

RULON OLIEKAN
Oral History Interview

Statewide Oral History Project, Abandoned Mines Reclamation Program
Utah Division of Oil, Gas and Mining

April 30, 2014

This is Lee Bennett and I'm here today in the conference room of the Best Western motel at Torrey, Utah to interview Rulon Oliekan for the Utah mining history project. Jim Mattingly is with me and will record the interview.

LB: To get things started, give me your name, date of birth, and where you were born.

RO: My name is Rulon Oliekan. I was born on September 26, 1941, and I was born in Salt Lake City, Utah.

LB: How did you get involved with mining in Utah?

RO: I think, probably, it was with Atlas-Dirty Devil right here in Wayne County. I was working for the county roads and they were talking about a strip mine out by Factory Butte. I saw a chance to better my pay and do something different, so I went to work for Atlas-Dirty Devil.

LB: When was this?

RO: I think this was in 1977, when they started to develop the area down there. I went to work for them then.

LB: Was that a uranium mine?

RO: It was a strip coalmine, just northeast of Factory Butte. Just out of Hanksville, between Hanksville and Canesville, Utah.

LB: What did you do for them?

RO: I started out just running equipment, putting in the structures, and building the set-up for processing the coal. After that, I was in charge of loading the trucks that came in to pick the coal up. It was hauled through Green River; Hatchco was the trucking company that hauled it to

Green River, Utah where it was put on the train. It was sent to Moapa, Nevada to the power plant there. Nevada Power is who they were sending it to.¹

LB: What kind of equipment were you running?

RO: Basically, loaders. A 945 Fiat-Allis, 988 Cat [Caterpillar], and dozers and blades for scraping the top of the coal seam off after they cleaned it. To get ready to blast it.

LB: Where did you learn to operate heavy equipment?

RO: Actually I learned it working for Wayne County roads. My dad had a ranch and I was working for the [National] Park Service at Capital Reef. It was a seasonal job and I got laid off. My wife and I had just gotten married and my dad had the ranch, so we decided to stay here and live in the ranch house. Because I had a degree in botany and zoology, Wayne County hired me for the noxious weed program. I went from there and worked for Wayne County roads for about 10 years when this coal mining project came along. I thought I could better myself and pay, so I went to work for Atlas-Dirty Devil. And that's when I got into mining. It just went from there.

LB: So what was your rate of pay when you started there, do you remember?

RO: At Atlas-Dirty Devil it was about \$7 an hour back then, which was about two dollars more than [I earned at] county roads. Back in the 1970s pay wasn't really great, but I guess at that time it was fair.

LB: How long did you stay at that mine?

RO: It lasted two years, then it went bankrupt. It's kind of a long story what happened there, but it didn't last. I think they absconded with the money, the developers. Whoever they were they took off with the money that had been loaned to them. They developed [the mine] then they took off with the other half of the money.²

LB: Did you go from that job to another mining job?

RO: I went from there to work with the operating engineers building highways, road construction for a couple of years, and then got a job at Ticaboo, the Shootaring Canyon mine.

¹ Actual mining was conducted by C&C Coal Company of Beckley, WV under contract to Atlas Dirty Devil. The mined coal was trucked to a washing plant on site where the ash and sulfur were removed, then it was loaded into Hatchco trucks and taken to Green River, UT. There it was loaded into Denver & Rio Grande cars and when a 70-car train was ready it was taken to Moapa, NV for use by the Nevada Power Company. As of February 24, 1979 about 35,000 tons of coal had been shipped. Rejected coal is stockpiled on-site for possible use in the cement industry ("Utah strip mine boosts coal output," by Barbara Ekker, *Deseret News* 2/24/1979).

² The Atlas-Dirty Devil Mining Company opened the surface mine in June 1978 with plans to ship coal to the power plant at Moapa, NV. The *Toledo Blade* of Toledo, OH reported on December 13, 1979 that the Atlas-Dirty Devil coal mine was a partnership between Atlas Resources of Houston, TX and Dirty Devil Mining Co of UT and that the company had "walked out" in March 1979 leaving \$10.5 million in debts and a pile of coal that was "not suitable for processing" and worth about \$50,000; James Wardle subsequently leased the area and claimed the pile was worth \$500,000 at the time he was interviewed by the newspaper, which reported on a big fire in the coal pile.

LB: That would have been about when?

RO: Ticaboo³ closed in about 1982, so I went to work for them in the early '80s, 1980 or 1981. At Ticaboo I ran the reclamation department for about three years.

LB: So by the time you got to Ticaboo they were shutting down their operation?

RO: Yes. Ticaboo had run for quite a while [before] the market for uranium ore collapsed; it was cheaper from Canada and Australia. So they [Plateau Resources] pretty well got left out.⁴

LB: Was it just the one mine, Shootaring Mine?

RO: Just the Shootaring Mine. That was the only one that was operating then.

LB: It seems to me that there was a Lucky Strike Mine in that area. Does that ring a bell with you?

RO: Not right off hand. There was the Tony M and the Frank M⁵ in Shootaring Canyon. There were some more around that were run by Energy Fuels and Union Carbide. But I don't know how active they were. I don't remember the Lucky Strike.

LB: So you were working for what company?

RO: Plateau Resources out of Grand Junction [Colorado]. They were involved with Consumers Power out of Michigan.⁶ They [Plateau Resources] were mining the uranium ore that was

³ During the interview Rulon often used Ticaboo and Shootaring interchangeably when referring to the uranium mine operated by Plateau Resources in Shootaring Canyon. The 1952 USGS map of the area names the canyon Shitamaring, but Hellmut Doellings's 1967 Uranium Deposits of Garfield County, Utah (UGS Special Studies #22) used Shootaring.

⁴ On Sept 2, 1982 the *Garfield County News* carried a story announcing that Plateau Resources had suddenly laid off 55 miners and 50 uranium mill workers from their facilities in Shootaring Canyon, as well as 10 employees at the company's office in Grand Junction, CO; the layoffs were attributed to the "depressed state of the market for uranium concentrate" but the company looked for a turn-around in 1984 and planned to keep the mill in readiness for reopening.

⁵ Utah Division of Oil, Gas & Mining (DOG M) records indicate that Plateau Resources first proposed opening the Frank M mine in 1979; it was closed in 1980 (Permit S0170017). DOGM records show that the first proposal to open the Lucky Strike mine was made in 1976 by Ken May of Hyrdo-Jet Services, Inc., a Texas company (Permit M0170004). Subsequently the Lucky Strike was renamed the Tony M mine and became the active mine for the Shootaring Canyon operation.

⁶ Consumers Power, Inc. of Michigan was building the Midland Nuclear Plant, a twin-reactor. Plateau Resources, Ltd was a wholly-owned subsidiary of Consumers Power and mined uranium for use in the power plant; Plateau was registered as a Utah business in June 1976 but registration had expired by January 2008. In 1982 Consumers learned that the anticipated need for nuclear power would not develop, hence they didn't need the uranium supplied by Plateau Resources; the nuclear power plant was later converted to natural gas. Some sources claim it was environmental activism that caused Consumers to abandon nuclear energy, and others say the site location and construction techniques lead to frequent structural failures at the nuclear power plant. Federal regulations required Plateau to maintain the uranium mill, which cost \$56 million and ran for only two months. The town of Ticaboo failed to develop; Consumers assumed all the debt, cut the workforce at Ticaboo to 4 people and in 1992 put the whole operation on the auction block (Linda K. Newell and Vivian L. Talbot, A History of Garfield County, Utah State

supposed to go into the new atomic or nuclear plants they [Consumers Power] were building in Michigan, that is, that they were going to build in that area, but it didn't come to be I don't think.

LB: Did they have more than just a mine in Shootaring Canyon?

RO: They had the townsite, Ticaboo, and the motel there and a school in the townsite. They were selling property to build homes on because it was just 12 miles above Bullfrog Basin on Lake Powell. It was kind of a recreation area also, combined with the mining operation.⁷ It was going pretty good until the uranium market kind of fell apart. People moved out and the town kind of went into hibernation.

LB: You lived at Ticaboo?

RO: I lived there during the week. My wife lived in Cedar City, so I'd run back to Cedar on weekends. I'd be with the family, then I'd go back to Ticaboo and live there for the week.

LB: You were involved in closing down Shootaring?

RO: I did the reclamation work. Cleaning up old tailings piles. Their assessment drilling work was all over the Henrys [Henry Mountains], so I'd go out and clean up all the drill sites where they did their assessment drilling. They had pits for the mud slurry from drilling; I'd go out and clean those up, reseed it all, and take care of that. I also took care of the town of Ticaboo, landscaping and that sort of thing.

LB: When you say you cleaned up at a drilling site, what did that specifically involve?

RO: Usually, because of the area they were in [Henry Mountains], they had to build roads into ledges and on the slopes. We'd go in to the drill site. There was plastic pipe in it [drill hole] and we'd close that off, cover it, and bring a Cat or tractor in and slope it. In the fall we'd go back out with the tractor and disk and reseed; disk it in, blend it back in. They had mud pits that we filled in, covered them over and reseeded all that. I was in charge of that.

LB: Who chose the seeding mix?

Historical Society and Garfield County Commission, 1998, pg 331-333; "A look back at Midland's brush with nuclear energy," *Midland Daily News*, May 17, 2008; Utah Division of Corporations and Commercial Code). A web search suggests that several different businesses have shown interest in the mine and mill, with some activity as recent as April 2014.

⁷ The Ticaboo townsite was needed to house workers in the uranium mine and mill and was planned by Ticaboo Development, Inc., with Roy May as company president. At full mine development and town build-out Ticaboo was expected to accommodate just under 800 people, provide a shopping center, cafe, motel with 71 rooms, community building, a mobile home park for 111 trailers, and schools for all grades through high school. Employees of Plateau Resources would be offered first-choice of home lots before the townsite was opened for sale to others ("Townsite for 800 Under Planning for Mining Operation in Garfield," *Garfield County News*, Dec 1, 1977; "From Green River," *Times Independent*, Sep 14, 1978)

RO: It was Mr. Fred Gerdeman, who was over governmental affairs [for Plateau Resources]. He and I would go out and look at the native surroundings. We'd buy seed from Mile High Seed in Grand Junction. It was all basic native plants that were in the area.

LB: So you were re-contouring and you were trying to match the vegetation.

RO: Yes, match the vegetation that was there. A couple of times I've been back there. It turned out really well. You figure if you could get 30% germination in that country, you were really lucky. A lot of it turned out really well.

LB: At the mine, did you ever go in the mine? Did your reclamation involve going inside?

RO: Yes, we went inside with the young lady who was in charge of environmental, which was counting the radiation, the radon units inside the mine. We'd go inside with her. We went down on Lake Powell. We had a boat and they'd measure the radiation levels in the lake to see if the mine and mill were affecting the lake.

LB: How big an underground operation was the Shootaring?

RO: It was big. You could drive a Jeep back in. There were two portals, East and West, and you could drive all the way back into the mine from both portals. Getman ore buggies were about the size of the Jeep Universal and [the adit] was big enough you could drive in the main works. Then they had the stopes off the main, into different areas. The mine was owned by different people, companies, so the royalties had to be kept separate. Each stope or drift off the main [adit] had to be kept track of separately. We'd go back into wherever they were mining to check to see what the radon gas was doing, how bad it was, how the ventilation was working. She was in charge making sure the ventilation inside the mine was up to code so there wasn't a lot of dead air space where the radon gas could build up. We went back in the mine off and on with her.

LB: Who did she work for?

RO: She worked for Plateau [Resources]. They had the environmental section that was in charge of keeping track of all the radiation dosages of all the personnel working at the mine. They had a lab there to keep track of it. They'd all wear dosimeters to make sure they weren't getting too heavy a dose of radiation. There were reclamation, environmental, maintenance, ground maintenance, mine maintenance, electricians. It was just like a city. People in charge of that and the townsite, sewage and everything.

LB: Do you know how many people worked there?

RO: At one time there were about 400-500, at the height, when they were still developing. Before I got there. It was a pretty good sized mine.

LB: By the time you got there, what was the workforce?

RO: It was around 300 all together, both shifts.

LB: So they ran a day shift and a graveyard shift?

RO: Yes, a day and a grave. Twenty-four hours. Ticaboo had to generate its own power, so they had to have somebody on duty all the time. It was a twenty-four hour operation.

LB: Describe what the inside of that mine looked like.

RO: It was huge, all in solid sandstone. There was no cribbing, it was just in solid rock. They used the pillar and pull method, where they left pillars of stone to hold the mine up. It was all solid rock. Back where they were drilling there was a lot of water; hard to believe there was that much water. They'd be working up to their knees in water. They'd drill into the face and there'd be water coming out of the drill holes. There was that much.

LB: What did they do with that water?

RO: They pumped it out. They had what they called a dewatering pond up above where they held the water to let it evaporate. It was a fairly good-sized pond. They pumped it up there and that was the other job: to keep track of the water lines that pumped it out. We had to check on that to see how much radiation was in the water in the pond. That was another part of the environmental. It was a pretty complex operation when you get down to it. Not like the old mines where they went in, dug it out, took it out, and everything was OK. Now there're a lot of things to keep track of.

LB: After they blasted on the face and had their muck pile, how was that removed from the mine? Do you know?

RO: They had the loaders that loaded into the Getman ore buggies. It would come out almost like soup. It would be that wet, depending on which part of the mine they were mining. It was almost like a slurry. They'd dump it in bins outside the mine, depending on which royalty it came from, and it would be hauled from there down the canyon. It would be stockpiled in different areas for the royalties.

LB: So the royalties were always kept separate?

RO: Separate, yes. It depends on who gets paid, the royalties. It seems like there were seven royalties, seven bins we had out there. Depending on which bin they were hauling from you knew where they were mining. The ore was hauled down to the mill; the mill was separate, on down the canyon. The mill would pick up whatever they wanted, after it dried out, and take it to the mill.

LB: Was the mill operating when you went to work?

RO: It was just barely starting to operate. They ran it for not quite a year. They processed some of the ore, turned it into yellow cake. At the time they started that mill up, it was the most advanced mill in the United States. It was all computerized, one of the most modern mills in the United States at the time.⁸

LB: Was the concentration of uranium pretty good in that country?

RO: Yes, out of Shootaring Canyon it was good ore.

LB: Where was it shipped, do you know?

RO: I'm not sure. The yellow cake went to somewhere in Texas where they processed it back into gray cake, ready to make into rods for the reactors. I think it was Texas where it was refined from yellow cake into gray cake.

LB: Was it pretty straight uranium? Did it have vanadium in it?

RO: Yes, it had vanadium. There was vanadium, but it was pretty high grade [uranium]. I remember that.

LB: When you started to do the reclamation work for them, how did you go about deciding where to begin?

RO: The drill sites for assessment drilling came out of Grand Junction. The geologists there would send us a map of where they wanted to drill the holes for the assessment. We'd have to go out and see where it was because sometimes the geologists at Grand Junction had never been out to the drill sites and they'd put a drill site right on top of a ledge. There was no way you could drill it, so the geologists would come down and we'd have to go with them so we could get a drill rig out there to do the drilling. A lot of places they put the drill sites [on maps], there was no way to get a drill rig there. It worked back and forth between Ticaboo and the Grand Junction office. The geologists decided where they wanted to drill the assessment so they knew where the ore was at, and this was also to keep their claims current. Every year the assessment had to be done to keep the uranium claims up to snuff for the state. They [Plateau Resources] wanted to know where the ore was so they could take the mine in the direction of the best ore. It was a constant concern to get done with the drilling and cleaning up by the time it was time to do it again the next year. It was pretty constant drilling.

LB: They'd drill, get the results, then reclaim all in the same year?

RO: Yes. They'd go out as soon as it got dry enough down there that we could do the Cat work. A lot of the area was in Mancos shale, and when it's wet you can't do anything. We'd wait for the snow or rains to quit then we'd start building the sites. They'd contract out and have the

⁸ DOGM records show that the mill location in Shootaring Canyon was first submitted by Hydro-Jet Services, Inc. and in June 1977 it was transferred to Plateau Resources, Ltd. It began operation in April 1982 using ore from the Tony M mine (Permit M0170016).

drillers come in and do what they called dry cuttings. They'd lay out the dry cuttings and then the geologist would come out and check the cuttings for the ore. It was our job to hurry up and destroy the dry cuttings because Union Carbide and two or three other companies would try to check the cuttings. We had to scatter the cuttings so they couldn't tell. A lot of the claims butted up against each other. Union Carbide's, Plateau Resources', and Energy Fuels all had claims out there; when you were doing the drilling they'd be watching to see if you left any of your cuttings out. Then they'd come and could tell what the ore was like in an area. So one of the main jobs was to go out as soon as the geologist got through with the cuttings, and scatter all the cuttings so the other companies couldn't check to see what was going on. Once the drill site was vacated, then I'd come in with the equipment and start cleaning it up, close them off. Somewhere there's a map that has all the drill sites, numbers, how deep it was; I don't know where those maps went. We kept track of all that. The geologists are the ones that picked the areas to do the assessment. The geology department would send out their engineers and geologists to see what kind of ore. They were looking not only for uranium, but for anything else that was valuable down there. On the Henry Mountains and that area, there was also gold and vanadium, silver, coal; you'd be surprised what we drilled into. They wanted to keep track of it all, just like oil companies, keep track of everything that was underground there. They had the claim on it so if there was anything valuable they knew about it.

LB: Did they mine for anything other than uranium?

RO: Ticaboo was basically all uranium. Some of the other stuff was there but it wasn't in big enough quantities to make it worth mining for at the time. They were always checking for gas and oil, but there wasn't anything in enough quantity to mine.

LB: Going back to the Shootaring Mine, what is your most memorable story from being at that mine?

RO: I think it was underground. Miners would come and tell us that they saw something in the ceiling and we'd go underground. The most memorable thing was seeing the giant dinosaur track in the ceiling of the mine where part of the ledge had come down and separated, and there was a gigantic dinosaur footprint in the ceiling. It was something to see! And then, just working in the area. You have to be a desert rat or that slickrock country gets in your blood; just being there and being part of it. It is just fascinating. To be part of the history of the area.

LB: How did they illuminate the working area in the mine?

RO: The underground electricians ran the wire and lights right up to the face. They were constantly in and out. Lighting and ventilation. They had big ventilation shafts that ran fresh air to the back of the mine, right up to the face. They had big ventilation shafts. The power ran down the ventilation shafts to the mine. They had an underground lunchroom cut in the sandstone. It was something to see, to be part of.

LB: Did you like being underground?

RO: I was always kind of nervous being underground because I was looking up at the ceiling, waiting to see if it was going to fall in. Most of the guys that are underground miners, they love it. They wouldn't do anything else, they like being underground. The temperature outside didn't make much difference, it was always the same temperature underground. At Ticaboo in the middle of the summer you could come out and it was 110 degrees outside the mine, you'd go back in the mine it was just always a nice 50-60 degrees. In the wintertime when it was freezing at Ticaboo, it was still nice and warm in the mine. The guys that mine underground, it's part of their life and they love it. I was always just a little apprehensive underground. You're always waiting to hear something crack or cave in. They were lucky at Shootaring, they never had any cave-ins; it was pretty solid sandstone.

LB: What were you doing outside the mine?

RO: During the day I was outside doing the reclamation work. I was out with the guys that were building the sites. We'd have to go out where they were and figure out how we could build a road and a pad to put the drill rig on. A drill rig is a tandem axel truck so you had to have a pretty good-sized place to put it on. And then get the truck out there. We spent most of our time just building the pads, roads into the pads, setting the pads up. And then lots of times it was steep enough that we had to go out and tow the drill rig up to the pad to get it set up. We'd stay there with the truck until they got done, then help the drill rig off the pad and move it to the next area. Lots of times the trucks weren't powerful enough so we had to pull the rigs up to the pads or off of the pads. Most of the time was spent out doing assessment drilling, about 90% of the time. The rest of the time we'd help with town maintenance. We even helped re-roof the restaurant at Ticaboo. Landscaping at Ticaboo, around the lodge and in town. In our spare time we'd help town maintenance repair the swamp coolers on top of the trailers that they were renting, that sort of thing. But 90% of the time was out in the field. We had a lot of claims on the Henrys. They called the Pita claims; it would take a day or two just to get the equipment out there. They called them the Pita claims because it was a pain in the ass to get out there. They were on the side of Mount Pennell and that area on the Henrys. It took a while to get out there and do the work, and once you were out there you were there all day. The drillers, they just camped out there; it was that far out and that hard to get to.

LB: When you had to assist the drill trucks to get there, you were using a Caterpillar with a winch?

RO: Yes, a winch or we'd just hook a cable to the blade and pull them up or push them up. Hook onto the dozer to let them go down a steep grade, put the ripper down, and slide them down the road.

LB: So you were running a pretty big Cat.

RO: Yes, a D-8 and a D-6. For the clean up we had a couple of small, like a Kubota, tractors with disks and harrows, and a seeder to go out and seed things with, to clean it up. Once and a while we'd use a backhoe. It was 90% drilling and cleaning up, building sites. As I say, by the time we got things cleaned up it was the next year and time to start all over again.

LB: So down on the Henrys they were basically testing to identify the ore bodies.

RO: Yes.

LB: Did they actually open a mine?

RO: No, the only mine open was the Shootaring. There was a couple others. The Frank Melotchi Mine [Frank M] was out there but they never used it. It had been used but they [Plateau Resources] didn't do anything with it. Then they had a couple of water wells out there that we had to go check on, pump the water out once in a while to keep the permits current. Shootaring Canyon was the only one [mine] that was operational at the time.

LB: Did your reclamation activities happen only on the Henrys or were you also reclaiming the Shootaring?

RO: I was at Shootaring, on the Henrys, the southwest slope of the Henrys. Then we did some clean up over on North Wash on the east side of the Henrys; they had some claims out there. I'd go over to Blanding to Shirttail Junction, they had an ore buying station there that we had to keep clean and keep track of the radiation at the ore buying station.

LB: Now when you say "keep it clean" what does that actually mean?

RO: It grew up with tumbleweeds and weeds and we had to keep it looking nice. The environmental girl would go over and check the radiation levels on the ground around the ore buying station. Just keep it looking presentable. Clean up any trash, make sure everything was looking nice so it didn't cause concern of the citizens.

LB: This was a Plateau Resources buying station?

RO: Yes. Over at Shirttail Junction. They would buy and trade ore with Energy Fuels rather than ship. Energy Fuels, rather than shipping ore from over by Shootaring Canyon to Shirttail Junction, they would trade ore with Plateau. They would trade ore rather than ship it because shipping costs out in that area were quite expensive because of the mileage you had to travel. So they traded ore back and forth.

LB: On what basis was the trade? It couldn't have been volume, it had to have been concentration.

RO: Yes, go by the concentration of the ore. It had to be fairly close to justify trading the ore back and forth. Energy Fuels had a number of mines just out of Hanksville they were buying, so they'd switch back and forth.

LB: How long did the uranium mill in Shootaring operate?

RO: It operated about a year when I was there. They'd just gotten it going and the ore price went to below where it was feasible to run it. They could get it cheaper from Canada and Australia. They were always watching the price of ore and once it got below a certain point then it wasn't feasible to run it. At the time they could get it cheaper from Canada and Australia because the Canadian and Australian governments were subsidizing the mines in those countries so they could undercut the United States. I guess because of the problems they were having building new nuclear plants for Consumers Power, it just got to the point with the regulations that it was no longer feasible. They just shut it down.

LB: How long did you stay at Ticaboo?

RO: About three years. It was a good job, it was one of the best jobs that I had. I really enjoyed it.

LB: What did you like best?

RO: Just being out, just being out in that country. The people that I worked with, they were fantastic. It was really enjoyable. I like being out like that. It was remote, quiet. You get out there by yourself, and it was enjoyable. And get paid to do it!

LB: Do you remember what your rate of pay was?

RO: I was on salary. If I remember right it was \$28,000 a year. Which, back then, was pretty good pay. It worked out real good.

LB: And what happened after the Ticaboo job ended?

RO: I went back to work for the Park Service for two years. The [National] Park Service had this thing where sometimes they think it's better to contract out rather than have in-house doing their work, and I was over the campgrounds and roadside. They decided they were going to contract it out and they let us go. I happened to be looking in the Unemployment Office one day and there was a reclamation job for DOGM, the Division of Oil, Gas and Mining. I decided, "What the heck," so I filled out a thing and sent it. They asked me to come up for an interview in Salt Lake. I went up to Salt Lake at DOGM and guess who was there? Ken May, who was over Ticaboo. So I got a job working for the Abandoned Mine Reclamation Program through the state. I guess it was because I knew Ken May and I'd worked for Ken May because he was in charge of the mine at Ticaboo. I had reported to him every day on what was going on with reclamation.

LB: Where's the first place they sent you?

RO: First week I went with Lee Spence out to Eureka, out to the Bullion Beck Mine, right in the town of Eureka, to see what they were doing. The first main project that DOGM [sent me on] was out to Vernal. The old coal mines in Vernal and that area, Steinaker Creek and that area. I think it was Mitchell Construction had the contract to close the old mines up out there. I was the

inspector for the state, to make sure that all the contract was filled the way the state wanted it. So I was over the construction of it. I started in Vernal. That was a good job, too. I really enjoyed it.

LB: You went to work for DOGM when?

RO: Probably 1984. There was still snow at Vernal and there was lots of blue clay. Mucky! It was kind of nice because I grew up in Roosevelt, Utah, which is right next to Vernal. I knew a couple of the old mines because I remember going with my dad to get coal when we lived in Roosevelt. I think it was the Rasmussen Mine that we closed. That was the first project.

LB: They sold to the citizens right out of the mine?

RO: Yes, right out of the mines. They were kind of small mines out there. They sold straight to the people. Go out with your truck and pick up the coal, they'd load it for you. So it was kind of unusual to go close up some of the mines that the folks had bought coal from during the Second World War.

LB: Tug at your heart strings any?

RO: Yes, kind of. It brought back lots of memories. It was kind of neat. It was enjoyable. See part of history go, be part of it. You lived with it then you closed it up. Kind of sad in a way. I enjoyed it. And then I knew the area because I grew up at Vernal and Roosevelt. It was kind of like being home again. Kind of like being here [Torrey].

LB: Where else did DOGM send you?

RO: We started at Vernal and from Vernal we came over to Price and Helper, Standardville, Spring Canyon, Gordon Creek, Castle Gate 1 and 2; basically that area around there. They'd already closed up Kenilworth before I got there. We did mostly up Spring Canyon and Sowbelly Canyon out of Helper, and Gordon Creek. We were there pretty much all summer. And Scofield, up to the Owatani Mines and O'Conner Mines out of Scofield, up by the Daylight Mine. We closed some of those up in the Scofield area.

LB: What does it mean to close up a coal mine?

RO: What they do is go into the horizontal shaft, the adit, and they take cinder blocks and block it off so people can't get back into it. They've had a number of problems with kids, youngsters, getting into there and getting lost. They've had a few people get into them and get into "blackdamp" where there's no oxygen and it will kill you. So they [DOGM] go in the portal just far enough to find solid ground, then they'd build a block wall to close the mine off [and] backfill up against the block wall to close it off. If there is any water coming out, then they leave a place for the water, and they also put in a sensor for gas in the mine, methane. Basically, cinder block and backfill.

LB: What did they backfill with?

RO: Just the dirt that was around, coming out from the mine.

LB: They would use the waste dump?

RO: They used the waste dump to put up against it. Then reseed it.

LB: What about the structures outside, tipples or whatever?

RO: Most of the structures at Spring Canyon-Helper they left because they were historic. A lot of them we had to watch because they were historic. A lot of the mine portals had the name of the mine on it and the year it was started; we weren't allowed to destroy that. A lot of the mine structures were left because it was a historical site, so they didn't tear any of the mine structures down. Scofield, Helper, Gordon Creek they left the structures there, they were historic sites most of them. I think they're still there. They were historic so they didn't destroy them. At the newer mines, the old wooden structures they got rid of. The ones up Spring Canyon and Helper, they were all brick and rock. Some beautiful rockwork. So they didn't destroy them; they left them. The one at Sowbelly, the office still had the safe in the wall but the roof was all gone, but it was beautiful rockwork; they left it.

LB: Where from there?

RO: Let's see, from Helper, Gordon Creek, and Scofield we went to Cedar City. Up Cedar Canyon, where one of the first coal mines in the State of Utah was started for the iron mines, Iron Mission; the pioneers made iron. There was a coal mine up Cedar Canyon just above Milt's Stage Stop. You can't find the mine anymore because it was right at creek level and the creek flooded into the mine and closed it off. Up Right Hand Canyon was the Webster 1 and 2, Tucker, Elaison, and up Cedar Canyon on Hwy 14 [SR-14], right up on the ledge. The road goes up Cedar Canyon to Cedar Breaks and right on the ledge was the McFarland Mine, right off the road; you could drive right buy it. That was the last one we went to.

LB: How did you reclaim those?

RO: Those were a lot of work because they were on the ledge. The McFarland they pulled it all down and blocked it up. The old mine maintenance shed above there, they pulled it down because it was right on the ledge above the road and they were worried about it sliding off onto the highway. The rest of them were all blocked off, up Right Hand Canyon: the Webster, Tucker. They removed all the coal waste and tailings and took it down and buried it in an open space. They used scrapers, dug a hole and buried all the coal waste. They had a distribution area just below Milt's Stage Stop, and it [distribution area] was on fire so they broke it open then buried it with scrapers and covered it over with dirt and reseeded it.

LB: Did that put the fire out?

RO: Yes. It was quite a thing when they broke that up. They didn't think it was burning that bad but when they broke that open you just couldn't believe it. This was in September and it was steaming and hot; it was on fire. I remember they broke into it with a Cat and it just burst into flames. It had been smoldering that long. It was something to see. They dug trenches, mixed the coal with dirt and put it into the trenches, and covered with dirt with scrapers. The same up Right Hand Canyon and the Webster 1 and 2. During the 1950s with the scare of the Russians, they buried a lot of Civil Defense hospital stuff in those mine shafts. Well, it all caved in and they couldn't get it out, so it was still in there when they [DOGM] buried the Webster 1 and 2. The Cedar mines had a bottom so steep that the ledges sliced the mines off; it just slid down closed them all off. So we basically cleaned up the tailings and the coal waste, buried it and reseeded it all.

LB: Have you been back to those areas?

RO: Yes, I go back just about every year when I go up past Cedar.

LB: How does it look?

RO: It's getting to where you can't even tell where they are anymore. The Webster 1 and 2, because they were on a ledge and so steep, you can still see where the tailings were. But the rest of it you can't tell where they were. The McFarland up Cedar Canyon, well the whole canyon slid off and closed the road for about a year. It's all gone now, the whole ledge slipped off over it. The distribution point down by Milt's Stage Stop you can't even recognize. It has all grown back; the reseeded took hold real good. Right there they put a monument in for the first coal mine in Utah; there's a little ore car right off the road there, off U-14 [SR-14] before you get to Right Hand Canyon. The Governor came down to dedicate it.⁹ They [DOGM] took one of the ore cars out of the Tucker Mine and made a little monument there. They turned out real good; you can't even tell where some of the mines were up there. Got it all taken care of.

LB: Was that the long-term goal of the reclamation, to just make it disappear?

RO: Yes. A big part of it was to get rid of the tailings and coal waste. In Cedar Canyon the coal waste was on fire and it posed quite a problem. There was one up Castle Gate I was involved with, right off the highway going to Salt Lake out of Price, right along the river [US-6]. It was going off into the river and it was on fire. I can remember as a kid during the war they had that coal waste piled and it was burning then. At night when you drove up the highway you could see the fire over there against the Price River. They were worried about all that stuff going down the river. The biggest thing with coal mines was closing the portals off so that people couldn't get back into them, and the other was to clean up the coal waste. There was one mine up Spring Canyon near Helper that had a lot of methane gas coming out of it, and it had about an 8-foot culvert that went down into one of the ventilation shafts. We hauled eight truck loads of cement and poured it down there to close that off, keep the gas from coming out. That was the Robinson Mine.

⁹ Governor Bangerter dedicated the monument on March 11, 1987. The monument was constructed by Utah's Abandoned Mines Program ("First Utah Coal Mine Dedicated by Governor," *Iron County Review*, 3/19/1987).

LB: If the gas stays in a sealed mine, it isn't going to explode?

RO: As long as there isn't an ignition source it shouldn't. That was their worry about the Robinson. The adit was open at the bottom and the other shaft was open at the top and you'd get a Methometer out there and it was putting out some pretty potent methane gas. If anybody had gone around there and lit a cigarette that big shaft would have been just like a blowtorch. There was that much coming out of that mine. We pumped eight truck loads of cement into that hole.

LB: Did you have to outfit your equipment with any special gear because of that danger?

RO: Just the Robinson was the only one that you really had to watch. That was the only one that had a lot of bad methane. The others were just minimal. I guess if you were back in the mines it would be heavier, but the portals weren't bad. The Robinson was the only one.

LB: Did you go in any of the coal mines?

RO: Not very far because the timbers were rotting and they were all starting to collapse. They were pretty dangerous, that's why they were closing them off so people wouldn't get back into them. They were getting to be quite a hazard, they were very old. The mine props were starting to rot, and even at the portal entrances they were starting to slough off. They posed quite a hazard. That was a big part of the reason [for closing the mines]. People said it was because they [DOGM] didn't want them mining coal anymore. They [mining companies] could go back into them if they ever wanted to [open the mines again]. It was just simply to keep people out of them. It is dangerous, you don't realize how dangerous until you get back in some of them. They pose quite a hazard, especially to young kids; they think it's neat.

LB: So you actually didn't shove tailings back into the mine?

RO: No.

LB: You just walled it off.

RO: Walled it off, yes. Outside, if there were a lot of tailings and waste, they would landscape it, clean it up, bury it. A lot of the mines, like Spring Canyon, were historical so they didn't mess with a lot of it. A lot were [on] private property. I tried to go up there a while ago and you can only get about halfway up there; you can't get up to the Mutual Mines. I think you can get up to the Rains, there's a big bathhouse at the Rains Mine. Big, huge bathhouse and I think that's a historic site. Most of it is all private property and you can't get up there last time I went to check.

LB: Where did you go after Cedar City?

RO: We did one in Coalville. The Chappell Mine in Coalville.¹⁰ We closed that one off and that's when it was burning underground, still on fire. It had been closed off. They had some big tailings and waste piles up there, so we cleaned all that up. That was the last one I was involved with.

LB: So you had to close all the vents to keep oxygen from getting in there?

RO: That would have been hard on Chappell because it was in the ledges and rocks. The smoke was coming up through the cracks in the rocks. It had snowed and you could tell by the heat coming out of the ground where there was no snow. It came up through the cracks in the rocks. I don't know if they ever figured out how to shut it off or not. I don't think they even worry about it anymore. It will eventually burn itself out. I haven't been back up there for a long time. There were some big tailings ponds. I guess a lot of that coal went into Salt Lake during the 1920s and 1930s and during the war. They had a lot of tailings up there. That was the last mine, that's when I left DOGM.

LB: That would be what year?

RO: 1986

LB: So you quit, or you moved onto a new job?

RO: Moved onto a new job. My wife got a teaching job in California and I went to work for Union Oil at Mountain Pass at the rare earth mine out there, right on the California-Nevada border. A big open pit rare earth mine. It was owned by Union Oil; it was called MolyCorp. They had that mine and the big molybdenum mine at Questa, New Mexico.

LB: So after your wife moved you to California, you didn't work in Utah anymore?

RO: No, that was it. Mining is kind of boom or bust, you're either working or it's gone. Mining never lasts very long anywhere. When you get associated with it, you know about four or five years of mining then it mines out: the ore plays out or the market dumps on it and they pull out. It is a boom and bust industry.

LB: Did you ever have any close calls?

RO: Only one, at the Cedar City mine [Cedar City Abandoned Mine Reclamation Project in Cedar Canyon] in the winter [while] closing the McFarland Mine off. The fog had come through the canyon there and I was waiting for them to bring a piece of equipment up, when I heard a ledge break off. I'm standing on the road and I couldn't see anything, and I'm wondering where

¹⁰ The Chappell Mine had been operating since at least 1890 but after World War I it was one of three coal mines still working in the Coalville vicinity; the other two were the Wasatch and Grass Creek mines. By 1972 it was the only local mine still in operation (H.H. Doelling and R.L. Graham, Eastern and Northern Utah Coal Fields, Monograph Series No. 2, Utah Geological and Mineralogical Survey, Salt Lake City, UT, 1972, pg 333, 352). Owners of the mine planned to close it on June 1, 1972, stating that crippling regulations rendered it unprofitable ("Chappell Coal Mine to Close Down on June 1 After 38 Years of Service," *Park Record* 5/18/1972).

this rock is going to come out. I could hear it coming through the trees but I couldn't tell where. I could hear it coming down and I thought, "Holy Cow, I hope I can see that in time to run!" It came out right below us, bounced off a ledge, hit the road and bounced into Coal Creek. You could hear the whole ledge break, just naturally. It came rolling on down through there and it was so foggy you couldn't see. You thought, "Boy, I hope it doesn't come where we are." It came just a little below us. Eventually the whole side of that mountain slipped off, about seven or eight years after we left there. It closed SR-14 off for about a year while they rebuilt the road.¹¹ It just slid off. There is so much water under that country, in the mines in Cedar City [Cedar Canyon], the coal was so wet that they had to pile it up to dry it out. Once you get coal wet, the sulfur in the coal, is great for fire. That's where it starts, in the wet coal and the sulfur in the coal; you get spontaneous combustion. That's what's bad about coal mining. If it gets enough water and compression, it will start on fire all by itself. That was the closest I've come. Makes you think twice. It [working around mines] was enjoyable, I really miss it. I went to work at Mountain Pass; there was no more reclamation. I was just a shift foreman over the open pit. It was fascinating, too. Mining gets in your blood, there's just something about it. Sort of like gambling, I guess, you get hooked on it. There is always something new, every day something new in mining.

LB: During the time that you worked in reclamation in Utah, how did the equipment available change?

RO: You mean for closing it?

LB: Yes

RO: It just got more efficient, it got better, easier to work with. Everything from the heavy equipment down to the camcorder I carried around (wished I had had the new ones; they weren't as heavy!). Just everything about it got better, lighter, faster, easier to operate, easier to work with. You could do a lot better job with the newer equipment. It was faster, more precise. Made everything 100% easier. Faster and easier.

LB: What about regulatory compliance? Did that change?

RO: Oh yes! The Feds? It got more and more complicated. When I was at Ticaboo I was in charge of the reclamation department. The gentleman over me was named Fred Gerdeman, and he was in charge of what was called Governmental Affairs. His whole job was nothing but keeping track of federal regulations. Constantly, that's all he did. He'd come out and say, "Now we've got to do this, we've got to do this, this has changed and we've got to do this." His entire job was that. He'd come out and tell me "Well, now we can't do this. It's got to be done this way." Or, "We can't do this, we've got to go over here and do this." So it went from fairly

¹¹ The landslide occurred on October 8, 2011 and was 100 feet deep in places. It damaged about 1,700 feet of SR-14, the highway connecting Cedar City with Cedar Breaks National Monument ("SR 14 repairs near Cedar City likely to last until June," *The Salt Lake Tribune*, 10/22/2011). The highway was reopened to traffic on May 24, 2012, although work on the road was still underway ("Highway 14 finally opens after landslide cleanup," viewed at <http://www.ksl.com/?sid=20551810>).

simple and easy to just complex and unbelievable. To me it was just harassment. It made it more and more hard to do anything, to do what you were supposed to do. A lot of it was just nit-picky. In my opinion, just plain stupid. It's like protecting this and that, but it never hurt the area. Protect this plant because it's Protected, or this animal. It never really did the animal or the plant any good because it was never a problem in the first place, but they get so carried away with some things. Like the fear of radiation, people's fear of radiation, from atomic plants. It's like if everyone is doing their job right, there is no fear. All the time I worked in the uranium mine I never overdosed with radiation. When we were blasting, if you do your job right and you pay attention to what you're doing, it is not a hazard. You can do it just as safe as can be. It's when people don't watch what they're doing. Most miners and people associated with mining are outdoors people and they aren't out to destroy a thing, [being in the outdoors] is what they like to do. They aren't out to ruin things, but the governmental regulations, the paperwork, it took Fred Gerdeman his whole job just to comply with all the paperwork. I'm glad it was him! Everyday he'd be out with a bundle of stuff from the Feds: "This is what we've got to do." When I first started at Ticaboo, you'd have to go through all the permitting and stuff with the BLM and all that. Show them what you're going to do. One of the guys with the BLM I happened to be a Park Ranger with when I was going to college, and we knew each other well. I told him what we're going to do and that was the end of it, he said, "OK, I know what you're doing and I'll sign it off." It worked beautifully, but as time went on it got worse and worse. That paperwork just hamstrung everything.

LB: Did working for DOGM change your perspective on that any?

RO: Some of it, yes. Closing the mines and the hazards and some of the things that they did back before they had any regulations, yes it changes. They used to not care about dumping coal waste into the creeks and leaving it in piles where it could catch on fire.

LB: By "they" you mean the miners?

RO: The old miners, back when there was no regulation at all, they just took it and left. Leaving the adits and portals open where kids could fall down into them, like that one little boy in northern Utah who drove his 3-wheeler off into a shaft and it killed him, that sort of thing. They should have been closed off. There was one out at Eureka when I went out to the Bullion Beck they had no idea there was a mine shaft out there and in the winter months someone had gone over it with their snowmobile, ran over it the first time and it was great. But the next time they came back, there was a big open shaft. Things like that I could see where there was regulation [needed]; they needed to close that off because once it has grown over you can't see it and it becomes a hazard. They leave an open mine shaft where kids can get in, they can go back in maybe 30 feet and they could be in "blackdamp" with no oxygen at all; it will kill you real quick. The mining reclamation, yes, I can see closing them. It is a hazard underground. The coal companies pay a severance tax on it, that's what it is for to take care of that. The severance tax is for mine reclamation, to clean it up, get rid of the hazards. There are a lot of hazards around the old mines. We went into one by Mutual, up Spring Canyon out at Helper, there was a whole box of dynamite sitting inside the opening and it was sweating. When dynamite starts to sweat it can be a real problem. We had to carry each stick out and put them in a bucket of diesel and burn it.

There was a whole case just inside that portal and it was sweating a lot. Man, if some kid had gotten into that, man. There's a need to control some of it. Some of it gets way out of hand, but the biggest part of it needs to be done. There needs to be a watch on it. Uranium mines with the radiation and radon, it needs to be checked. When they first started out, the old miners, working around [uranium], I imagine that a lot of them died from lung cancer or other problems from radiation. You have to watch what you're doing. There have to be regulations because if not, they'll just mine and go. Take the profit and leave. It can be done right, I always believe that. I went to college got a degree and all of it, and there's a way to do it right, have it done. We need what's in the ground; I hate to say it, but everything we need comes from mining or petroleum or farming. All comes from the earth. We have to use it and we have to use it wisely, and do it right. It can be done right; I'm all for that.

LB: You had mentioned when you were doing the reclamation in the Henrys that you were attempting to re-contour and use native seed, and in essence make it look like nobody was there when it was all redone. What were your visual goals at coal mines?

RO: Basically to clean up the coal waste. You can't grow anything in coal, so the main thing was to get rid of the coal waste. Part of it was to either get rid of [the coal waste] and bury it, or you have to mix it with enough soil so something will grow on it. Basically, just to clean it up. There was a lot of stuff left laying around the old mines, rails and track and old tin shacks, and all kinds of garbage. A lot of that was buried. A lot of coal waste, they stir it up or try to bury it and reseed it to make it look halfway decent. You can't always reclaim it back to natural, all you can do is reclaim it and restore so it will start growing back to something. You can never totally restore it back to natural. It is really hard; your whole thing is just to reclaim it, to get the vegetation growing again. If you can restore it back to the way it looked, you're really lucky. What you do is just try to get it back to where it can rehabilitate itself, eventually. Coal doesn't grow anything. It is one of the hardest things to reclaim. At the Ticaboo mine we had a little section where we took some of the ore out of the mine just to see if we could grow anything on it. Some of the ore and the waste coming out of the mine actually grew better than the stuff that was outside. There was enough minerals and such from the stuff inside that came out of the ground, it would grow things better than what was outside in the open. It was just trying to rehabilitate it so Nature could get going and do what Nature had to do with it. You can't always make it look beautiful, but you can clean it up and restore so that someday it will look good. A lot of the mines that I've gone back to, I've been surprised at how well it has turned out. The ones up Cedar Canyon you could see from the road, you can't see anymore. I go up there at least once a year just to see what it looks like. See if I can find them. I can pick a couple of them out and the rest of them have grown back over with oak brush and grass to where it looks real natural. Even the distribution point right by Milt's there, it is 100% better than it was. It looks real nice. It is just cleaning up the mess they [miners] left. Getting rid of the tailings, making it so the ground can be used again for something else.

LB: You had mentioned earlier that you went inside the Shootaring Mine at the invitation of some of the miners to look at dinosaur track. Tell me some more about that. What the rock looked like, how big was the track?

RO: Oh, heavens, the track was probably about three feet across and maybe 2-1/2 feet long. Three big toes and a big pad. It was in sandstone and what happened is the sandstone had split, the ceiling, and they barred it down after a blast. There was that footprint. When the ceiling dropped, it broke the other part. The other part [of the track] had been there; it would have been a beautiful mold but when it fell down it all broke. The footprint was still up in the ceiling and it was unbelievable. You know you hear about the dinosaurs and you think "Aah", but when you actually see a footprint the first time, you think they really were for real. They were really there. The sandstone would split and [the miners] would pick up the pieces of rock and the guys would find leaves, they'd collect them. They'd break the rocks and see leaf prints in the sandstone. Beautiful. It is something to see. That was the first time anyone had ever seen that, something that has been buried for millions of years. There were all kinds of that stuff in that mine, the formations of rock they were in. It is not in the museum, it is for real. That's what is neat about being underground, you never know what you're going to run into or find, especially in the coal. There is a seam right where the coal comes into contact with the ground, it's called a carboniferous layer, that's where all the neat leaves and all the fossils are. They haven't quite turned to coal yet. That's where you find it all. It is just amazing to see it. In school you learn about how coal is made, and you think, "Oh yeah, oh yeah." But when you see how it's compressing, how one layer is straight coal and the other layer is vegetation that will become coal someday, you can see the leaves and joint grass fossils. The plant hasn't changed in all those years. To actually see it in that layer of ground where it's being compressed, that's what is fascinating about it. Been there for a million years. That's probably what's fascinating about mining, what you see underground. You've learned all your life about all this stuff, but [in the mine] it is actually happening. Not in a museum, but right where you work. Fish fossils, leaves, trees, big chunks of petrified trees, it's all there. You actually get to see what makes this world work. Quite fascinating.

LB: I meant to ask you earlier, how big was this adit at Shootaring?

RO: Gee, you could put a Jeep in there. I would say the adit going in had to be at least eight feet wide and maybe 10 feet. It went in on a three-degree slope down towards the Henrys.

LB: How far in?

RO: I think one [adit] was almost three miles back to where they were drilling. There was an East and a West portal, one going in and one coming out. Buggies would go in one empty and come out loaded the other way. So there was no traffic. One of the things we did when we weren't doing assessment work and reclamation, we'd haul rock dust to keep the dust down. There was a guy that did nothing but crush rock. They'd haul that and put it in the mine, on the floor.

LB: What kind of rock was it?

RO: Just like gravel you'd use in a road. It would probably be quartz. Same thing they used for road bedding and mixing asphalt.

LB: They'd grind it into a dust?

RO: They'd grind it into small gravel, like you use for concrete. That size [gestures]. They'd put it on the floor where the buggies were running so it wouldn't get a lot of dust. Once the sandstone [gets] beaten up, then you get dust from the sandstone. And then you get the dust from the ore, and you start getting into trouble with the radiation. So they rock dust both portals and keep the dust down.

LB: What did you take the rock in with?

RO: They had Getman ore buggies, three-ton ore buggies. They're little low thing and they sit down on the side and drive it from the side. They're quite low, but they'll haul about three ton. They were diesel powered.

LB: Rubber tired?

RO: Rubber tired, diesel powered. They ran the exhaust through a water filtration system, so there were no diesel fumes in the mine. It was kind of unique. They'd run them back and forth, the 3-ton Getman ore buggies.

LB: Did you ever drive one?

RO: Yes, outside. I wouldn't try to drive one in the mine; I'd probably bounce off the walls. You had to be pretty good with it! Believe it or not they had a lot of Navajo Indians working in the mine. They made a good miner; they liked working underground. We were close to the Four Corners area so there were a lot of Navajos that worked in the mine there. You had to be pretty good with the [ore buggies], they're quick. They articulate in the center so you have to be pretty good with them or you'll be bouncing off the walls. I've driven the little mine buggies, just the little four wheels and they articulate in the middle, too. You just sit up front there and drive with a steering wheel.

LB: Where they also Getman?

RO: I don't know who made those. The electricians and the plumbers all the guys that worked in the mine used them to haul their tools and stuff. They weren't very big, they're about like an ATV, the Polaris. They articulate in the middle so they could go in and out of things. They had a little place in the back where you loaded your stuff and they'd run down in the mines with those. Mostly the electricians and the guys working on the ventilation would run back and forth. If someone like Ken May, who was over the mine, would go in they'd go in a Jeep.

LB: Was it's exhaust also run through a scrubber?

RO: That one wasn't, but the other ones were. The littles ones that were in the mine all the time, yes they ran through scrubbers. I was surprised because running diesel down there, but believe it or not it worked. Everybody talks about diesel pollution, I think "Gee whiz, we ran diesels in the

mine out there!" I don't remember ever smelling much diesel there. The diesels were Deutz, from Germany. All the diesels on the Getmans were Deutz diesels, air-cooled diesel engines.

LB: Do you know anything about the way that Ticaboo generated its power?

RO: Oh yes, that was one of our other jobs. For the townsite they had two big Caterpillar diesels that ran the power for the townsite. They [ground crew with help of reclamation crew] would have to go down once a day and switch them over. Shut one down and turn the other one on. There was a process: you started the one then switch it over so there was no break in the power. The maintenance crew from the mill would come down and change the oil on the diesels. Two big diesels for the townsite. There were two set up just to run the mill and then the mine had two big, giant, Waukesha diesels. Huge diesels. They ran those to run the power and ventilation; compressors to force the air down into the mine. The heat from the diesel engines also heated the mine buildings. Hot water heated the mine offices there at the portal, that heat came from those two big diesel engine radiators, the hot water. They ran power to the mine, the mine maintenance shop, two or three other offices. There were six ventilation shafts and these were 4-6 foot shafts that ran straight down into the mine. They had big fans on top of them and they were all over different parts of the mine to keep the air flowing through the portal and out.

LB: They were exhaust fans.

RO: Exhaust fans, yes. You could tell when they had blasted underground. Like we were out working, cleaning up outside the mine where they'd done assessment drilling. You could tell when they blasted because you could see the dust come up through those ventilation shafts. Usually around 3 o'clock on certain days of the week they'd blast the face. You could see the dust come up through those shafts. Everyone was out of the mine, they'd put the blast curtains down and everybody got out. They'd set it off and go back in the next day and start mucking.

LB: What were the blast curtains?

RO: Big heavy canvas called brattice cloth. Kind of heavy canvas cloth that is kind of rubberized. They put them up so far back from the face where they're working and when they get ready to blast they close them off to keep too much stuff from coming back into the mine. They'd put those down, brattice cloth. The guys that did the ventilation would hook up more ventilation feed and move up toward the face with tubing. Next thing, they'd start mucking it. By then it was full of water so there wasn't too much dust after that. There was a lot of water; I was surprised. I remember they were down there drilling one day, they had a Joy Jumbo that drilled six holes at a time, and they'd pull it out and the water would just shoot out of those blast holes. They'd start tamping the dynamite in.

LB: Tamp dynamite into a wet hole?

RO: Yes, push it in there. Ram it in. You wouldn't think it would go off, but it does! It was like at Mountain Pass you'd drill a 120-foot hole, there'd be water down in the bottom and you'd drop a booster down in there, put Prell (a mixture of nitrate and diesel) in there, hook it all up to

det cord. Time it so that it all goes off at different stages and it will go off in water. Same thing at Ticaboo. You'd think it would not work, that water was shooting out of the holes, but they'd take that wooden pole and jam that dynamite in there. Put the primer in it and it would go off. Very few of them didn't go off. That was the other thing, someone had to go check to make sure it all went off. If it didn't then you had a booster with a primer and you had to dig through all that stuff and find it. You've got a cap in it and that can be dangerous. It is fascinating.

LB: Did you spend much time around the uranium mill?

RO: Yes, my office for reclamation was in the mill area. We worked around the mill whenever they were getting ready to start it up. The processing plant and the mill office, that's where my boss was. The mill was about a mile down Shootaring Canyon from the mine, out in the open just there before you come into Bullfrog Basin. Right before you come into Ticaboo. It was all modern and up to date. That's where the lab was for the environmental girl, where they kept track of the radon and did the urine tests. Everybody had to do a urine test every so often to make sure you weren't getting an overdose of radiation. They had lab people who could do it. It was pretty well kept track of, the radiation levels. One of the constant things was to keep track of the radiation around the mill, mine, and Lake Powell. To make sure the mine wasn't putting anything into the water. On a hot summer day when it was 110 down there, there was more radiation coming out of the sun than there was from the mill and mine.

The supervisor of the Shootaring mill was in charge of the start up and production of yellow cake. His name was U.K. Gupta, a nuclear physicist and superintendent of the uranium mill. He was a very congenial and likeable man who would never fail to ask, "How you are doing and how your family is?" This was how he spoke to everyone who worked there. He was from India, but I don't know the exact place, and that is how his grammar was. He was a very brilliant person and a wonderful man to work with and be around. Because my office was at the mill site, I saw him frequently at the mill or at Ticaboo. He spent half of his time at the Grand Junction office and half at Ticaboo.¹²

LB: Anything else you want to tell us about?

RO: I'm trying to think.

LB: Do you know how Shootaring got its name?

RO: Yes, this story was told to me by Larry Ekker from Hanksville. I guess it was the Ekkers who were prospecting for uranium during the 1950s. During the uranium boom they'd been down Shootaring Canyon and had seen a vein in the ledge, but they couldn't get to it. There was no way to get up there. His uncle put a canvas tarp down below the ledge and then they got on the other side of the canyon [and] with their rifles they started shooting at the ledge to break pieces of the ledge off to fall down on the canvas. That's how it got its name, Shootaring. They shot the ledge down to get enough to take into Grand Junction to get it assayed, see if it was worth mining. Evidently it was worth mining. That's where "Shootaring Canyon" came from, in

¹² This paragraph was added by Rulon after he reviewed a draft of the transcript. He requested the addition because it was important information that he had not mentioned during the interview.

the 1950s in the uranium boom. There were millions of dog holes, small mines that were started out there during the uranium boom, but Shootaring Canyon was the better lode. They shot the ore down from the ledge and caught it in the tarp and hauled it off the Grand Junction. The first ores that came out of Shootaring Canyon was actually trucked. This was before there was any paved road. It was trucked from Shootaring Canyon to Hanksville, and from Hanksville to Grand Junction. If you've ever driven that road from Shootaring Canyon to Hanksville when it was dirt, that was one heck of a ride. It was always just washboard as heck, you had to go up and over the Henrys. This was before there were any beautiful paved roads out in that country. It took all day just to go to Hanksville with a load of uranium ore for Grand Junction. That was in the beginning days of the uranium boom. Charley Steens' days, Mi Vida, the early 1950s.

LB: Was the pavement put down with the help of the mining companies?

RO: You know I'm not sure.¹³ I think the reason the road got put down was because they built Glen Canyon Dam. The lake and recreation was when Strong and W.W. Clyde put in the road from Hanksville down to Bullfrog Basin. I remember going down to Bullfrog when they were just barely working right around Star Springs, out through that country, putting the road down to Bullfrog. That was some wild country, and it's the same time they started down to cross the Colorado River at Hite, over to Blanding and Shirttail Junction, and Fry Canyon. There are a lot of mines in Fry Canyon that I never got over to. That might be where the Yellow Jacket was. Do you think it was over in that area?

LB: The Yellow Jacket [Yellow Cat] I'm familiar with is a mining area that is northeast of Arches National Park, up on the edge of the Cisco Desert.

RO: Ok, these were out of Hite, towards Hite and [Natural] Bridges National Monument. There were a bunch in there.

LB: Yellow Jacket is a fairly common name for mining claims.

RO: Yes, it is. There's a Yellow Jacket at Good Springs in Nevada, only it was lead.

LB: When you had to go from Ticaboo over to the ore buying station at Shirttail, did you ride the ferry?

¹³ Records at the Dept. of Energy office at Grand Junction, CO refer to improvement of a road between the Henry Mountains and Green River that was begun in May 1952 and completed in January 1953, and bituminous surfacing of SR-24 between Temple Mountain and Green River during 1952. The Atomic Energy Commission, through its Access Roads program, paid for the majority of this work and turned over maintenance responsibility to the counties. Utah Transportation Department (UDOT) records highway 95 was added as a state highway in 1949, and subsequently realigned (<http://www.udot.utah.gov/main/uconowner.gf?n=200609181300291>). Pavement of the highway was completed in July 1976 and in September it was designated as Utah's Bicentennial Highway ("Utah Bicentennial Highway Finished," *Davis County Clipper*, 8/6/1976). Utah highway 276 from SR-95 to Bullfrog on Lake Powell, was designated a state highway in 1965 (<http://www.udot.utah.gov/main/uconowner.gf?n=200609201406221>) and paved at about the same time.

RO: No, because the ferry was just being put in. We had to go the long way, over through Hite and across to Fry Canyon and that way. They were just putting in the ferry.¹⁴

LB: How much of a town was at Ticaboo?

RO: It was a pretty good-sized town. They had a school; my cousin was a school teacher there. They had an elementary and a high school at Ticaboo; there were enough people to have a high school and an elementary. It was a pretty good-sized town when it was really going. They had barracks up the canyon, they even had a cookshack where they fed them. They could stay there and they had their own set-up with a messhall. That was when it first started. I imagine there were 300-400 people there when it was being developed, first started.

LB: Was it Ken May's brother that did most of that town work?

RO: Roy, Roy May.¹⁵ Roy May was in on the townsite for Ticaboo. It was actually a state section if I remember right, they were developing it into a townsite. Ticaboo Lodge is still going today. I was just there about six months ago, went down there and stayed. It's still hanging on.

LB: Still generating its own power?

RO: Still generating its own power, yes. There are no power lines into that country; it's all generated down there.

LB: What did the town do for water?

RO: Beautiful wells. Right there at Ticaboo they have one nice well. There's a well at the mine and up by the Frank M north of Shootaring Canyon. Another beautiful well out there, a big 6-inch well. Beautiful water; good water down in that country. You wouldn't think so being in the desert, but there is beautiful water out there.

LB: What else can you tell us?

RO: It was an exciting life, I enjoyed it. One of the best jobs I ever had. Wonderful people to work for. I was in Hanksville a while ago and checked with one of the young ladies who worked at the mine shop down there, and the biggest part of them have all passed away. Roy has passed away, the Bastions, a lot of the older people are long gone. I didn't think I was that old! I enjoyed working for the state; I wish it would have been permanent. When you got a family to raise you have to go where you can make a living. Mining is boom or bust. When I was living at Ticaboo with my cousin in his trailer, he said, "Well, we're just a bunch of trampers. We just tramp from one mine to the next." They're all a bunch of real rough, tough, wild guys, miners, but they'd give you the shirt off their back if you need help. Sooner or later if you stay in mining, you'll run into them again. If they stay in mining, there's only one place you can go and

¹⁴ The ferry was put into service in 1985 ("Lake Powell Ferry Dedications Slated Saturday," *Garfield County News*, 5/2/1985).

¹⁵ When reviewing a draft of the interview transcript, Rulon pointed out that Ken May was Roy May's son.

that's another mine. Sooner or later they all wind up at that mine. Sooner or later you'll run into them. Kind of a unique group of people, hard workers. Quite an experience. I'd never planned on being a miner, involved in mining, but it turned out to be real good, real enjoyable.