reorganization, and the putting together of oil products and chemical products, or names that we attached to this, I became executive vice president for Shell Oil as well as president of Shell Chemical. That really was just titular. The job was the whole thing, anyhow. I'm waving my arms all over the place, I'm sorry.

But I had Bridges' support, you know, in all this. I think that most people could see that intellectually, at least, this made sense. The real question had to do with the ability to convince people, and to make a team out of it that would really operate as a team. Now, we go back to the trust and acceptance. As I say, some of them never got on board—but a lot of them did.

BOHNING: I can see where there might be reluctance. However, at the same time, that could be a lot of fun.

ST. CLAIR: Oh, it was terrible fun. I mean, just great fun. [laughter] It really was just terrific to see these guys grab the reins and start off. I'd get called, you know, and, "Well Jack, we really would love for you to be here today, for we just tore down the last piece of fence," and what have you, you know. [laughter] So it was fun.

I wound up organizationally, then, with six vice presidents. I had a guy who ran all the manufacturing on both sides. I had a chemical products vice president and an oil products vice president. Under each of those were, not divisions, but product groups. In other words, you'd have a plastics man; a polymers man, say; a basic chemicals guy. He'd have about three guys. He had to use the common organization for all of his support—engineers, finance guys, legal, environmental, health, any of them—all common. They had to use those.

So we had the chemical and oil products. Oil products would be divided, of course, into gasoline, diesel, heating oil—residual fuels; lubricants; asphalt; et cetera. So that was three VPs. Then we had a technical research and development and engineering guy. He ran the engineering, and he did all of the interfacing with both Shell Development and any other research that we were doing, on whatever basis—including that which we contracted for with the Royal Dutch group, and vice versa. There was always an exchange agreement there. Then we had a man who did the health, safety, and environment, by this time. Incidentally, I had a terrible time even selling that idea. I'll get to that later. That's with the guy who succeeded Bridges.

Then the sixth one was the man who had charge of, and basically negotiated, the Saudi Arabian venture across six-and-a-half solid years of work. He needed the vice-president's title, I can tell you. That's a highly successful operation now—it's a fifty-fifty operation.

People may wonder why we wanted to do that. Incidentally, that was fought tooth and nail by the Royal Dutch group. "What is Shell Chemical doing over here?" This sort of thing. "We've got all our olefins plants, et cetera, in Europe, and they're such-and-such oriented. Now you're going to put the Saudis in this kind of business and they're going to be dumping stuff into Europe," and what have you. Well, to some degree, maybe they have across the years.

The idea basically was that, "Saudi Arabia is the last place in the world, I think, that's going to run out of oil." With the lessons that I learned through the early 1970s, and the embargos, price controls, et cetera, and what happened both from a governmental standpoint, and then all the consequences, some of which are still being litigated—as well as just being able to operate a facility for the benefit of the U.S. citizen—you've got to have some access to crude oil. We have, as I've said, never been self-sufficient in crude oil—no chance of being, on a domestic basis, or nothing in sight elsewhere, for that matter. Therefore, with the logic that, "That's going to be the last place," and the fact that Shell, either at the Royal Dutch level or at the U.S. level, had zilch relationship with the Saudis—zero—it was time to try to get a foot in the door.

So as a consequence of our investment—which was only half of the plant cost—we had an agreement, for access to Saudi crude, ad infinitum. Whether or not that's been used is beside the point. It's been very, very worthwhile, in my view.

In any event, to close the loop here, the last vice president there had to deal with that. [laughter] They were terribly, terribly complex and frustrating negotiations at a time when facilities weren't really that nice to stay in, in Saudi Arabia.

BOHNING: That leads me to another question I wanted to ask you. You came in just before the energy crisis, and lived through that. What effect did that have on your operations?

ST. CLAIR: It was terrible. Absolutely terrible. It was the most frustrating period, from a standpoint of really being able to do anything, that I ever went through. With all the Richard M. Nixon price controls, and then the embargo, and the entitlements programs and the quotas, et cetera—and when I said some of them are still being litigated, that's still true—and the definition of the old crude and the new crude, and the terrible mess that the government was able to put together—we were in constant hot water. Hot water not in the sense of doing anything wrong, but hot water in terms of it was always a hot argument. We had something like fifteen government auditors on site, for whom we had to supply an office and telephone, everything else, all the time—every day, day in, day out. These guys would wander up and down the halls to get somebody to talk about this or that—just, you know, absolutely ridiculous. Add that among other frustrations that came through all that, and you have no problem in understanding why I think the government is the worst possible solution. In fact, I don't think it is a solution.

But one of the things that would bug me really, most profoundly, every month, is on this definition of the entitlements, and the old and new crude thing. I would wind up signing a check for somewhere between twenty and twenty-eight million dollars each month. To whom? Texaco. Now, can you imagine? Can you imagine?

So it was hard. Included in all that, of course, were times when people couldn't buy gasoline. Somebody would stick a microphone in front of you, or a TV camera, at some event. It was a mess. On top of that, there were still the activist—and, if you will, the terrorist—threats that were going on.

That got personal, also. Because of the title if nothing else—I was on the Shell Oil board—this attracted attention. My wife, when we lived back here in Houston out in Memorial area, one morning opened the mail, and it was a letter, two big red slashes on it—supposedly blood—threatening to kill her and the kids unless her husband stopped, quote, "killing all these people with napalm" or with whatever the hell it is. This turned out to be from Squeaky Fromm. You remember this?

BOHNING: Oh, yes, yes. All right.

ST. CLAIR: Well, she dropped the letter, and so they got some fingerprints, and this sort of thing. Another time, I was doing one of these tour-around situations. Jean was with me. We had a meeting of the old MCA, which is now the CMA. It was, I think, still MCA at that time. It was out West somewhere, and she was with me. I had this talk at the agricultural-chemical division headquarters in San Ramon, California. There was nothing secret about me being there, but that morning, somebody blew up—with a bomb—the transformer station right next to the building. Well, that gets your attention, of course.

Another time, I had a speech to make in San Francisco at The St. Francis Hotel. There was some kind of little reception in the back of the ballroom ahead of time. I was standing talking with some people, and all the lights went out—I mean, totally black. The next thing I knew, somebody grabbed me by the arm. Well, it was a security guard—thank goodness. [laughter] But it was quite a prelude to a little speech, I can tell you.

Another time, we had a Shell plane—again, a West Coast-Houston trip—that had a flame-out on one engine which was never traced and never really tied down, but it was coincident with some of these other things that I've been talking about. All of that was mixed in with this situation. It was a pretty tumultuous period. We were trying to do things in the company, and we were getting <u>some</u> things done. [laughter]

BOHNING: With all of that going on, it's amazing you could keep focused on your overall agenda of reorganization.

ST. CLAIR: Well, the reorganization thing, Jim, is a matter of timing, among other things. It can be done, and it's been attempted in a lot of different ways. There is one theory that you're

in this mode today and you take everything, throw it up in the air, and everybody lands this way on Monday, next week. In my view, that's been unsuccessful. You don't convince anybody. They scramble around for days and days, trying to find out what their role is and what have you. A more gradual approach—particularly, trying to sell the idea and to convince people of where they're going to be and how this is going to work, et cetera, and gradually implementing it—is a much preferred way. It was preferred in my case, anyhow. That being the case, in terms of keeping a focus on a forward agenda—well, if things weren't happening every afternoon anyhow, you could find ways to do this. You wound up working pretty long hours, for sure, but that was all part of the game, too. So I didn't find that part to be a problem.

In addition, of course, I had excellent help, and excellent people. I had said to some of the senior people from Royal Dutch more than one time that these guys—these fellows who were my vice presidents, just using them as an example—any one of them could run the whole outfit without a hitch. By the whole outfit, I meant the whole worldwide outfit. Really, they were that good. They were that good.

BOHNING: I'm intrigued by how, starting out, you had the chemical company—but at the plant sites, you managed to get the fences down and get your nose into the oil part at the same time. Again, going back to Bridges, is that because he was supportive of that?

ST. CLAIR: He was supportive of that, yes.

BOHNING: How did you go about getting on the other side of the fence, as it were?

ST. CLAIR: Well, I just had to remind them that I had come through the refineries. I knew what refineries were like; I knew what head office operations on the oil side were like. I had had the transportation and supplies jobs, et cetera. This was not all strange to me. I had an understanding of what was going on there. I had been intimately involved in their labor negotiation problems through the years, both when I was still there on that side of the house, as well as other places. It wasn't just like somebody from Mars saying, "Well, let's do it this way." There was an understanding.

I'd worked in lubes. I understood how some of the lube business ran—the original fill-type operations with the big automobile manufacturers. They interfaced with the Caterpillars, you know, stuff like that—asphalts, road paving-type situations, and so on. We'd had a plant at Martinez when I was there that made that kind of stuff, so it wasn't all strange. I was more or less accepted. I guess the part that was the toughest for them to accept was that—and I admitted to them—I didn't know a thing about service station operations. I still don't. [laughter] But

Shell's always been a good gasoline marketer, so I made sure that I had the kind of people there who I thought were good at it. They were largely there, anyhow. We had no problem.

I had a real problem with the guy who was basically running the heating oil business. He had distributors and barge terminals and barges and all this stuff all over various places, to service the heating oil market. Of course, that heating oil was great feed stock for olefins cracking. I had a real problem with him. [laughter] But to this day, we're friends. I see him a couple times a year at one of the Shell luncheon situations, and he says, "Well, I'll never forgive you for taking over there." That's all right, Jim, though.

I have the feeling I'm being awfully, awfully verbose. But also, it sounds very much like bragging. I'm sorry about that.

BOHNING: No, not at all. Not at all. Now, I would like to clarify some of the dates on your career time frame. From the records that I have, you became president of Shell Chemical in 1967, as well as director of the company at that time. Then there was this executive vice presidency of Shell Oil, which you said was titular. You were still president of Shell Chemical. But I'm not sure what happened after that, and I don't have anything on my records that clarifies that.

ST. CLAIR: Well, those were the jobs. I had those jobs when I retired.

BOHNING: All right. What year was that, then?

ST. CLAIR: In 1979. September 1, 1979.

BOHNING: All right. You were essentially in the presidency of Shell Chemical and the executive vice presidency of Shell Oil until that time.

ST. CLAIR: Right. Then, as it turns out, I had twelve years on the Shell Oil board, twelve years with the Shell Chemical presidency, but only the last three or so with this combination of executive vice presidency of Shell Oil and presidency of Shell Chemical.

BOHNING: I remember reading that when you took over, sales were at about five hundred million dollars (4).

ST. CLAIR: In Shell Chemical?

BOHNING: Shell Chemical, yes. By 1976, sales were at one and one-half billion dollars.

ST. CLAIR: Yes, it got to a rate of three billion dollars before I left.

BOHNING: The article I have from 1978 said that sales were about 1.7 billion dollars in 1977 and that you were predicting sales of 2.0 billion dollars in 1978 (5).

ST. CLAIR: Maybe my numbers are wrong. I think it got a tad closer to three when we were through.

BOHNING: Well, that's quite a testimony to what you've done.

ST. CLAIR: Well, it was. The happy thing about it was, those numbers were just sales numbers, but there was a bunch at the bottom line, too. That we all felt pretty proud of.

BOHNING: You expanded into doing other things like detergents at that time, too.

ST. CLAIR: Yes, sir.

BOHNING: And that became pretty important.

ST. CLAIR: That's a big order. That's a big one. There's a good example of the support of—and the development of—fundamental, basic research. It's a totally different approach to building linear olefins. This is an oligomerization process approach, starting with ethylene, as an example. It was done basically by Shell Development, that research, but with encouragement and support right along. This is the kind of thing that without that, I'm not sure it ever would have come about, even after we had successfully—in my view, successfully—demonstrated the process at, say, the demo level or large pilot scale. There were some real questions about proceeding to commercial.

[END OF TAPE, SIDE 5]

ST. CLAIR: Again, that had to do with resource allocation, going back to what we've said before. One of the major risk factors involved here was brand-new, undemonstrated technology. But we did it. It's been the basis of a very profitable business for Shell Chemical through the years.

It had some growing pains, I would say, the first three, four months. Our practice, of course, was to bring the people who had invented this whole thing right into the bring-up process, and so on. First thing you know, we just knocked one problem off after another, and off you'd go. It was a great money-maker—good technology, really good technology—and, I guess, still exclusive.

BOHNING: Where did the idea originate? Did it originate at Shell Development? Did they come to you?

ST. CLAIR: Yes.

BOHNING: All right. I was wondering if it was the other way around.

ST. CLAIR: Yes. But they knew that we wanted to exploit the integration of ethylene forward. We also at that time had already had a little detergent operation, come to think of it. The Royal Dutch had a detergent operation, what's called TEEPOL—based on wax cracking to linear olefins and then into ethoxylation and whatever, for detergents. They actually had sold—and maybe still are selling, I don't know—detergent at the retail level under that brand. So there was some knowledge of detergents, per se, at that time. But the idea of going from ethylene forward to detergents was basically Shell Chemical.

BOHNING: All right. You also had reached a point in 1978 at which Shell Chemical was contributing a significant portion of total Shell sales.

ST. CLAIR: Yes indeed, a very big hunk of it, profitwise also. We segregated the Shell Oil financial performance into exploration-production operations, oil products, and chemical products. To this day, they are still reported internally pretty much that way. In fact, if you pick up their quarterly or annual statements, they will talk about those three segments. Exploration-

production traditionally, through the years, was far and away the biggest contributor. Oil products at times was pretty good, and as I said back earlier, Shell Chemical contributed essentially nothing, or damn little. As time went on, of course, depending on oil pricing problems with quotas, entitlements—a number of these things—different parts of the company performed at different levels from a profit standpoint. Chemical became a very integral piece of the performance pie as time went on. It certainly has been carrying its weight. In more recent times, of course, with the recent upsurge, apparently it is outstripping all the others. It's a cyclical business, though, as we know.

BOHNING: Whoever has the best crystal ball wins. [laughter]

ST. CLAIR: Yes, yes. Well, I was roundly criticized a number of times for expanding olefins too fast from an industry standpoint. In fact, there were people making speeches in that regard and criticizing Shell for plowing ahead on this, that and the other. [laughter] But that's okay.

BOHNING: Now, I read another article that quoted you (5). As I understood it, you were quoted as saying that the oil industry was at a point where there was an overproduction of olefins. Also, I read that you believed that it would take, essentially, five years or more to build a world-class climate and that, by that time, the over production would be gone. Therefore, you would still be going ahead to do that. This is what I heard you saying just now.

ST. CLAIR: I was trying to understand the growth rates of the materials. This is a materials business, after all, not an energy business. The growth rate of the materials business, whether it's into polymers or any of these other things, then would fall back on the production capacities of the crackers. That's where all the argument was: is it going to grow at one percent or five percent, or something? Of course, you can get widely different varieties of that.

BOHNING: You mentioned earlier that when Bridges was replaced, the situation changed.

ST. CLAIR: Yes, it did. He was replaced by a man named Bookout, John F. Bookout. Bookout was a petroleum engineer, and had great success—and well-deserved, I might add—in his exploration and production stepwise promotion. He became Shell Canada's president, as had Bridges before. Then when Bridges retired, he came as president <u>here</u> in Shell Oil.

This is going to sound severe, I'm afraid, but Bookout doesn't trust anybody. So remembering now what my thesis had been built on—organization and the whole thing—it just didn't really click. It didn't mean that we were at each other's throats—far from it. It didn't

mean that he was going to redo or revert things that had already been done organizationally, none of that. In fact, he didn't do any of that the entire time that I had left. But it did mean a real struggle for resources. Again, that's where the battle was. He could not be convinced, as an example, that such-and-such kind of a project should go forward. A couple classic examples of that, if we had done them, we'd be dominating the industry at this stage. I can say that. I'm not sure he even remembers it, but that's beside the point.

But the relationship was cordial on a personal basis. It was not close. From time to time, this struggle for resources would take on a form that I had great difficulty in living with. The form would be wherein he would have his corporate economics people re-do the economics that my side of the house had done—I mean, redo them, whether they matched or not—and then pull them out with a chart unannounced, this sort of thing. That happened. Of course, if you're going to have some trust and faith in your fellow man, you don't do those kind of things.

So it was not good from that standpoint. He was a very bright, very capable man, and a very good leader, in his own way. But he did not build, even in his exploration-production side, a camaraderie or a team anywhere along the line. He probably would profoundly resent me ever saying that, but it was so true. I mean, you could see it all the time. In fact, people left at a senior level, because they just couldn't stand some of this.

So those years were certainly different than the years before, with Bridges. But they were tolerable. The toughest period of my entire career was the last six or eight months before retirement, because in direct contrariness to what I had recommended and said that they should not do, he appointed my successor a full nine months ahead. So for the last six to eight months, this guy—a great guy, and in fact, he'd been one of my guys—was sitting in an office next to mine. Of course, you know what happens then. Well, people were talking to Jim [James B. Henderson]. [laughter] It was all right, and you know, you could see there's an end to the tunnel here, so it wasn't all that hard to live with. But it was certainly the wrong way to do it, and it was not really productive from the standpoint of the organization. There were lots of worms moving around by that time.

BOHNING: You had already announced that you were going to retire, then.

ST. CLAIR: Well, you bet. That was required by age.

BOHNING: It was required. How old were you at that point?

ST. CLAIR: Age sixty. In senior levels from that general manager level up, in Shell, sixty is the mandatory retirement. So everybody knew, and they knew damn good and well that I

wasn't going to be extended with Bookout sitting there. They knew that. In fact, very, very rarely has anyone ever gotten extended. There was no real reason for it, anyhow. So they knew and I knew. That was it.

BOHNING: I didn't realize it was age sixty. Is that unusual?

ST. CLAIR: It's unusual in the industry—not only in the oil and gas, but in all industries. But it's been there forever in the Royal Dutch group. It's not a new policy; it's been there forever. The theory is that you bring on the new and brighter ones faster and with more vigor in your management, and overall, I think that's right. Now, there are exceptions, of course. There are people at sixty-five or seventy who can outdo certain forty-five year-olds. But by and large, on the average, it's good. It's kept the outfit really rolling.

BOHNING: Dow has what they call a deceleration policy. I've talked with a number of people who have gone through it, and there are very mixed reactions to it. [laughter]

ST. CLAIR: Yes, I have had some good friends in Dow through the years. I have mixed feelings about the quality of Dow's program.

BOHNING: Do you know Ben [Benjamin] Branch?

ST. CLAIR: Yes, I knew Ben.

BOHNING: Yes. I interviewed him not far from here.

ST. CLAIR: He's over here somewhere, yes.

BOHNING: He's not far from the Galleria—the Summit, I think. It's been a number of years ago now.

ST. CLAIR: Yes, I knew Ben, and Carl Gerstacker, and Ted Doan, and Paul F. Oreffice.

BOHNING: I've interviewed most of them on the Dow project (2). It was very interesting. Let me at this point come to some remarks you made in your address to the Society of Chemical Industry when you received the award in 1978 (3). You entitled it, "The Vacuum of Leadership," which is a very unusual title. I was wondering how you came up with that.

ST. CLAIR: That's because we didn't have it in the industry.

BOHNING: All right. You've talked about mass psychology heavily influenced by individual political whims. This was just coming out of the energy crisis, wasn't it, at that time?

ST. CLAIR: Well, a lot of it also was aimed at the environmental side of things too, because the industry was behind the times.

BOHNING: Yes. We discussed earlier the comments you made about being a good citizen. I was intrigued by the fact that while you started out saying you're a positive person—and that's been very obvious this afternoon—you then went on to describe a number of negative kinds of situations that existed at that particular time. I was very intrigued by this statement, "The more we turn to Washington, the more we can expect Washington to control our business."

ST. CLAIR: Well, I think that's right. I still would say that. I guess I began to realize that when I had the Brookings exposure. The level of competence in any particular administration, let's put it that way, in any particular time frame in Washington, is highly suspect.

There are times when the top structure is really first class. I mean first class in terms of intellectual capacity and the desire to do the right kinds of things, in their view—whether you agree with that particular thing or not—honesty, integrity, et cetera. There are times when that's not the case. There are also—aside from the top layer, who fit either one of these categories at any particular time, competent or not—below that there is a mishmash of nonperformers and hangers-on who draw their paycheck and basically are parasites. I could see that. You could also see, then, the functioning when they got to the energy crisis, and the various regulations that went in with entitlements and this sort of thing. You could see, not the top people, whether they were good or not, involved in those, and the making of those, and the interfacing with the industry—but you could see the incompetence of the hacks, if you will, in the government, doing that kind of thing. That today is still the case in places like the EPA, as an example.

I can't speak from personal experience nowadays, but you can see it. You can see it in the press. So that's what that sort of statement is talking about. I did not then, and I have not since, had any confidence at all that turning to Washington is going to solve the industry's

problems, whatever they may be. They're not going to solve it in terms of crude oil availability or labor—or name them.

BOHNING: You talked then about the increasing self-centeredness in business, government, and academia—but especially in the chemical industry. You're talking about the fractionation among the industry itself.

ST. CLAIR: Yes, yes. Well, let me go back a little ways. This involves the CMA. Of course, I served as chairman of the executive committee at one stage.

I'll tell you a little story about how that came about. I had been on the board. Incidentally, my predessors in Shell Chemical never were. I'm sorry, McCurdy was for one year at one time. But we went through a period of time where they got acquainted with me in the board situation. Then, you know, there came along a consideration of the next leadership of the association. One of your Dow friends came to me and said, "We would like for you to be chairman of the executive committee." I said, "Fine." "Even though you are from an oil company," he said, "we think you're okay." [laughter]

Now, I cite this as an example of the fractionation. There are, or there were at that time, a half-dozen biggies, pure chemicals, who despite any legitimate or reasonable interface with others, simply were not going to let up. They were going to control the CMA; they were going to dominate any discussions with the EPA; and certainly, the big, big arguments had been going on long before this speech about allocations of hydrocarbons to the chemical industry from the oil industry. I'm sure you remember some of that. Those were bitter. They obviously didn't help either side, and didn't help the industry. It just was a diversion. Again, it involved a lack of trust. They just simply couldn't believe that an oil company would look at it this way, and that out of that, they'd get their fair share. So that's fractionation. Now, what was my statement again?

BOHNING: Increasing self-centeredness among business, government, and academe, including chemical industry. That's just a paraphrase. "We see an increasing self-centeredness, not only among states and regions, but also among business and government and other institutions within business and industry, including the chemical industry, right down to the individual" (3).

ST. CLAIR: Yes, yes. Well, it all goes to those particular viewpoints that we've just been talking about. Certainly the EPA, as an example—use that as a piece of government thing—is so self-centered that it has to view good science as being prejudiced because it came from something over here. Now, maybe self-centered is not quite the right word here, but an ability to look at themselves as know-it-alls. I think some of that's typical of us all. [laughter] I don't

know so much about academe. That's changed so much since then, I really don't know why I dumped that in there.

BOHNING: Well, in the late 1970s, the academic institutions were still a hotbed of the anti-war effort.

ST. CLAIR: Anti-nuke, anti-war. Probably that. Not this political correctness thing that's going on now, which really runs me up a pole, I'm afraid.

BOHNING: I read something else in this, which leads me to our agenda that you have (6). We've covered most of that, but there are a couple of things I did want to touch on specifically. This last part leads to that. You are quoted as saying, "There's plenty of room in today's modern technological and informational businesses for creative and innovative thinking." You related this as a better way to get some of these things that you were talking about done. That brings us to this whole concept of innovation in chemistry and what it means. How do you encourage it?

ST. CLAIR: Yes. Well, again, I think I would largely exclude the government as being a stimulus for this—not because they don't have the power at times, and certainly under some circumstances, the dollars to do some of it, but I'm not sure they have the capability of judging what things need support or not. Now, the national academies, I hope, are listened to from time to time. You know, they come up with a recommendation, and it seems to me, about three-quarters of the time it just kind of disappears and you never hear anything more of it.

So from that side, I don't see that as really a stimulus. But I do think that a forward-looking industrial concern needs to make sure that it has a research and development budget that is what, in my view, would be called substantial. That doesn't mean necessarily a DuPont level of research, or what have you. But again, with the concept of being able to attract and keep technical talent coming out of the universities—on a steady basis, into a steady and demonstrated research environment for technical research—people can feel that they <u>do</u> have an opportunity.

[END OF TAPE, SIDE 6]

ST. CLAIR: If you have those people feeling that way and on board in terms of your own line of business, say, then the next and other element is that you make sure that you are open to their

ideas—radical or not—and that they will get consideration. Out of that, all kinds of things are possible.

I have seen an example or so of people really being put down because they didn't dress right, or their hair was long, or they were a wild guy, or they had crazy ideas or something. There is room for those kinds of people if we're looking for innovation. It doesn't mean we have to have mad scientists—I don't mean that at all. [laughter] But I do think a part of the environment for successful innovation, et cetera, is a knowledge by the people that they're going to have a chance and that somebody'll listen if they have even what seems, on the face of it, a screwy idea. Does that answer you, Jim?

BOHNING: Yes. What experiences did you have in terms of dealing with innovators?

ST. CLAIR: Oh, several—some of which were along this mad scientist type that I just mentioned. I can recall one fellow whom the research management wanted to run off, yet he was about the third most creative guy in the whole bunch, in that whole group. I just said, "Well, I just think you have to make allowances for him, kind of tolerate some of this. I know it's hard. It's hard for me, when he comes into a meeting and says crazy things, what have you"—basically in challenging authority, that sort of thing. [laughter] So there have been some examples of that.

There was, at the top most level in Shell Development, a Ph.D. chemical engineer—brilliant—by the name of Tom Baron. Does that name ring a bell at all?

BOHNING: It's familiar, yes.

ST. CLAIR: Well, he's University of Illinois. One of the top chemical engineering brains in the field, apparently. He's dead now. Tom was a womanizer. Everybody knew it—including his wife. Tom was brilliant, though. He had absolutely zero concept of organization, but he was the kind of guy who, if you could get through some of that—just live with some of that—you could find some real nuggets. When I was president of Shell Chemical, he was president of Shell Development, of course. Development was doing essentially, not all, but essentially the research work—pretty much all of it—for the Chemical side. Well, obviously, we had to get along. We had to talk to each other. At times, that was very difficult with Tom. [laughter] But it worked, and he was successful in his job. I think, more than once, somebody was ready to run him off.

BOHNING: We've gone through a period where a lot of companies have felt that if they want a new technology, they're going to buy it, instead of nurturing their own innovation and creativity. What's your reaction to that? Did you do any of that?

ST. CLAIR: Well, I think there is a role for licensing or buying others' technology, at times. It depends, I think, on the commercial aspects of things. I can see it being a very easy decision at times to say, "Look, a license from Carbide on UNIPOL is going to cost us such-and-such. We can estimate that out through the years. The cost to us of developing something better, or even competitive with it, are at such-and-such odds that commercially, it just doesn't make good sense. Besides, we've got these people, and we can do something else with them. You know, we don't have to work on UNIPOL-type technology." So I can see that there could be times when that's quite acceptable. I do think that building your own base is also very, very fundamentally important.

Now, I'm not really talking about the wildest basic, basic research. I'm talking about product-oriented research. If your business is going out of business or is going to be sold—take the agricultural-chemicals business of Shell, which was sold to DuPont—well, obviously now, you really shouldn't be doing a lot of biological research here. Those people could be used better somewhere else. But in support of your ongoing, strategically planned businesses, I think fundamentally, you should have your own research base—and the more capable, the better.

BOHNING: But isn't it true that in recent years, a lot of companies have short-sighted that?

ST. CLAIR: I think they have, from what I understand.

BOHNING: What about Shell?

ST. CLAIR: I think they have to some degree, from what I know. You have to remember now, I've been gone a long time, and there's really not much interface with the company. I don't have much interface with them.

BOHNING: Is that by design?

ST. CLAIR: It was by design for quite a long while. You know, time just goes on. I don't even recognize some of the names of some of the people who are being promoted, and this sort of thing. You lose interest. Shell Oil does not have its own stock, so I'm not a shareholder. I'm a

shareholder of Royal Dutch, but that's a pretty good stretch. I draw a pension, and that's pretty well formwise—I don't have to interface with them on that. I'm not really invited to dinner with the directors or anything of this sort because time has gone by. [laughter] So there's just not much. There's a lot of interface with people who are retired. There are lunches with this bunch and that bunch, and all this sort of thing. It's great reminiscing. [laughter]

BOHNING: Well, I've come to the end of my questions. Is there anything you'd like to add?

ST. CLAIR: Well, one thing that you had on the end of here is, what did it mean to me to win the medal? Well, it meant a great deal. Among other things is, by then of course, a lot of the improvement in Shell Chemical's health and welfare had occurred and was continuing to occur. Recognition of that, from the standpoint of my people, was important to me. It's a great way to say, "Look what you guys have done. You've put this thing into a shape where, obviously, we have a chance to step up and be recognized." That's good. So it meant a great deal from that standpoint. Personally, honors are nice to have—much nicer than criticisms.

But I'd say it's number two on my list, from my old-age perspective. Number one is my honorary degree from Tulane. That really meant something. Going way back to where we started this conversation, there are things that occurred there that come to mind every so often. When, through the years, you're tied to that kind of a situation, and your recognition that that was really one hell of a good education, really. Otherwise, you don't know if the rest of this would happen, and then to recycle: that meant a great, great deal. It meant a great deal to my family, probably for my children as much or more than to me, I guess.

BOHNING: That's marvelous. That's wonderful. What do your children do?

ST. CLAIR: Well, my oldest daughter is a lawyer. So they're not all bad. [laughter] She's a vice president and general manager. I think it's the largest title company in the Dallas area. It's called Stewart. She was in a private firm for a number of years—did litigation work—and this is different. It's a lot less pressure. I'm glad, for her sake, that it's a lot less pressure. Lawyers do crazy things like working all night and then trying to do things the next morning. Anyhow, she's in good shape.

I have a son who is not in good shape, physically. He's forty-two, and he's kind of a physical wreck—back problems and stuff like this. He lives out in Fredericksburg, Texas, in the hill country, and basically is in the home-building business. He did not graduate from college—got three-and-a-half years and then decided it wasn't worth it, which has bugged me ever since, of course.

Then my youngest daughter is a counselor—psychological and social counselor—in a public school system in Weston, Connecticut.

BOHNING: So she stayed with her roots in Connecticut.

ST. CLAIR: She stayed back there, although she's an SMU graduate. She just turned forty yesterday. She's a great gal. Some of the stories of the kids she deals with—she handles fifth, sixth, and seventh graders. [laughter]

BOHNING: Wow. Boy, that's a tough group.

ST. CLAIR: Some of the stuff—I don't know how she does it, Jim. It would drive me crazy.

BOHNING: I admire anybody who does that kind of thing.

ST. CLAIR: Well, and it's not very well paid, either, as you know. [laughter]

BOHNING: Well, they get the dedication. They get people who are so dedicated to it that the pay is unfortunate.

ST. CLAIR: She just loves it, though. "Because," she says, "you know, I may not be able to help anybody at all for two weeks in a row, and somebody may come along and I may really be able to do some good. That makes it all worthwhile."

BOHNING: Yes, that's marvelous. Well, on that note, I think I'll thank you for spending the afternoon with me.

ST. CLAIR: Well, Jim, it's been my pleasure. As I said, I'm afraid I've been far too verbose.

BOHNING: No, not at all. It's going to be a very good transcript. I apologize for the problems we had at the beginning.

ST. CLAIR: Well, you're most welcome.

[END OF TAPE, SIDE 7]

[END OF INTERVIEW]

NOTES

1. Bruce F. Greek, "Shell Chemical's Jack St. Clair Wins SCI Medal," *Chemical & Engineering News* (1978): 11-12. See Chemical Heritage Foundation Oral History Research File #0135.

2. Benjamin Branch, Carl Gerstacker, and Ted Doan interviews by James J. Bohning. [CHF to provide complete citation.]

3. Jack B. St. Clair, "The Vacuum of Leadership," Chemical Industry Medal Address, *Chemistry and Industry* (1978): 914.

4. "Shell's St. Clair: Hitchhiker Arrives at the Top," *Chemical Week*, 18 Jan. 1969. See Chemical Heritage Foundation Oral History Research File #0135.

5. "US Ethylene Supply Balance Predicted Five Years Hence By Shell Chemical President," *Chemical Marketing Reporter*, 30 Jan. 1978. See Chemical Heritage Foundation Oral History Research File #0135.

6. Article quoting Mr. St. Clair as saying that the oil industry is at a point where there is an overproduction of olefins, probably during his period as president of Shell Chemical (1967-1979.

7. James J. Bohning, *Chemical Heritage Foundation Oral History Project, Society for Chemical Industry Project: Interview Agenda for Chemical Industry Medalists.* See Chemical Heritage Foundation Oral History Research File #0135.

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