CHAPTER TWELVE

*****

NEW MEXICO – LAND OF ENCHANTMENT

INTRODUCTION

We pulled out of Denver in the afternoon of the same day I had made my visit to the Southern Rocky Mountain Division office. It would be a hard day's drive to Farmington and we thought it wise to get a few miles behind us so the next day would be somewhat easier. We weren't too worried about motels and decided to travel until we got tired. I elected to travel through the mountains down US 285 to Salida and then Monte Vista. In those days I-25 was far from complete with construction slow-downs a frequent occurrence. This fact plus my desire to experience the mountain scenery were the primary factors behind our taking highway 285. What a surprise we had in store for us.

It was pretty enough until we arrived in Bueno Vista after which the nearby hills became rather open and dry. South of there it got worse until we arrived in Monte Vista where we stayed for the night. I had imagined beautiful scenery all the way and couldn't believe my eyes as we came into the San Luis valley north of Alamosa. There's a straight stretch of road there through farming country of maybe 30 miles that rivals anything in Kansas with the only difference being the mountains off in the distance. Though a little boring, it did help us gain some time, which made up for our slow departure from Denver. We found a mom and pop type motel, which had the bare essentials of beds and bath. Even so, it was comfortable enough and after a country style dinner at a nearby restaurant we slept like logs.

I about forgot Esther's African violets, which had been packed carefully in the trunk. We took them into the motel where she watered and fed the darling little things. So far they had survived rather well, it seemed, because of the cool days we had been experiencing. She was more than a little concerned over their welfare as I indicated back in chapter eleven. The next morning; of course, we carefully packed them in the trunk once again; for which they had sole ownership, I do believe.

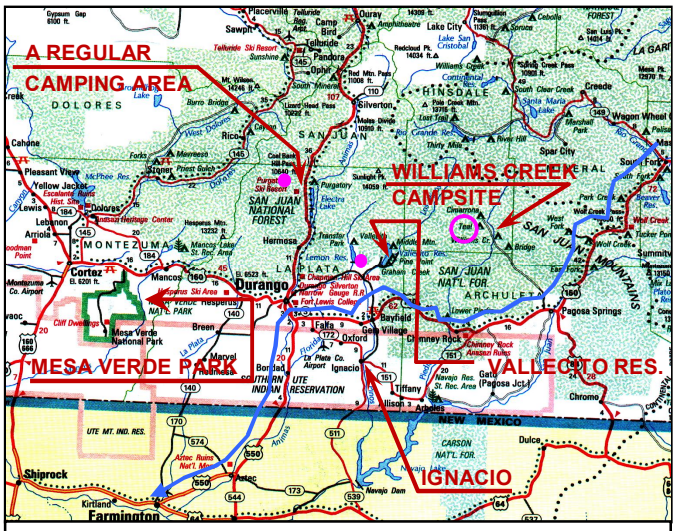

Figure 12-1 Map of SW Colorado and the NW corner of New Mexico as well as some landmarks relative to the Obenchain family activities.

With the arrival of morning, the girls were up and raring to go. They seemed more than a little excited to see just what their new home would bring. We grabbed Colorado 160 out of Monte Vista along the south fork of the Rio Grande heading west to South Fork CO. and stayed with it until we intersected 550 just east of Durango. Our trip over Wolf Creek pass to Pagosa Springs was the highlight of the day and rivaled anything we had seen in Montana. The highway was narrow with many curves and switchbacks which made the going slow to say the least. The pass itself has an elevation of almost 11,000 feet. What a beautiful drive. The west side is considerably steeper than is the east because of the greater drop in elevation as you drop into

Pagosa Springs. It is situated on the headwaters of the San Juan River and appeared to be a sleepy little saw mill town at that time. Esther and the girls seemed to enjoy the drive almost as much as I but Esther, at least, was rather nervous until we were most of the way down from the summit.

We left Pagosa Springs with the expectation of making up time lost in the trip over Wolf Creek Pass. Though things got better, our travel remained slow because of the highway which was crooked as Jesse James. In those days the roads followed the topography like a bloodhound on the trail of Jesse. They were either going back and forth sideways or up and down like a roller coaster. There were few cut and fills to iron out the kinks and those, which had been built, were minimal in size and effectiveness. No sir, one didn't get bored by long straight stretches.

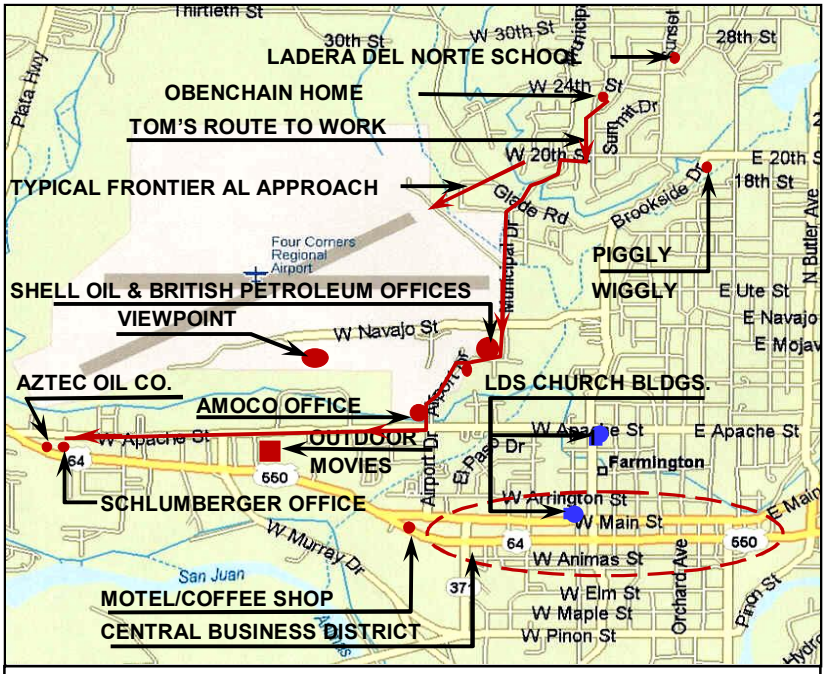

Figure 12-2 A map of central Farmington, New Mexico with some Obenchain landmarks added for later explanations.

ARRIVAL IN FARMINGTON

We stayed on 160 until coming to 550 just 10 miles east of Durango. From there we headed south to Farmington, which lay about 50 miles away in New Mexico. The latter part of the trip is shown in figure 12-1 as a violet colored line. This map that will be used for later story telling because it describes the area we lived in for four years. We pulled in late that afternoon, somewhat bushed from a hot and bouncy ride, and ready for a good rest. As I remember, we grabbed a motel at the east end of the main drag in Farmington. It was locally owned but the name escapes me. However, it was cool and comfortable enough for our purposes. I doubt that there was a major motel chain in Farmington at that time. Apparently, that motel is long gone because I checked the city out through my Microsoft "Streets and Trips" CD and couldn't find one to jog my memory. However, I'll use a map of Farmington from that particular program as figure 12-2 to illustrate some landmarks for this chapter. I'm not at all sure one can distinguish the city map under all the extra printing I did but give it a whirl anyway.

Esther's African violets were the first things I unloaded in an effort to try to rescue them from the long hard ride that day. They were a pitiful looking sight. That last day sitting in the trunk of the car, as we drove along the southern edge of Colorado, was too much for the majority of them. They had given up the ghost and poor Esther was about in tears. She had tried so hard to preserve them with cool sprays and soft words each and every night along the route. Unfortunately the 90+ temperatures of that last day were the last straw. Out of maybe a couple dozen plants she now had about six. I don't believe I had ever seen her so attached to a given variety of flower but she managed to survive along with the six plants, which she nurtured the whole time we were there. As for me, I was simply glad I had unloaded them for the last time. Though you may doubt it, I had done my best for their preservation but still managed to bury them without shedding a tear.

The next day after checking in with the office, we began house hunting. It became apparent rather quickly that renting an adequate house would be difficult at best. There were, however, houses for sale in every part of town. It seems that Farmington was in an economic slump because the gas-drilling boom, which had been going on for several years, was now slowing down. Companies had reduced staff and even closed offices. Consequently, many families

had left town and there was a glut of houses on the market. No one, however, seemed to want to rent or lease their home. They were all intent on getting rid of them.

A BIG PURCHASE

After a couple of days searching for rentals, we finally decided to bite the bullet and buy our first home. What concerned me most about such a purchase was resale. In the year 1961 Schlumberger as well as the major oil companies gave no help in resale of personal homes upon their transfer. Everything was up to the employee. In my case, transfers always came when least expected and the actual move was rapid, i.e. less than a month. Such rapidity meant I had to go to my new assignment alone and leave my wife to sell the house. To date, my longest stay in any one location had been 2 years and I questioned the wisdom of investing in a house. Even so, we began to look and soon ran across a nice 3-bedroom ranch style brick home located at 2209 Ridgecrest Drive for $16,000 (medium priced in those days). It had a cinder block fence around the back and the whole lot was in grass and nicely landscaped. What a far cry from that first house in Rock Springs, Wyoming as described in chapter 10. A photo of our new Farmington home along with Valerie and Celeste is shown in figure 12-3 and a simplified basic floor plan in figure 12-4. Like all my basic floor plans, they must be simplified because they are produced by a simple mind. That makes sense, doesn't it? The photo was taken in March 1963, which made Valerie 10 going on 11 and Celeste almost 9. The house payments would be like $115 or $120 per month and we couldn't resist. That particular venture changed our whole approach to finding living quarters from then on. We found owning your own home so advantageous in terms of comforts and convenience as well as tax benefits that we never rented again.

SETTLING DOWN

We arrived in Farmington in the summer of 1961, at which time Valerie was 9 and Celeste 7. That placed them in the 4th and 2nd grades respectively in their new school named Ladera Del Norte. It was within walking distance, so Esther took care of the girls' registration after signing for the house and while we waited on our furniture. It took an extra week for it to arrive. We had used Mayflower who had taken care of our move from Texas. This time, however the move was less than satisfactory. It

Figure 12-3 Our home in Farmington with Valerie and Celeste, ages 11 and 9 respectively, in 1963.

was not only late but considerable damage was also done to our furniture. It was here we learned the insurance offered by such movers left much to be desired and so we increased it in later moves.

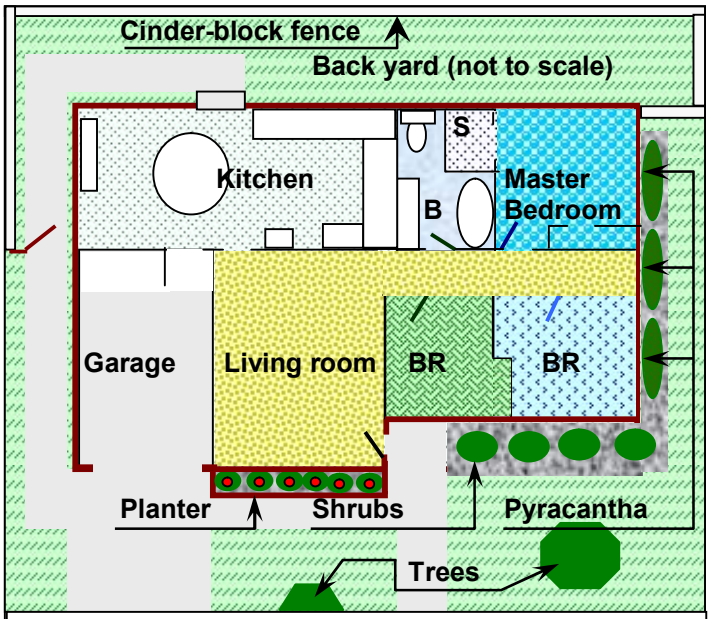

Figure 12-4 Floor plan of our home in Farmington, New Mexico, our first purchased house.

We attended the LDS Church designated as #1 upon our arrival. As luck would have it, we belonged in that ward, the First Ward. Esther became quickly involved and was called to the

primary once again. She loved to serve there and seemed to posses the attributes for such teaching. I stayed on the fringes, of course, but began to attend on Sundays because my new sales job allowed me to be off duty on weekends. Soon we became friends with Dick and Pamela Matthews who attended that ward and lived up the street a couple of blocks. Dick was a geologist for Shell Oil Company and Pam a housewife and mother of 4. Esther also became good friends with Mildred Knight whose husband was named Allen. He was a non-member and never darkened the door of the Church but she attended faithfully with her 3 girls. She worked for a car dealer in Farmington while Allen was with the state fish and game department. Esther maintained that friendship for the rest of her life and we often exchanged visits even after we left Farmington.

ESTHER GETS HER CAR

Farmington was a big enough town that Esther really needed transportation to get around. There was no bus service and many things were too far to walk to. I tentatively agreed to the idea of another car even though I usually helped with errands, the grocery store, etc. Well, within days Esther's friend Mildred had her trying out a late model Mercury, which even had an automatic transmission. Air conditioning was still considered a luxury. Of course, Esther wanted it and soon we were the proud owners of a real car, not just an old clunker like the Chevy in Cutbank. Soon she was sailing around town like a real pro and, when I was with her, we usually took the Mercury because, frankly, it rode better than my company car. Esther began taking the girls to school and seldom waited on me to help her shop for groceries, as had been our habit in previous locations in which we lived. In terms of mobility, she could now echo Martin Luther King's famous expression, "Free at last". Yes sir, she could go anywhere in town.

In terms of mobility, she could now echo Martin Luther King's famous expression, "Free at last". Yes sir, she could go anywhere in town.

MY SCHLUMBERGER ORIENTATION

I had met every Schlumberger employee from the manager, Howard Sorensen, and secretaries to the engineers and operators, mechanic and an electronic technician. The field engineers I remember were Bob Woods, Joe Dilli, Gil Feather and Troy Smith who rode the perforating truck. There had to be some relief engineers as well but my Alzheimer's has kicked in again. Cliff Ferguson was a sales engineer who was soon to be transferred. The Division Center was on the same property with a Division Mechanic (Wade Weiner), Division Supervisor (Mac McGregor), Division Engineer (Henry Valentine) and a Division Electronic Technician. There were some old time operators who had been around for years and whose names I'll probably remember as time goes on. One who sticks out was a big burley guy known as Moose Colerick. It seems he had played guard for the Washington Redskins offensive line years earlier. This guy was big, about 6'1" and weighed in at about 275 pounds, and made an impression wherever he went. He was later promoted to perforating engineer and transferred to Vernal, Utah. I'll take a minute here to tell a rather cute story, which attested to his size and appearance.

AN IRRITATED DRIVER RECOILS AS MOOSE UNCOILS

Schlumberger went to great lengths to maintain good relations with oil company personnel in general and geologists in particular. Geologists had a big hand in deciding who would log a particular exploratory well and the type of logs to be run. Needless to say, it was to Schlumberger's advantage to keep them happy. As part of that effort, they would provide cold drinks, both beer and soft drinks, to thirsty participants involved in the annual geologic symposium field trips. These took place in the summer and cold drinks were welcomed as the group traveled the dusty roads of the Rocky Mountain west looking at various geologic features. This particular year, Moose was to drive the cold drink wagon.

Moose was returning from town on Main Street with the cold drinks iced down for the day. He came to a stop at a red light near the motel/coffee shop designated in the lower portion of figure 12-2. There were several vehicles ahead of him and at least one behind. As the light changed and those ahead started up, it seems Moose didn't move out fast enough to suit the individual directly behind him. This guy got on his horn and started berating Moose through his open window with language not fit to print here. Moose heard him clearly and came to a stop with the guy still on his horn. Moose uncoiled as he emerged from the pickup and the guy realized he had opened his mouth to the wrong man. Moose had taken only a few steps back towards this loudmouth's car when the guy slammed his transmission in low and burned

rubber as he peeled around the left side of this behemoth of a man. He had no desire to explain his actions to Goliath. Later, when Moose was asked what he intended to do, he said, "Well, I just wanted to find out why he was so upset and explain the situation to him". Obviously, the guy didn't want to hear what Moose had to say.

SRMD SALES TACTICS

Sales efforts in the Southern Rocky Mountain Division (SRMD) and thus in Farmington mirrored those I was familiar with in Montana. Only the customer names and personnel were different. Schlumberger subscribed to the weekly "Petroleum Information Oil and Gas report" (P.I.) for short, which listed all new drilling locations announced in the last week as well as progress, i.e. drilling depth, testing status, completion status, etc. on previously announced locations. If a given well had been logged by someone other than Schlumberger, we could determine that. Our purpose, obviously, was to know the status of each and every drilling well and to try to get a commitment for Schlumberger logs, as soon after a location was announced as possible. Thus, we tried to visit those people who controlled the work as soon as we learned of a particular location. Such knowledge wasn't necessarily obtained from the P. I. report. We often obtained it prior to official announcement through regular contact with active customers as well as through personnel from other service companies not engaged in the wire line business. If the operator's controlling office was located in Denver or some other city with Schlumberger sales personnel, we would usually contact them by phone for their help to expedite the request and then send a follow up contact request via mail. In view of this, my first challenge was to understand the problem or become familiar with the various active locations and drilling wells. To be effective, of course, I had to make the acquaintance of the many oil company personnel who impacted the decision process. Consequently, after meeting with Howard Sorensen and Cliff Ferguson regarding the status of the many wells involved, I began to make rounds to the various company offices to meet those who held the purse strings.

MEETING THE CUSTOMERS

As indicated, my second challenge was to meet the customers I would be dealing with. Many were representatives of major oil companies while others were consultants or worked for independent operators. Figure 12-5 illustrates the operator's names and the location of their various offices in and around Farmington. I'll add a short description of their activity in the area served by Schlumberger units from Farmington. We'll begin at the top of the diagram and work our way down until we arrive in Albuquerque.

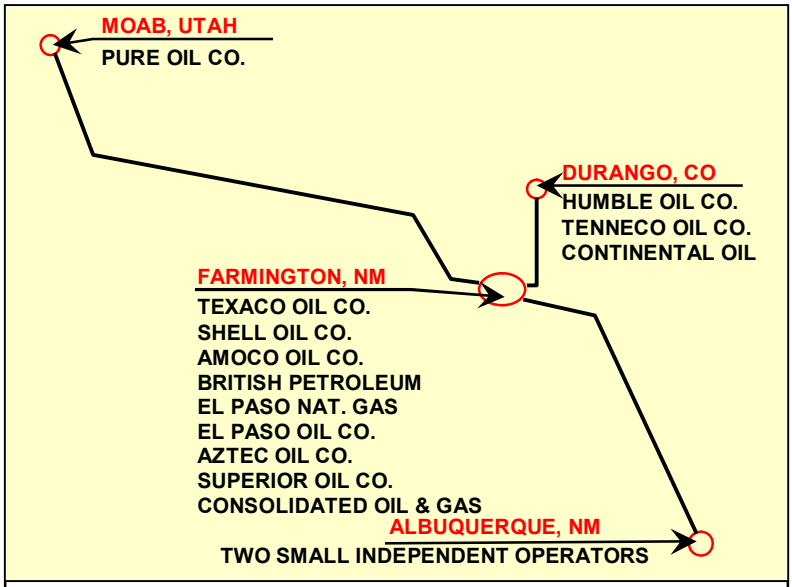

Figure 12-5 A simplified map, which lists the oil and gas operators with whom I worked as a sales engineer.

PURE OIL COMPANY (MOAB, UTAH)

Pure Oil Company was classified as a large Independent. At one time they were both an exploration and production company as well as a distributor, i.e. operated gas stations. They were only semi-active while I was in Farmington and that activity was in the Paradox Basin, which surrounded Moab. Earlier they had been rather active in the greater Utah area from an exploration standpoint but to my knowledge their only success was in the Paradox Basin in an oil field known as Lisbon Valley. They may also have been involved in a rather large oil field in southeastern Utah whose name has slipped my memory at this point. There were several operators in that field which produced from the Mississippian, I believe. In any case, I only made a trip to Moab on a quarterly basis after meeting the personnel there. Our office in

Cortez, Colorado handled the logging work in the Lisbon Valley field as well as the fields of SE Utah. My contacts with their office were primarily for the maintenance of relationships with the district geologist. Occasionally, I would be asked to evaluate one of their logs.

HUMBLE OIL COMPANY (DURANGO, CO.)

Humble Oil Co., now known as Exxon, maintained a production office on the north edge of Durango but no exploration office. The production superintendent was known as Dusty Rhodes. I visited him on a rather frequent basis to maintain relations because it was convenient when I was in Durango on other business. Their

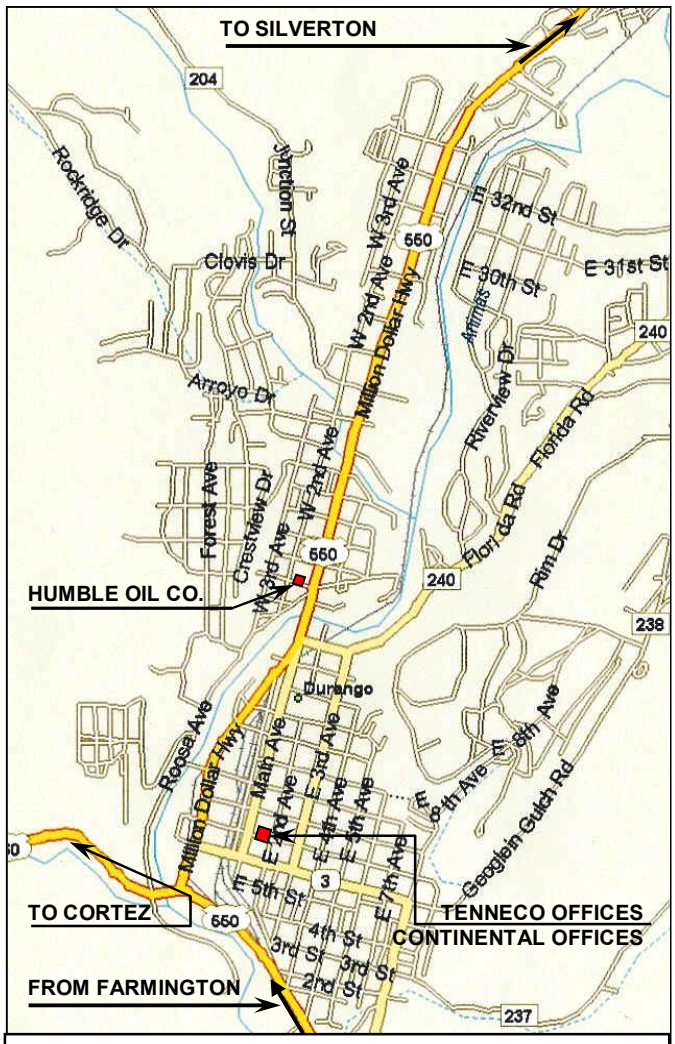

Figure 12-6 A map of Durango, Colorado as of 2001 with approximate office locations in 1962.

operations in the Farmington area were rather small and consisted of perforating only. No drilling of either exploratory or development wells went on to my knowledge in the four years I spent as a sales engineer in Farmington. Mr. Rhodes was also responsible for any activity in the Vernal, Utah area. Such drilling had ceased long before with the closing of the Carter Oil Co. offices there. They were taken over by Humble. In later years, Moose Colerick became successful in obtaining a share of the work over operations on earlier wells drilled in that area by Carter.

CONTINENTAL OIL COMPANY (DURANGO, CO.)

Continental Oil Co. maintained an office in Durango in the same building as Tenneco. Their operation was rather small in terms of drilling and completing. We received the majority of the logging work and some completion work on the wells they were involved in. I kept in close touch with them and made it a practice to ask for the work on each and every well.

TENNECO OIL AND GAS (DURANGO, CO.)

Tenneco maintained a large exploration office in Durango, which occupied a complete floor of a major building. At the time, they were quite active in the New Mexico – Utah area with particular interest in the SW area of Utah. I spent a good deal of time evaluating logs on old wells in their areas of interest as well as logs on the new exploratory wells they drilled. In fact, we did 100% of their logging work during the 1961 to 1965 era. In one case, I was flown to the well site from Durango with Tenneco geologists to evaluate logs as they were being run. My experience on that particular trip will be a part of the many job experiences, which I intend to relate a little later. Needless to say, Schlumberger's as well as my own relationship with their company personnel could hardly have been better. They gave us their entire open hole logging work and seemed happy to run the logs I recommended. We managed to put them to good use. I must admit, however, I never made a recommendation I didn't believe was useful and even necessary for a proper evaluation of the formations involved.

EL PASO NATURAL GAS IN FARMINGTON, N. M.

El Paso Natural Gas was by far the most active operator in the San Juan Basin. Their offices were on the eastern edge of Farmington where they occupied much of the same office building, as did the exploration offices of Texaco Oil Company and Superior Oil Company. The building location is shown on the map of figure 12-7. El Paso Gas kept six rigs going

throughout the basin. At any given time, a couple might be drilling Picture Cliff (Mesa Verde) wells and the rest Dakota tests (basal Cretaceous). There was nothing particularly challenging about the logging operation or the interpretation of the results. Getting ones share of the logging business depended primarily upon good relations with the geologic department and, of course, providing good service.

Roy Pritchett was the District Geologist and had 3 or 4 geologists working for him. At one time Schlumberger had been the only open hole logging company available in the area. According to one geologist, Dick Ullrich, we (Schlumberger) at that time didn't have enough trucks and they often had to wait hours for one to become available. That cost money and time, which they resented. With competition (both Dresser and Haliburton) now having logging units there, they intended to keep them in business as an option when necessary. Thus, our share of the business had fallen off to something like 50%. We got all the tough jobs and most of the deeper Dakota wells but the others stayed alive with mostly picture cliff work. During my time there, we raised that to about 65% of the wells and 80% of the dollars through regular contact and excellent service. There was no question about who provided the best service or the most reliable interpretation of results. When such elements were a factor, Schlumberger got the work. However, true to Dick's word, they kept our competition alive. I'm not sure why we were so short of trucks during those early boom days but we made a mistake by not answering the customers' needs.

Getting their completion work (controlled by the engineering section) depended primarily on price. There was no question that Schlumberger was the highest priced wire line company in the business and our challenge was to convince the customer that our service was worth it. Though our charges were definitely superior to anything the competition could offer, they and others felt the extra money wasn't worth it unless operational conditions and charge performance became an issue. In fact the El Paso completion engineers often stated, "A hole in the pipe is a hole in the pipe and that's all we need. We are going to 'frac' the well anyhow and penetration isn't a problem". We tried several different approaches from penetration and hole size to charge consistency but were never too successful in convincing them. We had a good relationship with them but that was about all.

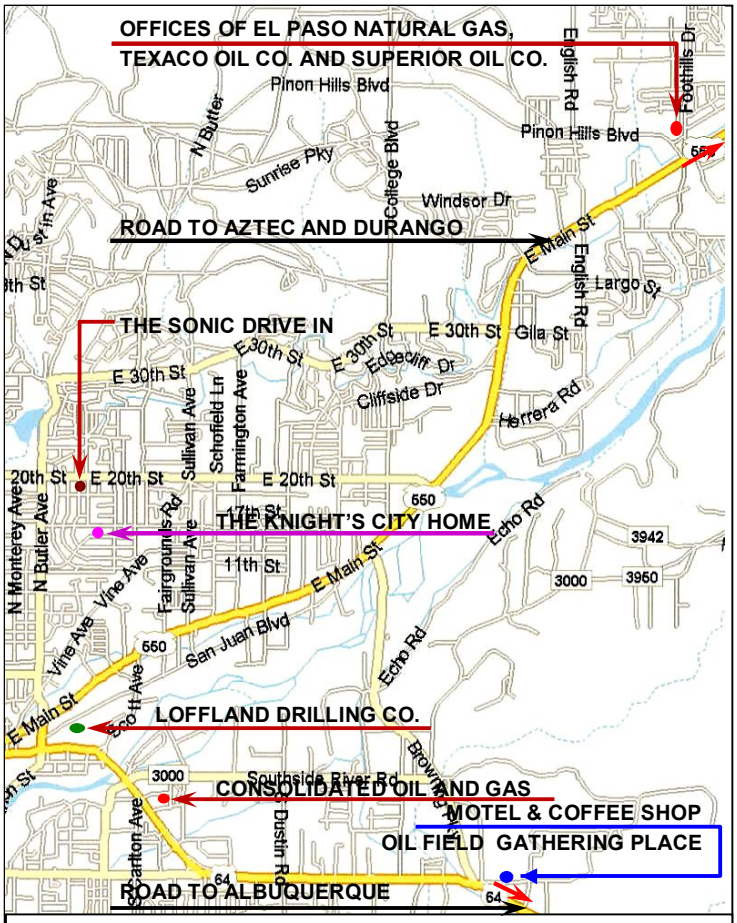

Figure 12-7 A map of east Farmington depicting several other points of interest relating to my story.

SUPERIOR OIL COMPANY (FARMINGTON, N.M.)

Superior Oil Company was one of those companies who were always a pleasure to contact. In fact, if I had a down day with things not going my way, I might visit and chat a little with them to lift my spirits. They always welcomed me and usually offered me coffee or some other beverage while we chatted. They were somewhat active, drilling a couple of wells a year maybe. They were wildcats, which always offered some interpretation challenges. They wanted the best, which gave us a lock on the business. I always made it a point to contact them and ask for their work so they wouldn't feel I took it for granted but I'm not sure it was necessary. They would often call me in advance of a drilling location announcement and ask

what logs they should consider running. Needless to say, I made a hurried visit to their office and, after discussing the expected formation and environmental conditions, would make an appropriate recommendation. They always ran the logs I recommended. Cost didn't seem to be too important a factor and we made good use of all the logs run. I never mislead or recommended logs that weren't useful. In fact, I explained the value of each measurement so they could decide what they needed.

TEXACO OIL COMPANY (FARMINGTON, N.M.)

Texaco only had an exploration office in Farmington. They weren't very active during my time there and, in fact, closed the office a couple years after my arrival. I think I can safely say, however, such closure had nothing to do with my sales work. What activity they had was exploratory in nature and was usually located in Utah. They had some production in the southeastern Utah area but their production office was located elsewhere and I didn't get involved with them. I visited the local Texaco office on a regular basis, had lunch with one or more of them occasionally and evaluated logs on prospects of interest to them, as a maintenance relationship. We might have logged a couple of wells for Texaco in the basin but such jobs were few prior to their departure.

In fact, if I had a down day with things not going my way, I might visit and chat a little with them to lift my spirits.

CONSOLIDATED OIL AND GAS CO. IN FARMINGTON

This company was a relatively small independent company, which drilled wells in the area from time to time. As far as I know, Schlumberger never figured into their business. We did neither logging nor perforating work for them in the four years I was there. Initially, I made several attempts to see the man in charge but was always given a clear message that we were too high priced and they would use the cheaper companies. They weren't particularly interested in log quality or the interpretation of the same. Additionally, they weren't that active but even so, they represented business, which amounted to considerable loss over the years.

LOFFLAND DRILLING COMPANY IN FARMINGTON

Loffland primarily worked for the various oil companies as we did. I used to stop in and visit with the drilling supervisor occasionally to help stay in touch with activity. It seems they drilled a couple of wells on their own but they had to be careful to avoid conflict of interest. That is, they couldn't use any information they might have gained in drilling for someone else. I'm not sure just how they avoided that.

AZTEC OIL COMPANY (FARMINGTON, N.M.)

As you can see from figure 12-1, Aztec Oil Co. was our next-door neighbor. They were a small independent operator who did most of their work in southeastern Utah. They had one geologist named Howard Speer, whom I became very good friends with. Besides interpreting his logs, I knew him on a more personal basis as well and helped him with various electrical problems. From our association he knew that I had worked in electronics in the service and also with Schlumberger. I fixed a couple of old radios for him, which still utilized vacuum tubes. Early in our acquaintance Schlumberger's Cortez office was doing their logging work but I did all the interpretation because of our proximity to their office. Later the Cortez office closed and our people ran the logs. We did 100% of their open-hole logging and our relationship was always the best. Howard was a man of high integrity who would never take advantage of anyone.

Aztec drilled a reef play in the Ismay formation, a member of the Madison, which is of Mississippian age. I referred to that play when I talked about reefs in chapter 5, I believe. Howard seemed to control the choice of logging companies and we never worried about losing that particular work. Completion work was another story. The boss, an engineer, who seemed to prefer our competitors, controlled the choice of the completion company. As you may realize by now, we had to fight for all the completion work we could get. We managed to keep one completion truck relatively busy but maintained a rather small share of the market.

AMOCO IN FARMINGTON

When I first moved to Farmington, Amoco had a large office consisting of both an exploration department and a development department. The office location is shown in figure 12-1. They completely occupied the two-story building.

The exploration department controlled the choice of logging company for exploration wells. Interpretation experience, as well as certain services, was often critical to the proper evaluation of such a well. We were able to obtain the logging work on all wildcat or

exploration wells. Amoco ran a lot of dipmeter logs whose results were computed by hand in those days. Bob Bonham was the geologist who was responsible for log quality and their interpretation. I spent many hours with him on both the interpretation of regular logs and dipmeter results. I enjoyed such work and had no problem being enthusiastically involved. I think it showed when I worked with people like Bob. Our relationship was always excellent.

Amoco also drilled a considerable number of development wells, mostly Dakota tests. They were very cost conscious but did give us about a third of their open-hole work on development wells. Along with the exploration wells, that amounted to about 50% of the work and a somewhat higher dollar volume. You see exploration wells required multiple logging runs and more services, which made them very profitable for Schlumberger. Even so, there was constant pressure on me to get more of their work. I visited them regularly trying to convince them that our service and better log quality, etc. was important to them. They were much like El Paso Natural Gas and felt a log was a log was a log. They didn't seem to feel a need for a Cadillac when a Ford would do. Such contacts were the one I liked the least and I found it frustrating. A man by the name of Fred Myers was my chief contact. He was always very cordial but also non-committal when I asked for the work on a specific well. In later years I found we were fortunate to get any work from the development department because they gave no logging work to Schlumberger in some parts of the country. Their attitude was strictly one of taking the cheapest route without concern for log quality or interpretation. Their job control was strictly "**PROFIT".**

Bob Bonham was the geologist who was responsible for log quality and their interpretation. I spent many hours with him on both the interpretation of regular logs and dipmeter results.

BRITISH PETROLEUM

This company drilled only a few exploration wells in the early years we were there. They closed the office a couple years after my arrival. We always did what wire line work they required while they were still operating out of that office, which was insignificant in terms of income for the district.

SHELL OIL COMPANY (FARMINGTON, N.M.)

Shell had a good-sized exploration office when I arrived in Farmington in 1961. It remained open about three years but eventually fell victim to the downsizing then going on. I mentioned Dick Matthews earlier, a friend I met in the LDS Church, who worked for them. Their interests were primarily in Utah. They were doing nothing in the San Juan Basin. Any work done for them was done by other locations such as Cortez or Grand Junction. I visited with the District Geologist from time to time but that was about it.

EL PASO OIL COMPANY (FARMINGTON, N.M.)

El Paso Oil Company was also known as El Paso Products Co. they handled the oil fields while El Paso Gas Company handled the gas fields. There was little oil in the Farmington area because the San Juan Basin was primarily a gas province. Thus, El Paso Oil Co. was involved in other areas such as Wyoming. I had done some work for them when I first went to Rock Springs and upon my return there in 1965 I became involved again. However, they were inactive as far as my Farmington responsibilities were concerned and I had little contact with them.

ALBUQUERQUE CONTACTS

We had a couple of contacts to make in Albuquerque. They were independent operators who had been active in our area before. They did very little business during my time in Farmington but I faithfully dropped by every quarter or so just to stay in touch. Many independents preferred Schlumberger in spite of the price because we could answer their questions in regard to the well better or more accurately. Thus, we got much of the independent's business unless the wells were in a rather cut and dried geologic section such as the San Juan Basin. There, they knew there would be gas if the sand was properly developed and interpretation was of little importance. After roughly 40 years, my memory doesn't seem too clear as to the names of the independents involved. I can picture one guy rather vividly but cannot seem to put a handle on him. O well, I doubt that you all care anyway.

I used to enjoy my trips to Albuquerque even though their value was questionable. It was a nice drive and I would fit it in when things weren't too pressing around Farmington. On my first trip there to get acquainted, I believe, I stayed overnight. I say that because I remember visiting "Old Town" Albuquerque and

found it extremely interesting. The old church building from the original Spanish mission was still there, as well as several associated buildings. There were also some good Mexican restaurants on the square. In fact, we ate there later with Carl and Ginny.

A DAILY SALES ROUTINE

The daily sales routine, which I described to some extent earlier, was designed to stay on top of all drilling and perforating activity. On the office wall, we had a large map of the area serviced by Farmington. We identified all drilling sites as announced locations, actively drilling locations and in process of completing. We also identified them as Schlumberger commitments or committed to a competitor. My daily routine included keeping the board current. This would require going over the PI Report, reading returns on all sales contacts and discussing the same with Howard Sorensen. Sometimes he had information, which wasn't written down.

Next came setting up the day's contacts. Where the control was in Denver or some other city with a Schlumberger Sales Office, I would make out a sales contact request giving my recommendations for logs, the individual to see if known and any other pertinent information the sales representative might deem useful. If the well was already drilling, i.e. had slipped up on us, I would place a phone call to expedite the request. If previous requests were not answered after a reasonable time, I would follow up on those by phone or a second request. Then I would make out my own list of contacts for the day, which included meeting with people in local offices regarding new wells they might be drilling. I would also set up a luncheon appointment with one or more personnel of a given company I would be visiting about then. With that, I was out the door and beating the bushes, so to speak. Success in obtaining work was proportional to the frequency of contact with the individuals controlling said work. Other than log evaluation, I can't say I found the work particularly stimulating. Sure I made a lot of friends but I wasn't really a people person and found it difficult to contact people who seemed indifferent towards me. I suspect I was part of the problem in that people naturally respond to those who are enthusiastic and friendly. The relationship problem certainly wasn't theirs but mine. I was sole owner. I'm confident such exposure was good for me because it forced me to become more of a people person. I'm not sure Schlumberger always got their money's worth; though I was extremely conscientious. What I might have lacked in personality, I made up for in effort. I took my job seriously and often found myself visiting people whom I found it difficult to communicate with. Once again, it was my problem, not theirs. My greatest area of interest was providing engineering solutions to real problems. I was good at interpreting the various logs Schlumberger ran, if fact, better than most Schlumberger field engineers. That's my opinion, of course, but founded on observation over the years and maybe a little bit of bias. When it came to wildcats with a good complement of logs, I was at my best and particularly so when I had recommended the suite of logs, as with Superior Oil Company. I knew how to use the information available and, I believe, our customers knew that as well with positive responses to my effort and obvious interest in my answers. I emphasize this because my most difficult task was trying to convince customers of their need for Schlumberger's superior products on run of the mill drilling in the San Juan Basin. Such interpretation occurred on a daily basis and almost anyone could grind out a reasonable answer with the few logs required. Only the price and service quality or really speed of operation, seemed to count. Water saturation and porosity values were of minor importance because they would set casing and fracture the sand regardless of log evaluations.

When it came to wildcats with a good complement of logs, I was at my best and particularly so when I had recommended the suite of logs, as with Superior Oil Company.

Of course, we had to report on all wells that were logged and perforated each month and explain the surprises. Lack of contact with the customer definitely did not serve as an excuse. Any solution had to begin with effort and ideas. Conversations with the Division Sales Manager or the Division Manager usually included problem customers and our efforts to bring them into the fold.

FAMILY EVENTS IN FARMINGTON

We spent nearly 4 years in Farmington; arriving in mid-summer 1961 and moving on in early June 1965. Needless to say we had many wonderful family experiences during that time including but not restricted to the birth of our son, Thomas James. I'll try to provide some sort

of chronological order to the more interesting events, as I remember them, so the reader can keep things in perspective. Let me begin with Mildred Knight, whom I mentioned earlier because of her close friendship with Esther.

KNIGHT TIME STORIES

We began attending church almost immediately upon our arrival in Farmington. It was there where Esther met Mildred who rapidly became Esther's closest friend. I suppose it was partly because Mildred's oldest girls were close to the ages of Valerie and Celeste but it seemed more than that. Mildred was a plain but friendly housewife with no pretense of being someone important or one requiring special consideration. She was non-threatening to Esther. Although I didn't realize it so much then, Esther was very uncomfortable around people whom she deemed above her on the social scale. She too was a plain but friendly housewife with no pretense of importance. When finding someone she identified with, she made strong and lasting friendships. So it was with Mildred.

Mildred drove and, I believe, encouraged Esther with the idea she needed to be mobile as well. I suppose because she (Esther) could then visit at Mildred's house and their friendship would be more of a two-way relationship. As I explained earlier, it didn't take long for Esther to convince me she had to have wheels. Mildred had already convinced her. What could I say, particularly when Mildred came up with a nice used car with an automatic transmission at a reasonable price? It was a green, 4-door Mercury sedan, which was about two years old. It was nicer and more comfortable than my company car and became the vehicle of choice for family outings. They had staged their assault on me to perfection. Though I was easily beaten, I never regretted it because the car was a good one and Esther had never been happier in our married life. She could come and go within her limited area of interest as and if she pleased. This new independence served us well; allowing her normal daily activities to continue whether I was in or out of town. I only made occasional overnight trips but they no longer impacted her routine.

AN EASTER BUNNY

I believe it was our first spring in Farmington when Allen and Mildred gave our girls a bunny for Easter. We were out visiting them at their state residence where they were staying while he worked for the New Mexico Fish and Game Department. He took care of a small lake and the associated wildlife along with other duties. Of course, they had rabbits along with some other farm critters. We were there for dinner when they popped the question, "Could the girls have a rabbit?" I was the only one who resisted because I knew I had to build a cage and clean it out from time to time. The girls, of course, said they would feed it and clean the cage while they applied the pressure, "Can we daddy, can we, please, pretty please with hugs and kisses?" Though I knew better, any refusal on my part would have made me look especially mean and grumpy with Easter coming up. Naturally, I relented and we added a fifth passenger to the Mercury on our way home. The next few days found me gathering the materials for a rabbit hutch so I could get the little devil out of our

Figure 12-8 Our little Pomeranian, Fluffy, in the front yard in Farmington, N. M. (1963)

kitchen. Even though the result of my efforts was no masterpiece (in fact the rabbit didn't even say thanks), it sufficed by keeping him secured in the back of the yard where his messy feeding habits and daily droppings didn't infringe on my personal domain. It was bad enough to have a dog in the house but adding a rabbit was just plain ugh.

FLUFFY FLEES FATALITY

Our dog Fluffy, whom I introduced you to in chapter 10, was very curious with the arrival of her competition and nuzzled the little bunny, whom I'll call Oscar, since I don't remember the name he received that first night at home. Of course the bunny was a little fellow about the size of a newborn puppy and presented no threat to Fluffy. That changed during the next year, as our bunny grew by leaps and bounds to become about the size of a small kangaroo.

By the next weekend, his hutch was completed and Oscar was secured in his new home near the back fence of our yard. Each morning as we let Fluffy out she would run over to the cage and bark a little greeting. Whether he acknowledged or not, I'll never know. Every few weeks I would clean his cage for the girls, though Esther had them feed him on a regular basis. Usually, I would shush him back into his little covered shelter while I cleaned things up. By the next spring Oscar was full-grown and was at least half again as big as was Fluffy whom I've shown once again in figure 12-8. I peeked in his little shelter and realized it was full of droppings, which he obviously laid in. That didn't bother me too much but the girls thought it was terrible and implored me to clean it out.

I figured, what the heck, and let Oscar have the run of the yard while I took on the job. After all, the yard was fenced with cinder block and solid wood gates, which left no cracks for him to squeeze through. Soon he was hopping contentedly around feeding on the grass and weeds while I cleaned out the house. All went well until Esther came out with Fluffy. She (Fluffy, I mean) immediately took off after Oscar who easily outpaced her. One hop of his easily equaled 3 or 4 yards and he seemed to tease her by staying just out of reach as they circled the yard. I got up to watch and stood by Esther and the kids. The girls called Fluffy who was obviously the aggressor but she ignored them totally. Esther and I laughed as Oscar and Fluffy provided the entertainment.

All at once he turned and came straight at her. He apparently nipped her on the nose because she let out a yelp and headed for us with the rabbit in hot pursuit.

After about 3 or 4 minutes, Oscar must have had enough. His escape seemed cut off in the southwest corner of the yard and Fluffy was finally closing in while barking like a coon dog with a treed prey. All at once he turned and came straight at her. He apparently nipped her on the nose because she let out a yelp and headed for us with the rabbit in hot pursuit. This time she seemed to be the faster of the two, reminding me of my more frightening moments. She skidded to a halt just behind me with Oscar just in front of Esther and me. Apparently, Oscar figured the game was over because he hopped off to the back of the yard while Fluffy cowered behind the family. Yep, she had had her fill of rabbit hunting and decided her canned dog food was sufficient. At least, it didn't bite back. She stayed her distance until I had put Oscar back in the pen and then she ran over to bark, apparently confident he couldn't get to her.

LOW CALORIE SOUL FOOD

There was a fast food joint (A Sonic, I believe) on east 20th street near the Knight's Farmington home. They had rented their home out while living in the state provided house on La Plata highway but moved back into town later. Both locations are shown approximately in figure 12-7. Esther and Mildred both loved onion rings as well as milk shakes and the Sonic provided some of the best. When they would get together, you can be sure a stop at the Sonic was on the agenda. I think they planned lunch there each time they got together. I wasn't aware of this passion of theirs until the kids began talking about it. Apparently they included them in their forays during the summer or any time school wasn't in session. It seemed Mildred and Esther had a guilty conscience because they did their best to cover it up. I think it pertained to the frequency of such visits rather than the visits per se. Anyhow, Alan and I would tease them a little.

EXCHANGE DINNERS

The Knights and the Obenchains often exchanged dinners. We seemed to do most of the visiting, to my recollection, but they also visited us. Alan was out of town quite frequently and Mildred seemed to invite us over for company. She was a great cook as was Esther, so how could I lose? The fare was never fancy but always tasty and dessert was a regular course. Both Esther and Mildred came from families that had dessert on a regular basis while I remember having it primarily on Sundays or holidays during my youth. Of course, I adapted to the new menu rather readily and don't ever remember uttering a complaint. Alan was a farm boy at heart and loved animals. He and I seemed to get along just fine when he was there. We talked about fish and game as well as the oil business while Esther and Mildred chatted in the kitchen. I don't believe we ever did anything special together but just enjoyed the sociality of being together. Of course, Mildred and Esther were the primary motivators for such gatherings but I never opposed them and I doubt that Alan did. The girls seemed to get along fine together, as well and that always made such exchanges enjoyable. Their two

oldest girls were close to Valerie and Celeste's ages while their youngest was born about a year before Tom or in 1963. Tom was just 6 months old when we moved to Rock Springs in 1965.

FAMILY OUTINGS

Although Farmington was and is a nice little community situated near the juncture of the San Juan and Animas rivers, the surrounding country

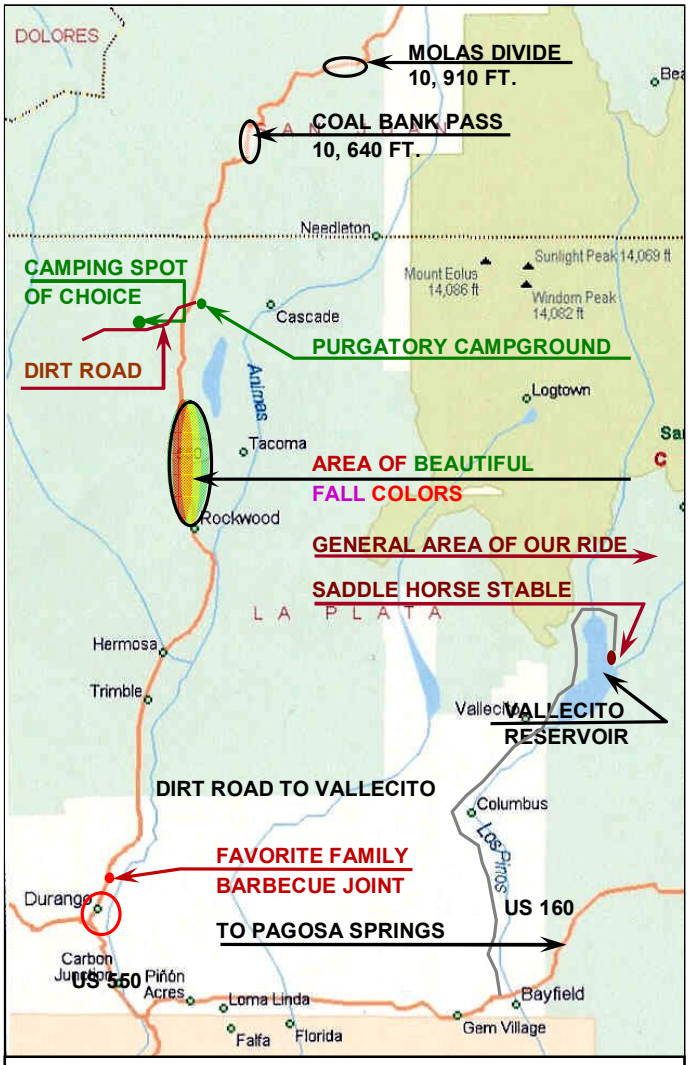

Figure 12-9 An expanded map of the Durango area with favorite family spots of outings indicated.

is essentially desert and has little appeal in terms of family outings. However, southwest Colorado lies just fifty miles to the north and is loaded with beautiful areas to picnic and/or camp out in. Consequently, we became well acquainted with the road, highway 550, heading north to Durango, Colorado. It intersected 160 just east of Durango and thence north through that little town over Red Mountain pass to Silverton, Colorado. Highway 160, on the other hand had an east-west heading, connecting Durango with Cortez on the west and Pagosa Springs on the east. That whole section of Colorado is beautiful and, as I mentioned earlier, contains many nice camping and picnic spots with associated hiking and fishing. We often took Sunday drives into the area, ate dinner in Durango and simply enjoyed the scenery along the way. Sometimes we would travel New Mexico 170 and Colorado 140, which intersected US 160 just west of Durango, to provide a little variation in the scenery. That route was a little slower, in that the road was narrower and more winding, but occasionally, it was a welcome change. A time or two, we even went west to Ship Rock and then north to Cortez before cutting back east to Durango. That particular trip was a little over 100 miles, however, and was at least double that of our usual route. Of course, our route of choice depended upon how desperate we were for change and the available time.

Most of our picnics took place north of Durango, which was conveniently close and provided a pleasant, restful environment. For weekend campouts and/or vacation outings, on the other hand, we usually went a little further afield, varying from the Pagosa Springs area on the east to Ouray on the north. The primary attraction to the west was Mesa Verde National Park, which we visited a couple of times, unless one chose to go north along the Dolores River. Now, let's get on to some memorable camping and vacation experiences. I decided to add a couple of expanded scale maps from "MS Streets and Trips" to better identify our family outings. I had planned to use figure 1 with my description but these two, figures, 12-9 and 12-10, should work better and be easier to use.

THE PURGATORY AREA

We often went to the Purgatory area because of the beauty of the area and its proximity to Durango. Sometimes the trip would be for a picnic and other times to camp out.

The campground shown in figure 12-9 was next to the highway and provided a nice place to picnic. A trail led down to the Animas River and provided a scenic hike. We would arrive around lunchtime. I might build a fire for hot dogs but sometimes the fare consisted of sandwiches, potato salad, baked beans and maybe some

goodies such as cookies or a cake Esther had baked. She made a wicked potato salad as well as baked beans and her oatmeal cookies were out of this world. The cake would usually be something like gingerbread, spice cake or maybe a carrot cake. Her carrot cake was a little sinful too but I had the capacity for it. In those days I could eat a ton and still get away with it. I managed to carry about 190 pounds as a rather constant weight. Anyhow we would eat and then wander around for a while. The hike down to the Animas was always nice and the girls loved the exercise. I didn't usually fish in this particular area and the time there was spent hiking, riding around or just plain relaxing. We often drove further up the highway just to enjoy the scenery and would get out at several points and spend a few minutes in awe of the scenery. There isn't much more beautiful country around. At that time there was no visible remains of old burns and the area was almost virgin. The present Purgatory ski area was non-existent but a few head of cattle were grazed up on a flat on the other side of US 550. In fact they were at the root of another story about a trip with mom, which I'll save for later. Towards evening we would head back for Durango and sometimes stop at a barbecue joint just north of town called the Red Barn, which we all enjoyed. It's designated on the map shown in figure 12-9 as well. By the time it was getting dark we would be headed back for Farmington, which was about an hour's drive from Durango.

As I indicated, we also camped in the area but I didn't like to stay in the campground because it was too near the highway and the traffic, though rather light, was annoying. Consequently, on one such trip we took a dirt road leading off to the west from the vicinity of the campground to see if there wasn't something better that way. Initially, the road was steep as we climbed up the hill to the west. Soon, however, we broke out into a flat, which was somewhat open and grassy. There was a nice stream flowing through it and several clusters of pines scattered around. We drove quite a ways but found no regular campground. We decided to return to a grove of trees we had passed earlier and, which had a little side stream flowing through it. There we made camp; having all of the necessities except a table. Of course, there was no john but we could return to the campground if the need arose. It wasn't that far away. Anyhow, we spent a nice evening and subsequent day mostly just playing around. I fished a little but only had limited success. The girls spent their time hiking around near camp. Valerie would have wandered a little further away, had Celeste been willing. Of course, she didn't do anything to encourage Celeste. She was a big tease and managed to conjure up some pretty wild stories to scare her younger sister. That, of course, made Celeste want to stay around mom and/or dad, which frustrated Valerie. That was in the early 60's which made Valerie around 10 to 12 and Celeste 8 to 10. Tom, of course, was still in the planning stages. Fluffy, our little Pomeranian was at her best with the girls and the wide-open spaces around camp. On this first trip, we only stayed one night; it being only a week end adventure. The next afternoon, Sunday, I packed up camp and we headed back to Farmington and home.

She was a big tease and managed to conjure up some pretty wild stories to scare her younger sister.

On a later weekend trip to the same place, mom was with us. It may have been the same summer as Ted's graduation from the pre-med at the University of Utah because we picked her up in Salt Lake and brought her home with us that year. However, she came down almost every year to spend a couple of weeks, usually via the airlines, and so it could have been another time. I remember it to be about the summer of 1964 but don't remember Ted's graduation year. It seems Esther was carrying Tom, so, I guess, he came along. Doing a little mental arithmetic, I'll bet he (Ted) graduated around 1963 because he was in school at Utah in 1958 when we were in Rock Springs. In any case, this little episode was later referred to as the "Lime Pie Incident", though the unexpected dessert bore little resemblance to the real thing. You figure out the reason behind the title.

We arrived at our camping site about 1:00 PM and were hungry as bears. I was going to set up camp as usual in the trees but mom said, "Let's put a blanket out in the sun and eat", because it was on the chilly side. We agreed and as we walked over to the area we'd picked I said, "Look out for cow pies, mom. They're all over". I'm not sure she heard me because of the results that followed. As we approached the blanket with the food she said, "Isn't this nice", regarding her chosen location where it was spread out. It was a nice spot, indeed. There was a soft breeze but the sun was warm and we

set the food down on the blanket. Soon we were all eating, some sitting on the blanket and some slightly off. In any case, one of the girls suddenly said, "Mom, we're sitting on cow-pies; that's nasty". One had broken open nearby and the gooey lime colored center was now strewn on the blanket and her shoe. Of course, the eating shut down as we examined our circumstances closer. We moved the food off the blanket and picked it up. Would you believe, another nicely crusted pie with its soft center had been right under the blanket? What a mess. Mom apologized as we moved the blanket saying, "I didn't see those pies". We ended up over near the trees with another blanket. Believe me, the area was scoured well by all of us before the second spot was chosen.

THE AIR IS THIN AT 11,000 FEET

On one trip to the Purgatory area we were with friends, maybe the Knights but I'm not sure. In any case, we had gone on past Coal Bank Pass and Molas Divide and into Silverton. The only details I remember were those pertaining to a bet I made with my friend, Alan Knight, I guess. We had enjoyed ourselves in Silverton where we had spent a little time. On the way back we stopped first at Molas Divide to enjoy the view and then again near the top of Coal Bank Pass. As you can see, both are approaching 11,000 feet in elevation. I guess we were commenting about how steep the hillsides were when Alan said, pointing to a log up the hill from the road, "I bet it would take a guy 15 minutes to get up there and back". I said, kind of laughingly, "I don't think so. A guy in good shape could do it in 5 minutes". He retorted, "No way. I'll bet you five you can't do it". Well, I wasn't in top shape but I was only 35 and rather thin. I thought a second and said, "I'll take you up on that". It was not more than 20 or 30 yards to the log but the angle of inclination was 60 or 70 degrees. It was steep and I mean steep. He said, "Tell me when you're ready", as he took off his watch to time me. I waited a while and kind of sized up the situation, choosing my route up because I figured it would be close. Finally I told him I was ready and to give the go when his second hand was in place. With his pronouncement of "Go", I was off to the races. As I headed up hill, the first half was relatively easy and then I felt my legs going. They were turning to mush. I glanced at my watch and saw two minutes were gone. I put everything I had into it, figuring if I could get up there in four I could get back down in one. I finally reached the log and was barely crawling. Furthermore, I was sucking air like a fish out of water. My legs would hardly move no matter what my mind said. My watch registered 4 minutes and fifteen seconds as I started back. With no strength left in either leg, I actually rolled down the hillside, which fortunately, was open. As I rose to my feet, I took another gander at my watch and found I had won with 5 seconds to spare. He coughed up the five, as I staggered to the car and said; "Man, that show was worth every penny". I could hardly navigate and sat down in the front seat to blow. It ruined me for the rest of the afternoon and evening. My legs ached and my chest hurt for quite a while. I only returned to normal at home back in Farmington. I won the bet but I paid dearly for my effort. Alan figured he had gotten the better of me, which I could hardly deny but I never let on to him.

My watch registered 4 minutes and fifteen seconds as I started back. With no strength left in either leg, I actually rolled down the hillside, which fortunately, was open.

FALL COLORS NORTH OF DURANGO

Every fall that we lived in Farmington, we would make one or more trips to the north of Durango to enjoy the fall colors. Although all of Colorado is beautiful any time of year, this area stood out in the fall because of the red colored oak brush. The usual yellow of the changing Aspen trees was mixed in with the various shades of the evergreens and other natural foliage but the deep red of the oak brush provided a contrast to the scene not found in most parts of the west. The overall panorama rivaled anything I have seen in Georgia or other parts of the east because of the magnificent view available. Colors in the Appalachians are somewhat more varied and beautiful indeed but the view is usually limited to something less than panoramic. The only other area in the west I have seen that rivaled that near Durango is the area around Heber, Utah, which also contains the red colors. Of course, such drives were always coupled with a picnic lunch and a relaxing afternoon followed by dinner at the Red Barn referred to a little earlier. We usually arrived home after dark comfortably full, tired and ready for a pleasant night's rest.

THE PIEDRA RIVER AREA

The Piedra River drained into the San Juan some distance east of Durango between Bayfield and Pagosa Springs. On its

headwaters, there was a nice reservoir know as the Williams Creek Reservoir. It was not only a beautiful area but also had some good stream fishing. The road into the area left 160 just west of Pagosa Springs; (see figure 1) and angled back northwest to the Piedra and Williams Creek Reservoir. It was a single lane dirt road with passing zones along the way but it was well maintained. The trip in was slow but smooth.

We camped on the reservoir in most cases, which had some wide-open grassy areas surrounded by wooded areas. Williams Creek below the reservoir was a beautiful little stream where smaller trout could be caught. Because it was convenient to the road leading into the reservoir, it was also rather heavily fished. I soon found out the better fishing was on the Piedra a mile or so down river from the road. Most people wouldn't walk the required distance and I seldom ran into more than a couple of fishing parties during such forays. The family would stay in camp enjoying the summer day. The girls had a lot of room to run and play with no danger of getting lost.

I would drive down to the Piedra and park, a distance of maybe five miles. After hiking a mile or so down river, I would fish downstream another mile or two. Usually, I caught my limit (12) by noon and would hike back to the car. Some days I would just relax along the stream enjoying the beauty and peace of the out of doors. The canyon was gorgeous and the daytime temperature was typically in the 80's. Thunderstorms were infrequent and one could hardly ask for a more pleasant environment. I truly enjoyed being alone, simply drinking in the beauty of old Mother Nature on all sides.

It was soothing to the soul and it was there I gained a greater appreciation for my dad's attraction to the mountains. I remember him saying that "He felt closer to God when out by himself in such circumstances than at any other time". I had similar feelings in those days, although later experiences while serving in the temple and/or in other spiritual settings, I have been drawn closer to the Lord as well. There is no doubt in my mind, however, that the serenity and beauty found there, when by oneself, invites the Spirit and provides a perfect setting wherein a person can approach the Lord and find answers to any adversity he might be facing. The quiet solitude beckons to the Spirit for those who make the effort. It is easy to understand why the Lord has often chosen mountain settings to appear to his chosen servants or so it seems to me.

A SICKENING EXPERIENCE

Our outings to the Williams Creek area always involved at least one over night stay because of the distance involved. In one case we rented a 16' trailer and spent a week. I will never forget it because of the trip home. We had enjoyed the week immensely but the morning we were to leave I came down with a bug whose symptoms involved nausea and aching throughout the body, the flu bug, I suppose. I could hardly pack up camp and hitch the trailer up. By 10 A.M. we were on our way but the traveling was slow with the trailer. It was about 90 miles to home. We approached Durango about 1:00 P.M. and headed south on 550.

As we neared the Colorado-New Mexico line, I felt the car pulling to the right and got out to see what was wrong. Luckily, there was a wide spot I could pull off in just ahead. The right tire of the trailer was flat and there was no spare provided. Furthermore, I had to improvise with the car jack

It was hot, about 95 degrees or so and not a bit like the comfortable 75 or 80 we had left. Feeling like I was about to die, I managed to get the trailer jacked up and the wheel off.

because nothing was provided for the trailer. I was one unhappy camper. It was hot, about 95 degrees or so and not a bit like the comfortable 75 or 80 we had left. Feeling like I was about to die, I managed to get the trailer jacked up and the wheel off. I had already unhooked the car; so I tossed the flat in the trunk and headed back to Durango with the family. I must have been pretty grouchy because I don't remember any sparkling conversation or even Valerie commenting on how much fun the experience was. You'll remember her making such a comment in Yellowstone Park. I suppose they realized daddy was feeling somewhat beyond miserable. Once in Durango, it didn't take long to get the tire repaired and we headed back to the car. After about 3 hours lost time, the trailer and car were up and going. We arrived back home around 6 P.M. I went right in, showered and went to bed, not bothering to unload anything. Esther apparently unloaded all the small stuff from the trailer because it was clean and ready to go when I woke up the next morning. Whatever I had was of short duration.

The next morning, I knew I would live and, in fact, was glad to face the world once again. I finished up those things Esther couldn't handle and took the trailer down to check it in. Needless to say I made a few choice comments about their being no spare or jack but I doubt they even registered in the brain of the individual checking me in. They did, however, act as a balm for my memory of that event.

MEMORABLE VACATIONS IN FARMINGTON

We took some sort of vacation as a family each and every summer we lived in Farmington. It might be one rather long one or a couple of short ones. Schlumberger had a generous vacation policy, which started with 2 weeks after employment of a year and progressed to six weeks after 20 years. We made a trip to Boise about every two years to stay acquainted with siblings, their kids and mom. Often it was in combination with some other segment of vacation such as a rental cabin somewhere on a lake or that sort of thing. I'll try to describe a few such adventures that stand out in this clouded and shrouded memory of mine.

A TRIP TO SALT LAKE

In 1962 or so, we picked mother up from Ted's graduation from medical school at the University of Utah. It took place in early June as I remember. We had made our way up to Salt Lake via Cortez, Colorado to Monticello, Utah via U.S. highway 666 and then along U.S. 191 to Moab, Green River, Price and Provo to Salt Lake. Interstate 70 and 15 were, at best, just getting started and our travels were on two lanes all the way. Needless to say, traveling was slow as one searched for opportunities to slip around an 18-wheeler without getting smashed in a head on. Cars still weren't air-conditioned except for the standard 465 (four windows down and 65 miles an hour). One got rather dried out and the need for a cold drink surfaced rather frequently. Our stops for the same occurred on a regular basis. There was a certain peril involved also because of bugs being sucked in through the window and striking an unfortunate soul in the eye or an open mouth. For those in the back seats it was even more risky because of the possible re-entry of a glob of spittle expelled by one clearing his/her throat in the front seat. Valerie undoubtedly has a more vivid memory of the following incident than I do but my story will have to suffice.

Valerie was embracing that window trying to achieve some degree of comfort from the 90 plus heat when, WHAM, that missile struck her right in the eye.

We had stopped in Cortez, Colorado to stretch our legs, empty our bladders, gas up and get a cold drink. With that accomplished, we headed north on 666 towards Dove Creek. As I picked up speed just north of Cortez, I cleared my throat and launched a good-sized missile of phlegm whose trajectory should have allowed it to clear the car by at least ten feet. There must have been a stiff breeze coming in from the west as well as the north-south component produced by our 65 MPH speed. In any case, the missile took a hard left after leaving the launching pad and re-entered the car through the rear window. Valerie was embracing that window trying to achieve some degree of comfort from the 90 plus heat when, **WHAM**, the missile struck her right in the eye upon re-entry. Her scream embodied every human emotion from surprise and terror through disgust to down-right misery as she tried to clear her eye sufficiently to determine who had victimized her. Upon accurately analyzing the situation, she screamed, "**Daddy!** How could you? You spit right in my eye. How disgusting, ugh. That's down-right nasty". Of course, my remorse was reflected quite sincerely in my almost instantaneous reply of, "Well, dear daughter, if you want safety from flying objects, you shouldn't be living on the edge with the window down". Esther was somewhat more sympathetic and helped her clear her eye and clean up her face. Needless to say, she closed the window and suffered the loss of the cooling breeze rather than risk another direct hit by her terroristic father with his germ laden biological weaponry. Though without malice, such missiles seemed to be launched at regular intervals with trajectories, which at best were unpredictable.

Well, the trip continued on through Monticello and Green River to Price without incident except for regular stops for refreshment, relaxation, refueling and re-draining. We arrived in Price about 1 P.M. with our stomachs growling like cornered lions. We found an A & W Drive-in on the west edge of town and pulled in to eat. Because we had a good distance to travel yet, I had everyone order and said we would eat on the road. With burgers and fries in hand along with their drinks of preference, I pulled the car up to the edge of the highway. I had my burger

and fries in my lap and set my drink on the dash, which was flat and held the drink quite steady.

The road was plenty busy with the summer traffic and I had to wait quite a while for an opening. Intent on grabbing the first chance to move out, I completely forgot my drink. When a window of entry appeared, I floored the old Ford to keep ahead of an approaching 18-wheeler

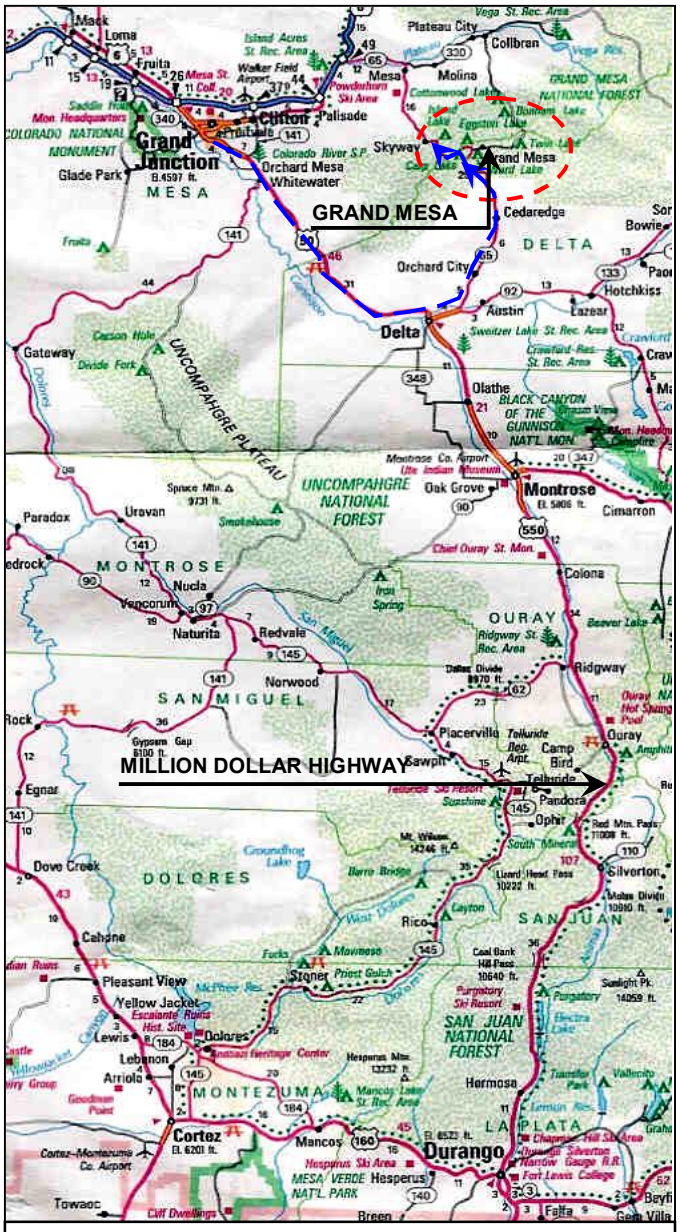

Figure 12-10 A map of the Grand Junction – Grand Mesa area of western Colorado.

and moved out into the lane of traffic. The maneuver was perfect except that Newton's First Law of Motion came into play, that is, "Objects in motion tend to stay in motion and objects at rest tend to remain at rest". Everything moved forward except my drink, which instantaneously flooded my lap with something like 32 ounces of root beer and ice. Though cooling on a hot summer day, it wasn't exactly what I had planned and I let out a yell comparable to Valerie's earlier one. I probably even uttered a few profanities in that they usually surfaced when I was ambushed or blundered. Valerie saw her opportunity to repair her damaged psyche and immediately said, "You shouldn't have your drink on the edge if you want safety, daddy". She had every bit as much sincerity in her remark as I had had in my earlier one. All I could do was grin and bear it. I did, however, make a quick U-turn and go back for another drink. This time, Esther held it until everything was moving at highway speed.

We arrived in Salt Lake on schedule, found mom and relaxed in the motel. I remember going to Ted's dorm or place of residence the next day but can't recall the graduation ceremony. I believe it was in the football stadium and we all attended but I could be wrong. It seems we stayed the day and left in the morning for Grand Junction. Our trip up had been long and punishing, about 500 miles, on two lane highways in 90 plus heat. We didn't want a repeat and decided to stop over night in Grand Junction. It had gotten even hotter during our stay in Salt Lake and the temperature broke 100 in Grand Junction that day. We were tired and crabby when we arrived there. When I gassed up the car the attendant suggested we might want to go up to Grand Mesa for the night rather than rent a motel in the city. He described it as being beautiful, wooded and some 20 or 30 degrees cooler than Grand Junction. Well, I couldn't resist and had no difficulty talking the others into it. We stopped at a Safeway and bought sufficient groceries for dinner and breakfast and away we went. Check the map of figure 12-10 to visualize the relative locations of the mesa and the city as well as our route to the former. We'll use this same map in describing a later exploit that summer.

As you can see, we had to travel through Delta and Cedaredge to get to the mesa, a distance of about 65 miles. That was no fun, considering our condition. However, looking forward to the almost Garden of Eden description given by the attendant, we managed the distance without too much bickering. The mesa was as advertised. We found a very nice little cabin, which slept 6. It had a wood stove and cooking utensils as well

as the necessary eating instruments and bedding. We were all set. Soon I had a good fire going and we cooked a good, though plain dinner of meat, potatoes, green beans and a salad along with a store bought dessert. By the time we cleaned up it was late and we all retired for a well-deserved night of rest. Morning came and we had a leisurely breakfast. Mom, Esther and I chatted and the girls played outside after wolfing down what little they wanted. The beauty of the location impressed all of us as did the reasonableness of the rates and the facilities provided. In fact, we decided then and there to come back for a more lengthy stay later on in our summer vacation.

With that, we packed up the car and headed for Farmington via Montrose, Ouray, Silverton and Durango. This was our first trip over the so-called Million Dollar Highway from Ouray to Silverton. The name was derived from the cost per mile, which was considered tremendous at the time of construction. The country is both rugged and beautiful. The drive is slow but well worth the time involved. The total distance to Farmington was about 200 miles but our average speed probably wasn't over 40 miles an hour. Of course, we had been as far as Silverton from the Farmington side, so the last 100 miles was familiar. I suppose it was mid-afternoon when we pulled up before the house on Ridgecrest Drive where we unwound, unloaded and revamped for the coming week.

Soon I had a good fire going and we cooked a good, though plain dinner of meat, potatoes, green beans and a salad along with a store bought dessert.

A WEEK WITH THE CAPENERS AT GRAND MESA

As indicated earlier, we were intent on returning to Grand mesa for a more lengthy stay. Soon, Esther was on the phone talking to Theresa, her sister who lived in Malad, Idaho, about a little vacation together. She knew just the place where we could rent a nice cabin with a beautiful view, relax, go for a walk or whatever and the kids could just play. It sounded great to Gene and Theresa and soon Esther had reservations made for early August. Had she known what was ahead, she would have had her own reservations. She called the Capeners back and we agreed to meet in Delta on a Saturday and travel to the cabin together.

The fateful day arrived and the Obenchains headed north while the Capeners headed south to make their "grand junction" with one another prior to spending a relaxing week without care or concern. We would retire to bed when we desired, get up late, have a leisurely breakfast, send the kids out to play, play a little pinochle, talk, relax and generally enjoy life. We might even take an afternoon stroll after enjoying a picnic lunch to explore the top of the "Grand Mesa". There was a wide expanse up there covered with forest and dotted with beautiful little lakes whose beauty we intended to adsorb. We met as planned and, after the usual greeting, proceeded to the top of the Mesa in convoy. We checked in and found the cabin somewhat nicer than the one we had stayed in earlier. All seemed well as we fixed dinner and relaxed for the evening. It was late enough that we didn't venture outside except to unload the cars. By 9 the girls, Carla, Valerie and Celeste, were in bed and the four adults enjoyed a game of pinochle. We retired about midnight.

Morning came and we had that relaxing breakfast I spoke of earlier but then reality set in. The girls were the first to finish and go outside. In a few minutes they returned complaining about mosquitoes. Theresa and Esther rubbed some repellent on each and sent them back out to play. We intended to have as much time as possible to ourselves. However, they soon returned saying the mosquitoes wouldn't stay away. Gene and I went out to check and were greeted by a swarm of the little blood suckers whose numbers easily exceeded those of the planes involved in any massive air raid of WWII. Not only was the sky a foggy gray from their presence but also the mosquitoes were massive in size. I feel sure the old story of Alaskan mosquitoes being so large they were mistaken for fighter planes in WWII also applied here. Had they come in on an airstrip, one might easily have pumped in 50 gallons of jet fuel before recognizing the difference in their armaments.

Gene and I went out to check and were greeted by a swarm of the little blood suckers whose numbers easily exceeded those of the planes involved in any massive air raid of WWII.

We hurried back inside and told the women we had to devise another plan. We thought the numbers might let up as the day wore on but no such luck. When we stuck our heads out the door they were immediately enveloped in that gray haze I spoke of earlier. One could open his mouth and enjoy a meat treat with no effort at

all. Of course, we kept the girls inside. As lunchtime came and went the girls became more restless and were either fussing with one another or bugging us so the dream of a relaxing day or days quickly evaporated. Then we hit upon a plan. There was a little store about a quarter of a mile away. The girls were bundled up with only their faces and hands exposed, which were generously covered with repellant. We gave them each a little money and sent them to the store.

Unfortunately, that didn't last too long and we had to think of something more enduring. They were bored. We found they were quite well protected, dressed as they were, on their trip to the store. Gene and I told them we would give each of them a nickel for each round trip they made to the store. They could save the money until they had enough to buy something they wanted inside. That would get them out of our hair (I had some then) and they would have something to do. It worked, at least for a while, and they busily hiked back and forth with only short stays in the cabin to rest. I think they each earned something like 75 cents to a dollar, which was certainly cheap insurance for the peace and quiet we wanted.

Well, our picnics and walks went down the drain. We visited other parts of the mesa to enjoy the scenery but each time we got out of the car, here the skeeters came. There was no respite unless the doors were closed and the windows rolled up, so we always headed back for the cabin. At least there was room to move around there. The second day, Gene and I decided to rent a boat and do a little fishing. We thought the middle of the lake might be safe from the ornery critters and, if we were fortunate, we might catch a few fish for dinner. Sure enough, we found a place free of mosquitoes if we were at least a hundred yards out. We relaxed and fished to our hearts content with no luck, however. We discussed everything we could think of to pass the time but finally got bored much like the girls. We couldn't move around and there was only so much to talk about. Could it be we missed the activity involved in swinging our arms wildly around our heads to shoo the mosquitoes away or maybe see how many we could kill in one smack of the hand? I don't believe so. Anyhow we headed back to shore without fish and joined the women folk with whom we could at least play cards.

Gene and I told them we would give each of them a nickel for each round trip they made to the store.

Well, two days of skeeter killing didn't seem to make a dent in their numbers. They were obviously breeding faster than we were eliminating them. We decided to seek friendlier surroundings and checked out the next day. We went down to Ouray and spent a night there including a tour of the "Million Dollar Highway". I think it made the trip worthwhile for the Capeners and it certainly provided respite from the flying vultures we had been mixing with the past two days. Gene and Theresa cut their stay short and headed back to Malad and we moseyed back home. We all nursed the marks left by our dive-bombing friends for a couple of days. Needless to say, we never returned to that hybrid paradise of virgin beauty and voracious mosquitoes known as the "Grand Mesa".

A VACATION AT VALLECITO RESERVOIR

Vallecito Reservoir just northeast of Durango a little ways was another favorite haunt of the Tom Obenchain family while we lived in Farmington. It was a beautiful lake surrounded by trees and various recreational activities. One could fish, hike, rent saddle horses or boats or spend the day relaxing and enjoying the scenery, which was varied and enjoyable in all respects. The Los Pinos River, which fed the reservoir, head-watered in the southwestern San Juan Mountains, which was just over the continental divide from the Piedra River described earlier. The surrounding country was much like that of the Williams Creek area but somewhat more rugged and with less open areas. A dirt road led into the reservoir and looped around the upper end somewhat differently than shown on today's road atlas. It is illustrated as I remember in figure 12-9. We rented a cabin there a couple of times. On one occasion we decided to take a horseback ride and went to the northeast side of the reservoir where saddle horses were available, as shown in figure 12-9. Esther stayed behind in the cabin because, I believe, she was carrying Tom. It seems to me the event took place in the summer of 1964 and Tom was born that December. The last thing she needed was bouncing up and down on the back of a horse. By trips end, I doubt that the two girls were sure they should have agreed to the trip.

I had stopped by the corrals the day before and set the trip up because I remember having to pack a lunch for something like a 4-hour trip.

Anyhow, we arrived there about 10:00 A.M. and chose our horses. Neither of the girls, to my recollection, had been on a horse before. Needless to say, they were somewhat unsure of their situation. We took photos of both Valerie and Celeste on their trusty steeds, one of which I dug out of Celeste's, photo album and the other from Valerie's pictures. Those little cowgirls with reins in hand are shown in figures 12-11 and 12-12 as evidence. Don't let their calm appearance fool you.

The girls were good sports, though somewhat dubious about the whole operation. The horse wrangler who ran the operation led out along a trail heading up the hillside. As I remember, Valerie followed next, I was behind her and finally Celeste brought up the rear. That way I could keep my eyes on both of them in case there was a problem. We had jackets tied to the back of our saddles in case of rain and our lunches were wrapped up nicely within them. Once we left the corral area, there was nothing for the horses to do but follow along behind the wrangler. That was fortunate because, like any first time cowgirl or cowboy, Valerie and Celeste weren't too sure how to control their steeds. They were a little afraid to really take control and consequently the horses fed at will as they moseyed along the trail. Of course, that didn't disturb the wrangler because he wasn't in any hurry. In fact he kind of set his pace to fit ours, as he reviewed our progress from time to time. He realized the girls were novices to the saddle from their talk and actions.

The trail wound its way up through the timber gaining altitude on a steady basis. There were some rather steep pitches involved, which had the girls gasping and holding on for dear life. They also had to be careful of trees alongside the trail. I had had experience with them in the forest service. An average saddle horse has little concern for his rider and may brush such an obstacle, which can scrape and even damage an exposed knee. Things went well, however, and no accidents befell us. After an hour or so on the trail, we were above timberline and broke out into green hillsides punctuated with wild flowers of all colors, shapes and sizes. Now, we could also see the valleys stretching out below us as well as Vallecito Reservoir. The view was breath taking and the girls were thrilled. One could also look upward towards the 14,000+ foot peaks ahead, which were capped with snow. By now the horses were sweating rather profusely from the climb. The girls had been patting their necks and saying how nice they were but now they kept their hands to themselves. That lathered up sweat was rather slimy and didn't

Figure 12-11 Celeste, departing for the San Juan Wilderness of S. W. Colorado.

really appeal to them. We didn't go to the top but we probably climbed to 12,000 feet or so before stopping for lunch around 1:00 P.M. We let the horses graze nearby while we ate. The wrangler shared some stories about the surrounding area including the locations of a

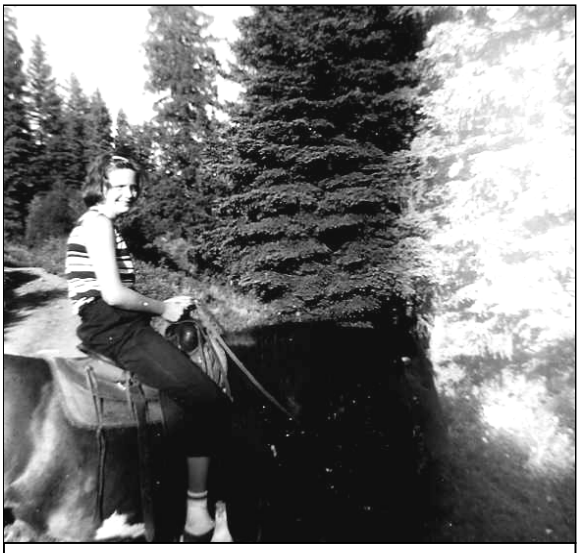

Figure 12-12 Valerie all saddled up for trip to the San Juan Wilderness Area.

couple of old mines in that general area. One could tell that he knew the country well, having spent most of his life packing hunters, etc. in and out of the area.

After lunch we climbed a little ways further to take advantage of the view and then turned around to head back down trail. The ride back was somewhat faster and maybe just a bit more exciting. Horses sometimes stumble a little as their footing gives way or they catch their foot on a rock and particularly so going downhill. Of course they always catch themselves but that doesn't help the confidence of the inexperienced rider. I kept hearing little gasps and even fearful cries for some time but they, the girls, finally decided they wouldn't fall.

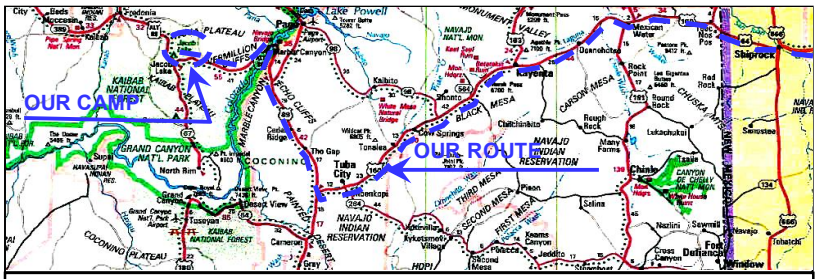

Figure 12-13 A map of northern Arizona illustrating our trip to the Grand Canyon to meet Madeleine, Jim and family.

All went well until we neared the corral area, maybe a half-mile away. We were struggling down a rather steep section of trail when the Saddle of Valerie's horse slipped sideways and she fell to the ground. Fortunately, she didn't hurt herself. I was right behind her and jumped

Figure 12-14 Yours truly at the north rim of the Grand Canyon with Mab & family.

off. The horse stopped as she got up and dusted herself off. After checking her out, I righted the saddle and re-cinched it. The horse had apparently sucked in a little air to swell its belly that morning when it was saddled up. Such action allows them to deflate later and ease the cinch pressure on their mid-section. All is fine until the rider gets a little out of balance for some reason and then, **whoops,** the saddle slips and the rider is no longer on top. As I was tightening the cinch, Valerie was close by holding the reins. As luck would have it, the old steed happened to pick up his hoof and set it down on Valerie's foot. She let out a squeal and by the time I realized what was going on, the horse moved its foot. Well, the foot wasn't broken but it sure did smart for a while and, as I remember, was black and blue for a few days. I lifted her back on the horse because the stirrup was too high, she being on the downhill side of the animal. After a short cry, she seemed OK and we finally got back to the corral. The girls were sore and tired. I could feel it myself. A four-hour horseback ride can get painful if the old behind isn't toughened up yet. I believe both Valerie and Celeste enjoyed the experience even though they were glad it was over and we were heading back to the cabin. We got back to the cabin where Esther had dinner ready. She listened intently to the girls' stories and consoled Valerie a little. The girls were excited with what they had both seen and done. They had a real experience to share with friends and classmates in the fall. It had been a good day with no serious injuries.

A TRIP TO THE GRAND CANYON

The summer of 1964 was a memorable one. Madeleine and Jim lived in the L. A. area, Walnut Hills I believe, and we made arrangements to meet with them at the Grand Canyon for a vacation. We would meet at the Jacob Lake campground and spend several days together. The timing must have been in mid or late June because our photos have June of 64 on them. In any case, it was hot as we drove across northern Arizona on Navajo 1 as it was called. On the map it is now designated as U.S. 160, which may have been the official designation then but it wasn't our designation. Anyhow, these were the days before cars were air-conditioned and Arizona can be hot, even in June. I was pulling a 16-foot trailer once again and we were gasping for breath as we neared the junction of 89 and alt. 89 leading up to the park. The trip, which had been rather slow,

became slower as we pulled up alt. 89. I suspect the road rises about 3000 feet as you climb up onto the Kaibab Plateau leading to the north rim. The edge of the north rim is approaching 9000 feet and I would guess Jacob Lake sits at about 7000 feet. The valley floor around the junction spoke of earlier can't be more than about 4000 to 4500 feet. As we gained altitude the temperature became noticeably cooler and when we topped out where the highway swings due west, we were quite comfortable. Soon we were at the campground where we found a nice camp suitable for all of us. It seems to me we arrived the night before Jim and Mab but I'm not too sure of that.

I'm not sure just how many days we spent with Madeleine's family but it was at least three. One day we went up to the north rim and spent a little time enjoying the view along the way and at the rim. I knew a little of the geology of the area because of my background but having picked up a leaflet in the visitor's center, I began spouting specifics with formation names and some of their characteristics as we gazed out over the canyon. Well, Jim was impressed. Impressed that is until he saw me referring to the leaflet and realized where all that expertise was coming from. We had a good laugh but I still maintained I had studied the general geology of the area in school and, at least, I understood the terms being used. I've included a picture of "yours truly" with the canyon as a backdrop and a second one in which I believe I am standing next to Madeleine and Esther. They are contained in figures 12-14 and 12-15 respectively.

While I'm on the subject of geology, I'll provide a brief description of how the canyon was formed according to geologic history. It seems some eons ago, the area was a level so-called penaplane or a massive plain like area from the Rockies to the coast, I suppose. The Colorado River meandered across the area in snake like fashion much as it does today but the riverbanks would have been comparable to those of the Mississippi. Forces within the earth caused the whole plain to rise very slowly but that of the present Kaibab Plateau was pushed up more strongly or for a longer period of time. Because the area rose slowly, the river cut through the emerging rocks at the same rate. Thus the river bottom was essentially stationary as the banks rose on either side. The action might be likened to a block of wood being pushed into a spinning blade from the bottom. The gash, which is cut, would represent the canyon and the top edges of the cut would represent the rim of the rising plateau. The hill through which the canyon is

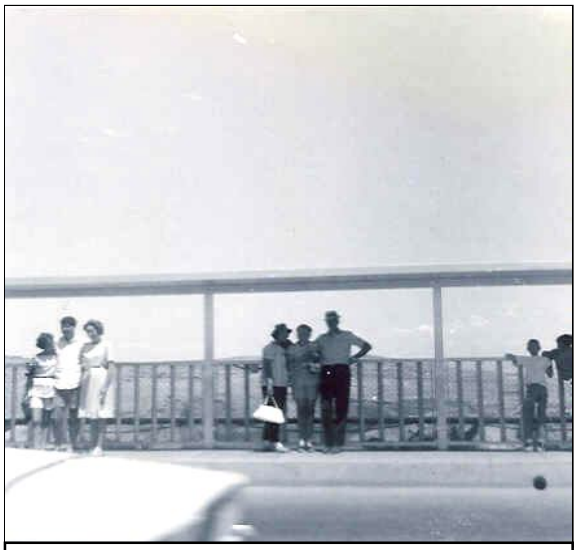

Figure 12-15 Esther, Madeleine & I at the Grand Canyon's north rim in June of 1964.

cut is a massive dome, which rose up some 5000 feet from the surrounding desert slowly enough for the river to continue to flow and erode the rock below it away. Thus, Mother Nature's saw blade, the Colorado River, cut the 5000-foot deep canyon into the rising dome.

Now, let's get back to our vacation. The second day we were together, we decided to go into Kanab, Utah, which was roughly 35 to 40 miles

Figure 12-16 Jim, Connie and Tom Rath with good old "Yours-Truly" near the Grand Canyon's northern edge.

north, and take the kids swimming. The trip either followed a soft ball game we'd had in the morning or we played the game the next day. The details are escaping me. Anyhow, we had a good time in both cases. Pam was the oldest and then Valerie with Connie and Becky between Valerie and Celeste. Celeste was 10 and Valerie 12, so I'll let you figure out where

the others' ages lie. The weather was good, there were no mosquitoes and they got along fine together. I don't really remember any arguments, just a lot of laughter and running with a little screaming mixed in when the excitement reached a climax.

We played the softball game in the campground, which was rather wide open with big beautiful trees scattered throughout. Esther was the star, I believe. She was about 3 months along with Tom but that didn't seem to slow her down. She ran the bases like a pro and fielded with the best of them. Her stardom came primarily through her good sportsmanship and she had a wonderful time. The family talked about her antics for sometime afterward. It seems we went our separate ways the day after the baseball game. I don't remember whether they had another commitment or I just had to get back to work but we had a good time.

A NEW MEXICO SNOWFALL

I believe, it was the Christmas of 1963 when we received an unusual snowfall in Farmington followed by a deep freeze that lasted through most of January 1964. As luck would have it that was also the year that Gene and Theresa came to Farmington to spend the Christmas season. I don't think I ever did convince them that this event was unusual, to say the least.

I'm not familiar with the exact climatic conditions that prevailed around the 17th or 18th of December that year but they had to be a combination of a monsoon like flow of moisture from the southwest coupled with a strong cold front from the north that collided over N. W. New Mexico. The monsoon like flow of moisture over that area is rather common in the summer months but not in the winter. In any case, a heavy snowstorm embraced Farmington just prior to the Capeners' visit and dropped 16 inches of the white fluffy stuff. It then cleared off and the cold air settled in. Temperatures went well below zero at nighttime and stayed there for 30 or 40 days.

You see, Farmington lies in a kind of bowl with the Zuni and San Mateo mountains to the south, the Sangre de Cristo and San Juan mountains to the east and, of course, the San Juan and Uncompahgre mountains to the north, all of which are part of the Rockies. The prevailing wind is from the west. Consequently, when the cold heavy air moved in, it settled in the bowl against the mountains. The later warmer airflow rode over the top and the combination kept the cold air locked in place.

Gene said they ran into snow-covered roads around Dove Creek in Colorado and had slow going from there on to Farmington. Of course, the kids loved it at Christmas time and we did have a good holiday season together. There was a nice open hill a few blocks away by the high school, which was perfect for sledding. We were over there almost every day while the Capeners were in town. The girls were getting a little old for Santa Claus but we went through the ritual anyway. It fit in beautifully with the rest of the Christmas activities, which seemed to blossom in the snowy atmosphere. About a week after their arrival, the Capeners headed back to Malad where the weather was warmer, so they said a little later.

The Farmington area wasn't used to real cold weather and particularly for extended periods. This particular cold snap lasted 30 to 40 days. Water pipes were freezing all over town. They were buried about 4 feet in the ground, which was sufficient for normal winters. As the cold weather hung on, however, the cold seeped down to that depth and all havoc broke loose. Pipes were being dug up all over the neighborhood and repaired. Many were being thawed with electric welders if they weren't broken. The oil field was pretty well shut down but the welders were making a mint from this unexpected bonanza. The Obenchains lucked out. We had no frozen pipes, though many of our neighbors did. I guess the good Lord was smiling on us. We did take the proper precautions by keeping the water running in the faucets of the house during the night but nothing else special. In late January the weather inversion broke up and the cold weather eased to more normal temperatures. People removed the evidence of unearthed pipes from their yards and the oil field returned to normal.

A LAKE CITY ADVENTURE

During our stay in Farmington, we were constantly looking for new places to go and new camping spots to take advantage of. Maybe I should rephrase that to I was constantly on the lookout for such things. Esther was a good sport and was always willing to go where I wanted; while the girls, of course, were always ready for any new adventure. I have a picture of Celeste, figure 12-18, at our Spruce Creek Campground, which is dated June of 1964. I also noticed the one of her at Vallecito is dated

the same as are those from the Grand Canyon. We were active campers in those days but not that active. Some of those pictures had to be taken in the summer of 1963 and developed with the others. I kind of think this may be one of those photos.

On previous trips and vacations we had seen much of southwest Colorado, which had become one of our favorite camping and picnic areas. At this particular time we decided to expand our field of adventure and go a little further north and east to the headwaters of the Rio Grande in the Creede area. Once again we had a little 16-foot trailer that we had rented. I was resigned to the fact that such was necessary to keep Esther happy. She would camp in a tent but was much more cheerful when she had some of the amenities of home with her. Keeping her cheerful added a great deal of pleasure to my existence, a conclusion I came after 13 years of marriage.

Pulling a trailer to the Creede area was pretty much an all-day chore considering we had to negotiate Wolf Creek Pass. It was slow going anyway but we also soaked up the beauty of that part of the country. I wasn't sure just where to camp, not having been there before. As you can see from the dashed brown route we followed, I checked out a bunch of campgrounds before settling on Spruce. We crossed the continental divide twice and much of the country was above timberline. Consequently it really wasn't very nice to camp in but it did have a panoramic view. Spruce Creek camp had sufficient trees to make it inhabitable. I think it was the next morning when Esther snapped the picture of Celeste in figure 12-18 pumping water as shown. She's obviously enjoying her efforts.

On this second day we decided to check out the general area without pulling the trailer. We left it at camp and headed for Lake City, intending to make the loop as shown in pink. I was looking for fishing areas and it would add to exploration experiences. The area around the camp was high and rather void of timber as evidenced in Celeste's photo. We headed back towards Slumgullion Pass, listed as 11,381 feet, and took a right turn towards Lake City. In just a few miles, the rather even topography gave way to steep hillsides and deep canyons as we dropped down into the Lake City area.

After just a few miles of good road, we ran into road construction and a host of heavy equipment from bulldozers to massive trucks for moving large quantities of rock. Not knowing just how many miles of construction were involved, we decided to tough it out and continue with our plans. The construction work continued all the way to Lake City and it was well into the afternoon before we arrived. We made a quick tour of that small town and continued on our way around the loop. Both the

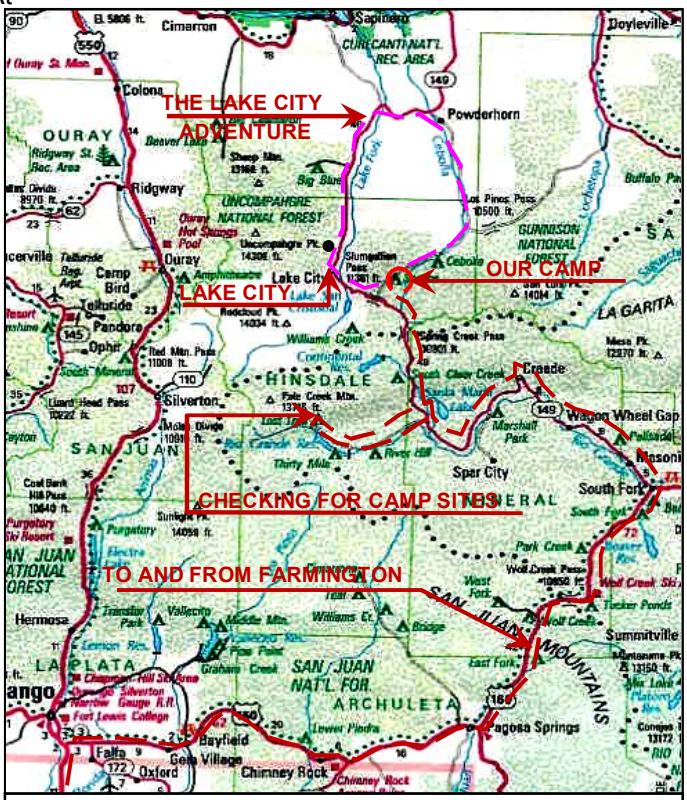

Figure 12-17 An illustration of our adventure to the Rio Grande headwaters and Lake City, CO.

Lake Fork of the Gunnison and the Cebolla were nice streams and probably would have provided good fishing but the surrounding area wasn't conducive to camping in my book. I have always said the surrounding environment appealed to me more than the fishing, although I did enjoy getting out alongside a pretty stream and drowning a worm or two. If the area had proven attractive for camping, I was considering moving the trailer down to it but such wasn't to be. A campground named Cebolla, which had a smaller stream with decent surroundings, probably would have been the best. We were bushed by the time we got back to camp and spent the evening relaxing. That evening we decided to move back to Williams Creek, our favorite camping spot, and finish out our stay. The kids liked it as well as Esther and I.

If you examine the map of figure 12-17, you'll notice that Lake City is just a short distance east, maybe 30 miles as the crow flies, of Ouray. It lies on the same side of the continental divide as Ouray, Vallecito and Williams Creek does but is probably 60 miles north of the latter. You might also notice the string of peaks in the vicinity of 14,000 ft., being from south to north, Pole Creek Mt., Red Cloud Peak, Uncompahgre

Figure 12-18 Celeste pumping the camp drinking water at Spruce Creek Campground in the San Juan Mountains.

Peak and Sheep Mountain. The whole area is beautiful even though above tree line.

I read an interesting story when I lived in Denver regarding Lake City. It seems there was a party of miners in the area in the early days, which had been snowed in, and, as a result, had to spend the winter there. They ran out of food and all but one starved to death. He made it out in the spring and recounted their travail. His story was accepted and he lived out his life in peace. However, later historical study of the mining site revealed information that made his story questionable. They concluded from studying the bones and their markings that cannibalism was involved. Apparently he only made it by eating the remains of his companions as they died. I suppose, that's what one would call a high protein diet with little or no fat considering the situation.

THE MESA VERDE NATIONAL PARK

On two occasions, we visited the Mesa Verde Park. I think both were in conjunction with short vacations or camping trips in southwest Colorado. We had our camp near Durango and spent the day in the park. The entrance to the park is surprisingly steep as you leave U.S. 160. The entrance road negotiates the cliffs formed from the Mesa Verde sandstone as one climbs up on to the plateau. Once in the park the topography is relatively level and the road simply winds around the various canyons eroded from

The most interesting part …, is the Visitors Center, which provides a description of the time and lives of the cliff dwellers.

the plateau. The most interesting part, in my opinion, is the Visitors Center, which provides a description of the time and lives of the cliff dwellers. They were an agrarian people who planted their crops in the valleys or on the plateau and lived in the cliff dwellings for protection from marauding enemies. At the time we were there, one could visit all of the known sites but I understand that has now been scaled back because of traffic damage to some of those sites. The visit to the "Cliff House" was particularly interesting in that it gave one a sense of the difficulty of negotiating the cliffs via ladders, as well as the apparent small size of the people involved. It's worth the trip but I'm not too interested in going back. Once is really quite enough. The park location is visible and shown in figure 12-1 just southeast of Cortez.

THOMAS JAMES' LATE ARRIVAL

The title of this particular section isn't meant to indicate his gestation period exceeded the usual 9 months, as did the apparent development of Celeste. No, everything was on schedule and Esther was quite amiable right up to delivery. She didn't have to weather the psychological stress created by a doctor's error or the slim possibility that Celeste really was 11 ½ months in the making. I remember her as being pleased with the approaching arrival of our third child. I don't remember our receiving any suggestion that it was to be a son. I, of course, was hoping for one. Not that I didn't love my girls or would have been disappointed with a third daughter but I wanted someone to preserve the Obenchain name in my branch of the tree in perpetuity. I suppose I also looked forward to a son following me around, going hiking, camping and copying my example. The title comes from the time between Celeste and Tom, some 10 ½ years. Esther and I had planned on at least 4 children and maybe as many as 6 but such was not to be. She miscarried with one and had difficulty in general in achieving pregnancy. So,

we settled for 3, all of whom I am proud of and look up to as examples of righteous humanity with good work ethics. This seems to be true in spite of the OJT of Esther and I as young parents. Whether Tom took an extra 8 years or so, on the other side of the veil to make up his mind, I don't know. Maybe he was just a slow starter. Since his birth he has always liked to stop and smell the roses rather than rush down the road of life, like I am often guilty of doing.

I often thought that Tom was on time for his scheduled birth because he didn't want to miss Christmas Eve. He arrived on the 22nd of

She didn't have to weather the psychological stress created by a doctor's error or the slim possibility that Celeste really was 11 ½ months in the making.

December 1964 and both Esther and he were home for that first Christmas. Of course, by being there he had assured himself of his share of the gifts under the tree. Once they were secured, however, he was totally unconcerned with how they were dispensed as confirmed by his 3-day old photo of figure 12-19. He was obviously confident he would get his share. When it comes to getting his ZZZZZZ's, he hasn't really changed much in my opinion.

What a joy Tom was to Esther and the girls, as well as me, on that Christmas day of 1964. In reality, he had 3 mamas and a daddy. His every care was taken care of immediately, if not sooner. The question is, "How could he help but be spoiled?" He was fed, burped, bathed and changed on a schedule set by his least little whimper or suggestion of discomfort. Even I did my share but I must admit, when it came to changing him I allowed the girls the privilege of learning those particular skills of parenting, with or without Esther's expert guidance. I saw that as a teaching moment we are admonished to provide for our children. Admittedly, such teaching on my part did not involve a demonstration. No sir, I just let them get down to the nitty gritty or should I say the sh…itty gritty. That is where one grits his teeth as he gets involved with the shi….itty but necessary cleanup. Be that as it may, they learned well and fast, which allowed dear old dad to be relieved of such chores unless, of course, I happened to be caught at home alone with him. Being rather innovative, I managed to minimize such situations. I could usually figure out an excuse to prevent being caught.

TOM'S EARLY MONTHS

Tom was a voracious eater from the start. He would awake in the middle of the night and demand immediate attention. What could one expect since that was the order of the day? As he let out his war whoop, I would head for the kitchen to prepare the bottles while Esther would change and pamper him. I do believe that is where that particular diaper brand name came from. She should have gotten a cut of the profits. Usually, I was there with bottles in hand when he was cleaned up. Notice, I said bottles. You see, he would wolf down the first one and then chuck it back up as fast as it went down. He was always still hungry but at least the second went down at a more moderate pace and stayed until the next diaper change, which usually occurred about the time we got up for the day.

A DADDY'S IMAGINATION

Actually, I was now quite a proud papa as you can imagine. If there is any doubt in your mind, consider figure 12-20 wherein I am administering a little comfort to my newborn son. I had pretty well given up on such an addition or even another daughter for that matter. Though I had looked forward to a son joining our family, the 10 intervening years had produced a little discouragement on my part. I had pretty well

Figure 12-19 Tom at 2 ½ days, obviously enjoying his first Christmas at home.

decided that Esther's condition made that impossible and I would have to satisfy myself with two lovely daughters. Though such a

thought certainly wasn't the end of the world, I must admit a son was on my mind throughout those ten years. Esther and I didn't talk about it too much, however.

What a pleasant surprise it was to hear Esther announce she was with child early that year. On December 22 of 1964, when the nurse came out to the waiting room in the hospital and announced that a boy had arrived, one might say I experienced pure ecstasy. I now had a namesake and with some luck, a future engineering protégé. Here was a guy who, given time, could identify with my engineering interests including both math and science. I could see myself in later years, helping him with such courses and explaining how they applied in my work. I was sure he would get just as excited as I did over the kinds of measurements we made deep in mother earth. In fact, he might grow up and work for Schlumberger as well and lead the same nomadic life his parents had. Ah yes, the possibilities were almost endless and the satisfaction, though yet future, seemed sublime, to say the least.

THE REALITY OF LIFE

Well, such was not to be. Tom's interests turned to such things as history, geography, reading and writing but no arithmetic and certainly not science. Celeste filled the arithmetic vacancy

Figure 12-21 Tom exercising his new found capabilities of smiling & standing in the crib.

but not the opportunity for me to show off with my explanations of complex equations and diagrams. No, she enjoyed algebra and arithmetic but not the kind of math I found satisfying to the soul. In time, of course, I realized that there were many ways for a father

Figure 12-20 Papa Tom having an engineering discussion with his future protégé.

and son to experience pleasure together and having the same interest in work disciplines was hardly necessary.

Tom was a happy little guy, at least when he was fed on time. Actually, he was a good baby and gave Esther very little trouble. I think she was every bit as proud of him as I was. She was born to be a mother and she excelled in that particular career. She never mentioned wanting to go to work in nursing for which she was trained but was quite happy taking care of her family. She was an immaculate housekeeper and her children were always well kept. Their clothes were always pressed, their faces clean and their hair combed. We were now in a position, financially speaking, where we could pretty well buy what was needed and she made the most of it with Tom and the girls. Tom was bathed at least daily and probably twice or more if there was a serious cleanup involved. Disposable diapers were still in the future and Tom went through a dozen a day, I'm confident. She rinsed them out in the toilet before soaking the same in Boraxo water kept in the main bathroom. In spite of her ultra clean habits, one could always tell there was a baby in the house when they used that bathroom. When he developed a little rash around the ash, she would lay him on a blanket in the sun next to the front window to let him dry out. I'm not sure why

she bought so many clothes for him because he usually appeared as shown in figure 12-21. Like many of her motherly decisions, they have always been a puzzle to me

About June of 1965, Tom was introduced to Mother Nature. Figure 12-22 shows him in the grass in front of our Farmington home. That was the month we moved to Rock Springs so he never really became acquainted with the great outdoors in that part of the country. As you can see from his expression, he is somewhat puzzled. How dare anyone put him in such an uncomfortable environment! You mean I gotta put up with this kind of thing in life?

OTHER FAMILY EVENTS

As I mentioned earlier, Esther loved her girls as well as her new son. She had never really taken to heart the LDS teaching that Easter was a time to teach children about our Savior or maybe she just added to it the need to dress young ladies in new Easter outfits and delight them with the Easter bunny. Both were well represented in our home during those years and I really wasn't against it. By this time I had joined the LDS Church, actually in February 1962, but I knew little doctrine and thought such things were harmless. In all fairness to Esther, she was virtually a new member as well, having become active for the first time in Rock Springs just 4 years earlier. In any case, the two girls are displayed in their Easter finery in the photo of figure 12-23 with outfits she couldn't afford in earlier years. I was both proud and pleased with our girls and supported Esther's whim with all my heart. She was an outstanding mother and housewife in my opinion. She wanted her girls to have things she was too poor to have as a youngster and she kept an immaculate house.

OTHER SCENES FROM OUR FARMINGTON RESIDENCE

Since this story is about my life, I think I'll just include another photo of me (figure 12-24) at that particular stage of life. My being dressed up in this picture is probably due to having just returned from church. Then again, preparation for a contact trip to Albuquerque or some other place requiring such attire might be the culprit. Around Farmington, things were rather casual, although some oil companies required a shirt and tie. I could usually satisfy the situation with a bolo tie and a dress shirt, sport coat and slacks. At any rate, the photo pretty well demonstrates the fact I still had my hair at the ripe old age of 37. I suppose someone might notice the tendency of my scalp to recede at this time. My only comment is that I began the reseeding process soon after this period in my

Figure 12-22 Tom agonizing over our Farmington, New Mexico yard @ 6 months.

life but I guess none of it took. Then again, maybe it did because, I believe, I kept some hair longer than my brothers including the younger ones. In any case such photos bring back fond

Figure 12-23 Valerie and Celeste in their Easter outfits: probably in April of 1965.

memories of the days when "combing my hair" was a part of my morning preparations.

About this time I was driving a little Ford Falcon as a company car. Schlumberger was on an economic binge because drilling activity had taken a serious drop in the early sixties. Except for legroom and the occasional transport of

customers to lunch, it didn't bother me much. Actually, it was a rather reliable little vehicle and served me well. However, I do remember a nice little bump in the hood on either side, which resulted from the shock-mounts breaking loose during my rather limited trips to the field. They just weren't built to take the pounding such a vehicle took on oil field roads. You can bet that they were reinforced during the welding repair job. Celeste is on skates by the open door of the Falcon (figure 12-25) and the view is to the north in our subdivision.

THE MORMONS FINALLY PREVAIL

By February 1962 I had been attending the Church of Jesus Christ of Latter Day Saints or LDS Church as it is frequently referred to, off and on for approximately four years. Up until we moved to Farmington, such attendance had been sporadic because of my fieldwork. Now, however, I was usually in on Sundays and went with the family on a regular basis. As in past times, missionaries, who were intent on my joining the Church, soon visited us. I had resisted in the past, simply because it was easier than facing the decisions associated with such a step. Things were a little different now, however. Valerie was nine plus years old and should have been baptized at eight. However,

Figure 12-25 Celeste on roller skates next to my trusty Ford Falcon in Farmington.

she had stated in no uncertain terms, that she would not be baptized until daddy was. By now some 18 months had gone by since the branch president in Cutbank first approached her and she obviously meant what she had said. Every time her mother or the home teachers approached her about the subject, she would say, "I'll be baptized when daddy is". Knowing

Figure 12-24 Grandpa Tom at the ripe old age of 37 all dressed up for work or church.

my daughter, as well as I now do, I should have given in at least a year earlier.

SOME SERIOUS STUDY

Of course, I had held out some four years and would have continued to do so, if my association with the members had been negative. I enjoyed the services and the people. Their message rang true in my heart even though I knew joining would require some changes in life. I had read the Book of Mormon and much of the Doctrine and Covenants as well as two LDS books, "A Marvelous Work and a Wonder" by LeGrande Richards and "Archeology and the Book of Mormon" by Milton R. Hunter. I had prayed about taking the step of joining as well and though I'm not sure I had received an answer one way or another, my feelings about the Church were definitely positive in nature.

HURDLING SOME HABITS

My biggest hurdle was the Word of Wisdom, which required me to stop drinking coffee and the occasional beer I imbibed. The latter was really no problem, although I enjoyed an occasional beer on a hot day. Coffee was another story. I believe I had begun drinking coffee at 13 or 14 years of age. It was a standard drink at the supper table in the Obenchain residence that I grew up in. I was now 34 and had developed a 20-year habit, now further ingrained in my psyche by some 7 years of sipping coffee night and day while logging

wells. I thoroughly enjoyed coffee any time of the day and especially when chatting with customers or other friends. Quitting such a habit would be difficult, indeed. I had myself to worry about as well as answering the constant questions sure to arise regarding why I had taken such a step. Not only friends but customers, as well, knew my habit and frequently suggested having a cup of coffee during our conversations. Would I have the necessary resolve to stick to such a commitment? To make matters worse, I didn't see the importance of doing such a thing and couldn't tie it to spiritual progress. Obviously there were many things in life, which were much more serious relative to one's spiritual status.

TITHING

I was also asked to tithe or give 10% of my monthly income to the Church, which would also be difficult but achievable. I was now making a good salary and, with proper budgeting, could wring that amount out of my salary each month. However, I wasn't convinced that such a practice would become rather painless, when paid right off the top of one's income before paying the bills, as often described by Church members. However, at this point in my life (now approaching 47 years in the Church) I have found that statement to be true. As ones testimony of the restored gospel grows, such a practice moves from the pain of selfishness to the joy of being involved in a work, which is sacred and wonderful above description. Forty seven years of such practice has convinced me that the Lord will help us through difficult financial times as well as other forms of adversity. I am also convinced that faithful tithe paying has been a major factor in preserving my testimony as well as a motivation to seek after greater gospel knowledge and spiritual understanding. One does not give up 10% of his income without serious contemplation of such an action. Though painful at first, the payment of tithes is a blessing to all the faithful.

SERIOUS CONTEMPLATION

Let me get back to my struggle about joining the LDS Church. I wasn't about to take this step without considering the consequences. If what I had been told was true, a change in life style was warranted but if not, I was happy with what I was doing. I had a good marriage to a woman I loved deeply, two lovely daughters, a good job and a pleasant life style. The message that the LDS Church was advancing was attractive in that the promised blessings to the faithful were far clearer and greater than anything I had learned in other denominations to date. Furthermore, I could see no holes in their assertions. Everything they taught had some sort of scriptural basis and the various pieces seemed to fit neatly together. Admittedly, I was far from a student of the Bible but their interpretation of passages therein was certainly as logical as anything I had heard to date. In short I could not refute their message, though I had some doubt about the veracity of the Joseph Smith story. I could not say that it wasn't true and the need for God to deal directly with a chosen earthly representative seemed logical. How else could he reach an apostate people?

It seemed obvious to me that there was a great apostasy leading to the dark ages after the deaths of the apostles and hence a need for the gospel to be restored through a prophet called of God. That the Catholic Church was apostate through wicked practices and had no continuing claim of authority seemed evident to me. Likewise, how could a man such as Luther or others protest the practices of said Catholic Church and set up a church of their own without divine intervention? Their actions may well be

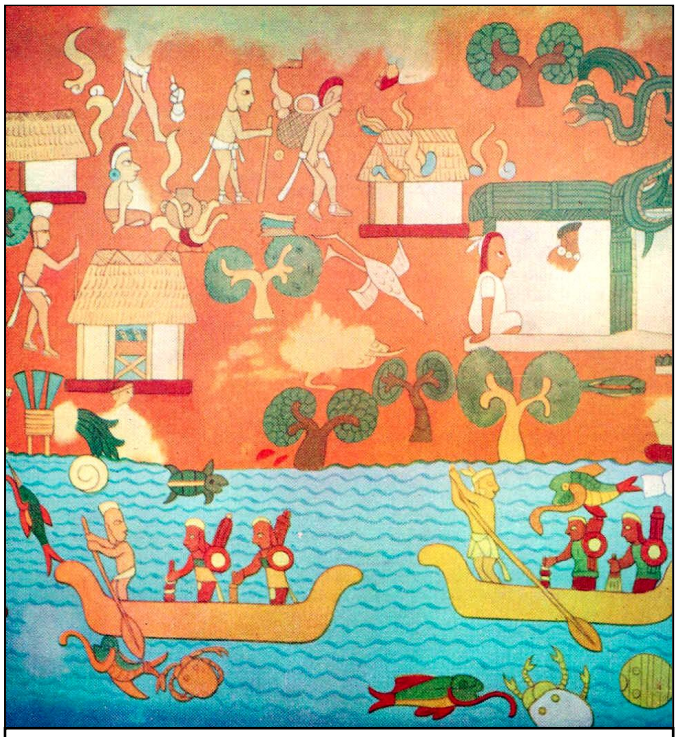

Figure 12-26 A color reproduction of a mural in the "Temple of the Warriors" at Chichen Itza.

necessary steps but ultimately the Lord must intervene, if lost truths were to be restored to those of the primitive Church, as it existed immediately after Christ's crucifixion. No man or men on earth could possibly have the necessary understanding to do so unless it was given of God. Truth of such a divine nature required his intervention. In my mind, additional revelation above and beyond the Bible seemed needed.

DECISIONS, DECISIONS

Such thoughts had been going through my mind in varying degrees from the first time I listened to missionary discussions in Rock Springs, Wyoming some 4 years earlier. They stimulated my desire to read the books previously mentioned as well as the effort I made at prayer. Now it became a matter of acting upon that, which I had read and heard, or rejecting it and continuing my present life style. I enjoyed the people of the Church. Though far from perfect, they definitely seemed earnest in their efforts to become more Christ like. On the other side of the coin lay the realities that a change in life style would bring. There would be inevitable questions due to the word of wisdom, which I really didn't want to discuss or explain to people. My testimony was weak, my knowledge limited and my confidence low, which, along with my inhibited nature, made it next to impossible for me to explain my change. This, coupled with a craving for coffee, would make the days ahead difficult for me as I adapted to my new way of life.

AN INTELLECTUAL CONVERSION?

I think, in many ways, my conversion at this point was more intellectual than spiritual. The book by Milton Hunter, i.e. "Archeology and the Book of Mormon", played a big role. I had heard stories during my high school years of Indian legends telling of a great white god who had visited them and would return. Now, here was a book, the Book of Mormon, which chronicled a similar event among others and described two types of inhabitants in the Americas, dark and white skinned. Hunter's book displayed pictures of such Indians as well as that of an ancient baptismal font. See the photos of figures 12-26 and 12-27. There are many black and white photos illustrating light and dark skinned Indians as well as many references to baptismal fonts by historians and early Catholic priests. These impressed me because of their connection to the peoples of the Book of Mormon and Christianity. Apparently the practice of baptism occurred

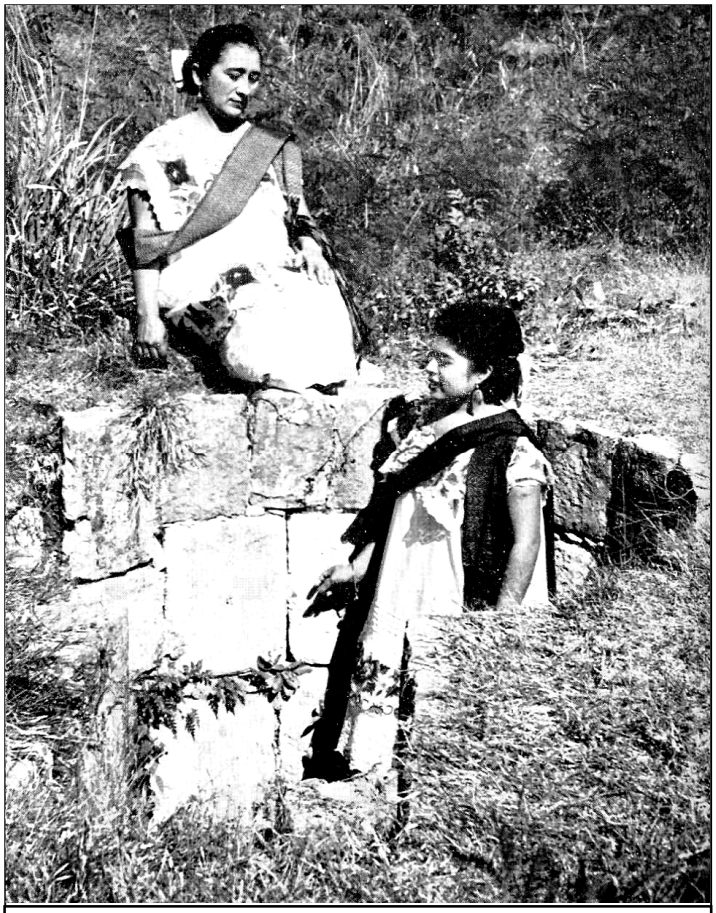

Figure 12-27 A photograph of a cistern like structure at Chichen Itza, which is said to be a baptismal font.

throughout the Americas and was described by these authorities as a practice long established when the Spanish arrived. In addition, the photo figure 12-28 displays an Olmec head found near Vera Cruz, Mexico which is compared to a drawing of King Jehu, King of Israel about 900 BC, displayed in figure 12-29. The similar

It was not a lightly made decision or one made to satisfy Esther or the girls. No, it was one made of my own volition and was based upon both study and prayer.

stocking caps are of interest and the beards as well as the general facial features. The dark skinned Mexican natives generally didn't have any significant facial hair. The Jewish features, cap and beard seem to indicate a connection with Israel. Of course, it is no proof in and of itself but it does give credence to the Book of

Mormon story that a party of Jewish citizens left the Holy Land in 600 BC and ended up in the Americas (probably Central America). From there they spread out over both continents and constitute at least one line of ancestry for the Native Americans.

MY CONCLUSION AND ITS RAMIFICATIONS

Well, I've tried to lay the background associated with my decision to join the LDS Church. It was not a lightly made decision or one made to satisfy Esther or the girls. No, it was one made of my own volition and was based upon both study and prayer. The easy way would have been to ignore Valerie's plea and go about my life as I always had. She could make her decision later and I'm confident would have eventually been baptized. Though she probably would have continued to beg me to take the step as well, I'm confident our family life would have continued as it had always been. Esther was happy with me as I was and I believe the girls were as well. However, spiritually ignorant as I was of gospel understanding, something within me prompted me to take the step on that third day of February 1962. It was a beginning of a long and even stressful road at times, which has brought me to my present state. Would I change it for the easier life of no commitment to gospel ideals? Never, because the intervening years have convinced me beyond doubt that the

Figure 12-29 A drawing of King Jehu of Israel with the type of cap worn in 900 BC.

Joseph Smith story is true, that God lives, that Jesus is the Christ who atoned for my sins and made salvation possible. I have been blessed in numerous ways, which topic will be saved for later discussion. However, I will say that my

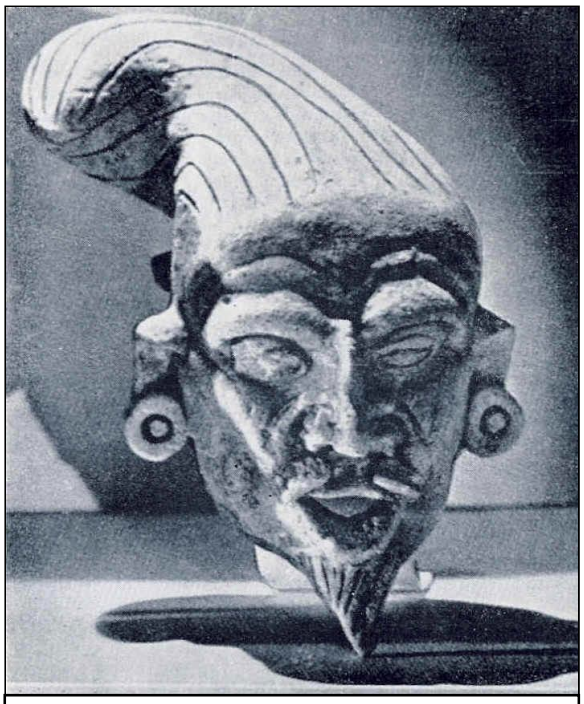

Figure 12-28 An Olmec clay head, dating about the time of Christ from a mound near Tres Zapotes Vera Cruz, Mexico

commitment to the gospel coupled with my rather introverted nature and tendency towards intimidation seemed to complicate my life. I believe it increased my tendency towards a lack of sociality. I knew people of my newfound faith were different and the commitments I made prevented me from engaging in off color jokes as well as an occasional beer and regular coffee breaks, which had been so much a part of my life. The absence of this type of social activities in my life made it more difficult for me to entertain customers and mix with fellow Schlumberger workers on a social basis.

CHURCH ACTIVITIES

I was rather quickly integrated into the Church and received the Aaronic priesthood as well as callings of a ward teacher, an assistant ward clerk in charge of membership and eventually a counselor in the young men's presidency. In the latter calling I was associated with Dick Mathews, a geologist for Shell Oil Company and a lifetime member of the Church. Before I left Farmington some 3 years later, I had gained some degree of understanding and confidence in gospel topics but still felt almost everyone in the ward knew more than I. I was almost awed

by members of the bishopric and stake presidencies. I remember one stake conference in which Elder N. Eldon Tanner spoke. He was a member of the First Presidency and had flown in from Salt Lake to participate. That Sunday evening I had to go to Salt Lake to contact an oil company and, as a coincidence, took the same flight as President N. Eldon Tanner. He was tired and took a seat by himself for which he apologized. I was glad because I had no idea what to say to him. Upon landing in Salt Lake, he insisted on giving me a ride to my motel on North Temple. I'm sure I was tongue-tied and had little to say during the ride into town but I remember him as a kind and friendly gentleman.

CELESTE'S BAPTISM

Valerie must have coached Celeste on the art of developing a stubborn stance because she, Celeste, refused her baptism at 8 years old as well as Valerie. She decided daddy had to do the baptizing. Well, this time it wasn't under my control. I didn't have the authority to baptize until I was ordained a priest in the Aaronic Priesthood, which event hadn't taken place when Celeste reached the ripe old age of 8. The time of that ordination was up to the bishop. Typically, in those days, the Aaronic Priesthood was conferred on a new adult male member a few weeks after baptism and he was first ordained as deacon. If one continued in good standing, he was advanced to a teacher and then a priest in about a year. As it so happened, I was baptized on 3 February by Alma Evans; ordained a teacher on 29 July by Roscoe H. McGee Sr. and a priest on 28 October by Bishop Wayne R. Morgan. This all took place in the Farmington First Ward of the Young Stake in Farmington, New Mexico in 1962.

That Sunday evening I had to go to Salt Lake to contact an oil company and, as luck would have it, took the same flight as President N. Eldon Tanner.

I'm not just sure of the reason for the time lapse between my ordination as a priest and Celeste's baptism on December 1, 1962, one whole month. I suspect it was because Fast Sunday came one week after my ordination, which was too soon and the next one up was the 2nd of December. In Farmington, baptisms were always held on the Saturday before Fast Sunday and that person was then confirmed the next day. Thus, Celeste's baptism, with her consent of course, took place on the 1st of December with me doing the officiating. It was not only a big day for her but for me as well.

As we proceeded to the church on Saturday the 1st of December, I was one nervous cat. This was new to me and I was going to have to baptize Celeste in front of several people. I had prepared by memorizing the baptismal prayer as found in 3 Nephi 11:25. As luck would have it, it was slightly different than the one used by the restored Church and found in Doctrine and Covenants 20:73. Everything went well until I took Celeste down into the water. I was given directions as was she but no one questioned me about the ordinance involved. I proceeded with the ordinance and was immediately stopped because my introductory words, "Having authority given me of Jesus Christ" should have been, "Having been commissioned of Jesus Christ". Well, it was all downhill after that. Being corrected there, I immediately forgot the rest of the ordinance and had to be helped through it like a man on crutches. Finally, it was done and I, being properly embarrassed, couldn't wait to get out of there. However, I survived and Celeste's baptism apparently took because she turned out to be a dedicated member of the Church.

I had prepared by memorizing the baptismal prayer as found in 3 Nephi 11:25. As luck would have it, it was slightly different than the one used by the restored Church and found in Doctrine and Covenants 20:73.

OTHER JOB EXPERIENCES

Though my primary job in Farmington was that of a sales engineer, I also filled in for Howard Sorensen as the district manager when he was on vacation. In addition, from time to time, I found myself riding truck again because of a down turn in the oil business I spoke of earlier. The down turn occurred about a year after my arrival with a resultant drop in our business even though we still increased our market share to a degree. In this section I'll describe some of those experiences.

ANALYZING COMPLEX ROCK MATRICES

As I mentioned earlier in this chapter, most of our work was in the San Juan basin resulting in relatively easy log analysis. Wildcat wells penetrating various carbonate sections were somewhat more complex and we did 100% of

the work. The greatest complications were in carbonates, which were a mixture of limestone and dolomite. Such rocks could be adequately analyzed with two porosity devices such as the sonic log and the density log. If a third rock type or mineral became involved, then another measurement was required such as the neutron. You may remember this discussion in chapter seven. At this time, however, such analysis was in its infancy and had only been done in the Permian basin of west Texas. Computers were still big and bulky and utilized punch cards for data input. They were only located in specific service centers and field calculations were done by hand. We had little need for such work in Farmington, that is, until Tenneco's discovery in the Escalante area of Utah.

TENNECO DRILLS AT ESCALANTE, UTAH

In early 1963 or there about, Tenneco Oil Co. discovered an oil field just west of Escalante, Utah in a formation known as the Kaibab, which was a rather complex carbonate. The producing zone was thick, maybe 100 feet, with quite variable porosity throughout. We obtained 100% of the work even during the development of the field because of the difficult log interpretation involved. Figure 12-30 is a map of the area and illustrates the route (in blue), which would be taken by our trucks to and from the well. Notice, the field is on the northern end of the Kaiparowits Plateau, a quite prominent geologic feature of the north Kaiparowits basin located in the SW corner of Utah. Just east a ways, near Escalante Creek there is some really beautiful scenery resulting from erosion.

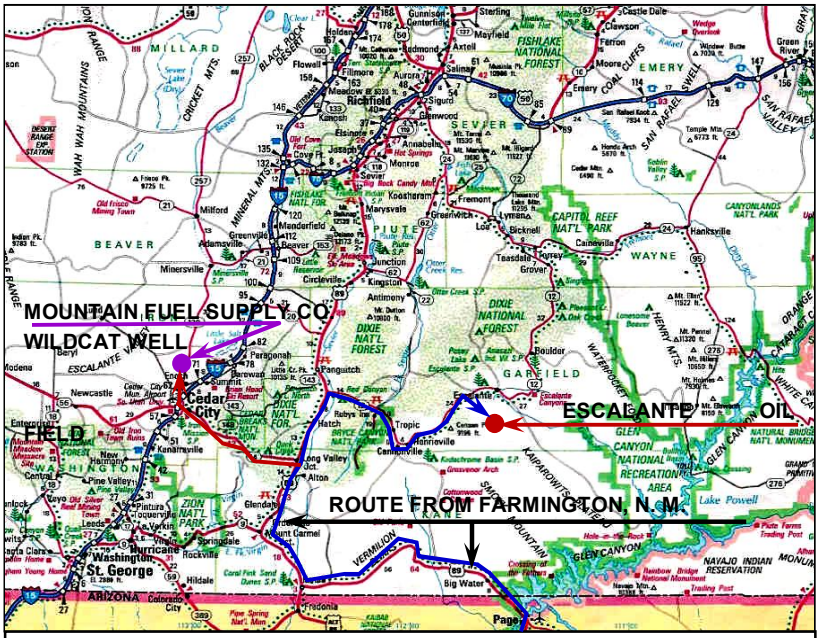

Figure 12-30 A map of the Escalante area of southwestern Utah, which includes the Tenneco Oil Field outlined in red.

The drilling conditions in the area were very difficult because of a sandstone formation three thousand foot thick, which lay about a couple of hundred feet above the Kaibab. This formation is the same one that appears at the surface in Zion National Park and forms the massive cliffs therein. It is extremely homogeneous and consequently both gamma ray and neutron logs register rather constant readings throughout. It also has a very low formation pressure and is water bearing. If regular light mud is used to drill through it, 9# per gallon or so, circulation is lost because of the hydrostatic pressure being higher than that of the formation. If the rig drills with air, tried several times, the rock bleeds water into the hole. The water mixes with the dust of the cuttings and forms a glue-like mud sufficient to stick the drill pipe. They (Tenneco) solved the problem by drilling with soapsuds, which created a hydrostatic pressure just high enough to contain the water but not heavy enough to let it flow into the rock. That may seem far-fetched but it is the truth, none-the-less. In determining the right approach, they had more than one fishing job and even pulled a derrick in on one well while trying to get the pipe loose. Once through the sandstone, they set an intermediate casing string so they could change to regular mud weight for the Kaibab.

From there on down, drilling was rather conventional, except for the extensive coring involved. Because of the complex nature of the Kaibab and the newness of the field, they (Tenneco) cut conventional cores in most wells. Such cores didn't cover the complete section of interest and good log data was needed. We compared our porosity answers with those of the core analysis and could match them once we knew the rock makeup or composition. Unfortunately, the rock composition was continually changing within the Kaibab and that of the cored section couldn't necessarily be extended to other sections. We solved that

pretty well by cross-plotting the density and sonic, which I'll explain later in more detail than you desire, I suppose.

THE DENSITY LOG ARRIVES ON THE SCENE

The Density log was a new service introduced during my tenure in Farmington while the Sonic had been around since my arrival in Rock Springs in 1957. The original density tool was uncompensated and had a tendency to register too low a bulk density in the Rockies or other hard rock areas and hence too high a porosity. We could, however, make reasonable corrections by noting the mud cake thickness indicated by the caliper log, which was run

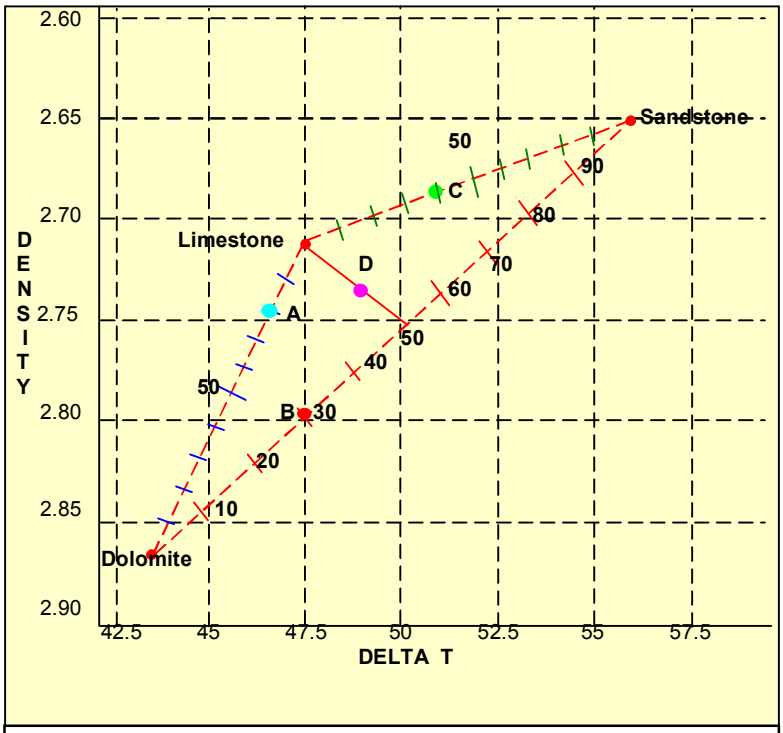

Figure 12-31 A graph of bulk density versus delta T, used to cross plot log measurements for lithology.

simultaneously with it. Though both the density and sonic would eventually become compensated devices, we were now dealing with less sophisticated and accurate tools. Even so, oil companies were crying for better measurements of porosity to improve water saturation calculations as well as reserve estimates and therefore readily accepted the density log with its several imperfections. In the San Juan Basin, it became the porosity device of choice when only one such device was needed. It was instrumental in helping us gain some additional advantage in the market in such cases. When Tenneco began drilling in the complex rocks of the Kaiparowits, it provided the additional data necessary to help us arrive at answers most logical for the formations they had been encountering and which eventually were verified through core analysis.

By running a combination of the GRN (gamma ray–neutron log), the Sonic Log and the Density Log we began providing them with both porosity and lithology as well as water saturation information. Our competitors didn't have the density in their arsenal nor did they have the interpretive knowledge needed to provide the desired answers. That was an area in which Schlumberger was the undisputed leader.

THE DENSITY SONIC CROSS-PLOT

The early wells were only drilled through the Kaibab formation (Mississippian in age), which was a combination of limestone and dolomite. Some later wells were drilled deeper into the Pennsylvanian rocks, which included large amounts of silica with the limestone and dolomite. This ratcheted the interpretation complexity up another notch. Finding a solution to the mess became my project since I was the liaison with Tenneco. In my research I came across an article on complex rock interpretations in the Permian Basin by a Schlumberger engineer, which seemed to fit my situation. I had to build my own charts, since the method was in its infancy and none were furnished. Though not too difficult, it was rather time consuming, as well as extremely interesting to me. The work was slow and tedious but I was able to arrive at answers for both lithology and porosity, which was compatible with the core analysis Tenneco had obtained. The method is illustrated in figures 12-31 and 12-32, which I intend to walk the reader through.

We'll begin with figure 12-31, which illustrates a plot in dense or zero porosity rock. This procedure eliminates the porosity variable and allows us to define lithology. Notice that delta T, which scaled in microseconds per foot, is plotted on the horizontal axis and density in grams per cubic centimeter on the vertical. The known values of delta T and bulk density for pure silica, limestone and dolomite are known to be 56 & 2.65, 47.5 & 2.71 and 43.5 & 2.87 respectively.

These values are plotted as red dots and define the apexes of the triangle. When log readings are taken from the sonic and density tools in specific types of dense rocks they will plot very near the apex, which represents that rock type. I have connected the point defining each rock type with its neighbor to form the triangle. Rocks, which are a combination of dolomite and limestone, will plot along the line between those two points. Likewise combinations of silica and dolomite or limestone and silica will plot along similar lines.

Combinations of all three will plot within the triangle while plots seriously outside the triangle indicate some other variable involved, such as porosity or another rock type. When the plots lie within the triangle we can be comfortable that our assumptions of rock types are correct. To repeat and clarify the method, notice point A lies on the dolomite - limestone line, point B on the dolomite - silica and point C on the limestone – silica line. The percentage of each rock type can be read as 20% dolomite and 80% limestone for A, 70% dolomite and 30 % silica for B and finally 40% silica and 60% limestone for C. Point D is a combination of all three types of rock. It is pulled away from the dolomite-silica line by the presence of limestone and lies about half way between the line and limestone point. Thus, it would contain about 50% limestone and 25% each of silica and dolomite. More importantly, we now know the matrix values for the sonic and density equations, which I'll repeat here for convenience.

$P_s = (Dt_l - Dt_m) / (Dt_f - Dt_m)$

Where P_s is sonic derived porosity and Dt is the delta T values from the log, the graphically determined matrix delta T and the known fluid delta T of 189 respectively.

The density derived porosity P_D is given by;

$P_D = (D_m - D_L) / (D_m - D_F)$

Where P_D is the density log derived porosity and D is the density taken from the log as noted by the subscript L, or the graphically derived matrix density with subscript m or finally, the fluid density, which is always 1.0 gram per cc. unless extremely unusual conditions occur. From the equations one can see the critical nature of matrix values for the sonic and density measurements and the need to ascertain them for the determination of accurate porosity values. The percent of each rock type present in the formation is frosting on the cake, so to speak, being beneficial in stratigraphic studies.

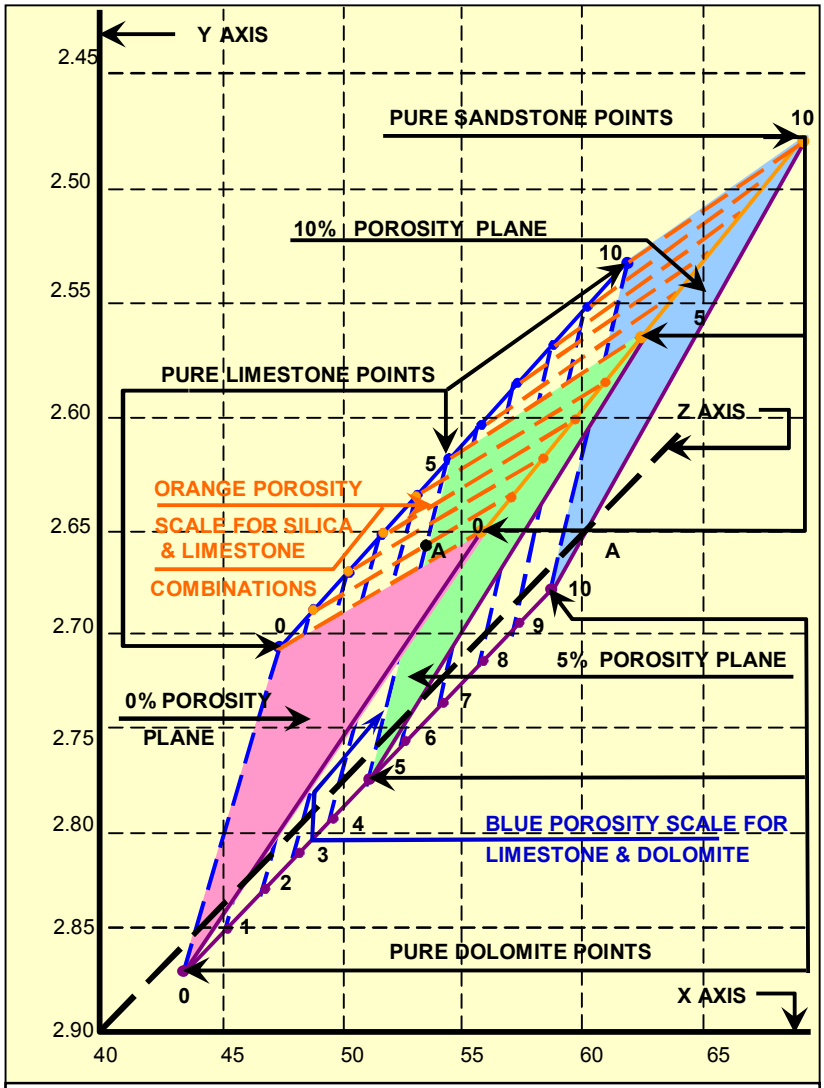

Figure 12-32 A cross plot indicating a zero percent porosity triangle, a 5% triangle and a 10% triangle with a log pick of point A, which lies between 0% and 5% porosity.

THROW IN A POROSITY VARIABLE

If the zone chosen to determine the matrix variables or lithology is a porous zone, then another variable has been added to the problem.

The position of the porosity triangle, as defined by the points for pure silica, limestone and dolomite, moves in proportion to the porosity value. In figure 12-32 notice there are 3 such triangles; a red one, which represents 0% porosity, a green one of 5% porosity and a blue triangle of 10% porosity. Porosity is increasing parallel to the Z-axis or, in a visual sense, into the figure, as depicted along the pure dolomite line. A scale in 1% steps is also illustrated with the orange lines along the surface connecting the pure limestone and pure sandstone or silica porosity lines. A similar scale of blue lines is partially visible, which connect the pure limestone and pure dolomite lines. Obviously, such a scale could also be made connecting the pure dolomite and pure sandstone porosity lines but such would only confuse an already confusing drawing within which, even my distorted imagination would get lost.

The figure does, however, serve to illustrate the three dimensional nature of such a cross-plot analysis. In addition, I have inserted an arbitrary log pick at point A on the graph. The designation A and the point are black to facilitate finding it. Its density reading is 2.66 grams per cc. and its sonic reading is about 53 microseconds per foot. This point could be interpreted as 1% porosity with a matrix composed of approximately 60% silica and 40% limestone or as 5% porosity with a matrix of 70% limestone and 30% dolomite. It could also have a matrix composed of all three types of rock and a porosity value between 1% and 5%. Any of these situations would satisfy both the density and sonic porosity equations. As you can see, we need another measurement of some sort to pin down the answer. This was accomplished in a crude manner by the GRN or gamma ray neutron log. It could provide an estimate of porosity, which could narrow the range for the density – sonic cross plot and improve both the lithology and porosity answers. It remained, however, for further advances in the computer hardware and software as well as an improved neutron device called the SNP or sidewall neutron porosity log to bring the analysis of complex lithologies into viability as a log product.

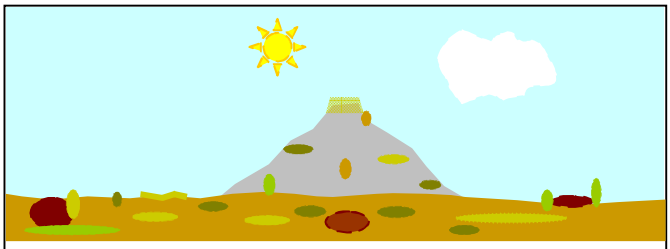

Figure 12-33 "Molly's Nipple" in vertical profile, a landmark in southern Utah, so named by a lonely prospector in honor of the more prominent features apparent on his faithful beast of burden.

A FIELD TRIP TO ESCALANTE

We had been rather successful with our interpretation of the Kaibab wells, the formation tested by earlier wells, and ultimately the only producing horizon of the area. As indicated earlier, however, this success encouraged Tenneco to take a few later wells deeper in search of additional reserves and led to more complicated log interpretation. The original cross plotting was done after the fact, so to speak, with the logging suite run on the first deeper well. Log responses didn't seem to correlate and there were questions about their validity. This prompted my investigation of the Permian Basin techniques and their application to the Escalante wells. After a good deal of study and analysis of the logs from the Pennsylvanian test at Escalante, I was able to justify the various log responses and satisfy Tenneco as to their validity and the probable lithology involved as well as water saturation and porosity. I had made numerous hand calculations from the logs of cored sections with results which matched their own visual description of the cores as well as the laboratory measured porosity values before seeing the associated reports. This seemed to impress them and convinced them that I knew what I was doing in terms of such interpretation.

As they prepared to log the second well, they requested that I fly to Escalante with their geologist in the company plane to interpret the logs on site. This I did, which prompted figure 12-33. As we flew across southern Utah on a clear summer day the geologist pointed out numerous geologic features produced by erosion and tectonic activities. One such feature was "Molly's Nipple" so named by a lonesome prospector as he scoured the countryside for indications of gold. As the reader is well aware, the typical prospector profile included a burro loaded down with tools and camping equipment, as his beast of burden. More often than not, such a beast was a female and was known by the endearing name of Molly. She not only packed his belongings around the desert but also alerted him to danger through her keen senses and, I suppose, provided the only

understandable response to his comments with an occasional bray. Truly, she was invaluable to his nomadic life and it was only fitting that he name some prominent feature of the desert in honor of her. A lonely erosional remnant of a once prominent mesa, as illustrated in figure 12-33, seemed to resemble the profile of her udder even though inverted. Surely his naming of the monument was out of respect and gratitude and not the "udder" futility of his life as a prospector.

A FEW WELL LOGGING EXPERIENCES

By 1963 drilling activity had dropped off throughout the Rockies sufficiently to require a cut back in expenses at virtually all levels. This resulted in the loss of a field engineer in the Farmington location and I found myself riding as a relief engineer in addition to sales duties. I didn't mind too much because, quite frankly, I liked fieldwork. In the following I'll relate a few such experiences.

HELIUM WELLS AT PINTO DOME

The largest helium reserves in the United States during the early sixties were in place at Pinto Dome, Arizona. I remember studying about this unusual accumulation in geology at Oregon State as an under-graduate. The helium occurred in a shallow sandstone, a few hundred feet deep, in combination with CO_2 (carbon dioxide) and represented about 30% of the gas volume as I remember. The rigs involved were designed to drill water wells. There was no rig floor but just a piece of casing sticking out of the ground. Because of the drill-hole size, 4 ¾ inches, we ran an electrical survey with the drill stem sonde or one designed to go through drill pipe. The income from such jobs really wasn't worth our time but we had an obligation to run surveys for whoever needed them in the industry. In this case, we spent more time on the road than we did at the well site with round trip mileage being about 500 miles. There was a mileage charge and a minimum charge for logging the well to help offset our expense. Even so, the trip took a truck out of circulation and made it more difficult to cover real oil and gas work back in the San Juan Basin. I have included a map of the area in figure 12-34, which I'll use for this and another story regarding a geologic field trip, which I was fortunate to be involved in. Though the Helium was present in the well, it wasn't obvious on the electric log. I guess the gas zone was too narrow to see.

On the particular job I went on, I followed the truck to Winslow where we got a motel for the night. Check our route in figure 12-34. The next morning we had breakfast and went out to the well. The rigging up process was rather cumbersome because of the small rig involved. Once we had the tool hanging in the derrick the logging lasted about 10 minutes before the film was developed. The producing sand showed up clearly but there was little evidence of gas of any kind. The short normal kicked out a little at the top of the reservoir but then returned to a water base line. The zone of interest was too thin for the long normal or lateral to really respond although the latter did show some indication. Had I not been told there was helium in the top of that sand, I would have never known. Apparently the reservoir was very thin but rich enough in helium to make the well economical. Of course, all the gas was sold to the federal government who then distributed it.

On the trip back to Farmington I had a rather interesting experience. I was well ahead of the truck and moving north out of Gallup, New

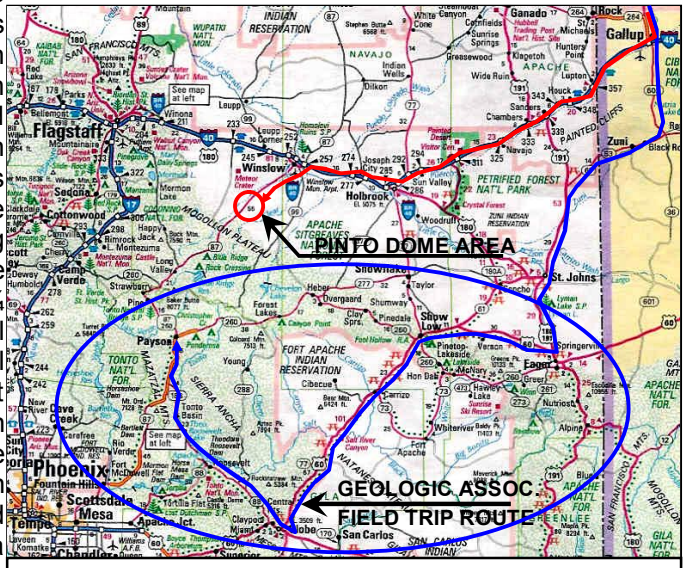

Figure 12-34 A map of an area in Arizona, encompassing the Pinto Dome and Mogollon Rim.

Mexico. I was cruising along about 70 MPH in my little Ford Falcon. The highway was rather quiet but I finally came up behind a rather slow moving vehicle. I passed without slowing down and continued on my way. About 10 minutes later I noticed that same car gaining ground on me in my rear view mirror. Soon he pulled up alongside me and I noticed a young Navajo male was driving. He motioned me to speed up but I refused. Obviously he wanted to race. He

acted as though he was a little inebriated. Finally he dropped back and I continued on my way towards Farmington.

A little later, here he came again and drove along side of me for a mile or so, there being no traffic. All the time he was trying to get me to race. Well, I wasn't about to do that and particularly in my little Ford Falcon. I was lucky to get 80 out of it with a tail wind. In fact, I slowed down to discourage him. Finally, he gave up and moved on ahead leaving me alone musing over the situation. He had been out of sight for 5 or 10 minutes when I topped a hill and saw the car pulled over to the side of the road. I passed by without stopping and sure enough, here he came again pulling alongside me and trying to get me to race again. This incident was repeated a couple of more times by the time we were within 20 miles of Ship Rock. As he roared on ahead, I saw a rig off to the side of the road and decided to pull in and check their situation. I stayed there for 30 minutes or so, talking to the drilling crew. Finally, hoping my Indian friend had given up I went back out on the highway and headed for Farmington. I guess he had tired of the game or just waiting on me because I never saw him again.

All the time he was trying to get me to race. Well, I wasn't about to do that and particularly in my little Ford Falcon. I was lucky to get 80 out of it with a tail wind.

WELLS IN SOUTHWESTERN UTAH

I made one trip to the Escalante area as a logging engineer early in the life of the field. It was on this trip that I began to wonder if the gamma ray neutron tool I was running was all right. Everything seemed to be working but both gamma ray and neutron curves varied so little I began to wonder about their validity. This response had begun when the tool entered casing and had continued for some 3000 feet. As I was pondering just what to do, the geologist entered the truck. I explained what I was observing and my concern. He immediately said, "Don't worry. That sand is over 3000 feet thick. It's the same one that forms the cliffs in Zion Park and it's surprisingly homogeneous." Sure enough, after another 500 feet or so the tool began to respond normally as it passed beds of more normal thickness. This same geologist explained that the whole southwestern US was a big desert during that period of time, which would have put the present size of the Sahara to shame. Later, I found out that the geologic equivalent occurred in Wyoming.

He immediately said, "Don't worry. That sand is over 3000 feet thick. It's the same one that forms the cliffs in Zion Park and it's surprisingly homogeneous."

I also logged one well just north of Cedar City, Utah for Mountain Fuel Supply Co. It was a rank wildcat drilled in some volcanic formations. I have shown its approximate location in figure 12-30. Mountain Fuel geologists had hoped to find a trap with hydrocarbon below the volcanic deposits but to no avail. The well never got completely through the volcanic rock. Most of the formations (volcanics) had very high resistivity with somewhat more normal sediments and resistivities nearer the surface. We ran several logs including a dipmeter on the well, which took all night and part of the following morning. There were no zones of real interest and thus nothing more than a cursory examination of the various logs was required. We completed the field prints and extended our thanks for the work. With that completed and a real hunger gnawing at our stomachs, we decided to find the nearest restaurant, which happened to be in Cedar City. We found a nice little restaurant serving home-style food and enjoyed a good dinner before starting our trek back to Farmington. The trip would take 12 hours for me to complete but more like 16 hours for the truck. That dinner hour constituted my one and only experience in Cedar City, Utah.

On the way home I made my usual stop for a meal and, in this case, a cup of coffee about mid-way between Kayenta and Mexican Water near Dennehotso. If interested, see the map of figure 12-13. I was bushed and needed a pick-me-up. We frequently stopped there for a meal and a little relaxation during the trip across northern Arizona on Navajo 1, as we called it. That all night coffee shop was the only decent place between Ship Rock and Page, Arizona for anyone to get a little rest and sustenance. After about a half hour stop, I headed on home.

A BLACK HORSE CROSSES MY PATH

My little Falcon purred like a pussycat and soon I had passed through Ship Rock. I raised my speed up to 70 and was kind of lost in my thoughts as I left the town limits. In just a few minutes I noticed some bright lights coming up

behind me. I dropped my speed back to the legal limit of 60 in case it was a state patrolman. The car zoomed around me and I dimmed my lights, being a kind of courteous soul. The car ahead never slowed down or gave any indication of an animal in the roadway. Apparently they spooked a horse. I hadn't driven a half-mile before I saw this black horse's head in my windshield. It was like he was standing right next to my car peering in at me. Of course, I swerved to minimize any collision and felt him strike the car on the side. I pulled over and stopped to get out and examine the damage. The horse was nowhere around. The side-view mirror was gone and I had a dent in the left rear fender near the taillight but no serious damage. See the black horse episode in figure 12-35.

I drove on home and filed my job report along with an accident report as required. In my description of the accident I explained that the horse had come out of the left ditch, crossed the road and struck my car in the rear fender. I tried to appear as innocent as possible, hoping that I would not be charged with the accident but to no avail. Headquarters was never very sympathetic and this was no exception. I was charged with the accident. In fact, I was always charged with any such infraction. The only time I wasn't charged occurred in Denver when I was back ended while stopped at a traffic light. Anyhow, I alerted the engineers in Farmington to keep their eyes peeled for a black horse wearing a side view mirror in the Ship Rock area. I had a bone to pick with him. If I could find the ornery thing, I'd call the police and get him charged with failure to stop and look each way before crossing a main highway or at the very least, failure to have head, tail, or clearance lights on after dark.

GET ALONG LITTLE DOGGY

In fact, I might say get the heck out of my way. I have places to go and things to do. You see, I was on my way to an appointment in Albuquerque one fine morning when I had this little run in with a herd of cows. It was probably in the winter because I was south of Counselor well before daylight. See figure 12-35 and the arrow labeled "run in". I topped a little hill doing about 65 when my headlights illuminated about 10 to 15 cows standing alongside and in the highway ahead. I hit my brakes but was going too fast to stop. Naturally, I made some evasive maneuvers as I gained their midst. I remember thinking, "These suckers are about the same size as my little Falcon and I'm going to cream one of them". I whipped the car from side to side as I slowed and squeezed by various ones nonchalantly moseying along.

Much to my surprise my little car and I came through the whole group unscathed. How, I'll never know. The good Lord had to be with me because I'm just not that good on an obstacle course. Needless to say I slowed a little while I gained my composure. I was a little shaken up

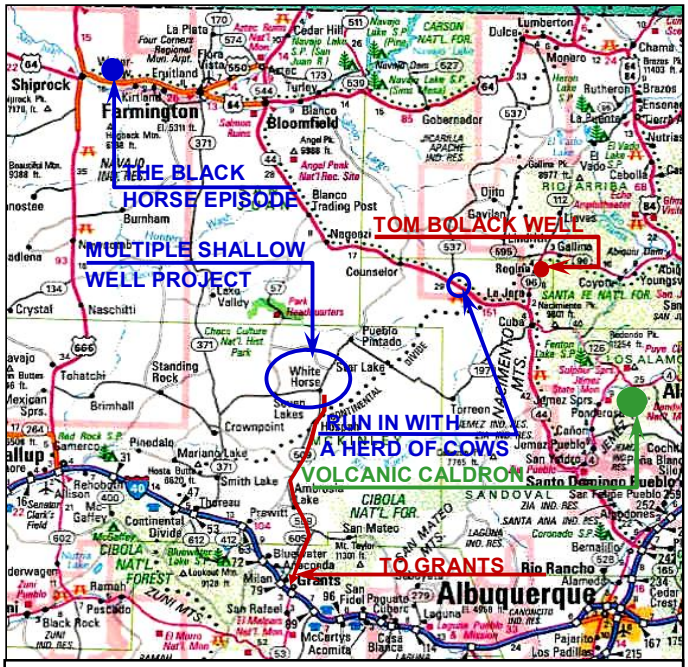

Figure 12-35 A map of the Whitehorse area in the San Juan Basin where we logged several shallow wells for a rather questionable operator.

because hitting a cow is similar to a head on with a boulder or stationary car. I could have easily totaled the car and been seriously hurt. Of course, I knew the law of the open range and any such accident would have been my fault.

TROUBLE WITH A WILEY PROMOTER

Although most operators drilling wells were honest and paid their bills in a reliable manner, there were always a few who tried to get something for nothing and made it a practice to procure investment funds from the unwary and inexperienced. Schlumberger had a "cash in advance" listing that identified most of them. We also refused to deliver a questionable product that might mislead the operator or a potential investor. Our ethics could hardly be questioned,

a very important principle, which I had been taught when I first joined Schlumberger.

During the summer of 1964 one such operator drilled a series of wells south of Farmington in the Whitehorse area of McKinley County. See figure 12-35. These were all about 100 feet deep and were drilled with a water well rig. We had agreed to log the wells on a so-called project basis and the necessary financial arrangements were made. Because of the borehole size, we were to run only an electric log with the drill stem sonde. He would drill all the wells and then we would come down and log them, all in one trip with one set up charge. It saved him money and minimized our time involvement. A relatively new engineer began the project and logged a couple of wells before being called back to Farmington. There had been some delay and I guess he was to go on days off or something. Anyhow, I ended up going down to relieve him.

I arrived on location and soon we were logging another well. I had copies of the first two logs run on nearby wells. There was a nice 50-foot sand situated near the bottom of the hole in each case with high resistivity and an SP of probably 70 millivolts or so. I have illustrated the log appearance in figure 12-36. The water saturation calculated to be less than 50% with an assumed porosity of 15%, which was reasonable. It appeared the operator had a nice little shallow oil field.

As the tool dropped to bottom in my first well the response was similar. I went through the usual calibration procedures and began the log. To run such a log, we would touch bottom with the sonde and then run about twenty feet of slack in the hole so we could record electrical and mechanical zeros before the tool began to move up hole. As the winch began to pull the cable up, we first recorded about 5' of film with the power off (mechanical zero), five feet of electrical zero (established in casing) and then maybe 10 feet of log with the power on but with the tool stationary on the bottom. This latter resistivity would be constant until the tool moved, which change was termed pickup or the recorded bottom of the borehole. During this whole time (20 feet of recorded log) the SP should be constant because the tool isn't moving.

However, I noticed that the SP deflected about 10 millivolts to the left (increasing negative potential) when I turned the power on, as illustrated in figure 12-36. I had seen this before. It was a clear case of pulsator unbalance. That is, the negative going cycles of the alternating current produced by the pulsator were slightly larger than the positive going cycles. This resulted in a negative DC component of measure current, which added to the SP signal (also DC in nature). See figure 12-37. The amount of such signal was proportional to the formation resistivity, which increased the apparent SP opposite resistive formations. See figure 12-36. This, in turn, made the apparent formation water resistivity appear to be lower than it really was and the water saturation calculations were optimistic. Such a recording would make a fresh water

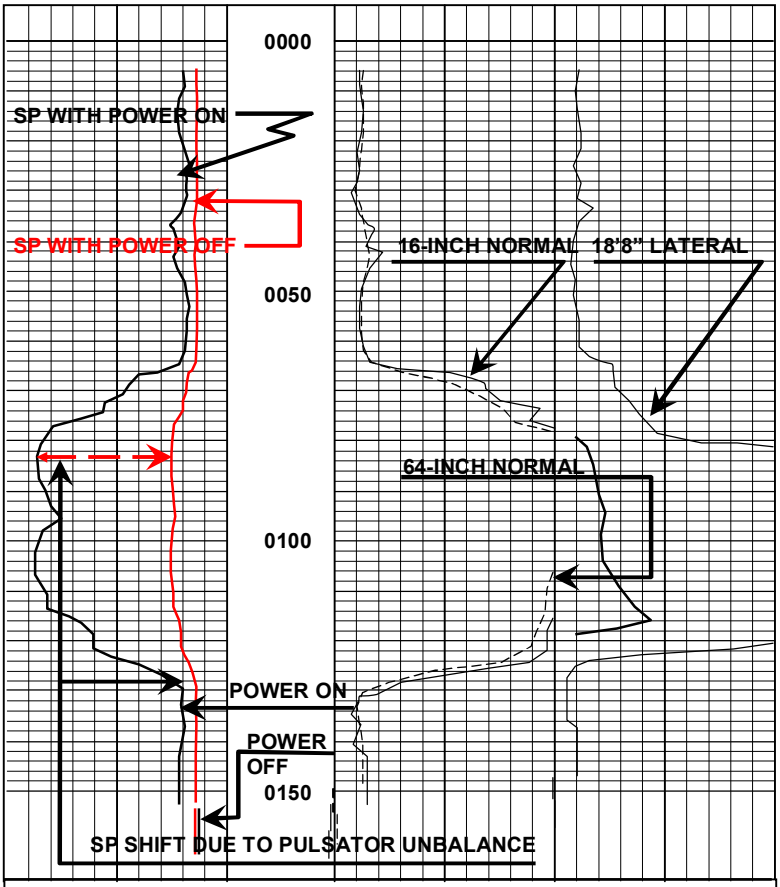

Figure 12-36 An illustration n of the electrical survey with pulsator unbalance (black) and without (red).

sand appear to be oil bearing and, of course, Schlumberger could not knowingly deliver such a product. I knew the solution to such a problem was an SP recording with the power off, which I promptly made. This is the red curve of figure 12-36. I then recorded the resistivity curves without the SP and traced the latter on to the resistivity log. Next I went back to the two wells logged earlier and recorded the logs correctly.

About that time the operator showed up and I explained the situation to him. He seemed satisfied until he looked at the logs and realized they made the wells look less like oil wells and more like fresh water wells. He said he liked the original recordings better and wanted the logs recorded that way. I said I couldn't do that because they were incorrect and would give a false impression. He insisted and I resisted until he told me to quit recording until he talked to my manager, Howard Sorensen, in Farmington. He came back later telling me Howard would come out the next morning and look at the logs and we should go get a motel room and some food. We went into Grants, New Mexico about 50 miles to the south, got a good meal and a motel room. The latter wasn't too good in that the main line of the Southern Pacific ran right behind our motel.

The next morning after breakfast we returned to the well. Howard showed up and we went over the logs. He wanted to satisfy the customer but I was unwilling to record an incorrect log. Finally, he told me to record the log both ways and clearly label the incorrect SP as being affected by pulsator unbalance. I was then to present both logs to the customer. I didn't like the idea at all because it was obvious the guy wanted a log to mislead some potential investor. Howard insisted and finally I gave in but presented the logs much like figure 12-36 with both SP's to minimize the chance of his being able to separate the two. We finished the job and gave the logs to a somewhat unhappy customer, who hadn't got quite the product he wanted. I wasn't real pleased either because I didn't feel I should have recorded the incorrect SP at all. It was a compromise of questionable satisfaction to either of us but the boss had spoken and the decision was his.

I had seen this before. It was a clear case of pulsator unbalance. That is, the negative going cycles of the alternating current produced by the pulsator were slightly larger than the positive going cycles.

A CHRISTMAS FIASCO

During the Christmas season of 1964, Sorrie and his wife decided to take a vacation in Illinois, the home where he grew up. I was left in charge along with my sales duties. The whole two-week period went well except for a little learning experience for a new engineer. On his first or second job he was called to log a well on a high plateau west of Ignacio, Colorado on the Ute Indian Reservation. (See figure 12-1 for the general area). He was a good young engineer but didn't like to take direction and particularly from operators whom he considered somewhat beneath him because of their lesser amount of education. One learns quickly, however, that all understanding doesn't come from books and this was no exception. The truck had been dispatched on the afternoon of Christmas Eve. Everything seemed to go well in that we received a call that the job was complete and they were headed home. This occurred about 2:00 PM. Around 4:00 PM the family and I were eating dinner when the phone rang. It was the dispatcher who had been talking to the young engineer on the radio. It seemed he was stuck in a mud hole somewhere between the well and Bondad, Colorado. She told me the truck had just returned to the garage and were cleaning things up. I decided to go to the office where I could talk to them as well as to him on the radio. That would allow me to decide just what to do.

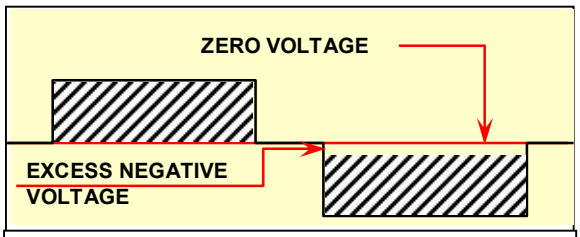

Figure 12-37 An illustration of an unbalanced pulsator waveform.

First I visited with the crew. It had been storming all through the area and they told me the roads were really muddy with slush and snow all over the place. They had warned him to stay with the truck because of road conditions but he was in a hurry to get home to his rather new wife for Christmas dinner and an evening at home. He left location and headed toward Bondad on what is now Colorado 310. The area involved is illustrated in figure 12-38. I have indicated in green the approximate well location and the route both he and the truck were to take to the main highway, i.e. US 550, as well as the

fateful detour he found himself on. In his defense, the roads all looked the same and, in fact, there were many more roads than what I have shown on the map. There were wells all over the place with roads leading into them. Unless one was familiar with the area, it would be easy to get lost. After talking to the crew, I called him on the radio to get more information. He indicated the car was really stuck with no hope of him getting it out of the mud hole. I then asked him, "Well, just where are you"? Back came his plaintive reply, "I don't know except I'm up here on the mountain in the dark. I must have taken a wrong turn and I haven't the faintest idea where I am". I told him OK, we would come out to find him and get him home but we would probably have to wait for morning to get the car. I also didn't know how long it would be but asked him to keep his radio on so we could talk to him when we needed to.

The crew was bushed from the job and so I decided to call another senior operator, Lynne Parrot, who was familiar with the area because I was only vaguely familiar with it myself. Since the company pickup had no radio, I decided to take Howard Sorensen's car because I thought it would handle the mud better than mine. I knew we would have to have a radio and maybe have to chain up to find him.

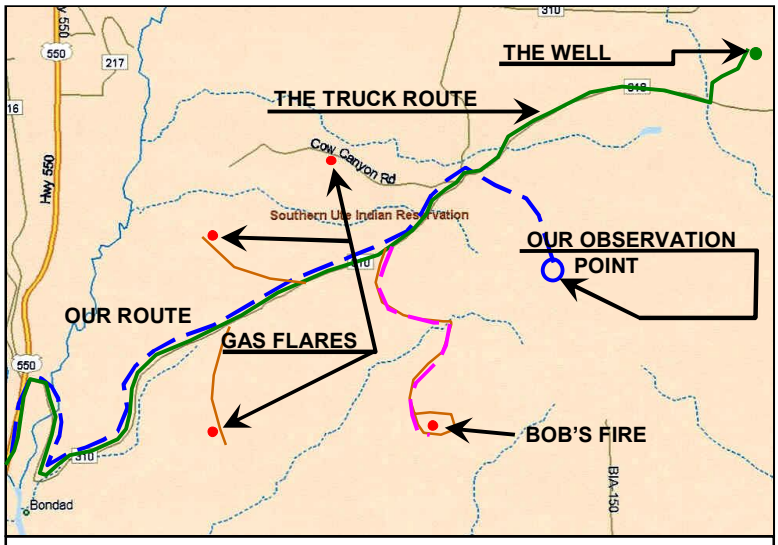

Figure 12-38 A map of the detailed area in which my young friend was lost on Christmas afternoon, 1964.

About an hour later, Lynne and I headed up 550 for Bondad. When we arrived at road 310 north of Bondad a mile or so, we knew we were in for some fun. The road was as slick as goose grease. I had to keep a reasonable speed to keep moving but I also had to be mighty careful not to slide into the ditch. We were prepared to chain up but really didn't want to. It's a messy job and I'll do most anything to keep from such an exercise. We talked to the young engineer from time to time, whom I'll call Bob because I can't remember his name. I told him to build a fire so we could spot his location when we got in position to see the countryside. We would go up near the top of the plateau and try to spot him. Lynne knew the country well and after a slow trip along 310 he pointed to a side road for us to take. Soon we were out on a ridge where we could see the darkened countryside quite well. As luck would have it, we could see four fires burning rather brightly, which might all be gas flares. In talking to him we couldn't ascertain whether we were seeing his fire or some flare among the many wells in the area.

Then a rather brilliant idea came to mind. We asked him to gather up a big stack of fire wood and when ready, let us know and toss it all on the fire. It worked beautifully. In about twenty minutes he said, "Ready". In about another five minutes the fire, which I have identified as his, flared up to about twice the brilliance of the others. That was undoubtedly due to the brilliant idea. Lynne said, without hesitation, I know how to get there. It probably took another 20 minutes before we were close to him, 50 yards or so. The road got noticeably worse and I wasn't about to venture any further. We walked on to his car and could see there was no chance of us getting it free. Bob gathered up his brief case and followed us back to the car. He was rather quiet on the return trip, knowing that he had caused a lot of trouble for everyone on Christmas night. We arrived back in Farmington without incident and had the car retrieved by a wrecker the next day. I had a talk with Bob and asked him if he had learned anything of value. He replied, "Yes, when the roads are bad, stay with the truck". I emphasized that he should also listen to his operators. They often had useful information derived through experience and they could save him a lot of trouble. In fact, he also experienced the latter as well, before the value of my counsel that morning sank in. He couldn't seem to grasp the idea that so-called blue collar workers could provide useful advice.

NEW MEXICO'S LIEUTENANT GOVERNOR

Tom Bolack had made his money in oil and gas prior to his election to that position. He was a conservative republican and, thus, I usually found my views in harmony with his. At the time I was in Farmington, summer of 1961 to March 1965, he was only semi-active in his independent drilling activity. Two incidents involving him seem worth reciting relative to my Farmington days.

Although Bolack drilled several wells during my four years in the area, I was only involved in one, which was drilled in the summer of 1964 near Cuba, New Mexico. See figure 12-35. I remember it quite clearly for a number of reasons. First, Tom Bolack was on location. He had a nice trailer parked on the lease under some trees, which was definitely a cut above the normal. There was a several hour wait before we could log. During that time he visited with us off and on and served us barbecued chicken he was preparing near the trailer. He was really quite a congenial guy. Second, they ran a nice set of logs including a gamma ray density and then took sidewall cores. I mention the gamma ray because of an oil show, which occurred near bottom in sediments indicated as being shale on the gamma ray log. Some areas were apparently siltier than others in that the gamma ray deflected more to the left in the direction a sandstone would register. Even so, one would expect shale from such cuttings. Tom and his geologist then proceeded to pick coring points in these silty zones because of the show. I mentioned that such cores would undoubtedly be shale but they persisted. It took a couple of hours to procure the samples and, after examining them, they seemed surprised that no sand was present. I had to go back and demonstrate that the gamma ray was indicating the sediments in these areas to be 90% shale and it would be difficult to spot any sand present. Finally, they were satisfied even though perplexed by the oil show. This general geologic horizon was known to contain fractured shale, which produced small amounts of oil in areas 50 miles away. I suspect that was the answer but that was my opinion and they weren't sure they should believe me.

in early December of 1964 I got a phone call from Tom Bolack asking Esther and I to come to a party he was giving for his drilling foreman who was retiring. It wasn't as much an invitation as it was a command. He expected me to be there along with everyone else with whom he did business. It was to be at his ranch along the Animas River the following Saturday night. Needless to say, I complied. First, I was curious about what his ranch would be like and second, it was just good business. Esther was under the weather and couldn't make it, so I headed out by myself to the retirement party.

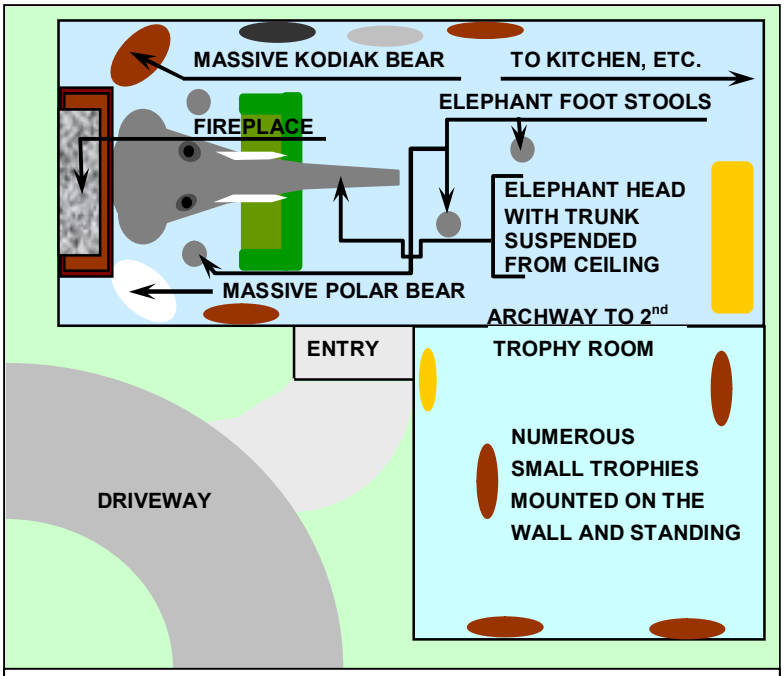

Figure 12-39 A partial illustration of the Tom Bolack ranch house showing only the trophy rooms & party area.

When I arrived, there were cars parked all over the place with most being identified by their service company logos. Mr. Bolack wanted to give a nice retirement party for his faithful old drilling foreman who had worked for him all his life, for all practical purposes. He used his clout to assure that people would remember him. I was introduced to the foreman whose name I can't remember but I knew I had only seen him once before, that being on the well I just mentioned. The party was nice but I knew only a few of the people there. I had given up drinking even a beer since joining the Church and spent the evening holding a seven up in my hand along with a few snacks. It was boring, in my mind once I had seen his hunting trophies, but I must admit that they were worth the time.

I have provided a very general illustration of that part of his ranch house, which we were in. Basically, it was two rooms with all his trophies. Tom Bolack was quite a big game hunter and had trophies from every continent, I believe. The two bears shown in either corner next to the massive fireplace were at least eight feet tall and stood there like they were about to attack you with teeth bared. They were truly impressive. A large bull elephant's head was mounted over the fireplace, which had to be supported by wires from the ceiling beams. The trunk was probably 10 feet long and was stretched out just below the ceiling and also supported by wires. He had made 4 stools from the elephant hooves, each being sufficient to easily support a person.

The walls were adorned with heads of various game animals from Africa, Australia, Canada,

A large bull elephant's head was mounted over the fireplace, which had to be supported by wires from the ceiling beams. The trunk was probably 10 feet long and was stretched out just below the ceiling and also supported by wires.

Alaska, etc. I would hesitate to guess just how much he had invested in the mountings themselves let alone the safaris necessary to procure them. Of course, there were also pictures of various animals hung on the walls along with numerous skins, which had been tanned and tastefully hung to give almost a museum like effect. If his intention was to impress, I was impressed, to say the least. I had never seen such a display and have never since. The evening was well spent even though I had little to do with the guest of honor.

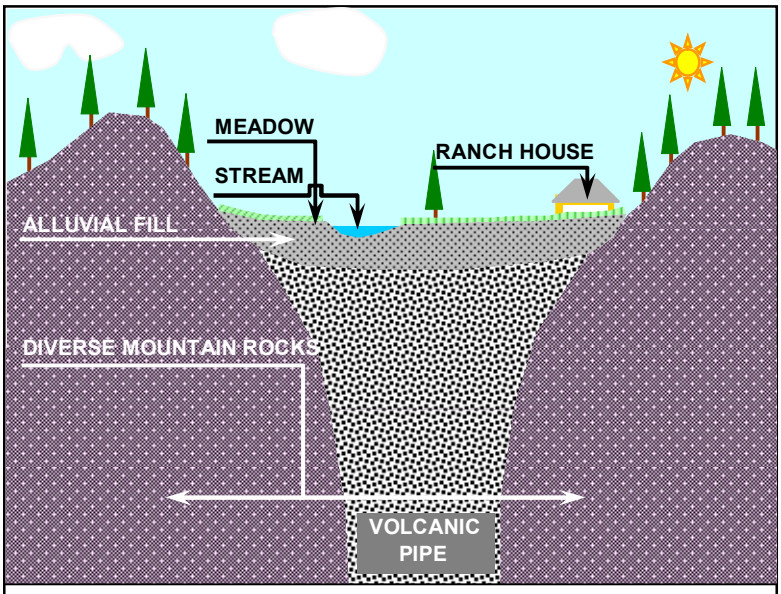

Figure 12-40 A cross-sectional illustration of the Baca Land & Cattle Company grazing spread with ranch house.

LOGGING IN A VOLCANIC CALDRON

In the spring of 1964 we received a call from the Baca Land and Cattle Company who wanted to talk about a possible logging program for a well in the Jemez Mountains about 25 miles north of Albuquerque as the crow flies. See figure 12-34 for the location relative to Farmington. Their land was located essentially in an old volcanic caldron or caldera as they usually call them. I have illustrated the situation in figure 12-39 to help you visualize my little story. Basically, a caldera is the old volcanic cone surrounding the pipe leading to the igneous rock feeding the eruptions from time to time. Of course, this volcano was extinct, not having erupted for millions of years. None-the-less, there was plenty of heat in the rocks below the caldera. The temperature gradient would be very high with bottom-hole temperatures at 8000 feet estimated at 600 degrees. Their object was to produce steam for the generation of electricity. I was given the assignment to visit them and get the necessary details for job preparation.

One morning bright and early, I headed south on highway 44 towards Albuquerque. I took a left at San Ysidro on highway 4 and then a right between Pueblo and Canon onto a dirt road. Soon I was climbing into some relatively rugged mountains in country I had never seen before. About the time I was wondering what a cattle company was doing out here, I spotted a beautiful valley ahead and significantly below me. It reminded me of the meadows in Bear Valley. In about 15 minutes I was driving out into a really big valley with lush green grass and cattle grazing in groups as far as the eye could see. After another ten minutes, I came to a road leading into the ranch. There I was pleasantly greeted by a couple of gentlemen who invited me in. First they gave me a tour of the house, which had just been completed. It was octagon shaped as shown in figure 12-41 with a large living room and fireplace in the center. Overhead was a large skylight, which lighted the room effectively.

Mostly bedrooms were situated around the edges with kitchen and dining areas on the west side. Stairs led to an upper level where there were more bedrooms and office space. It was beautifully decorated and furnished. In fact, it was more outstanding than what I had been treated to at Tom Bolack's house. Of course, it was for a single family dwelling where this one appeared to be designed for multiple guests.

After the tour we talked about the proposed well. It seems the Baca Land and Cattle Company was a big Texas outfit that owned a very large acreage in the area, in fact the whole valley. Financial interests in Albuquerque were interested in the steam potential lying beneath them for power generation, as I mentioned. They estimated that temperatures would reach 600 degrees or maybe more and wanted to log the well with whatever measurements that could be made and most particularly a temperature log. I described our hostile environment tools, which were available from Houston for such special jobs. They were rated to be able to operate up to 500 degrees for one hour. As I remember, there was a temperature tool, an induction device and a gamma ray neutron tool available. I estimated the cost, which would include transporting the tools from Houston and special high temperature rates. In addition, we would have to equip the truck to be used with Teflon cable. Normally we ran polypropylene cables, which were less costly and served well in our normal temperature ranges. They (Baca) were to begin the well sometime in the fall of that same year.

I'm not sure just what happened but the well didn't materialize for some years after that. I vaguely remember going to the well site as the division engineer, which position I didn't occupy until the spring of 1969. The well was located in the hills just west of the valley if my memory serves me correct. Schlumberger successfully logged the well in temperatures above 400 degrees but I don't think the heat they anticipated was there. I'm not sure just what happened to the project but I don't remember hearing about its future development for power.

FLYING ON THE FRONTIER

During those days, only Frontier Air Lines serviced the smaller cities of the Rockies. I've had several memorable rides but I need to mention just a couple for you to enjoy. One week Sorrie and I were going into Denver and the Frontier flight there stopped in Pueblo. The winds were particularly strong and we had a real bumpy ride, more so than usual, from Farmington all the way to Denver. As we made our approach to Pueblo, the plane's wings were dipping back and forth. As we touched down, the plane took a big hop and came back down rather hard a second time, enough to startle everyone. When things smoothed out, the pilot came on the intercom and announced, "Folks, that rough landing wasn't the tower's fault or the pilot's fault. It was the asphalt." Well, I'm confident it was his fault coupled with the wind but he got a big laugh anyhow.

The week continued to be windy while we were in Denver. We took off late Friday afternoon on a direct flight to Durango and then Farmington. Again the ride was bumpy but everyone just kind of gritted their teeth and put up with it. What else could you do? We were all very careful when we took a drink of soda or whatever. About the time we were over the San Juan Mountains, maybe around Wolf Creek Pass, the plane suddenly hit a down draft. It was the deepest I had ever experienced before and since, for that matter. I'll bet the plane dropped several hundred feet. I turned and looked at Sorrie who was white as a sheet. I suspect I might have been too because my innards were definitely in my throat. People screamed all over

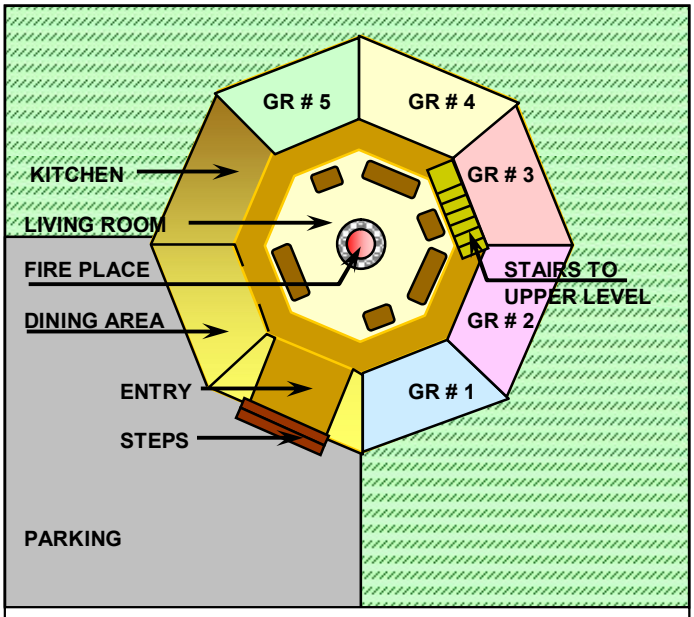

Figure 12-41 A plan view of the Baca Land & Cattle Company ranch house in the Jemez Mountains of New Mexico north of Albuquerque.

the plane. The pilot immediately came on with something like, "That was a big one, wasn't it? Everything is fine, however and we'll be landing at Durango in another 30 minutes". Boy was I glad to see that airport come into view. I didn't get sick but my stomach was on edge the whole flight.

Such rides were fairly common in those days but not the "big one" we had experienced. I made one trip to Midland during my work for Tenneco at Escalante. The purpose was to put my data on the computer and see what we could come up with. Mainly I became a little more proficient in the cross-plot technique I described earlier but never really applied the computer to our problem. The program, as it presently existed, wasn't a good application for the Tenneco wells and much more work would have to be done. We couldn't rely on them to help much because they had their hands full with their own work. As it turned out the need for such application disappeared when the Pennsylvanian turned up dry. Anyhow, the ride down to Midland that summer day was another rough one. The Convair 580 I was on made a long low approach to the Roswell Airport. I could see pump jacks for miles, it seemed, and we bounced along like a jeep in the Baja California desert race. I remember hoping the runway would suddenly appear but the flight wore on and it seemed like an eternity before I felt the plane touchdown. Once again, my stomach was on edge but everything stayed down. New Mexico was famous for thermals, which my experience bears out and they made every ride like the roller coaster in the theme parks.

THE BIG ARIZONA LEASE SALE

The Apache Indian Reservation in Arizona had never been put up for lease and there was great interest among the major oil companies when that event occurred in about 1963. Apparently, a good deal of seismic work had taken place in earlier years and such was supplemented in the months preceding the sale. Those with the information contoured the structures defined by such data. Areas of geophysical highs received the higher bids and the money offered tailed off as those lands off to the side of identified structures were placed on the bidding table. Since no wells had been drilled as yet, the lithology cross-section was only assumed and bidding was controlled by apparent structure. This is illustrated in figure 12-42 by a hypothetical seismic map. In this case parcels put up for bid are shown as one square mile. In actuality, they might vary in size and be so oriented that several parcels cover a part of the

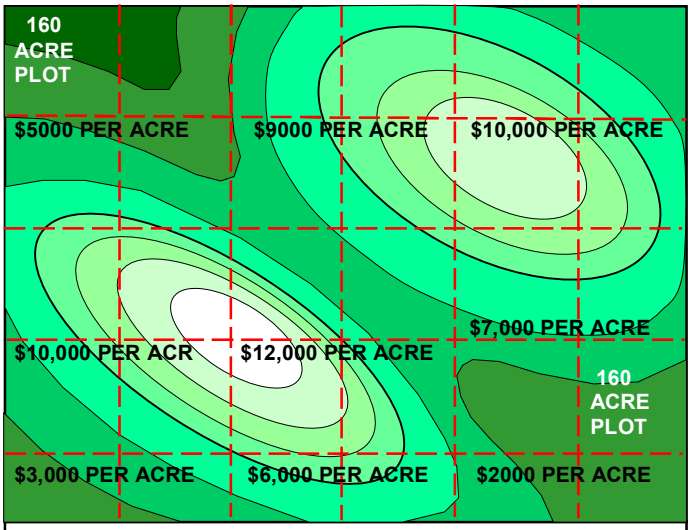

Figure 12-42 A simulated seismic contour map with hypothetical leasing bids per acre.

more attractive acreage while also containing less attractive land. Those offering the land for bid are privy to the geophysical information and can draw their own maps. This way, they maximize the total leasing income by stimulating bidding over more acreage.

There was a lot of discussion after the sale about who got the best land. Those without the necessary geophysical data sat on the sidelines waiting for the results. One such enterprising geologist I knew took the lease sale data and contoured the pricing. With the assumption that the acreage situated on the geophysical highs receives the highest price per acre; he drew a reasonable structural map. How close it approximated the real thing, I don't know, not having such information myself.

One such enterprising geologist I knew took the lease sale data and contoured the pricing. With the assumption the acreages, situated on the geophysical highs, receive the highest price per acre; he drew a reasonable structural map.

ARIZONA DRILLING ACTIVITY

In the year following the big lease sale, several wildcat wells were drilled. They were all tight holes, that is no data of any kind was released until required by law. Of course, scouts from all

the oil companies tried to procure information from every well drilled and would try any kind of a shenanigan to gain it. Any Schlumberger engineer who logged one of these wells had to button his lip regarding log results as well as anything else he might learn on location. The companies having the wells drilled didn't even want the depth of the well to be released to the industry.

A SUPERIOR ACTIVITY

I logged one such well for Superior Oil Company. They had a fence around the location, which encompassed probably 40 acres or so. I knew the geologist well, having visited with him at the office and having interpreted many logs over the preceding years. He welcomed us with royal treatment like a desert sheik might provide. The setting was similar in that only the desert and a few wandering Navajos surrounded the location for miles on every side. We had been warned to bring our food and a sleeping bag because, once on location, we couldn't leave to eat or find a motel. We had learned to come prepared, anyway, and didn't need the advice. We couldn't log until after dark and so we spent the afternoon visiting and reading.

As he scrambled over the fence and fell to the ground, the pusher arrived on the other side. He said the kid's shirt was torn and his arms bleeding but he grabbed the sacks and ran out into the desert.

My good friend, Dennis, prepared us a great meal and supplied cold drinks as well. I had noticed a couple of guys, (scouts), just outside the fence watching with real intent. Directly Dennis took a couple of cold drinks over to them. I asked him what gives, considering they are trying to procure information about your well. He said, "Oh those poor devils are just doing their job spying and they get thirsty like anyone else. Besides, they can't learn much more than how deep we are, which we do our best to confuse them about anyway."

Later, I understood what he meant. When they came out of the hole, they pulled all kinds of little tricks. They might pull the string up and then lower it several times before breaking off a stand. Occasionally they would break off a single joint of 33 feet and lay it down. Then they might pick up a couple of joints and go back in the hole or just run a stand back in. All this was done to confuse the scouts who were watching. The scouts, you see, would watch through field glasses and count the stands as they were pulled from the hole. Each 3 joint stand approximated 100 feet and they could multiply by the number to get the depth. The antics of the drilling crew, however, made it difficult to get an accurate count of the stands. We began logging after dark and were finished before daylight with the four logs ordered. I evaluated the logs as best I could and then we ate breakfast, which Dennis served as well. We hung around until about nine before heading home. Once again we had to be let out of the locked gate by one of the rig crew to be sure the location was secure.

SCOUTING STORIES

During the waiting time on location, Dennis told me a couple of stories, which I took to be true. He wasn't one to exaggerate or pull my leg. One incident occurred earlier on this well and the other on another well being drilled on the reservation.

EARNING COLLEGE TUITION THE HARD WAY

The first involved the tool pusher and some hired hand for those trying to gain information about this well. It seems about dusk, the pusher noticed a guy over at the shale shaker gathering up sample bags. Apparently he had climbed the fence and slipped over without anyone seeing him. He yelled and ran towards him. He looked like a college kid and probably was trying to make a buck during the summer. Anyway, as the pusher ran towards him, the kid grabbed a bunch of bags, ran to the fence, threw them over and proceeded to climb over. The fence was high and had barbwire on top. As he scrambled over the fence and fell to the ground, the pusher arrived on the other side. He said the kid's shirt was torn and his arms bleeding but he grabbed the sacks and ran out into the desert.

The rig crew knew he had to have a car somewhere nearby, so a couple of them jumped in a pickup and drove along the rig road. Soon they found it, a rental car, about a mile or so away. The kid wasn't around. He either hadn't arrived or was watching them from a safe distance. They let the air out of all four tires and left. The next morning the crew went back to find the car. It had been driven almost to the highway, several miles away. There it was abandon with the tires gone and one rim collapsed. He had driven it to the bitter end.

They found no samples, so he must have hung on to them and hitched a ride to town. In any case, he paid dearly for the samples. Denny said, "I hope the kid had medical insurance and they gave him a bonus. He earned it with his effort as well as his hide but not by the skin of his teeth".

THE LOST SHEEP

Here's another story involving a rig, which was also drilling in a tight hole in the area. I don't remember whether Denny related this story to me, or that earlier enterprising geologist I spoke of. Of course, it makes little difference since a story is a story, so I'll blame it on Denny. Apparently the location wasn't fenced as was Superior Oil Company's location but they did keep a guard on watch to turn away those who had no business at the rig. One day as they neared total depth, a Navajo came wandering by looking for sheep he had lost.

He was a Navajo, all right, but one who had a college degree. In fact he was a scout for a major oil company and had disguised himself as a Navajo sheepherder.

In rather poor English he made it known that he had searched the area with no luck and wondered if he could climb the rig for a better view. Feeling sorry for the guy, they said he could climb a ways but to be careful and watch his step. Surely it couldn't hurt to let a dumb Navajo on the rig floor, tight-hole or not. The Navajo climbed the steps and displayed a lot of curiosity about the rig. The driller explained a few things to him as best he could and let him climb up the derrick ladder about twenty feet to get a clear view. He had no luck in spotting his sheep and climbed down. As he left the rig, he wandered here and there looking at things before finally departing the location muttering about his sheep. He disappeared from view and no one thought any more about it. However, that dumb Navajo was one cunning brave on a scouting expedition. He was a Navajo, all right, but one who had a college degree. In fact he was a scout for a major oil company and had disguised himself as a Navajo sheepherder. He never saw his sheep from the rig but in his wanderings around the floor he was able to see a lot more important things as well as get quite a bit of information including depth and a glance at the drilling log. How much he had time to adsorb from the latter, Denny didn't say. However, as Denny did say, "The moral of the story is, don't let anyone come on the location whose identity and business you don't really know. He may be an oil scout in sheepherder's clothing, kind of like the wolf in Little Red Riding hood". Obviously, he was right.

INTERESTING SIDELIGHTS

THE DAVE THOMAS FLYING SERVICE

There was a fellow whose name was Dave Thomas living in Farmington. He had served as mayor a couple of times, as I remember, but his main contribution to the oil and gas community was chartered flights. He had one single engine plane, to my knowledge, which he flew as needed. He would fly people and/or appropriate equipment anywhere in the Rockies for a price. He was fast, reliable and could land his little plane on a dirt road in a canyon, if there was a long enough straight stretch. We used his services quite frequently where time was of the essence. I have one story involving his service and a friend of mine named Hank Valentine who was the division engineer for the Southern rocky Mountain Division at the time. I have provided an expanded view of the Farmington airport in figure 12-43, which along with figure 12-10 will provide the setting for my story.

This particular event occurred just before my exploits in the Escalante area or about the summer of 1963. The Southern Rocky Mountain Division (SRMD) had only two density tools at that time. They were kept in the Farmington District because of their effectiveness in low porosity gas sands. They also established a policy of not sending them outside the district. They were helping solve a competitive problem in Farmington and the advantage would be lost if they were allowed outside the district. There were few tools even in existence and these were the only ones in all of the Rockies, including the Northern Rocky Mountain division.

It seems Shell Oil Company was drilling a deep test in the Vernal District, which reported to the SRMD and they requested the tools. Shell was a big customer of ours and had a grizzly like profile. That is, they got what they wanted just like a grizzly bear can sleep anywhere he or she wants. If not, they would see to it that Schlumberger suffered through lost business in other areas. Of course, the division office knuckled under and Hank was ordered to accompany the tools to Vernal to see that all went well and that they were returned promptly.

It was painfully obvious that such Schlumberger policy applied to the little folk who had to sleep wherever they found an open spot. Of course, Schlumberger did the only practical thing.

The story begins with Hank arranging with Dave Thomas to fly the two tools to Vernal and wait until the well was logged so he could bring them right back. We might lose business in Farmington during their absence. Each tool set weighed in at 450 pounds including the sonde, control cartridge, panel and accessories. We had to send both because their reliability wasn't real good in these early stages. They were loaded carefully on the plane, which was no small feat considering the 10-foot sonde. Hank climbed in the only passenger seat available while Dave settled down in the pilot's seat. Hank was a big man, somewhat overweight and about 6 foot 3 inches. It was a hot summer day and both were sweating rather liberally from loading the equipment. Dave fired up the engine and taxied slowly down to the end of the runway with the windows down trying to cool the cabin off before takeoff.

You will need to look at figure 12-43 to appreciate the next part of the trip. Notice the runways begin and end near the extremities of the airport as designated in gray. The south, east and west boundaries of the airport approximate the edges of a mesa, which is about 100 plus feet high. The airport is bounded by a fence, which actually lies below the mesa edge with the ends of the runway very near the edge of the 100-foot precipice.

When they reached the east end of runway A, Dave began making a few calculations with pilot's calculator, which provides for weight, ground elevation, runway length, available engine power, outside air temperature and, I suppose other elements involved in a takeoff. After a couple of minutes he turned and asked Hank, "How much do you weigh"? Hank told him, which value had to be between 300 and 350. Dave scratched his head, scrutinized the calculator and eventually said, "It's a hot day and that cuts down our lift but I guess we can make it". Such a remark really didn't sit too well with Hank. He was hardly a flyer and only took a plane when he had no other choice, this being one of them. With that, Dave revved the engine with the brakes set bringing the power up to maximum. With the engine roaring he released the brakes and the plane began slowly moving down the runway. It wasn't unlike a loaded truck trying to pick up speed. The runway is relatively long and, at that time, Frontier was servicing Farmington with two engine Convairs. They gradually picked up speed as they passed the terminal mid-way down the runway. Dave kept the throttle wide open but they were nearing the end of the runway before the plane began to show some signs of becoming airborne. Even so, according to Hank, the plane hadn't really lifted off when they reached the end of the runway because, he claims, he felt the wheels roll on to the ground from the smooth paved surface. As they cleared the edge of the mesa, the plane dropped several feet before finally catching hold and leveling out. Hank's heart was in his throat and he was now sweating much more profusely than he had been in the 90 plus degree outside temperature. Dave turned and said, "These hot days make it tough as hell to get any lift at this elevation but I was pretty confident we would make it". Hank thought, "I'm glad you were because I think I might have messed up my pants". Fortunately, he hadn't

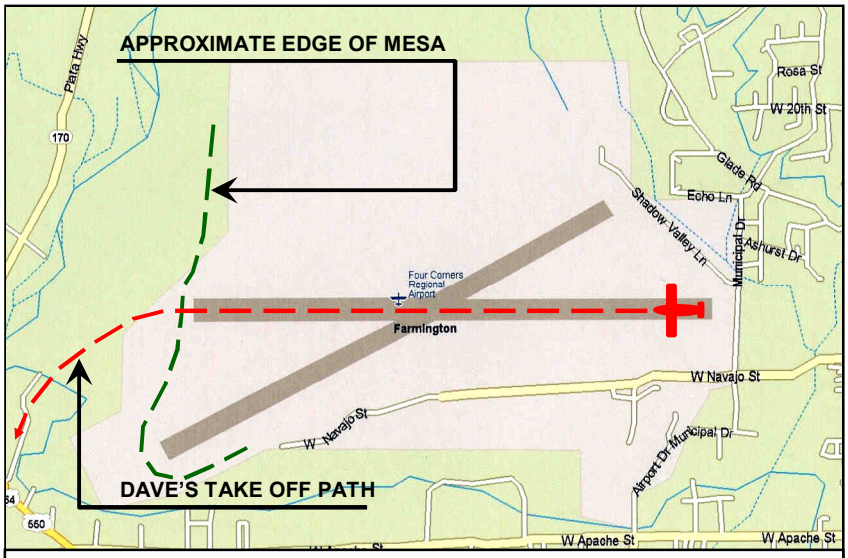

Figure 12-43 An illustration of the Farmington airport and Dave Thomas's rather risky take off with Hank and the density tools.

Dave scratched his head; scrutinized the calculator and eventually said, "It's a hot day and that cuts down our lift but I guess we can make it".

and his heart began to settle down as they headed west along the San Juan River valley while gradually gaining altitude. Dave took a wide turn to the north continuing to climb so they could clear the San Juan Mountains as well as the peaks of the Uncompahgre's. Both had peaks in the 10,000 to 14,000 foot range, which he would skirt but he wanted a nice cushion between the plane and the rugged landscape they would cross. Such a cushion provides time to solve any unexpected problem and take appropriate action.

As they headed north, Dave finally leveled off at about 13,000 feet and Hank was finally enjoying the ride. He was confident they could avoid the taller peaks and even he had to admit the scenery was really outstanding. This is the same country I described in earlier family outings.

Soon, they had cleared the San Juan wilderness with no problem and were over the southern edge of the Uncompahgre's when, all at once, the engine sputtered and died. Dave tried to start it but no luck. They were in a slow glide as he feverishly worked to determine the problem. Hank's heart was lodged in his throat once again as he watched the peaks of the rugged Uncompahgre's approaching from below. "What in the world will we do?", he thought. About then, Dave muttered, "Heck, I forgot to switch gas tanks" and he reached down between the seats, flipping the fuel line switch. The engine sputtered, then caught and once again began purring smoothly. They began to gain the altitude they had previously lost while Hank quickly checked his pants once again. He thought, "Thank goodness my innards are in good shape or the situation could be smelly".

"These hot days make it tough as hell to get any lift at this elevation but I was pretty confident we would make it". Hank thought, "I'm glad you were because I think I might have messed up my pants".

After a while Grand Junction came into view, which left only the rugged East Tavaputs Plateau between them and their destination. It might be rugged but at least it was a couple of thousand feet lower, Hank thought. Before long they were making their approach into the Vernal, Utah airport and Dave set the plane down like the professional he was. The well was ready for them. They loaded the tools on to a pickup and Hank rode with the engineer to the well site. The operation took a couple of days during which Dave Thomas spent the time in town at a motel. Things had gone well as far as tool operation was concerned. Soon they were back at the plane loading up again. Hank wasn't looking forward to the trip back. He had lucked out on the trip up but he didn't want his tombstone inscribed with "Hank Valentine, a man who took one too many chances in a light plane and died crossing the Uncompahgre Mountains". So when Dave said cheerfully, "Come on Hank, jump in and we'll head for Farmington"; he retorted "Not on your life, I'm taking the bus". This he did. He traveled by bus to Salt Lake where he transferred to a Farmington bound bus. He arrived a couple days after the tool. Someone asked why he didn't get on Frontier to which he responded, "I've had my fill of planes including the airlines."

I MUST HAVE HIT THE OTHER STRING

In chapter eight, I described a process known as oriented perforating wherein a special method is used to identify adjacent casing strings in the same borehole and shoot in a direction away from them into the formation. Troy Smith was the perforating engineer involved in this case. He had been dispatched to a well northeast of Counselor, New Mexico. One string was already completed in the Dakota sandstone and the operator wanted to now perforate the Picture Cliff formation in a second string some 3000 feet shallower. With only two strings in the hole, the job was pretty well cut and dried. That is, the Dakota string could be easily identified and the gun fired in the appropriate direction without any confusion.

Troy had dispatched the little PX truck, as it was called, with 3/16"-cable on it, along with the derrick truck. There was no rig on the well. He soon followed. They arrived in plenty of time and were ready to go when the client arrived. The Dakota had been producing but was now shut in and registered a tubing pressure of 5300 pounds, as I remember. The Picture Cliff would have an expected pressure of about half that and the tubing was loaded with water, which provided a negative differential of roughly 200 pounds. The well bore situation is illustrated in figure 12-44. At that point in time, grease seal equipment had not yet been introduced to the Rockies and a conventional BOP and stuffing box for 3/16" cable was in place. Except for the orienting operation the job would be similar to any through tubing completion.

As usual, after rigging up they dropped the tool down to picture cliff depth of maybe 3500 feet. Troy ran the collar log and the orienting pattern without mishap. The customer and he looked over the orienting pattern and agreed the gun should be fired at a certain bearing of, say 130 degrees. Troy carefully ratcheted the gun to that bearing. The Schlumberger operator made a final check of the well head equipment to be sure all was set for the expected picture cliff pressure. When he gave the OK, Troy pulled the trigger. Almost instantly the resulting tubing pressure began spewing cable through the lubricator at about a mile a minute. It was obvious that much more than a 200-pound differential was pushing the equipment up the hole. There was no time to try to spool the cable onto the truck and it piled up all over the ground and in the derrick. Before they could react the gun hit the top of the riser and came to a stop while they stared at a maze of cable similar to Brer Rabbit's fabled briar patch. They ran to the wellhead and, after a little discussion, gingerly closed the tubing valve, being sure the tool had cleared it. Troy checked the pressure gauge on the Picture Cliff wing valve and it registered 5300 pounds or the same as the shut in Dakota string. The obvious conclusion was that the shots had somehow hit the Dakota string (depicted in green in figure 12-44) rather than their intended target shown in red.

Of course, Troy called in and told Howard Sorensen what had happened. He was as excited as a goose ambushed from a hunting blind by a couple of hunters. Howard stayed calm and told him to keep him posted when more information was available and signed off. If what Troy said was true, it could be fixed but at a considerable cost. Schlumberger would probably take a beating.

There was nothing to do at this point but rig down and go to town. This they did with Troy muttering the whole time, "I don't see how I could have hit the Dakota string. I just don't see how!" The operator's representative tried to calm him down by telling him there may be another answer but Troy wouldn't believe it. He was sure he was in big trouble. The cable that had been spewed out on the ground was ruined. It was cut off by the Schlumberger operator and dragged to the edge of the location to rust in the sun. Troy and he then gathered up all of the gear and headed for home. They would be checking back with the completion engineer to learn the final results. Troy was visibly upset when he returned to the office and displayed the orienting pattern. It was a clear pattern indicating the gun had been properly positioned before firing. How any error had been made, if that were the case, was still to be determined.

The company representative was apparently suspicious about the preceding events because he too believed the gun had been properly oriented. Consequently, he decided to produce the well from the Picture Cliff string for a period of time and watch the associated tubing pressure. In doing so, he noticed the pressure began to drop. By morning the pressure had fallen to the expected value of the Picture Cliff

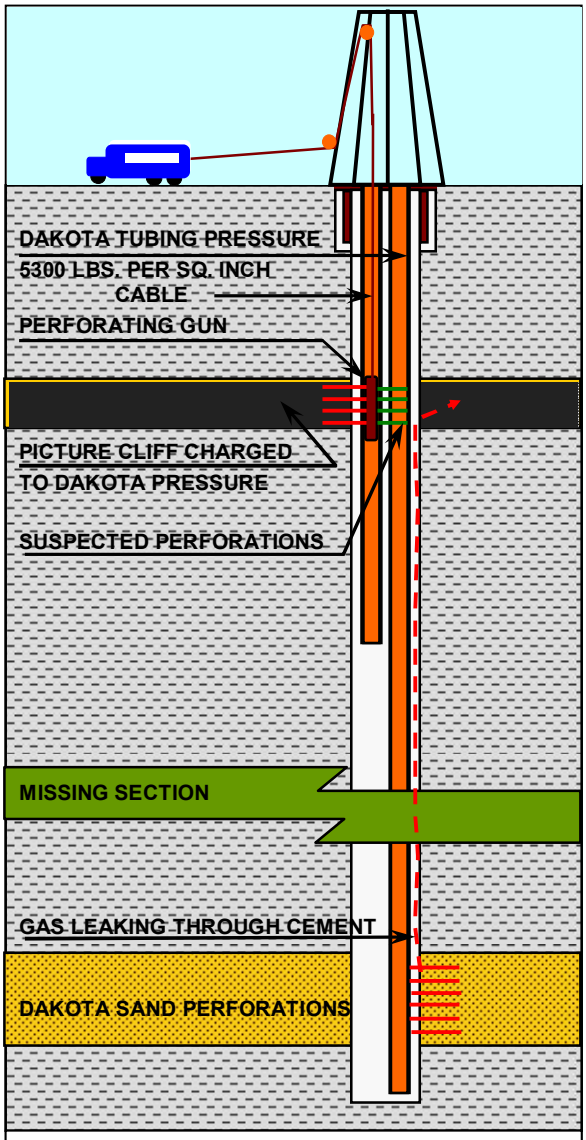

Figure 12-44 An illustration of the apparent situation in a well where Troy Smith thought he had hit another string.

and everything appeared to be normal. Obviously the Dakota string had not been hit as it still had a pressure of 5300 pounds. He then concluded that the cement bond between the Dakota and Picture Cliff must have been leaking and gas from the deeper horizon had moved up the annulus. He postulated that even though it was a slow leak, over the intervening months since the Dakota had been completed, sufficient gas had penetrated the Picture Cliff to bring its pressure near the borehole up to that of the Dakota. Since the gas volume involved was small, the pressure couldn't be sustained with production and the tubing pressure eventually dropped to that of the Picture Cliff formation. Of course, the leak had to be repaired but that wasn't Schlumberger's problem.

When Troy checked back the next day expecting the worst, he was greeted with, "Hey, your operation was OK. You didn't hit the Dakota string after all." He then went on to explain the situation to Troy. Needless to say, Troy came back to the office happy as that proverbial ambushed goose whose feathers had only been ruffled by the buckshot flying by. Maybe the moral to that story is, "Don't be too sure the obvious answer is right. Events often have a way of bringing about the unexpected."

PERFORATING AT 100+ DEGREES

I have one more little story of a perforating operation I made with an operator named Ray Penor on a hot summer day. The air temperature on location in southeastern Utah was around 100+ degrees by mid-afternoon and there was no shade. I suspect it was well above 100 in the sun where much of our work was carried out. Thus, the title I chose.

We left for location early one morning and arrived shortly before noon, following the route I have designated on the map of figure 12-45. Notice, we turned north from Navajo 1, now known as US 160, on BIA (Bureau of Indian Affairs) 35 towards the little town of Red Mesa. I was surprised to find only a few hogans (a Navajo hut built from logs, branches and mud) basking in the sun with a pickup truck or two nearby. A few appliances such as electric stoves and refrigerators were sitting outside with nary a hint of electricity around. I learned later that the tribe council distributed money from the oil wells on the reservation to individual families. Apparently, they had gone into town with their newfound wealth and had been sold various electric appliances. No one bothered to tell them that such devices were useless without power and so there they sat waiting for a power line to appear. Such unscrupulous acts on the part of white merchants caused the council to re-evaluate how they distributed the oil money their

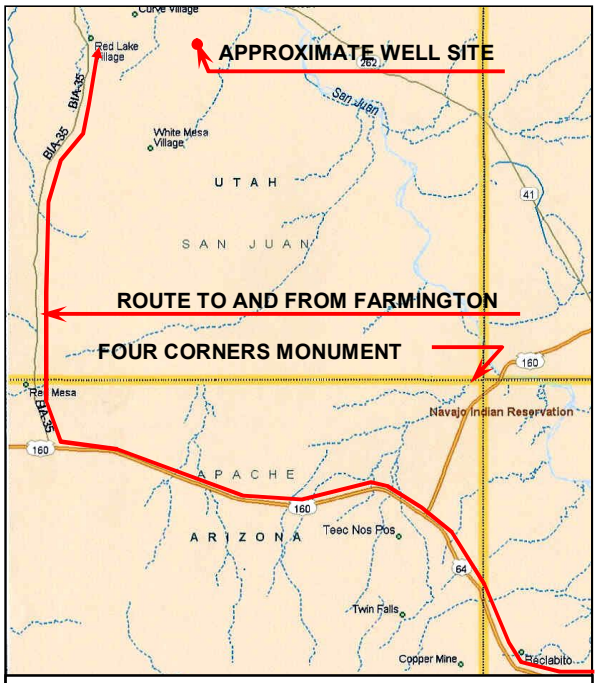

Figure 12-45 A map of the four corners area with our route to the perforating location.

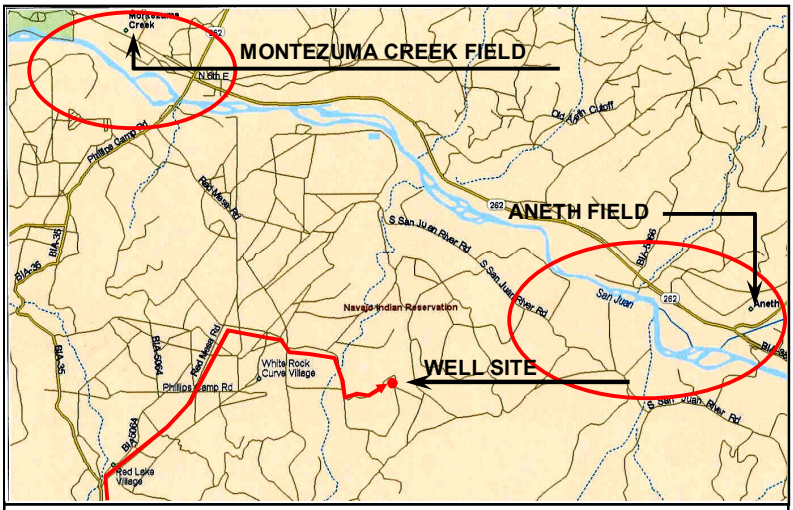

Figure 12-46 A detailed map; illustrating the maze of dirt roads criss-crossing the area where we perforated a well.

tribes had been blessed with. No longer would individual Indians be given control of their share of the funds.

The well was adjacent to or on the fringes of the Aneth field just west of the little Utah town of Aneth but on the opposite side of the San Juan River. This field, as well as that at Montezuma Creek, was a significant producer during my years in the area. Consequently, I have also provided a second more detailed map of the immediate area in figure 12-46 to point out these fields as well as give the reader a better sense of the maze of dirt roads criss-crossing it. As you can see, it wasn't any cinch finding a given well in that desert setting. Although directions were generally quite good, one could easily get lost and spend significant time finding a well or even getting back to the main road. Because this was my first trip to the area, I stayed close to Ray in the little perforating truck.

As I indicated, it was blistering hot by the time we arrived on location and we had soon consumed all the water we had with us except that needed to develop the film for the job. Things ran rather smoothly but the gamma ray and perforating job took 5 or 6 hours. By the time we finished, the tongues of both Ray and I were hanging out like those of bloodhounds after a long run. The only difference was, the saliva had long since evaporated and we could hardly spit. I asked Ray if there was any place around where we could get a cold drink to which he responded in the negative. None of the little Indian communities around knew what a convenience store was let alone having one within their limits. Besides, they were comprised of roughly a couple dozen people plus dogs.

I think I might have hallucinated off and on as I dreamed of sitting in the shade, sipping an ice-cold root beer and listening to soft music. Then my little Falcon would hit another dust hole and I would frantically roll up the window to keep the dust out.

The closest watering hole was probably Ship rock, New Mexico, a good 75 miles and two or more hours away. There was nothing to do but grit our teeth or maybe choke on the dust that hung in the roadway as we traveled south to US 160 once again. I remember being in misery for the next couple of hours with my imagination raising havoc with the reality of the situation. I think I might have hallucinated off and on as I dreamed of sitting in the shade, sipping an ice-cold root beer and listening to soft music. Then my little Falcon would hit another dust hole and I would frantically roll up the window to keep the dust out. Remember, we had no air-conditioning in our cars. When we finally arrived in Ship Rock late that afternoon, I think we each drank about a gallon of soda before our mouths returned to normal and allowed us to engage in normal conversation.

THE ASSASSINATION OF PRESIDENT KENNEDY

By the summer of 1963 gas-producing companies had identified several gas reservoirs in the western United States, which were not economical to produce with existing completion methods. Various efforts had been made to increase reservoir permeability through stimulation of various types but none proved to be the magical solution. Sub-surface testing of atomic bombs was still going on because the furor over the same had not yet surfaced. The use of an atomic explosion had been proposed as a possible means of extensively fracturing such low permeability gas reservoirs and there by release the natural gas in economical quantities. Such tests were scheduled around the west to validate the method in terms of technique and resulting gas radioactivity. One or two such tests were carried out but just where slips my mind. Of course, that isn't all that has slipped including my once broad shoulders and curly hair but that's another story. Anyway, El Paso Natural Gas based in El Paso, Texas was a member of a group proposing such a test in southwestern Wyoming in a formation known as the Fort Union. It was a massive formation in terms of thickness and aerial extent with a potential of millions, probably even billions, of cubic feet of producible gas. This prologue lays the groundwork for my Kennedy story.

During the summer or fall sometime I had been asked to go to El Paso, Texas with a geologist from the Farmington office by the name of Ken Folk. The purpose, as I remember was to discuss logs that might be run on a well prior to an atomic explosion as well as after. My role was one describing the best logs for evaluating tight formations as well as the possibility of providing useful logs after the blast and after well temperatures subsided to reasonable levels of 400 or so degrees. I don't remember the details of the meeting but only visiting with a few people in their main office. We flew in one day,

spent the night and held our meeting the following morning after which we returned to Farmington. As usual the flight to and from was bumpy from air thermals. Our arrival was early enough on the first day for us to visit Juarez Mexico. That was my first trip into Mexico and I wasn't sure what to expect. We walked across the international bridge spanning the Rio Grande and ate dinner in a nearby café. Ken warned me not to drink the water because of the dreaded Montezuma's revenge, which was sure to follow. Even coffee or other hot drinks were risky. I settled for a couple of cokes and Ken drank beer. I remember the dinner as being good but not much different than Mexican food I had eaten in the states. Afterwards, we walked around the area nearby and then back across the bridge. My primary impression was of the poverty I saw and the little ragged kids running the streets trying to sell people junk of every kind. Other than that I remember very little, which is just as well.

The trip to El Paso was preparatory to a meeting, which was to take place in Rock Springs, Wyoming a little later with El Paso representatives, Union Pacific representatives and others participating. There again, I was to present my proposals for logging the well prior to the blast and provide an estimated cost. The log suite desired was extensive and multiple runs were involved. I'm sure the feds were footing most of the bill and thus cost wasn't really a factor but they needed the total. I didn't do much more than review the reasons for the logs, potential technical problems because of borehole size and equipment availability. I don't remember the exact amount but it was in excess of $100,000, which no one even questioned. The amount blew me away because I was used to amounts under $10,000 for our services on a given well. As it turned out, the well was first postponed and eventually never drilled because of environmental concerns, I suppose. I believe Equity Oil and Gas drilled one such well in the Piceance Basin, which is in northwestern Colorado just south of highway 40 and between Craig and Dinosaur.

Later that day, November 22, 1963, I was sitting in the Rock Springs district office talking to the secretary with the radio playing. All at once the program was interrupted with the announcement that Jack Kennedy, our democratic president who was elected in 1960, had been assassinated. Little was known at that time. I don't believe Lee Harvey Oswald had even been taken as yet. We were stunned to say the least. Even though I was not a Kennedy fan, I remember a terrible feeling of sadness coming over me, which persisted for sometime even after my return to Farmington. How could this occur in America? It was somewhat akin to my feelings right after the terrorist's attacks on the Pentagon and World Trade Centers on September 11, 2001 but of lesser intensity and duration. Of course, much has been written regarding this terrible event since that fateful day. Most people have read the pros and cons of Oswald's guilt or innocence, of multiple assassins, of Russia's involvement and even groups within the United States. Many distrust the results of the Warren Commission investigation and believe we never really identified those who were responsible. Where the truth is, I don't know. I only remember it as a terrible tragedy and how badly I felt in spite of my opposition to the Kennedy family.

MY TRANSFER BACK TO ROCK SPRINGS, WYOMING

About three months after Tom was born, I was offered a promotion to district manager at Rock Springs, Wyoming. I was ready because it was more technically oriented than sales work even though additional responsibility came with it. I had enjoyed my sales position to a degree but felt I could contribute more as a manager because the associated responsibility was more in tune with my natural interests. Besides that, I loved fieldwork with its variable conditions, which made each day a different type of challenge. Esther wasn't overjoyed because of her previous experience in Rock Springs but she supported me fully and, of course, I accepted the new position. I assumed my new duties the following week but was unable to sell our home or bring the family with me until school let out in June of 1965. I'll describe the associated details including some of my life as a bachelor in chapter 13.