# Nevada Test Site Oral History Project
## University of Nevada, Las Vegas

# Interview with Larry Neese

**July 1, 2004**
**Las Vegas, Nevada**

Interview Conducted By
Joan Leavitt

Oral history is a method of collecting historical information through recorded interviews conducted by an interviewer/researcher with an interviewee/narrator who possesses firsthand knowledge of historically significant events. The goal is to create an archive which adds relevant material to the existing historical record. Oral history recordings and transcripts are primary source material and do not represent the final, verified, or complete narrative of the events under discussion. Rather, oral history is a spoken remembrance or dialogue, reflecting the interviewee's memories, points of view and personal opinions about events in response to the interviewer's specific questions. Oral history interviews document each interviewee's personal engagement with the history in question. They are unique records, reflecting the particular meaning the interviewee draws from her/his individual life experience.

Produced by:

***The Nevada Test Site Oral History Project***
Departments of History and Sociology
University of Nevada, Las Vegas, 89154-5020

Director and Editor
Mary Palevsky

Principal Investigators
Robert Futrell, Dept. of Sociology
Andrew Kirk, Dept. of History

The material in the *Nevada Test Site Oral History Project* archive is based upon work supported by the U.S. Dept. of Energy under award number DEFG52-03NV99203 and the U.S. Dept. of Education under award number P116Z040093.

# Interview with Larry Neese

July 1, 2004
Conducted by Joan Leavitt

**Table of Contents**


| | |
|---|---|
| Introduction: family background, childhood on farm in Kansas and in Colorado, education, childhood memories, early work, marriage and children | 1 |
| Work with Longyear Drilling in New Mexico (1953) and at NTS (1957) | 3 |
| Memories of life in the 1940s and 1950s: attitudes toward the USSR and Communism, feelings towards the U.S. government | 4 |
| REECo takes over NTS contract from Longyear (1959), work in tunnels (Rainier, 1958) | 6 |
| Move to big-hole drilling on Pahute and Rainier Mesas (1960) and increase in size of drilling department | 7 |
| Photograph identification: big-hole drilling (1960) [L.Neese1-3] and explanation of basic drilling technology | 8 |
| Explanation of straight-hole drilling [L.Neese4-7) | 10 |
| Description of various types of drill bits and cutters [L.Neese8-12] | 11 |
| Drilling in USSR (high water table) | 13 |
| Photographs of fellow workers [L.Neese13-16] and drillers' lives at the NTS | 14 |
| Drilling on Pahute Mesa [L.Neese17] and post-shot work | 16 |
| Working with the Soviets in the USSR on Shagan (JVE, 1988-89) | 18 |
| Impressions of Semipalatinsk, living and working at there | 21 |
| Photograph of Failing 2500 and crew [L.Neese18] | 27 |
| Continues with life in Semipalatinsk, USSR | 28 |
| Trip with Fred Huckabee to Moscow, USSR | 29 |
| Social life in Semipalatinsk, USSR | 32 |
| Security in the USSR and communication with U.S. during project | 33 |
| Work on Kearsarge (JVE, 1988-89) | 35 |
| Safety at the NTS | 36 |
| Positive influences in life: wife Donna Neese and former department manager Leonard Palmer | 38 |
| Need for public understanding of work done at NTS and emphasis on safety | 39 |
| Opinions on Yucca Mountain Project, and government spending at NTS and other facilities and on cleanup | 41 |
| Photograph and document identification of big-hole [L.Neese19-22] | 45 |
| Photograph identification: moving derrick off of big rig [L.Neese23], rig for Climax Mine (1958-59) [L.Neese24], underground at Climax Mine [L.Neese25], rig on Pahute Mesa (1985-86) [L.Neese26-27?], casing a hole [L.Neese28], drill bit [L.Neese29] | 47 |
| The test site as an all-male world | 49 |
| General hard work and some recreation during test site period | 50 |

# Interview with Larry Neese

July 1, 2004 in Las Vegas, NV
Conducted by Joan Leavitt

**[00:00:00]** Begin Track 2, Disk 1.

**Joan Leavitt***: Why don't you start with telling me a little bit about your mother and her background.*

**Larry Neese**: My mother was born in 1901 in Greensburg Kansas. And she went to school, I think, in Greensburg. I'm not for sure where she graduated high school, or whether she did or not. Her dad was a farmer and a carpenter, and they lived on a farm in western Kansas. My dad was born in 1899 in Buxton, Kansas, eastern Kansas. And then they came—he and his folks were farmers—to western Kansas in, I'm not for sure what date. But anyway, he and Mom got together in the early 20s, early 1920s, and were married in February 4 in 1922 in Kansas.

*And how many brothers and sisters did you have?*

I have three brothers, besides myself. My brother Harold is still alive and lives in Canyon City, Colorado. My younger brother Marvin worked at the test site and passed away in 1976 with a massive heart attack. And then I had one brother who died in infancy. No sisters.

*Did you grow up on a farm like your parents did?*

Yes. In 1935, in the midst of the Dust Bowl in Kansas, when I was about sixteen months, I fell down a flight of stairs in a walker and I lost the sight in my left eye. And I was pretty nervous, and of course—

*Sixteen months old, that happened?.*

So I never knew what it was to have two eyes. Anyway, it was in the midst of the Dust Bowl in the early 30s, and the doctors told the folks [if] they wanted to keep me, they ought to move out

of western Kansas. My dad had homesteaded in Colorado in 1921, so we loaded up in 1935 and moved to Colorado to the homestead. We got there and the homestead, the house, the barn, and everything was gone. It had been torn down.

Anyway, why, we moved in there and then rented a house not too far from there in ‘35. And I started school in Moffat, Colorado, in the second grade, and I went to school about six months there. Then my folks leased a place over in a community called Merridge, right about eighteen miles east of the homestead. We moved and lived there until I went to grade school at Merridge through the eighth grade. I went to high school at Moffat through high school. Then I started college in Colorado A&M [Agricultural and Mechanical] in 1947. I graduated high school in 1947. That’s a long time ago.

**[00:05:00]** *It is. Well, it sounds like you just missed the war, World War II.*

Oh, yes, my older brother, had to go to the war in World War II, but I was the wrong age, so I never did get to go. They probably wouldn’t have taken me on account of my eyes anyway.

*Now, were you the second son?*

I was the second.

*Do you have any memories, particular stories, of that growing-up time?*

[Laughter] I was in trouble all the time, I think, according to what—she [referring to wife, Donna Neese, sitting in on interview] talked to my mother before she passed away. She said my younger brother and I were always in trouble. We would get our chores done and we would like to wrestle around with each other. We never lived too far from fishing or hunting, so we would do that.

*Well, did they have any kind of sports or that you then got involved with in school?*

Oh, yes. In high school we both were involved in basketball, football, track, and lettered in all that. In fact, I think I still have my high school sweater.

*Did you start the day early in order to do the farm and go to school too?*

Yes, you would get up early and do the chores and go to school.

*Did you have cows to milk?*

Had cows to milk. Dad, at one time, had two hundred and fifty head of hogs. Had to feed them. So we were kept busy, plus farming. We raised grain and hay and whatever else was on the farm. Helped take care of that. All three of us boys worked on the farm the whole time.

*Did you say you went to college?*

I went one semester. I hadn't prepared myself well enough in high school. I shouldn't have been in college. So I quit at that and went to work. Came home, went to work for Swatch County running a CAT [Caterpillar], plowing snow for mine roads up in the mountains up above Bonanza, Colorado. And then I later transferred from that into running a blade, grading roads and stuff. So I've been pretty much in farming, construction, had my own truck, done a lot of that. I got married the first time in 1950, and did some trucking and worked for other farmers in the valley. And then in 1953 work wasn't very plentiful in Colorado and my two brothers were working in New Mexico for a drilling outfit. In fact, one of them was Longyear. So I went to New Mexico and went to work for a housing building contractor in Gallup, New Mexico. My older brother was working for Longyear and he had a chance to get me on the drilling in 1953, so that's when I went to work in drilling. I moved my family down there and then—

*Did you have a couple of kids when you moved?*

I had two kids when we moved.

*Now, was that down to Arizona or New Mexico?*

New Mexico. Yes, to Gallup, New Mexico. And then I later moved to the little town of Cubero, New Mexico, which is about sixty miles west of Albuquerque. We worked for Longyear, core-drilling for uranium for Anaconda Mining Company. They had a big open pit mine there just out of Cubero, at Jackpile Mine. In 1957, Longyear got a contract out here at the [Nevada] test site, and they asked me to bring a rig up here for them and do a six-weeks' job.

**[00:10:00]** *What kind of a rig was that?*

It was a small exploratory-type rig that I'd been running down there. They had this contract out here at the test site so I brought that rig up here.

*So how did you bring it up? Did you ship it?*

Drove it.

*How big was it?*

Oh, it was a single-axle drilling rig, a big International, and then we had another load of drill pipes. I had another guy bring that truck and I drove the drill up here.

*Did that take quite a while to drive that?*

No. I left Albuquerque one morning and stayed in Boulder –City—the first night I was ever in Nevada. That was July 7, 1957 that I came up here. Going back home, I had never seen anything that hot in my life.

*Yes. Las Vegas is. Well, before we go a little bit further on to the test site, let me see if you have any memories of what life was like during the 1940s and 1950s,* especially *attitudes towards the Soviet Union.. Because through your lifetime, there was has been such a* dramatic *change.*

Well, yes. It's always been thought among a lot of people that Russia was our enemy to start with, even back in the 1940s and 1950s.

*Was that kind of how your orientation was, then?*

Yes, and then when war broke out in Japan, why, the Japanese were definitely our enemies, so a lot of people never got over fighting the Japanese. But in time, why, it was finally done.

*Well, do you remember any changing attitude towards Communism?*

No, I never really understood it or was that interested in it. We went to school and I played on basketball teams, town teams, for five years after I got out of high school. We were traveling around all over the valley and in and out of the valley in Colorado, and never really had any hard evidence that Communism was a big thing. You know, we went through, in the late 1930s and the 1940s, the rationing and all that on the farm, the gas, sugar, flour, and that kind of stuff. My mom was always worried we weren't going to have enough to eat. But with Dad having two hundred and fifty head of hogs, we wasn't much troubled—

*You did have food, just not cash.*

Ate a lot of pork.

*Yes. Well, that's pretty good stuff. Well, how did you feel towards the government? The United States?*

I've never had any big problem against the government. I think at times, you know, the taxes seem like they get too high and government bureaucracy is, I think, way too strong, but if you work with the government as long as I did, why, you get used to it. You just know that they make—it seems to me they've made a lot of mistakes, overrun on money and never watched money real close, as far as I was concerned. But at the same time, when I came out to the site and went to Russia, it wasn't an idea of how much money they were going to spend as that we had a job to do and we needed to do it, and that's how we felt about going over there and doing that job. It's a job to do and somebody needs to do it, let's go do it. So that's what we did.

*Yes, just get it done. OK, so now we've got you in the 1950s and we have got you at the test site. Do you have any particular memories through the working years that you'd like to talk about?*

**[00:15:00]** Well, in January of 1959, Longyear lost their contract and REECo [Reynolds Electrical and Engineering Company] took over the drilling department for DOE [Department of Energy] or AEC [Atomic Energy Commission]. They have changed names so many times, I can't keep up with that.

I worked in the tunnels, in B Tunnel when they done the first Rainier shot in B Tunnel in 1958. We went back in there after that shot and did the post-shot on that. They set us up a place right back in the alcove and put in a big cement block wall, put in a steel door and glass windows, or whatever it was they put in there so they wouldn't break. Lead windows, I guess. And we went in there and did that. Had no idea of what radiation was going to do us or nothing. We had lab people from LLL [Lawrence Livermore Laboratory] come out and explain to us pretty much what we was going to get into, what maybe they was going to see down hole. But we had done all the drilling behind that door. We moved all the controls with the rig outside that cement and steel door. And I drilled that hole looking through these lead windows from behind that steel door and where I could see the rig. And that's how we did that post-shot. And, you know, there were a lot of mistakes made. We had no blowout equipment. If it was blowed out, why, it would been all over with because—but we never thought about that, or I didn't. When we were drilling, we just went in there and did the drilling and got it over with.

*Well, I understand there were a lot of drill rigs at one time that drilling was something that took long, hours and lots of drills.*

Well, in 1958, we had a couple of drills in B Tunnel, and then the one we did the post-shot with. We had had several rigs in there to do some line-of-sight work, but no big hole rigs or anything

like that. Then in September of 1960, they decided to do some big hole drilling in the test site in the flats, and on Pahute and Rainier Mesa. So we had no rigs. We had—the government had six small rigs, but there were only six personnel in the drilling department.

*There were only six of you?*

Yes, there were only six of us, and two of them were managers. [laughter] Then in September they said, `Go ahead with the big hole drilling. We need rigs.` And so in September we started procuring rigs—

*Now, was this during the moratorium?*

No, it was before the moratorium.

So we started moving rigs in here from all over the country. We wound up with—the government had forty-six rigs out there, and we went from them six people to over nine hundred people in the drilling department alone.

*That's tremendous growth.*

From September till probably the first of November—

*Now, what caused that growth?*

They needed personnel to run these rigs, and they wanted to go around the clock, seven days a week, and that's how we got started with the big hole drilling.

*Now, did you live at the test site, or did you live somewhere else at that time?*

At that time, I lived in Las Vegas.

*So you got on the bus and—?*

No, we went in a carpool. There were no buses, other than just to Mercury for the office personnel. Then we got all these rigs in. LASL [Los Alamos Scientific Laboratory] took half of them and LLL took half of them. They made me project manager for LLL on the rig end of it, or

**[00:20:00]** the drilling end of it, so that's how we got started. We started with some inferior equipment and bits and everything else. Not knowing how to drill big holes, we kind of just had to experiment and fill it in. I've got some pictures of what we started with and—

*Would you like to show some of those pictures? It's really good to have you explaining what they are.*

[L.Neese1] Well, there's a setup of how we opened up and got up to a sixty-four-inch hole. It was from drilling a twenty-six and then putting these hole openers behind it to—[sound of papers rustling].

*Those are huge, aren't they? Those rigs.*

[L.Neese2] That was when we built a down hole rig to put bombs down hole, especially for the government, and that was me operating it on a down hole.

*Are you in the hole?*

Yes, the sub-base is right ahead of me. I can see right down through here where the sub-base is at and I can watch the people under there, and sub-base was the same level as I was here.

*Now, are you drilling?*

No, I'm just lowering the bomb in the hole.

*Did that scare you?*

No, it didn't bother me.

*No, you just said, That's the job and that's just what we do.*

That's part of the job. I knew what—

*So part of your job—you got pretty close, then, didn't you?*

Oh, yes, [laughter] I had my arms around bombs. It doesn't make any difference. That's never bothered me. I did get, a few times when I was in the tunnels working in a different area, got

exposed to some radiation and they had to take me out of the tunnels for a while, but it never really was a factor of how I did my work or anything. That was part of it.

[L.Neese3] This is a picture of some big holes they started over in Area 410 in the early part of 1960. This was before we ever moved anything to the flats. This was all done in Area 410. It only lasted a couple of months over there. But they weren't drilling near as big of holes as we were.

But anyway, that's how we got started. We would drill, depending on the labs' criteria, we'd drill a hole fifteen to eighteen hundred foot deep. If they wanted a forty-eight or a sixty-four-inch hole, we would drill them with mud. We would be anywhere from thirty to forty-five days drilling a hole that deep. Then over the years, we established some better criteria for drilling with flat bottom bits and bigger bits. Most of our holes wound up being ninety-six or a hundred and twenty-inch holes, and we drilled them in one pass - a fifteen or eighteen hundred foot hole in the flats. After we got this method to work of using a big drill pipe and the inner string sucking from the inside out, why— we was sucking from the outside in and drilling the same hole fifteen, eighteen hundred feet deep in less than seven days.

*Well, I was really impressed that the American technology with drilling was so much more superior than the Soviet Union.*

Yes.

*Because they had a lot of oil wells and a lot of oil exports.*

That's right.

*But you must've been really able to see the technology develop. Were you able to give feedback and give suggestions on how these bits could get better?*

Yes, but they didn't want to pay a whole lot of attention to you. They'd just say, `No problem.` [laughter]

**[00:25:00]** *Well, somebody must've listened because we ended up with the best drilling technology in the world.*

Yes, for sure.

*And describe to me the problem of trying to drill a straight hole, because that seems to be what was remarkable.*

Yes. Well, [L.Neese4] this was an auger rig here that we started the holes with and cased them down to a hundred and twenty feet, then we would move the big rig in and set it down, and then you'd pick up your bits and mandrills and drill pipe, and we loaded them mandrills with weights.

*That is such* huge *equipment. Does that make you feel powerful, to run that? Or do you just, you know, get used to it? It's just a job.*

Yes. Just a job you did. [L.Neese5] That was a thirteen and three-eighths drill pipe there, with the stack assembly there. Later we changed all this and went to flat bottom bits.

*Oh, that's so fascinating. I wonder if they have any film of any of this drilling. I know they have film of the explosions themselves, but the drilling is—*

There was one film made in Area 4 by Smith Tool Company. I'm not sure where that film is at.

*I can ask the archives, because that would be really helpful.*

That was made by Smith, and it showed the sequence of moving it—of drilling a hole in Area 4. And that was—I don't remember. [L.Neese6] Here's some of the tools and fishing tools that we used. That's just a flat bottom bit there, and then these weights here go on this mandrill, which is a mandrill right there and right there [L.Neese7] that you can put this flat bottom bit on, and then you stack these weights on here—well, you can see where they wore on it—till this bottom

section weighs between three and four hundred thousand pounds. How you maintain a straight hole, is that you only use about maybe fifty or seventy-five thousand pounds of this weight on bottom to drill with, and the rest of it is like a pendulum effect. It keeps the hole straight. As it drills down, why—

*You know, that much weight is mind-boggling. Three hundred, four hundred thousand pounds.*

Well, when we ran some casing in some of our two thousand foot holes, some of these bits and drill pipe weighed nearly six hundred and fifty, seven hundred thousand pounds that we were handling when you were on bottom, so you never got in a big rush to pull a bit or handle weight because you knew you were handling that much weight to start with. We were very safety-conscious about—

*Now, is this a safety bit? Is this a drill bit right here?* [L.Neese8]

That's a drill bit. I think that's a ninety—no, that's a seventy-two-inch.

*Oh, you even have it labeled.*

Well, some of them are and some of them haven't. But Smith, Hughes, and Reed made most of our bits. Now, these bits, once you bought the body, you could pull these pins here and change cutters. So they were interchangeable. We had the sub-dock down there. They'd take these bits in after we ran them, and I ran them a hundred hours up in my area, and that generally nubbed them off pretty good but left it so you could re-tip them. We had a re-tipping service, so they would re-tip these.

*So was that another contractor who did that, then?*

**[00:30:00]** Yes, another contractor who did that. We would re-tip these. Some of these cutters, if you were careful with them, you would get seven, eight runs out of a bit.

*What are the cutters made out of?*

Tungsten steel. And then you can put tungsten carbide on the teeth. And then the other—well, you can see this one right here [L.Neese9]. It's got what we call a button bit, and that's all buttons. I've got some—[sound of papers rattling]. There's one [L.Neese10]. There's a fifty-two-inch dressed with button bits.

*Oh, wow. Let's see. [Reading] "Hughes, fifty-two-inch, four gauge, two inner, one standard of seven jets." Now, is this where the jets are? [Pointing on photograph]*

Yes.

*Now, what comes out of that? Is that air or water or what?*

Air and fluid. [Demonstrating on photograph] It comes there, goes back up through here where there's a pickup tube, and pulls all of the material that you cut, pulls it back into the center and goes back up the thirteen-and-three-eighths with a seven-inch inner string there.

*OK, so all of that debris and stuff, it gets pulled up to the top. OK.*

[L.Neese11] Here's an eighty-six- inch with cutters on it.

*Yes. [Reading] "Four gauge, ten inners, two center cutters, eight jets." Ten inners. One, two, three—what's an inner?*

[Examining photograph] Must've missed one. [laughter]

*OK, they're the ones that are—because I couldn't quite tell the difference between—*

Yes, your outer cutters is—

*OK. All right, there's four of those outer cutters and there's ten of the—OK.*

Yes. Now, this is a button bit [L.Neese12]. That's either a ninety-six or a hundred and—

*Now, there was a picture where one of the Russian scientists was in front of one of these huge, huge ones. [Sound of papers rattling] I wonder, were they kind of impressed with your large—?*

Oh, yes.

*Had they ever seen anything quite like that before?*

No, and they didn't have anything like that. After we got over there and saw what they had, it was—

*Now, they had a higher water table, I understand?*

Oh, yes, their water table stood way high, where we don't have out here at the site, you don't have a water table out here till you get down sixteen, eighteen hundred feet.

*Can you describe how that affects drilling, having a low water table?*

Well, you've got to have some way to get the fluid and the debris back out of the hole, so we started "reverse circulation" with the bits and the seven-inch inner string inside of the thirteen and three-eighths, and these jet subs in the bottom. We kept about three to four hundred foot of fluid on top of the bit. That makes enough pressure to hold the pressure and hold the walls out so they don't cave in on you as you drill down.

*Now, Nick Aquilina told me that—and he related it to the high water table, he said that when Shagan [Joint Verification Test in USSR] exploded, he heard a cracking, and I didn't know what that cracking was.*

Well, you know, the thing—it may've been—

*I thought he said it had something to do with drilling, with the way the hole was drilled.*

No, because they drilled that with water, the one over there. They drilled it with water. We drilled this one over here reverse [circulation], that they used over here. I don't know what the cracking would've been.

*OK, because that was puzzling to me.*

That Nick.

*I didn't ask him the question when he said it.*

**[00:35:00]** Nick worked for me as a timekeeper in Area 9 in the early 1960s.

*Oh, did he?*

So I knew Nick Aquilina for a long time. [laughter]

*Oh, have you? Yes. Well, I think you've been at the—you were at the test site for how long before you retired?*

I was there from 1957 to 1967—

*That's ten years.*

—and then from 1969 to 1993.

*OK, 1969 to 1993. Twenty-four years? So you add them both together and you get thirty-four years.*

Yes, thirty-four years.

*That's a long time. He wasn't one of the mechanical people, though, was he?*

No. But Nick was a good hand. Of course, they sent him to Idaho and to a few other places.

*Yes, they did.*

[L.Neese13] This is one of our big bits we had laid out. [L.Neese14] This was one of the lab hands that worked for the lab at that time. His name was Tiny Carroll [sp]. And that was me. I wasn't that fat. Not as fat as I am now.

*Well, you don't have much time to eat and get fat out there, do you?*

[Laughter] No, not a lot. [L.Neese15] This is some of our—this was one of my hands, Jay Sinclair [L.Neese16]. That's Tiny Carroll. This guy's name was Mutt Dennis [sp]. He was a gruff old man. We got him out of California.

*These were some of your fellow workers, then.*

Yes.

*[Pointing on photograph] Oh, is this you?*

That me there [pointing on photograph].

*That one's you. Well, did any of your driller co-workers stay as long as you did or—?*

Oh, yes, there's still some out there. Well, you know, the one I think is still working, and he's working as a consultant, is Tom Curry [sp]. He went to work, oh, I don't know, 1956 or 1957 in the cafeterias out there, and then he quit and went to work over in California at the borax mines, and then he came back and we got him on the rigs out there in the early 1960s when we started bringing all the rigs in.

*Were there some people who stayed and could adjust to the life out there and some people who chose to do other things?*

Oh, I had many, many drillers that lived in California. And after we started getting some time off and working six-and-two or nine-and-three, why, they would go home on their days off.

*So that's six days on and two days off?*

Two days off. So they would go to California on their days off and they'd come back. Never moved their families up here. Most of them stayed at the dorms at the test site. But a lot of us had our families here, so we moved into—I originally moved a trailer from New Mexico, from Albuquerque, I moved it to Indian Springs. I moved it into a trailer park in Indian Springs in 1957, in September of 1957 after I came up here in July.

*And what was it like?*

Well, there was a hundred and fifty trailers behind the Oasis Bar in Indian Springs.

*Well, that was quite a large community of trailers. So all of those people worked at the test site?*

All them people worked at the test site. I have been out there when the test site count was as high as eight, ten, twelve thousand people who worked at the test site. One of the reasons they had to

make a wide road out there, is because [we] had the Widowmaker out here, killed off a few of them.

*For some of them, it was probably more tough a life than they wanted. You probably saw a lot of people come and go, didn't you?*

Lots of people come and go, and lots of divorces.

*Really? Was it hard on marriages?*

Hard on marriages.

**[00:40:00]** *Why do you think that was?*

Just the hours we spent. When we went to work in 1960 in the big hole drilling, I stayed at the test site and wasn't home but three times in twenty-one months. I just stayed at the test site. There was a lot of times, if I came home I'd get a call needing me back out there, so I'd turn around and go back out there.

*So you didn't have much family life, did you?*

Not a whole lot. Of course, that cost me my first family, but that's all right. Wasn't getting along that well anyway.

But it was hard on the families, there was no doubt about that. So that's kind of how we got started. And then of course we moved from there to up on Pahute Mesa and Rainier Mesa, and of course once you go to Pahute Mesa, that's a lot harder digging up there. Those holes were still taking thirty to forty-five days to drill a hundred-and-twenty-inch hole, which is a lot of earth coming out of there. But over the years, and we were able to keep it—and we had a couple of holes on Pahute Mesa that from top to bottom at twenty-one hundred feet, the bottom from the top was off six inches. That's how straight they were trying to get holes. Not all holes got that straight, but for the most part, they were within half the distance of what side we were drilling.

They were off four feet or so, which still lets you get your canister and stuff in for down hole work. Then we had a couple of rigs designed to do some slant hole drilling for post-shot.

*Now, when you say post-shot, that's after the explosion.*

After the explosion.

*So you didn't just simply get to watch these atmospheric tests and then just go home and think that was wonderful. You had a lot of work afterwards.*

Well for the atmospheric shots, yes, they sent us home, but I saw seven or eight of them before they had the moratorium on it to go underground.

*So what does a driller post-shot work consist of? It sounds like your work just begins.*

Yes. We go in. In the early 1960s, if it collapsed, if they said they wanted to go in and do post-shot or get samples, we went in with equipment and CATs, and they started from the top, made a road down to the bottom, and a pad in the bottom of this crater, and then we put a rig down there, or two rigs down there, side by side, and set up and did post-shot.

*I've been out there and I saw Sedan and some of the other craters that are out there.*

OK, Sedan crater, we put a rig in the bottom of that and did some post-shot drilling also. But I don't think I've got any—I didn't bring any of them post-shot pictures or—here's one of the rigs that we were moving [L.Neese17] out on Pahute Mesa. That was a twenty-five hundred.

*Now, it takes several cranes in or to—*

CATs.

*—CATs to move that, then?*

Yes. You put that set of tracks under it and put a couple of CATs behind it and three or four in front of it and take down the road with it.

*So when you went over to the Soviet Union, you had to take the drill* and *a bunch of CATs with you, then, didn't you?*

No. We took a smaller rig called a Cardwell 800 over there, which was a drive-in rig, and we transported it over there and the equipment in C-5s. We took five, I think it was five, C-5s, we took that equipment to Russia in. And three or four or five of us had already went over there **[00:45:00]** prior to that to make sure that—because they said we could use their pumps and some of their equipment, so they sent [Fred] Huckabee and me and three others over there to look at the situation. Well, by the time I got over there, the red tape and the paperwork, we were over there almost a month before they ever decided to take a rig over there and drill that hole. They [the Soviets] had gone in and thought they were going to do the U.S. a big, big favor. They drilled that hole for Shagan and went in and drilled another exploratory hole to the side of it to use for the experiment, but they got it so crooked and it was so far off that the U.S. wouldn't use it.

*Is Huckabee the one who inspected it?*

Yes, Huckabee and I and—

*You got to see the hole, too, and all of you just kind of agreed that this would not work?*

Yes.

*How did they react when you said, This isn't going to work.*

[They said] `Eh, no problem. Bring your own rig over and drill your own.` That's primarily what happened.

*That is what happened, isn't it?*

That's right. [laughter]

*And I know Troy Wade tells that story, too, you know, but he says that he was surprised that they accepted that idea, for the Americans to bring their—*

Well, they didn't think we could do any better, was their problem.

*Oh, they didn't?*

No. See, they said, `Well, you'll take longer and your equipment isn't any better than ours.`

*Are they kind of uppity? Did you kind of feel like there was this superior—?*

Oh, yes, by far, they think they are superior to anybody. We even found that out when they were over here. Of course, they were over here at the same time we were over there.

*They were. We had this exchange. Did you feel like there was an anti-American feeling? Did you believe that?*

No, not really. The working people of Russia, you could talk to the guys that are on their CATs and their cranes and forklifts and their trucks out there. They were just ordinary people. All they were looking for was to get a paycheck and make a living. They didn't care about all that bureaucracy going on between their government and ours. I never worked with a better group of people. We had interpreters, so I could ask them to do something [snaps fingers].

*And they were real eager.*

Oh, yes.

*Were you surprised at their eagerness to work with you?*

I was when I first got there. But they jumped right in. In fact, there was an old man on the CAT and it had a hoist behind it. He got to the point, he was not paying any attention to anybody on the rig, on my crews or theirs, because they had let some of their rig crews help us out there at that site. And he wouldn't do anything unless I told him what I needed. He wouldn't even move

that CAT if I'd tell him, `Just leave her sit.` If somebody told him, `I need this over here`, he would say, `See him.`

*So he wanted you to run the show.*

Yes. Well, they knew that that's what I was over there for.

*And they had never seen the kind of equipment that you brought over.*

No.

*Did they express surprise and interest and—?*

Oh, yes, they were real interested in the equipment. They had one of their drill rigs out there that they drilled that Shagan big hole with—they called it a big hole—which was only one meter. It was a thirty-nine-inch hole. Well, you know, we thought, Well, I thought they said they could drill a big hole. [laughter]

*Yes. Well, you've got, what, ninety inch?*

A hundred-and-twenty-inch. [laughter]

*Yes, a hundred-and-twenty-inch.*

We were welcome to go up on their rig and observe what they were doing. But boy, that old equipment, that old drilling—they had to have better equipment in the oil fields over there than they had out there. That was *old, old* equipment. It was so outdated, it was ridiculous.

*Did you see any areas in which they seemed to have really solid strengths that you kind of learned from them?*

No, not really. They pretty much paid attention to what we were doing. They said they **[00:50:00]** did not have the technology and the means to drill a straight hole because of their survey equipment. Well, there's survey equipment that you can run down hole nowadays that will tell you where you are at every minute of while you're drilling. They would drill a ways,

come out, and put an etching tube in there, and wherever it laid over, then that acid will etch on that glass. You pull it out and you look at that tube, then you can tell whether you're going at a slant or whether you're level. If you're level, you're probably straight, but if it's at a slant, you don't know which way from that tube because you don't know which way it was put in there.

*Well, did you see any signs that their economy was suffering because of their nuclear program?*

Oh, yes. Yes, there was. Their equipment and stuff was all old and antiquated equipment. Their cement trucks—first time they came out when we got that rig set up over there and we set the surface pipe—we had to wait on them two days before they could get them out there to cement it. And then it was broken down. And that old equipment. We were used to using Halliburton or BJ or Western or somebody who's got modern equipment and who know exactly what they're doing. Well, they got the job done, but they kind of said, `Help me here and see how far the cement come up.` They had no way of telling exactly what they were doing.

*Yes, they were falling behind as far as not having updated equipment and that.*

Oh, yes, updated technology, yes, they—

*Did you get to go to Semipalatinsk?*

Yes.

*Can you tell me what you saw there, what impressions you have?*

Well, they took us to Semipalatinsk, oh, I don't know, three or four times while we was over there. Every time they were going to have an event, why, they put us on the bus and took us to Semipalatinsk, and took us to all the museums, and fed us. Then they would bring us back home. We went to a lot of the museums. They talked about Lenin and some of the Russian tsars over there. I was really not interested in all that stuff. But their buildings—the they took us out to one

of their plants they were building, a power plant they were building up river. Their cement work looks like when they get completed with it that it's already a hundred years old.

*Does it?*

Yes, it's shabby, shabby work. We stayed at the hotel there in Semipalatinsk when we unloaded and started bringing the equipment over. As they'd bring that over, Huckabee and I and a couple of others, stayed in Semipalatinsk to meet the planes every day. Each day I would call over here and tell them to send one of the crews over with that plane. And then I'd meet the plane and we would off-load it. I'd keep them guys overnight in Semipalatinsk. The next morning, we would send them to the site, and then we would wait on another [flight]. So I spent six days in Semipalatinsk while we were unloading planes.

*Was it also a town that felt kind of ancient?*

Very ancient.

*Was there anything modern?*

Not really. We went to some of their department stores and stuff, and really not very interesting to me. Some of their clothes and stuff looked—they were new but looked real old.

*Did they have indoor plumbing? Did they have electricity? I mean did they have some things like that?*

**[00:55:00]** The hotel had indoor plumbing and all that. Now, our barracks at the test site where they were keeping us had indoor plumbing but they didn't want you to use it. [laughter]

*Oh, really? Really?*

Well, you could take a shower over there and take a towel and wipe off and you're as red as those chairs when you got through. That water was terrible. You couldn't drink it. We took showers in it. That was it.

*Did it have a lot of minerals in it or something?*

Oh, yes. Well, all their piping was steel pipe. It was corroded over, and it was just bad.

*So it must've tasted awful, too.*

Well, we never even drank it. We took our own drinking water.

*Oh, did you? Now, what kind of food did you have?*

Well, [laughter] I should have brought my book. I have got a book, and I kept a diary for every day that I was over there.

*Oh, you did? Do you still have it?*

Yes.

*Was part of yours printed in one of the DOE [Department of Energy] news?*

No, I don't think so.

*Because there was somebody's, some excerpts about some of their experiences over there. So it sounds like—*

The FBI [Federal Bureau of Investigation] took my book when I got home.

But I got it back. And I put down in there about every day, especially when we first went over there, what we had for breakfast, lunch, and supper. And it ain't nothing you'll get fat on, I'll guarantee you that. [laughter]

*What kind of food did they have?*

Well, they have lots of cabbage, lots of boiled taters. Pretty near everything is boiled. We never saw anything fried. Not much in the way of bread. A lot of cucumbers. They liked cucumbers and lettuce for breakfast. When we first went over there, why, we took a lot of food over there with us, you know. We took lettuce and tomatoes and oranges. Well, after we got the planes unloaded, we got back to the test site, we asked the cooks, where is this lettuce and tomatoes, to

make salad. They said, We don't know what you're talking about. We don't know what to do with it. We had two interpreters who were women interpreters, so we sent them back there to show them how to make salads. Well, the first thing they did was to take a head of lettuce, chop it in two, and quarter it, and that's what you got on your plate, a quarter head of lettuce. [laughter]

*Did they try boiling it?*

No, they— [laughter]

*[Laughter] They didn't boil it. Nick Aquilina says he got boiled lettuce.*

Well, they may have tried that, too. But they went in there and showed the cooks how to make a salad, and from then on, we had salad on the table three times a day. Breakfast, dinner, supper. See, they would make a big old bowl and set it right on the table and you had salad every day.

*"This is what the Americans want."*

But when you asked them where that stuff went, they didn't know what to do with it, but that's what they finally wound up doing. They got better. Once in a while, they'd have some dry cookies. Never saw a cake. Well, I saw one. We had one mechanic that had a birthday while he was over there, and so the girls went and asked the cooks to make a cake while we was there for him, so we had cake one night at supper when he was there.

*Now, were you one of those who talked them into naming their shot Shagan?*

No.

*Who did that?*

I'm not sure who did it.

*Because it seems like before, all of their shots had just been numbered. They never had names.*

Yes, I don't know how they—

**[01:00:00]** *But by the time the drillers came back, you know, there was this Shagan, and even I read one place where they called themselves the River Rats, the Shagan River Rats.*

Yes. Oh, yes. [laughter]

*Were you a Shagan River Rat?*

I was a Shagan River Rat.

Yes. I didn't bring it, but I've got a certificate that says, "Shagan River Rat." [laughter]

*Now, that was associated with the Shagan River than ran through Semipalatinsk?*

Yes, it ran down through there.

*Yes. Now, some of you were there for seventy-five days.*

Well, from the time I left home till I got back home, I was gone eighty-nine days.

Eighty-nine *days. Did that seem like a long time to be away?*

Yes. Eighty-seven days too long. [laughter]

*Did you work really, really long hours and—?*

Oh, I did, yes, because they sent me over there as a department manager, so anything that came up during the night or anything—and I spent a lot of time out at the rig, too.

*Any particular problems you had to solve that you remember, or there were just a lot of problems you had to solve?*

Well, when we first started, we had taken some drill bits that we thought would do the job, and they got awful rough on the rig. I thought we were going to tear our rig down. But we had taken mud motors with us from Christiansen [sp], so one of my pushers suggested, `Let's try one of those mud motors on the bits.` And when we did, why, it took off drilling and—

*So it needed some lubrication, then, it sounds like.*

Needed more speed, and of course they had plenty of pump. We were using fresh, or clear, water and we put some additives with it, and from start to finish, why, it was only thirty days and we had that hole done. We had to wait three days on President Reagan being in Moscow. They shut the airport down. We had to send out and get a different type of core barrel so we could core that hole over there. We had to send back over here to get core barrels to do it with. They wouldn't let us bring them in because Reagan was in Moscow.

*Security. Yes, he was in there to sign the JVE [Joint Verification Experiment], so that would have been right around May fifteenth. Yes, Troy Wade says he was there in Moscow at the same time. There's a picture of that. But it sounded like they were having their ceremonies and you were trying to get the job done and kind of being inconvenienced.*

Yes. We were cussing Reagan because he shut us down. But it was quite an experience. The people there at the—what they called a hotel that we stayed at there at the test site, it was a big dorm. Some of the guys had two guys in a room. I had a room by myself. But they cleaned the rooms every day. You put your dirty clothes out a couple times a week; they got them done and laid them back in front of your door. They cleaned and made the beds. You could lay money or anything on the tables and I guarantee you, you came back and it was still there. I don't know of anybody that ever lost anything from those people that took care of the dorms over there.

*That's really something. Did you have some kind of a trailer where you could take breaks near the worksite?*

Oh, yes, out at the worksite we had a couple of doghouses out there that we maintained.

*Doghouses?*

A doghouse on a rig is a doghouse. A doghouse for this rig sets on this other side, but it sets right up here on top.

*Oh. So that was kind of a covered area with which to take a break, is that what it was?*

Oh, yes, we had plenty of room to—

**[01:05:00]** *I had remembered they're saying that the Soviets brought in some kind of a cylindrical tank with some place to sleep and wash up and some very primitive facilities.*

Well, they had built a little camp not too far from where the site was at, the drill site, that they wanted us to just move up there from in where they had us. We went up there and looked at it and decided against that. It was tin buildings or, as you say, a tank, but we never did move in up there.

*Oh, you didn't. Did you ever use it just for breaks, or you just preferred your doghouse?*

Yes, we just stayed in the doghouse. We had a little transportainer that we took over there with us that we used for an office, and we had it sitting right at the drill site, so we could use it anytime.

*OK, we are looking at a picture back in 1959, is that what you said?*

[L.Neese18] Yes. Of the Failing 2500 [drill rig] when they bought it.

*Yes. And the people from the far right?*

[Indicating on photograph] I think this was a guy from Failing. That was Failing. That was Rex Burwell.

*OK, the second [actually third] from the right.*

Lee Collette [sp]. [Not pictured in photograph]

*Third from the right.*

Len Palmer.

*Fourth from the right.*

Cotton Moffitt.

*Cotton Moffitt, OK, fifth from the right.*

I'm not sure. Unidentified. That was Earl Snow.

*OK, and the far left [fourth from left] is Earl Snow.*

Earl Snow. He was a mechanic out there.

*Oh, OK. Now, I am very curious if you would tell me about Huckabee.*

What about him?

*I understand that the people over there [USSR] really, really liked souvenirs, key chains and just all kinds of things, and that when you guys went over, I don't know if you brought some souvenirs or key chains or anything like that?*

I don't know what all they brought. The only thing I took over there was a belt buckle, an NTS test site belt buckle that I gave to one of the drilling superintendents over there that was managing that rig, their rigs out there, and that's the only one I—yes, they liked souvenirs. They gave me, when I left over there, a Russian army belt and buckle. And that's about the only thing they gave me. I brought home some spoons and toilet paper, soap.

*Well, was the road out to the worksite bumpy?*

Oooh!

*I heard someone say it was really, really bumpy.*

It was rough, yes, and they didn't maintain it. It was—what they had cut out—a trail, and that's what it was.

*Someone said the drivers weren't all that great either.*

Well, this is all true. When you loaded up, why, they headed for the hotel or headed for the rig—

*Did they like to make you guys jump, bounce your heads on the ceiling?*

I don't know. They drove so fast, I don't think they had time to see . They were pretty fast drivers. But not much conversation out there. But from there at the camp, we could walk out, a mile-and-a-half, two miles over to the next road that you took to go to the rig. A lot of us walked that every day. But the Russians always had a pickup or something come by, and whether they needed to or not, I don't know. But we saw the same thing in Moscow when we went over there.

*Oh, what did you see there?*

Well, we flew into Moscow, Huckabee and I and—

*Is Huckabee still alive?*

Oh, yes. Yes, he's still in full wind. [laughter]

*OK. I have heard through the grapevine that he was a little bit of a character.*

Well, he is that. He's pretty much, `I done this and I done that`, but other than that—he'd tell you some stories. He's not short on conversation.

*Oh, OK. Do you think I'll get the truth out of him?*

Yes. You'll think it'd be the truth.

*Well, I feel like you haven't told me too many tall stories here.*

No. Well, when we first went over there, of course, we left here April the fourth. Well, they sent **[00:05:00]** us—we were supposed to go to Washington. Well, we got on the plane, they taxied out, ready to take off, and saw a fuel leak in the wing, so they brought it back in. Two of the guys that we had on the plane with us—there were five of us—three of us stayed on the plane, two guys they put off. And one of them was a DOE hand. They finally got the plane fixed and we took off about an hour, hour-and-a-half late. And about halfway to Chicago, where we were going, we got a call and the stewardess came back and said, `Get those two guys' belongings and keep track of them. We will offload them in Chicago because they missed the plane.` So when we landed in Chicago, we were pushed to catch our next

flight into Washington that night, but we finally made it, so we had all five of our luggage to take care of in Chicago and get—so they finally wound up, they showed up.

So then we got into Washington. We thought we were going to leave the next day. That was on a Monday. But the red tape started hitting the fan around there and we were down at the DOE headquarters there in Washington, and that's when I saw Troy Wade. I worked with Troy Wade when he was a miner in B Tunnel, in 1957, 1958. So when he saw me, why, he hollered and told me to come in and we visited a little bit.

We were there a week in Washington, D.C. before we left. On Friday night, they took us out to the airport, loaded us up, and we left there for Germany. We flew all night and landed in Ramstein Air Force Base there in Germany. And they took us into a little town there and put us up for the night, and then let us have a car to go out and do some running around on the *autobahn*. Well, we were all so sleepy from traveling, but we went out and did that, then came back. I got to drive on the *autobahn.* I was the only one awake enough to drive. [laughter]

*Now, was that your first experience outside of the United States?*

That was my first experience overseas.

*That must have felt like you were paving new territory. You were going where no man had gone before.*

Felt like I was hemmed in. [laughter]

*Did you? Was it difficult for you? There must've been a little bit of anxiety that I'm not sure I really want to do this.*

Well, there at the airport, I had never been—of course, I'd traveled all over, been in a lot of airports in the United States—but I had never been in an airport where the guards were walking around with machine guns in their hands. And they—

*So it felt a little hostile, then.*

Yes. And so then they loaded us up and shipped us in—we went into Denmark and then into Moscow. They met us there at the Moscow airport. We were the first three off the plane. They took us into the airport, into the VIP room, gave us some, what they call, coffee. *Whew!* It was pretty tough. We were there for a while before they—of course, the Moscow airport's about twenty, twenty-five miles out of Moscow.

*Well, did you ever ask yourself, `What am I doing here?`*

Well, I knew what I was doing there. Going over there to set up a rig, but I didn't know when.

*You were doing a job.*

Doing a job.

*And that was just part of the job. And did you feel a sense of pride and loyalty that people at the test site would only have you do things that were the right thing to do?*

**[00:10:00]** Well, they are the ones that suggested that I go. I didn't volunteer. But Dale Fraser says, `You're department manager and this is pretty important. I think you ought to go.` So that's the only reason I went. I had other people scheduled to go.

*Did you?*

But we got into Moscow, they put us in a hotel, the Hotel Minsk, and they took us up to the third or fourth floor on this elevator. Well, we all got in the elevator, the three of us, and of course, they had our luggage someplace else. Push buttons and the sparks fly. You look around and, ohhh—

*[Laughter] Oh, my. Oh, my. Something wrong with the electrical wires here, huh?*

`What in the world am I doing here on this elevator? Maybe I should've taken the stairs.` But anyway, they put us up there, and they put Huckabee in a room; they skipped a room, put me in a room, skipped a room, and put Eve [Lebo] in another room. Well, I never

gave it much thought, but every time one of us would come out of there, one of these other doors would open. They were watching us like a hawk. We had a couple of meetings to go to there in Moscow that night, and they put us in a room. They had a disco band out on the dance floor. Man, most of the time, you couldn't hear. But that's what they did. And then they took us out to the plane the next day. It was snowing. Put us on a plane to go to Semipalatinsk.

*Did you think that they took care of you as far as giving you places to go on weekends, on your days off and your time off? Did they kind of plan any activities like that at all?*

No, the only time that they planned anything is when they had an event and took all of us over.

*Would they have like a show, dancing? It was just eating?*

The only time we saw a show or dancing of any kind [was] when we unloaded the planes in Semipalatinsk. There in that hotel, they had a little disco band.

*I understand the Soviets who came* here *got to go to the Pacific Ocean and—[laughter]*

Oh, yes, they went to Disneyland. No, we didn't—

*You didn't get that royal treatment.*

No. No.

*Did you feel cheated?*

Well, I have got some other words for that but—[laughter] But the culture's different and it's something that you got to get used to. We always figured they were watching us someplace along the line, all the time. But we had some things doing out at the—one of my engineers out at the rig was placing stuff different locations around the rig, and he didn't bother to tell me about it, and I was supposed to be running that outfit. I finally told him, I said, `You either tell me what's going on or me and you's going to have some bad difficulties here.` So he told me, he said, `Well, I put that there for their satellite, so the satellites`

can see where we got stuff placed. Well, I just looked at him [and said] Well, OK, it doesn't bother me any. We were asked before we went over there if we had any thoughts of helping them spy on them or not. We told them no.

*Yes. Was the security clearance, was that was an issue?*

Yes.

*That was a real issue. So it's probably they picked people who they felt more confident wouldn't be doing that kind of a thing.*

Yes.

*Now, at the test site, did you ever feel that Russia wanted your secrets? I mean whatever. You probably didn't deal with all that much secret areas or anything, did you?*

No, I didn't. We didn't deal with much of any of that secret stuff. They had Vern Witherill who was over there, Huckabee, and I. They brought some other people in later. **[00:15:00]** But we had meetings all the time, discussing what was going on about the drilling, so he could let people in DOE know, and we kept them well-informed, and that's the only thing—we called home once a week. We let all hands call home once a week. First time I called her [wife, Donna Neese], I was in Denmark or Norway. I called her. It was daylight and I thought everything—and they said, Go over there on that phone and just dial her direct. And I said OK. [Gives a big yawn]

*Middle of the night. Not happy about getting that phone call.*

Two o'clock in the morning here. It was daylight there. Of course, I never realized till I got over there that it was a sixteen-hour time change between here and there. So when I called her over there, she's just getting up. So I got to where I called her at night, or on a Sunday, so she was just getting up when I—

*Oh. Well, good, it sounds like you figured out a time—*

Of course, she had a good deal because H and N [Holmes and Narver] was the logistics.

*Let's see, were you married at that time?*

Oh, yes. Nineteen eighty-eight?

*Oh, OK. For some reason, I was just—*

No, we had been married twenty-two years.

But she worked for H and N. And she got a fax every day of what was going on, or H and N did, and DOE gave her a copy of that because they knew I was over there. So if the other guys wanted to know something, I could pretty well tell her and she could find out and I could see what was going on.

But for the most part, all hands worked out real good. We had a couple of hands we had a little problem with. One I threatened to send home, but he straightened up and everything turned out all right.

*What was his problem?*

Oh, it was a little personal problem with him.

*Oh, OK. Well, it must've been a little on edge just being in a strange land and surrounded—*

I said, `You either straighten it up or you're going home. It's just that simple.`

*Yes. [As in]:We're here to do a job.*

Because I was told, `Don't mess with them. You've got a job to do. You know what you want done over there. That's it.`

*Did you get to observe how the Soviet nuclear program differed as far as security issues were concerned?*

No, not really, because I wasn't around them that much. See, they never put anything in Shagan until after we were already gone. I was never there when they put the bomb in the hole.

*OK, so you didn't see safety or contamination—?*

No.

*OK, so they pretty much kept you* away *from where things had happened before.*

Oh, yes. Yes. Like I said, if they had an event, why, they took us into town till it was over with, and then they brought us back, and then we weren't allowed to go over there. Our bus would come out to the rig and back to the hotel, or the barracks.

*Now, when you came back to the United States, did you work on Kearsarge?*

Yes.

*Did you get to have any interaction with the Soviets?*

The only interaction I had was with a couple of them that I had seen over there, that I saw out here at the test site, and we spoke, you know, `Hi, how you doing?`

That was about it.

*Well, did you get to attend the tenth year anniversary of the JVE?*

Yes.

*Tell me about that, what you remember about it. Did you see any Soviets that you recognized?*

No, I didn't see It was pretty much their ministers of war and stuff come over here. There was one, I think one, one guy that I had recognized over there, but other than that, why, the only ones I knew was ones that was here, [James] Magruder and Troy Wade and them type people.

**[00:20:00]** *OK. Now, what do you consider to have been the most difficult time of your life?*

Oh, when I was younger and was broke all the time.

*Well, I guess that explains my next question: What made it the most difficult?*

Well, work didn't pay much, that was one of the problems. I never had a really good job until I got here to the test site. And like I said, I come out here on supposedly a six-week job and I was

going to go home, but things turned out different. They asked me to stay, and things have worked out from there. I worked up from drilling for them till I was the department manager the last six years.

*Did you feel that you were going to be here for a while, or was there a lot of uncertainty with cuts and, you know—?*

I felt pretty good about staying ever since I have been here because of the work and the pride I had in my work.

*Was it the drilling or was it defense or, you know—?*

Drilling, and just knowing the people. I got acquainted with *lots* of people out here.

*You probably got quite a reputation for being extremely good at what you do, too, didn't you?*

Well, I guess I've got a good reputation. I'm humble. [laughter]

*Yes, for them to have picked you and put you into some really important positions, that says a lot of their confidence in you.*

Yes. I had guys tell me when I first came out here, people I didn't even know said, `You'll make it if you'll just hang in there. You know what you're doing.`

*You probably had a wonderful work ethic, too, didn't you, coming from a farming background where you just did a job.*

Yes. I never missed much work.

*Did you ever have any injuries or anything like that, then?*

No.

*So you were pretty careful, too.*

Never—well, safety's always been a number-one priority with me. In fact, when I took over as department manager in 1987, the drilling department had the worst safety record in REECo's

history, and we changed that around till in 1993 when I left, we had the best safety record in the company.

*Now, you have all your fingers.*

Yes.

*That says a lot for you.*

Says a lot for roughnecks. [laughter]

*Yes, it does. Nick Aquilina said that drillers are hardworking and often are missing fingers.*

That's right.

*And for you to have all your fingers—*

I've got all my fingers.

*That says a lot. [laughter]*

That's right. That's exactly right.

*No wonder they knew you were careful. [laughter]*

You know, that there's a roughneck ordering four beers. [holding up two fingers two down laughter]

*That's what Nick said, too. That's what Nick said, too. Now, if you had it over to do again, would you make any changes in your life?*

Oh, I'm sure I probably would. I don't know, I guess, exactly right now what it would be. I always thought that I was in pretty good shape and careful and took care of my job and my family till 2001, when I had a heart attack and then a stroke, and you never realize how bad that can put you.

*Is that what you had? My mother had one, too. That was probably kind of a low point for you, then, wasn't it?*

Well, it has been.

*And that was after you retired, so it's been during your retirement. How old are you now?*

I'll be seventy-five in August.

*Now, what do you consider to be the best time of your life?*

Being married to her.

*Well, that answers that. What made it the best of your life?*

Her.

*He knows the right answers, doesn't he? [laughter] Now, what do you think has influenced you the most in forming the reason you do the things you do, your philosophy of life, or—?*

I've got a lot of encouragement from that man right there [indicating photograph], Leonard Palmer. Probably gave me more incentive to carry on than anybody I have known. He was the first department manager that drilling had in 1959 when REECo took over that contract. I learned a lot from him.

*Expressed a lot of confidence in you? [Such as]: "You'll fit in. You'll do well. Hang in there. Do what's right."And you were from a small Kansas, small Colorado town, and so lots—*

Right. Yes, I never had any big desires of being a superintendent or a project manager or a department manager. I just kind of worked myself into them positions. And as far as going to school about them, no, I never had much of that.

*Well, the school of hard knocks.*

Yes, I had a lot of them.

*Now, is there anything you would like to tell people who have had questions about the work of the test site? Because you probably have experienced people who were negative towards what they did out there. Is there anything you would like to say to them?*

I think the biggest problem with people not understanding the test site is they don't understand what's going on. You know, in the early days, we had people from the lab come in and tell us what to look for, what not to look for in radiation. To me, radiation meant nothing to me when I came to the test site. And it means not a lot to a lot—but a lot of people have formed an opinion that you're going to glow in the dark if you work at the test site. Well, I have been here seventy-five and I don't think I glow at night.

*No, you don't glow in the dark, do you*

I don't think so. Haven't in a day or two anyway. [laughter] I enjoyed the work when I was out there. I think probably one of the reasons that I gave up and decided to retire was the government paperwork, so many regulations, so much regulations from everybody that it's unreal. A lot of these people have no reality of what's going on at the test site or why it's even out there.

*But from what you saw, they tried to keep tight control over safety and over doing things in as perfect a manner as they possibly could, in as a careful a manner as they possibly could.*

As far as I'm concerned, that's the only way I have ever seen REECo or any of my co-workers work out there, safety was number one on the list. Getting the job done and doing it right.

*Did you associate all that much with people outside the test site community? Or did you mostly just stay within—?*

Pretty much just stuck to the test site people that I know.

*OK, so you don't have any associations outside of test site people?*

No, I'm not a community leader by any means. [laughter]

*I'm talking even just non-test site people, whether it's sports or church or anything like that?*

Oh, you know, we attend church, and I like sports, and we have a lot of people that we associate with. Our kids. One of my sons, I got him into the oil fields in 1980. He's been there ever since.

**[00:30:00]** He's doing directional drilling for Baker Hughes out of Houston right now. Got as good a job as he'll ever have in his life, making more money than I even thought about. And he has done that because of me.

*Yes. Because he could see your pride in it.*

He could see what I was doing and sat down one night and said, I know what I want to do. I want to be like you. I want to go work the oil fields. And I said, My God, kid, you got all your fingers and hands. What are you wanting that for? But he's got all his.

*So he's careful. Did any of your kids feel like they weren't sure that the test site was a good thing, as far as protesters and peace movement and, you know, there's critics out there.*

No. Oh, yes. Protesters don't realize what's going on and had no idea, as far as I'm concerned.

*Do you think they had any idea of the Soviet danger?*

No.

*That we were in a Cold War and they didn't realize that?*

No, I don't think they realized that at all.

*Their solution to just simply stop testing and we'll have peace in the Earth didn't quite make sense?*

That ain't going to work.

*No, that doesn't. Now, were you aware of some of the peace treaties that impacted the test site in various ways?*

Yes. Some of the moratoriums and stuff that they come up with, the treaties that they have, caused us to have some cutbacks and get smaller crews. When I left we had probably less than

fifty people working for drilling, and it had come from six to over nine hundred back to—but it's always been up and down.

*Did you see how different administrations affected the test site? You know, like, for example, Johnson, Nixon?*

Yes, everybody's had a say in what's going on out here. I think one of the biggest things that's going on right now, that people don't understand why or have any idea of why Yucca Mountain is such an issue. To me, there's not a better place in the world to put nuclear waste than the Nevada Test Site.

*Now, why is that?*

Well, it's the biggest burying ground in nuclear waste right now there is, underground.

*Sso there's already a lot of nuclear waste there?*

Why, every bit after every one of those shots.

*Yes. That's true.*

And they just don't realize it, and then they keep harping on, `Well, something may happen in a thousand years.` Who the hell cares in a thousand years?

I ain't going to be here. [laughter] If I am, I'm going to be in bad shape. [laughter]

*So you feel like because the test site was managed well, that Yucca Mountain would also be managed well? Is that kind of where you're—?*

As far as I'm concerned, I think it was managed well and I think what they're saying about Yucca Mountain is true. Got lots of negative people.

*Well, there's a lot of nuclear waste that they want to* bring *to Yucca Mountain. Now, that's mostly probably a result of cleanup, isn't it?*

Yes.

*So it's just stuff that needs to be cleaned up anyway and they need some place to put it.*

There's probably more buried at the test site right now than people know about. And I know people that's working out there *with* it right now that's worked for me before, and there's no problem with it. It's just people get carried away with emotions, as far as I'm concerned.

*Do you think some people have suffered from cancer as a result of it? The radiation, the experiments?*

**[00:35:00]** I really don't know. I'm not for sure. I don't think they'll ever be able to prove all that. There's been a lot of sicknesses come through the test site, but a lot of it, I don't think, was due to radiation exposure. There may have been some, but when you're working with ten thousand people, why, one or two don't make a big difference.

*Now, you said you thought the government had spent too much money. Was that too much money at the test site or mismanaged—?*

Well, I think there was a lot of money spent at the test site that shouldn't have been.

*Like what?*

Oh, drilling.

*You think there are holes that shouldn't have been drilled, that they were just not necessary?*

Well, they've got several right now they could use. But there's a lot of building and stuff that goes on that somebody had a pipe dream, as far as I'm concerned. That ivory tower over on Losee Road is a pipe dream, as far as I'm concerned.

*The DOE building, is that what you're talking about?*

That's right.

*Now, why do you call it a pipe dream? I'm interested! [laughter] You think they kind of get in the way sometimes?*

Well, what makes a big impression is that big building.

*That's where the money goes.*

A lot of it went there. You don't build them buildings for nothing.

*Yes, that's true.*

A lot of this cleanup work, I think, of some of these sites, they get a little carried away with some of that. You know, I saw a lot of sites out there that they had the towers on in the late 1950s that was still laying there when I left, and I don't know if anybody got hurt. I've been around them, stomped around over them, seeing what is going on. Nosy Rosy, I guess. But I never give it any thought one way or the other. But when you clean up them and you have got to pick up every little particle around there, why, it all costs money.

*So you've been involved in some of that cleanup?*

Oh, yes, I cleaned some of that.

*So is that like a big magnet? The debris, is that cleaned up with a big magnet or something and then it's buried, is that what happens?*

You go in there and clean it up with skip loaders, load it out and take it some place and bury it.

*So it's buried out at the test site, underground?*

Yes.

*OK, so it sounds like Yucca Mountain is just, you know, that's the place that things have been buried before and—*

See no problem with Yucca Mountain, as far as I'm concerned.

*Oh, that's very interesting, you know, from your perspective, because I don't think very many people* have *heard both sides of the story.*

Oh, I'm sure they haven't.

*There's a lot of negativity. There's a lot of, you know, not in my backyard kind of a thing.*

Well, you've had so many of these politicians go out there to Yucca Mountain, walk through there and back out. All of a sudden, they got an opinion that that's not safe. Well, what's not safe?

*Do you think the test site has gotten used as a pawn by the political parties sometimes?*

Oh, I'm sure it has at some point in time over the years.

*Any party you prefer over the other? Any political party?*

No.

*Think they're both about the same?*

Yes, they both lie to you. [laughter]

*Did you vote in the last election?*

Yes.

*Oh, good! [laughter] Well, if they lied to you, then it sounds like you at least vote, don't you?*

Yes.

*That's good. Well, you have answered my questions, and if there's anything else you would like to add, I have just really appreciated this. This has been wonderful.*

Well, when I get home, I'll look and see that diary I kept.

*Oh, I would* love *to look at that. That would be wonderful to go with your interview. That would just really be wonderful, if you still have that. Now, is there anything else that you wanted to show me?*

**[00:40:00]** Well, no, I was just going to show you some of the big hole equipment that Hughes built over the years.

*Now, this is a kind of a catalog or a history of—*

Yes.

*OK, it's a Hughes catalog [L. Neese19], then.*

Yes, it's a Hughes catalog.

*Yes. [Looking through catalog] Swivels, kellies. This is a lot of—*

Drill collars.

*—specialized equipment. This is your work. This is what you knew well.*

And it gives you a little data on some of this.

*Yes, it does, the specs for doing different things.*

There's a bit they built for us, a hundred-and-sixty-inch. That's a pretty good size.

*Yes. Howard Hughes did all right for himself, didn't he? [laughter]*

Yes, he did pretty good. And this [L.Neese20 showing another document] is kind of a summary of the year 1979, of holes that had already been placed. That's when Frank Solaegui took over.

Well, he took over—

*[Reading] "Replacement hole drilling." Now, would you be interested at all in donating part of this to the library to go with your—?*

Yes.

*You wouldn't mind? Now, your pictures, should we just maybe scan them sometime? Would that be possible?*

Sure, you can scan anything you want to.

*Any that you want to keep, I certainly don't want to—but any that you'd be willing to put in your file would be really wonderful, because the interview itself, along with pictures, gives us more information. This would be wonderful!*

I've got plenty of pictures. Gathered them up over the years.

Here's a lay-down machine we had built up in Washington for the down hole. For the down hole, laying down down-hole pipe and picking it up when you're going in the hole with the bomb. [L.Neese21]

*OK. Now, that one is negative number NF-5384. That's what you just described there. Let's see, let me go ahead and just* say *the back. This is photograph NSO-70800 [L.Neese22].*

This was in 1987. This is when they was on strike and we went down hole at U2CE. This was all management from the test site.

*So they had to come out and do the rigs.*

Well, the only thing we did was we went down hole with it, and this was the crew that everybody—this was from all over the test site.

*Were you in this picture?*

Yes, I'm in there.

*So you were—while they were on strike. Now, did that create quite a hardship when they did that?*

No. We went down hole, no problem.

*That was 1987?*

In 1987.

*So that was before Nick came on as manager?*

Yes.

*Then he came on in July.*

Yes, this was—I forget what the date was. It was—

*[Reading] October 1987.*

October. No, he was already here. That's when they put me in as department manager for drilling.

*So they had the strike in October and Nick got told the Russians are coming in November. That must've been an exciting beginning.*

Yes. That's—I was moving one of the derricks off of the big rigs [L.Neese23] showing another photograph].

*That's a big truck, isn't it? Two trucks. You've got two trucks together, almost.*

Yes. Got one going one way and one the other.

*My goodness. How can they work together on that? Do they just ride together?*

Put this one here [pointing on photograph] in reverse and this one pulling, and he just stays up with him.

*OK, some push and some pull.*

[L.Neese24] This is a rig that we put in Climax [Mine] in about 1958 or 1959.

*OK, this is one is 1046-1. What year was this again?*

I think that was probably 1958 or 1959.

*Nineteen fifty-eight or fifty-nine.*

**[00:45:00]** This is all underground here. [L.Neese25]

*OK, and this is 1046-11. So this is one of your underground holes. What are these vats here?*

That's the circulating tanks. See, we're drilling up. This is the drill stem going up into the wall. This is all underground at Climax. We put that rig down that shaft eight hundred feet and then took it back and sent it up into an alcove.

*OK, so men and rig had to go down eight hundred feet?*

Yes. That was one of my drillers, Jake Hunt, in—hell, I don't know. Yes, that's me and mechanic Billy Barr [sp]. Yes, we were all underground.

*Was it hot down there?*

No, we had a vent system in there.

*You did have a vent system. OK. And then this one is you.*

Yes.

[L.Neese26] This is the new rig we bought in 1985 or 1986, that we had up on Pahute Mesa. It's got a two-billion-pound derrick.

*Oh, wow. This is a pamphlet, "New REECo Drill Rig."*

Thirty-foot sub-base. They just sold that rig to excess here a couple months ago.

*Well, you certainly have some wonderful—*

I won't go into why I think they shouldn't have sold it but—[laughter]

*Other than that it was expensive to buy in the first place? [laughter]*

Right.

*And you can't recover anything on used equipment, right?*

Well, I could have but—[laughter] That right there's what can happen after you case a hole [L.Neeses28].

*What happened here? Or photograph number N-11657. What happened here?*

When we put this casing in and then cemented it, as we was coming up, the cement pressure pushed this bulge out inside this casing.

*So that's cement here [pointing on photograph]—*

No, that casing right there.

*Oh, that's casing, and this is the cement over here?*

And that's your casing right here.

*Now, is this during an explosion?*

No. This happened before there was ever a bomb put in there. You can't get anything down through there.

*So they didn't use that hole?*

Yes, we used that hole. We took a mill and stabilized it and got below it here [indicating on photograph] and milled this out with a tungsten carbide mill, and cut that off.

*OK, well, just shave it off there. Yes, OK. And what's this?*

That's a twenty-six-inch bit.

*And that's you?*

No, this is me here [pointing on photograph]. That's Tiny Carroll there, and Jay Sinclair.

*A very, very male world, wasn't it?*

Yes.

*You ever have any female drillers?*

No.

*Any female co-workers that worked in drilling?*

Oh, I had some forklift operators and, let's see, had one ironworker girl. And no, I didn't have any laborers. They were all men. Teamsters were all men.

*Seems like there's a lot of heavy, heavy construction-type work, and I feel like it was a man's world.*

**[00:50:00]** Yes. Yes, one of them rigs, well, like that one there on that—that one there. When you tear that down, there's about—by the time you get that all tore down, there's about a million pounds of iron to move.

*Yes. Yes. Do you think there were some advantages in having predominantly male industries like that?*

Oh, I don't know. You can even go out and there's a few, but you can even go out in the oil field work right now and find very few women on rigs. There is a few but they're few and far between.

*Do you think there's more of a camaraderie when it's more male-dominated? I mean there are some things that men are probably more suited for.*

Well, like you said, you hate to see women going around with no fingers. [laughter]

*Right.*

And it is easy to do.

*Yes. Was it a hard world? I mean not just physically—*

It's hard work.

*It's hard work, and probably exhausting when you come home, too, aren't you?*

Yes. You handle that thirteen-and-three-eighths drill pipe with a seven-inch inner string in it, that stuff weighs a hundred pounds a foot. And you're moving ninety-foot sections of it around when you're coming out of the hole.

*Well, what kind of thing did you do to kind of recover from that kind of work? I mean to refresh yourself?*

Oh, I don't know. We would come home and take the kids to the ball game.

*Were you at test site ball games?*

No, we had two of the kids that when they was growing up was in Little League here with George Bogdanovitch. And so about the time I would get home was about the time that our game

would start. She would meet me at the carpool and pick me up and we would go to the ball games.

*Ball games are really family-friendly. Is there anything else that you liked to rest and relax? Did you do hunting and fishing and that kind of thing?*

Used to. Used to like to hunt and fish. Haven't been hunting in years.

*Did you ever go during hunting season up to Utah or anything?*

Northern Nevada, I went a time or two.

*Oh, northern Nevada. What'd you catch?*

Up around Pioche and up in there.

*Did you get anything?*

No, I never did get anything.

*Oh, just went out and traipsed the wilderness?*

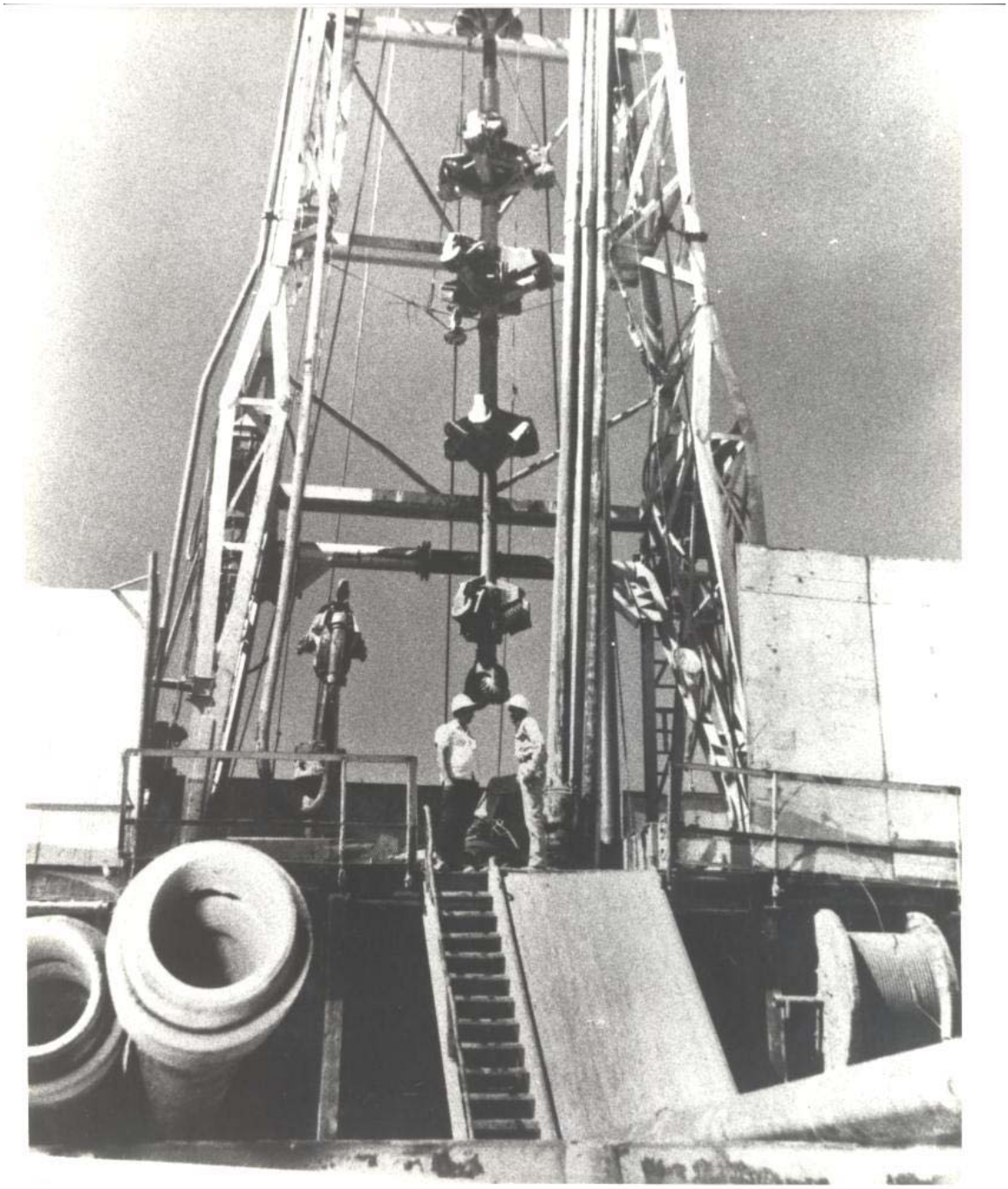
Just went out and traipsed the—yes. [laughter]

[End of interview]

L.Neese1

L.Neese2

L.Neese3 – Photo not scanned



L.Neese4

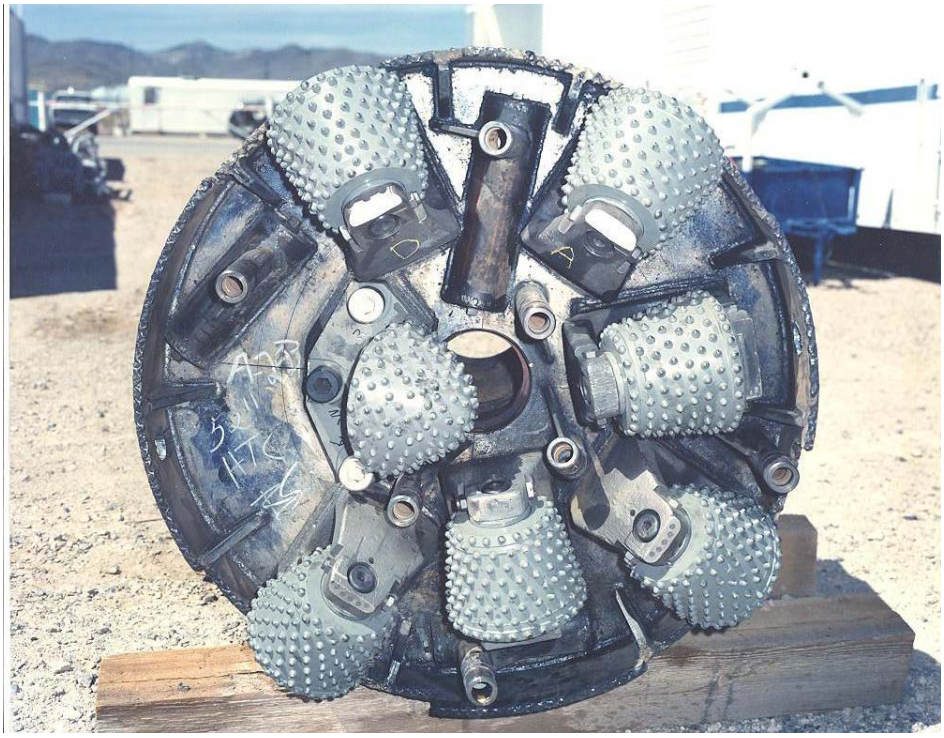
L.Neese5

L.Neese6

L.Neese7 – Photo not scanned

L.Neese8

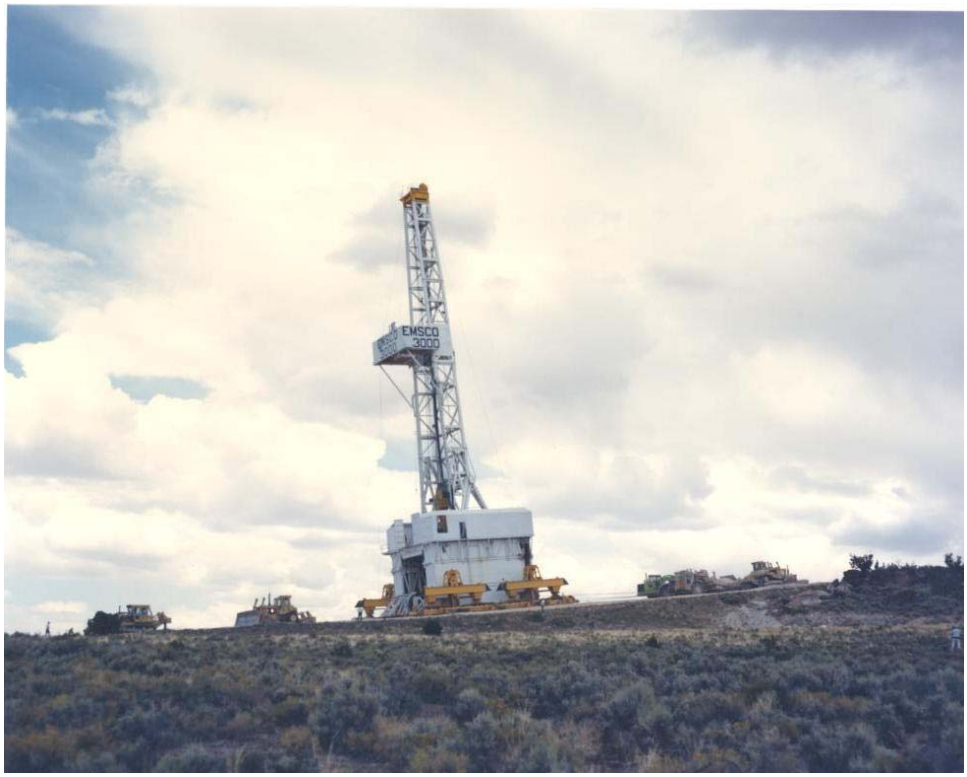
L.Neese9 – Photo not scanned



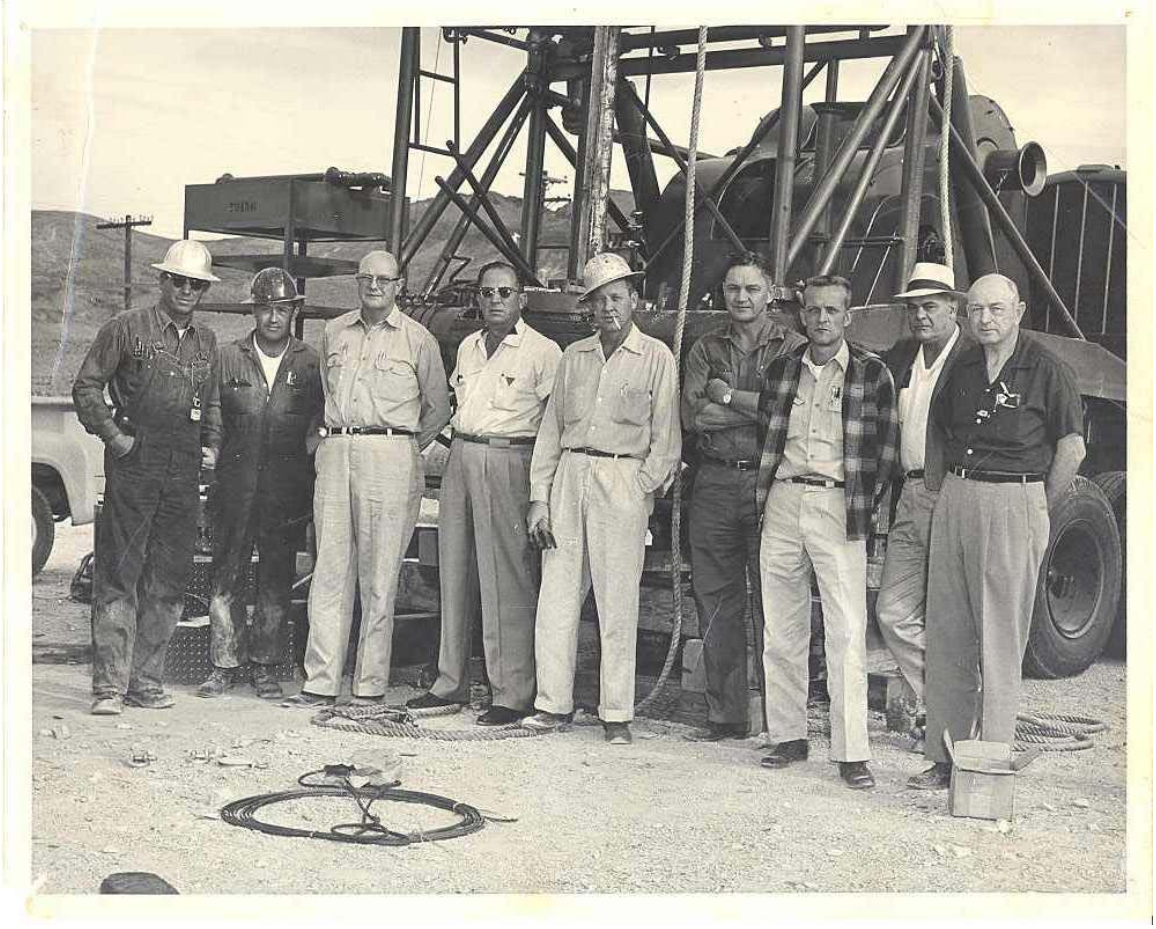
L.Neese10

L.Neese11

L.Neese12-L.Neese16 – Photos not scanned




L.Neese17



L.Neese18

[Beginning fourth from left is Earl Snow, Cotton Moffit, Len Palmer, Rex Burwell, and the two men on the end are from Failing]

# ROTARY BIG HOLE DRILLING EQUIPMENT

**HUGHES TOOL COMPANY**
**Industrial Products Division**
MEADOWS BUILDING • DALLAS, TEXAS 75206
*London address:* HUGHES TOOL COMPANY LIMITED • Barclay's Bank Building • 73 Cheapside • London, England

DOE/NV/00410-57

DOE/NV/00410-57

# EMPLACEMENT HOLE DRILLING NEVADA TEST SITE FISCAL YEAR 1979

DECEMBER 1979

REYNOLDS ELECTRICAL & ENGINEERING CO., INC.
LAS VEGAS, NEVADA

FOR

U.S. DEPARTMENT OF ENERGY
NEVADA OPERATIONS OFFICE

CONTRACT DE-AC08-76NV00410

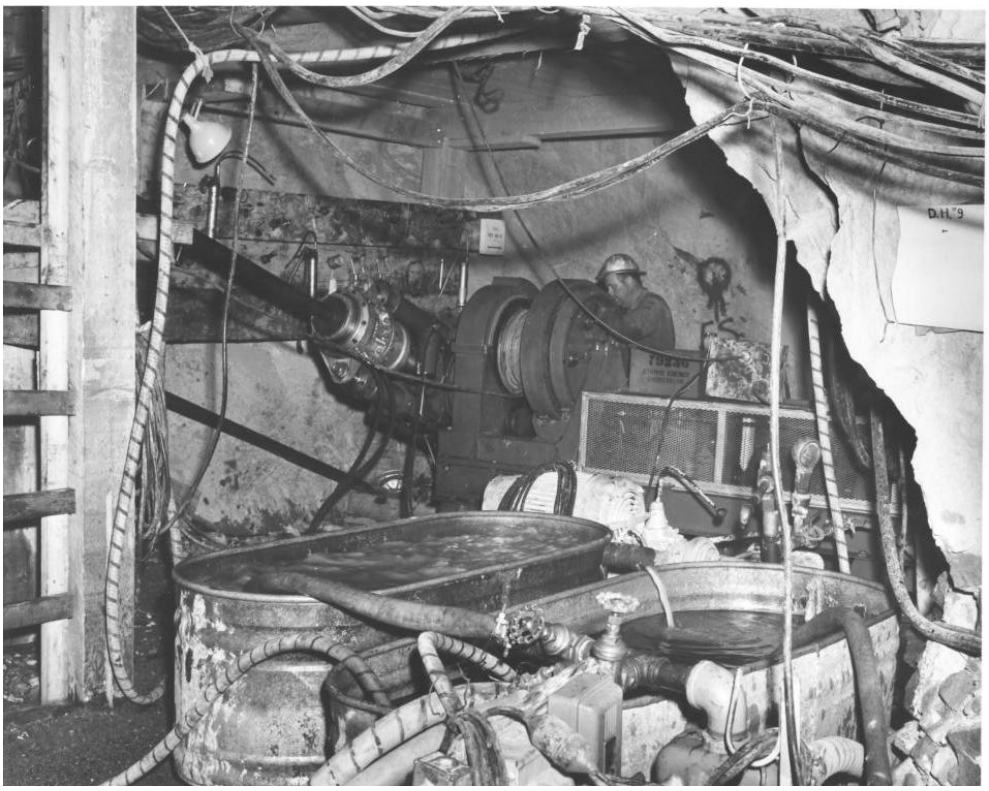
L.Neese20

L.Neese21

L.Neese22

L.Neese23

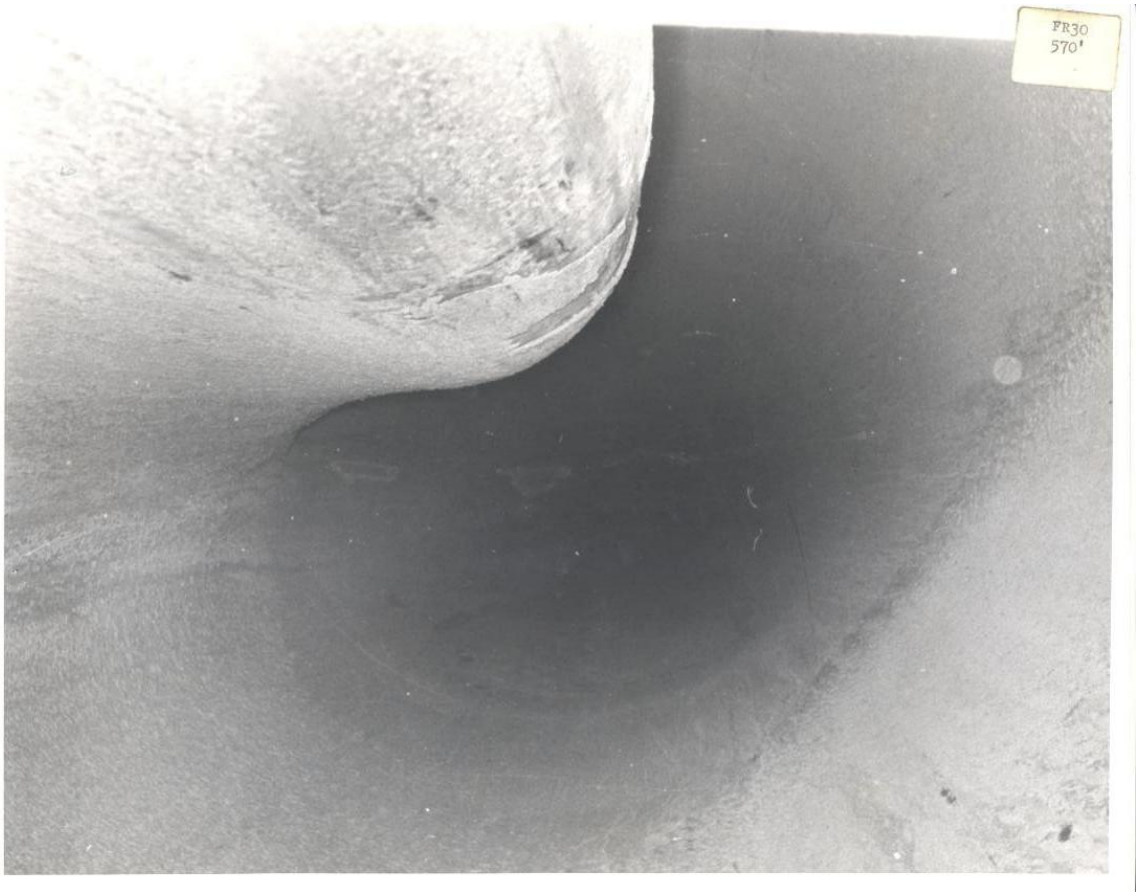

L.Neese24



L.Neese25

L.Neese26

L.Neese27 – Photo not scanned




L.Neese28