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A JOB AT LAST

PART I

I started my working life, in the midst of the great depression. I believe no one could be as close to financial zero as I was. It is interesting to note how it is possible to overcome such tragic conditions, that were not of your own making. When I started writing this letter, I thought it would be short and to the point. It wasn't long before I discovered I was writing a short story, not a letter.

I am not a very humorous kind of a fellow, but in this instance, I have described the essentials of this letter, more or less, in what I consider to be an amusing presentation.

CHAPTER 1

Just after I was graduated from Phoenix Union High School in the early 1930s, I finally became employed on the U.S. Coast and Geodetic Survey. I say finally, because it was during the great depression years. I tried so hard to land a job without result, that I actually thought that I would never get a job. My job title was lightkeeper. It paid the sum of \$95 per month and I had to pay for my board in camp. With these meager instructions, I packed my suitcase and boarded a bus for Lone Pine, California. Mom and Sis provided the travel funds and \$5 for miscellaneous expenses.

Upon arrival, I found Lt. Charles Pierce, the survey officer, and reported for duty. He very quickly informed me that my job was to maintain lights at night on mountain tops. [How is that for an opening]. Furthermore, in the interest of keeping the cost of the survey within bounds, all lightkeepers were required to maintain camp alone, at the base of the mountain to which they were assigned. He also informed me that he did not like political appointees. He flatly stated, "That I had better cut the mustard or I would be on my way home pronto." [You see, Mom, through her political connections, had asked one of the Congresswomen for help in securing a job for her son.]

His job of course was to find out very promptly, whether I was to be considered as a likely candidate for a rather permanent job. I knew by now, that I would have to become a mountain climber. Furthermore, that my back-pack including lights, batteries, food and clothing would weigh in at about 40 pounds. Furthermore, that I would have to become proficient in the Morse code, which is something that I believe I had heard of. They didn't tell me, but I soon found out that my life would depend upon my ability to communicate with lights via the Morse code, if dire circumstances were to occur. All of this, I thought I might be able to endure. It was only when I discovered that I would be on remote locations, all by myself, for periods of up to two weeks at a time, that I began to get anxious. Furthermore, if I were going to eat, I would be the cook. Now, I just didn't know whether I could take it or not. I finally faced up to reality; I had to succeed. Family requirements back in Phoenix, made me doubly determined to be successful. They were actually hungry and worried. So come what may, I was here to give this opportunity my very best effort.

I was given a (so called) seasoned lightkeeper to accompany me to my first station. He was to teach me the fundamentals of what I had to know, in order to hold my tentative and very insecure, but very important job. He was a big fat Swede, by the name of Ole Olson. At my introduction, he asked if I had ever climbed mountains. I told him truthfully that I had perhaps once or twice just for the sport of it. He reviewed what clothing that I had available and told me that I needed much warmer clothing to protect myself from the elements. He looked at my shoes, and prophesized that they might last several trips up and down the mountain. He gave me the impression that this was one task that he certainly was not going to enjoy. The only thing good that he could find pertained to my athletic appearance and my self-determination to give this job a try. As to my clothing, I could sympathize with him, because never in my wildest imagination, did I ever think that an Arizonian might need such substantial cold weather clothing.

He started my education by giving me some of the particulars pertaining to the operation of the survey party. Above all he said, "Be very attentive to the job you are assigned to and always do your level best to make the system work. "Also", he stated: "Because of the remote locations that we are required to work, it is necessary to be in good health. However, it is much more important that you stay that way". (I later found out that there are no doctors in the wilderness, in fact there was nobody, period.)

We went to the survey storekeeper, and here is a list of the items that he furnished to all lightkeepers, not counting actual survey items:

1. 1 12x12 foot canvas tent.
2. 1 canvas folding cot.
3. 1 gasoline lantern with spare mantles
4. 1 5 gal milk can (for water)
5. 1 Coleman gasoline stove (not real sure)
6. 1 lot of lumber with fixtures to make a grub box.
7. 1 gallon can of clear gasoline
8. 1 flashlight with extra batteries and bulbs
9. 1 hammer
10. 1 axe
11. 1 shovel
12. 1 lot of miscellaneous hardware (nails, screws, etc.)
13. 1 Canvas bed tarp
14. 1 Plum-bob
15. 1 Canvas back-pack

If you study the above, I am sure you will notice that there was no bedding in the above items. Of course you will also notice that there were no cooking utensils. Ole said, matter of factly; " We will use mine for this trip, then if you don't make the grade, you won't be out for some unnecessary expenditures. On the other hand, If you last to make another station, you will have to have boots. Also you will need clothing and cooking items. If you have to draw on your salary, then you will have to see the boss. He is touchy about advances and you had better have a good story, or you won't succeed". About now, one did not have to draw me a picture. It was abundantly clear that I was not about to be around very long, unless I proved my worthiness in a very short time. This was my first job, and I did not intend to flunk out without giving it my very best effort. Too many family members were depending upon me.

I borrowed some bedding from the storekeeper, and scrounged enough from others to make a comfortable bed. I told Ole that I was ready to go shopping for groceries. Right out of the blue!, how would you like to go shopping for enough food to last perhaps a week to 10 days? Ole knew his way around. He also had a well established grub box, which I later found out is very common among all the lightkeepers. But nevertheless, he carefully directed me to the necessities. We bought 3 dozen eggs for my account, and he showed me how to pack and case them, in such a manner, that a broken egg is the exception, notwithstanding, the jouncing and bouncing that the truckdrivers unintentionally inflicted upon you. Also, He showed me how to select my slab of bacon. Not too lean--nor too fat. How to carve it and to fold the

kind to avoid mildew. It was a lesson that I never forgot.

He kept admonishing me that we were going to have a lot of time on our hands. That planning for such an eventuality, would certainly help relieve the boredom or monotony that was to be expected. He also advised me to take a good look at his grub box. You will have to build your own before you make your next station. About the only thing I remember is the fact that it was substantial. By that I mean put together with screws not nails. I also remember that the lid when fully opened, served as your dining room table, when propped up with a survey light box.

Usually, we were scheduled to work Monday, Wednesday and Friday nights only. How was I going to occupy my time during the intervening periods? What was I going to read? These were questions, that I could not answer. He finished the shopping by selecting a can of almost everything in the store. For certain, he would purchase an item, if he had never eaten it before. Then, there was the matter of cigarets; how many do you require for a period of a week to ten days? Oh, these difficult decisions, when I only had small change in my pocket. I don't remember just what the financial arrangements were to cover my expenses on this trip. However, remembering Ole, there certainly was some deal, whereby he would get reimbursed some day. Most likely on my first payday.

The truckdriver reported that he was ready for the trip. This was akin to the Conductor of a railroad crying All Aboard. Ole and I loaded our few possessions aboard. Away we went for a far off desolate section of the Owens valley in California. He finally spotted the mountain to which we were assigned. I do not recall the name of the station. He maneuvered the truck in such a manner that you would never believe. After the road gave out, he followed a trail. When the trail gave out, he followed a wash. When the wash was no longer passable, he climbed on a ridge. When that came to an end and he could climb no higher, he looked for a flat spot for pitching our tent. He then proclaimed--this is it. "You fellows are lucky--I'll bet it's not more than one hour and a half to the top." I almost missed that r o b when we climbed out of the wash. For goodness sakes, I responded: "What is an r o b?" He replied, "rag on bush. Don't you believe that I was the first person to come up here--the reconnaissance team was here; they left the r o b. Also, they provided me with a detail description for precisely arriving right where we are." I was dumbfounded, I thought geewhiz, maybe this outfit is well organized.

Here we were on the side of a mountain miles and miles from a highway. It was just about as desolate as it could get. In a matter of minutes, we had the truck unloaded. The truckdriver, without further adieu, bid us farewell and hightailed it out of the wilderness. Now, Ole was really sad, he said; "It will be three or four days, maybe more, before we see another human being". I thought to myself--oh God, what have I got myself into?

At his direction, I quickly learned how to erect a tent all by myself. Ole never lifted a finger. He assumed the role of supervisor and he was exercising his prerogatives to the limit. He was great at telling me what to do, and when to do it. He told me why the tent door had always to be on the downward side of the slope. He said, "That way the water cannot run into your tent when it rains". Soon the tent was in order, the beds were in place, the stove and grub box had their places and the lantern hung on a nail in the tent pole. The grub box lid folded down on one of the survey light boxes, just as he had previously instructed me. I will confess that it did make an acceptable table. Light boxes were also used as chairs.

He asked me if I could cook? I told him that if I did, it would be the first time. "Well", he says, if you want to watch, be my guest. We are having salmon patties tonight. On the side, we will have fresh corn-on-the-cob, boiled potatoes, hot tea and toast. Fresh vegetables are nice, but they will not last in the heat". He gave me quite a lecture on the difference between Sockeye and Pink salmon. He also discussed the merits and demerits of all of the varieties of beans. Not only that, he was able to illustrate what he was talking about by providing a can from his grub box. He also informed me about such mundane items as; never buy green chile peppers unless they originated in New Mexico, and preferably in Hatch, New Mexico. I asked him why? He replied, "Oh its just one of those things that you will learn, if you get in enough time on the job." One thing for sure, Ole liked his food. He knew exactly who the real cooks on the survey were. He enumerated them for me, and promised, that if I were ever able to sup with them, it would be a memorable experience. He named four out of forty men on the survey. Chris, a Mexican, the truckdriver for one of the Observation parties was perhaps the best. Just because Ole liked his food, was no reason to expect that I would like it too. Just think, he cooked bacon just until it got greasy. He thought it was great--and I would prefer it nice and crispy.

After eating and meticulously cleaning up the dishes and utensils, at his direction, he quit supervising. He assumed the role of teacher and began my education into the intricacies of the triangulation

party of the Coast & Geodetic Survey. You will see it was not very thorough, as he as well as I, were not what you would call mathematical whizzes. I will try to be very brief, but it is essential to give you a feeling of what the surveying party is trying to accomplish. Geometry is the basis, I believe. Maybe, that is wrong, could be Trigonometry. I believe that makes more sense. It seems that there is a mathematical law, or some other such thing, that states: that the angles of every triangle must contain 180 degrees. This means that if you add up the value of the degrees of each of the three angles, you must by necessity end up with 180 degrees. There is another law, or some such thing, that states that if you know the length of one leg of a triangle and the degrees of two angles, it is possible to compute the length of the other two unknown sides. These two mathematical propositions (Theorems perhaps) form the basis for the survey. It is called triangulation. The actual calculations are done via logarithms, I believe, at least that is what Ole told me.

The survey actually measures, under exacting conditions, the length of one side of a small triangle. I don't know for sure, but I imagine the base is about 6 to 8 miles long. From the ends of this base line, they form a triangle which they quickly spread outward in great quads (double triangles) whose sides are 30 or more miles in length. To be able to see over these great lengths, you can begin to understand why they prefer mountain tops to be the focal points for the triangles. I'm going to stop here with the mathematics of this outfit, for I already believe, that I'm in over my head. If the above is incorrect, blame it on Ole. Suffice to say, that if you are going to make a map of the state of Arizona, it would be very beneficial, in fact almost elementary, to be able to designate the exact position, with precision, of some 30 or more mountain peaks before you ever start to make the rest of the map. For every schematic that the survey performs, they start out with a known length of one side of a triangle. When they finish the schematic, the last triangle also contains a known length. Thus, they are able to determine the accuracy of the survey job, that sometimes takes many months to complete.

The party consisted of some 40 men. There were three observing parties, consisting of three men each. All the other members of the party were lightkeepers, mechanics, storekeepers and truckdrivers. A reconnaissance and a building party preceded the actual survey party.

The reconnaissance party's function was to create the schematic and to furnish written details of how to arrive at the various points they had selected as stations. Their finished product was a blueprint that all members of the party used. They also gave climbing

instructions leading to the summit of the mountain.

The building party's function was to cement in the bronze-copper markers at the summit along with two azimuth markers. They also built the tripods over the station marker for use by the lightkeepers and the observing parties. They too, gave written instructions on how to arrive and climb to the station if different from the reconnaissance instructions..

The observing parties used an instrument called a theodolite. The best description that I heard was: It is a transit with a college education. These instruments were utilized to develop precisely the measurement of the angles of the triangles. This was done at night with lights. They measured the angles not only in degrees and minutes, but also in seconds of a degree. The accuracy was described to me as being acceptable if the triangle measured within three seconds of 180 degrees. It was only when I learned, that a second amounted to 1 foot in 30 miles, that I really became impressed.

As soon as it became dark, we bedded down and began the long and tedious process of talking to each other with our flashlights pointed at the top of the tent. Not only did you have to memorize the Morse code, you had to be able to receive messages as well as send them. It should be obvious to you, that it is much easier to send, than to receive. This is true because you know what you are going to say, and therefore, can visualize what is coming up. Not so, when you are receiving. First you have to recognize the letter being sent and then memorize it to merge with the following letter. For instance, -.. is a D, --- is an O, -.-. is a C, right about now you are thinking what word begins with DOC? After telling them to repeat several times, you finally recognize that the word is doctor. Ole was supposed to be my teacher. But in reality, he was very inadequate with the Morse code. I think that this condition was one of the reasons why the boss chose him for this task, and why he so wholeheartedly entered into the learning process, that apparently was for my benefit.

We did not go to work on our first night out. This was not the usual routine. The extra day was to provide time, to teach this neophyte the values that the party expected of you. There was a lot to learn and we did go at it systematically. Nothing too difficult--that is if you don't consider the Morse code. Wow! what an awkward and difficult way to communicate.

The main survey data, transmitted by lights, is done by the observing parties. They send their data of minutes and seconds for each of the angles they had measured. Therefore, considerable data in the form of numerals, occupy the dark sky in pulses of light, which are readily decipherable by the main observing party.

This party is usually the one headed by the Lieutenant. He determines whether the results are within the limits imposed and we can go home, or that we have to repeat the observations (another couple hours or so). Sometimes results are so bad that the schedule must be repeated on another night. It seems that atmospheric conditions have something to do with the results obtained.

I'm going to interpose here some of the climatic conditions that a lightkeeper is subject to encounter at any given time. They range from mild weather on a clearly moonlit night to the worst conditions imaginable. Such as a snow-bound mountain on a stormy night with severe winds and the temperature very cold. There will be a number of occasions when you are required to be well above the timber line, subject to whatever weather nature cares to dictate. There are other times when the mountain top is immersed in cloud cover, and to you it appears as a very dense fog that may stay for an hour or so, or all night long. A full moon is a lightkeepers delight. It enables sight at night when otherwise there would be none. Survey schedules require advance planning because of those who are out in the wilderness. Therefore, on scheduled survey nights, rain or shine, you must be on your location.

CHAPTER 2

MY FIRST MOUNTAIN CLIMB

After lunch, we occupied ourselves with the gear that we would have to carry up the mountain. The 1 1/2 volt dry cells had to be wired so that they could furnish the voltage required by the lights. There also was the proposition of wiring in series so that ampereage could be maintained for considerable time. This package when completed consisted of 12 or more batteries, which in turn were rather heavy. In fact, when you arrived at the top of the mountain, they were very heavy. The schedule required us to be at the station on top, 1/2 hour before sunset. With this in mind we proceeded to climb the mountain at a leisurely pace. My game plan dictated that Ole was not to arrive at the summit first. Not much to the climb, as we divided the load between us. Once there, we had to plumb the tripod, to be certain it was exactly over the copper (bronze) metal marker that the building party had cemented into the solid part of the peak. In our case, the marker contained a triangle to reveal that it was a part of a triangulation survey.

With the aid of a blueprint, we were able to pin-point the three mountains that the observing parties would be on. We then mounted the lights on the tripod (one on top of the other) and aimed them at the

target mountains. We hooked up the battery supply, turned the lights on and awaited the coming of darkness.

Ole politely informed me, that it was sometimes difficult to get off the mountain and back into your tent at some hour around midnight. It would be wise, he said, to take a real good look before darkness set in, to plan the route I would be taking after work was over. He said, "you know it is possible to get lost on your way down the mountain". He also told me to avoid difficult spots, if there were and easier way around. He said, "Coming up the mountain you can see real good, but coming down via flashlight, conditions are much more difficult and dangerous."

Very shortly, we began getting calls from the observing parties via lights that looked like search lights. They either wanted a brighter light, or more often a dimmer one. After we satisfied this initial inquiry, we never saw another light until they called us with terminal instructions. This was about 1 a.m. They sent a message that read THD 1. I kept telling Ole that the message was THD-1. Ole made them repeat it several times, but it always came back the same way. I guess he was disgusted, because the message meant that work tonight was not acceptable and that they would try again night after tomorrow. In other words--skip tomorrow night. Alas, Ole was really sad, for now it appeared that our stay in the wilderness, had just been lengthened two additional days.

Without further adieu, we turned the lights off and prepared to descend the mountain. Boy, how dark it was. It also seemed to get much colder. Ole took the lead and said, all you have to do is follow the footsteps we made coming up, and we will make the tent pronto. Of course he was whistling Dixie again, for it was not long that our footsteps were no longer discernable. Fortunately for us, our trail led into a gulch, and the gulch into a wash, and there was our tent on the upper bank. What a relief! Just think we could be out there wandering around all night long in this cold. This experience put two bees into my bonnet. I thought to myself, [wouldn't it be nice to rig a flashlight on the top of the tent pole, so you could find it in the dark]. Also, [it would be expedient, before dark, to mark on the tripod the initial direction to head in coming off the mountain].

We bedded down and had a good night's sleep. The tent became lighter and warmer as the sun rose higher. After breakfast, (bacon and eggs of course), Ole wanted to know how I was going to occupy my time. I told him I was going exploring. I asked if he didn't want to come along. Not Ole, "I get all of that exploring stuff that I need on the job. You go, I'll stay here". Besides, he said; "What happens if you get into some trouble?" Don't worry, I replied. I'm off to

see just what this world is made of. I guess I was too naive to worry. The thought never occurred to me that I could get in trouble. You don't get many opportunities like this to explore real virgin territory.

Now, some 50 years later, I can see where my aggressiveness and rockhound leanings began. I also became a first class arrow-head hunter, and ultimately had a fairly good collection of beautiful flint, obsidian, agate, and jasper arrow heads. If they were not perfect, they did not get into the collection. Some of the dry lake beds provided the best possible site for arrow head hunting. It seemed that the prehistoric Indians liked to shoot fish in the shallow lake with bow and arrow. Sometimes they apparently missed and the arrow stuck to the bottom and did not float back to the surface where it could have been retrieved. Years later and in due time, after the water evaporated, the wind once again uncovered the arrowhead, and placed it in plain sight for you to find.

Time did pass slowly, but at night we practised talking with flashlights into the early morning hours. Now, it was time to go up the mountain again. Nothing unusual to report except that we received an ST 1 as our final message. This meant that schedule was completed and that work would commence again, with one night intervening. To us, it meant something special. The schedule stated, the observing party would be on our station for the next observing night. We had no difficulty at all getting off the mountain and into our tent,-- one and a half hours to climb--26 minutes to get down, via flashlight. The following day, I went exploring much further from the tent. In fact, I managed to occupy several hours before I returned. Ole wanted to know what I had found, if anything, and if I had anything worthwhile to report. All I had were some interesting rocks that he did not care a hoot for. At night, we practised the code till sleep made us quit.

The observing party arrived and it was fun. There were other people to talk to, (not that Ole was poor company). They had news of what was going on in the world. They also told us how the survey was progressing, and where the new headquarters would be located. There was always some scuttlebut about the antics of some party member. It was most rewarding to watch them work. They were truly professionals. After climbing the mountain (Harry first on top), they erected a small silk-like tent around the tripod. This provided them with protection against the wind. It was only neck high so they could observe at the theodolite level without hindrance. Soon as the sun went down, they had us call all the other lightkeepers they were going to utilize. After they located their positions,

they had us ask the lightkeepers to dim their lights until it was just a blip, like a small star in the Big Dipper. Then they proceeded to make their survey calculations, a matter of several hours or so.

The theodolite has a 360 degree circle base. It seems that it is almost impossible to manufacture a perfect circle with measured degrees. So, they make their calculations on different parts of the circle, according to established rules to arrive at the mean. These means are the finished product of the survey night. After computations had been made, they were duly sent by lights to the head of the observing party. None of this amateur business, they sent those calculations with the rapidity of a machine gun in action. Furthermore, they were received without incident. This had a profound affect upon me. I was determined to learn that code in such a manner that I could enjoy the respect of all the O parties. With such a gang, we had fun awaiting the verdict. It was not long in coming. Now to pack up and go down the mountain once again.

It seems in this business you are always saying goodbye. The O team was packing the truck and were going back to Lone Pine tonight. Oh, what a short-short visit. Just think--we were bursting to have conversation of any kind and here they were, chomping at the bit to be on their way home.

Ole was really sad, but all of a sudden, he recalled that we had only one more night to show lights on this station. Then we would get a small taste of civilization before we were sent out into the wilderness once again. Sure enough, the time came when we were through. Early in the morning, we packed up, pulled down the tent, and were eagerly awaiting the truckdriver. We actually were so darn lonely, that we had visions of just what we were going to do when we got to town. Foremost, I think was a big steak with mashed potatoes and gravy. Thoughts then wandered to such mundane things as an ice cream soda. We finally heard him far off in the distance. By the time he arrived, we were ready, willing, and eager to load. This time on the way out, the road seemed to be much better. After all it had received some needed additional usage.

CHAPTER 3

ON MY OWN

In due time, the boss called for me. I knew he had a report on what I was able to do. I felt confident, and sure enough he gave me the details of my next assignment. He also gave me an advance of funds, I believe, (I just don't exactly remember)-- which I promptly used for those necessities that were essential, such as new boots. My next assignment would be a station called Mount Hicks. It was a volcano cone on the eastern side of Mono Lake in Nevada. This time there would be no Ole to lean on. I would be alone and on my own. Best estimate was that I would be there a week to ten days.

By now, I had my grub box built. Now to fill it with food. I barely had enough money to purchase the necessities. Thank God, I won \$1.22 playing penny-ante poker last night.

Girls entered my head on a number of occasions. However, you just had to forget them, as financial and other conditions just did not give you enough leeway to try to make progress. For one thing, time was of the essence.

My kitchen utensils were bare bone aluminum type items. I borrowed a solid iron skillet and scrounged a used coffee pot. I considered myself fairly equipped, but I later learned that I didn't know what I was talking about.

The truckdriver told me it is time to go. It seems that all lightkeepers (worthy of the name), linger as long as possible, and often spend considerable time thinking of ingenious ways to forstall departure, even for an hour or so. The truckdriver on the other hand plays the game for his benefit. He does not give a hoot that an extra hour or so would be most enjoyable to the lightkeeper. All he thinks about is giving himself enough time so he can be certain of returning well before dark. This time, I checked off all the items to be certain that I had left nothing behind. I was absolutely certain that my survey items were in order and on board. Several members of the survey party were watching, with tongue in cheek, as they saw this rank amateur prepare to go to his first station. I guess to them, it was just like a solo flight, I presume.

It was the same old game. You just can hardly believe the way the truckdriver can operate a truck after the roads give out. They take chances that I would never dream of. I'm thinking he surely is going to get stuck! He was able to get me much closer to the

summit of Mount Hicks than I ever thought possible. It was only when he could go no further (wheels spinning), that he started looking for a flat spot for my tent.

It was good of him to help me unload my gear. Nevertheless, he was bound and determined to get away as soon as possible. Therefore, I had no help in getting my tent up. Then I remembered that Ole didn't help me either. I waved goodbye with the thought that there goes my last contact with a human being for several days. My tent was next to a ravine, a shallow one at that, but one that led towards the summit of the mountain.

I erected my tent without any mishap. Got everything in order, and filled the stove and lantern with gasoline. It was just about noon, so I had some time to reconnoiter the area around my tent, and also to size up the mountain I was going to climb. It seemed that Mount Hicks was a cinder-ash mountain of the shape of a cereal bowl upside down. Of course it did have a summit, but certainly not a steep one. I began to get my clothing together. Gloves for my hands, a knit stocking type hat that had ear wings for my ears. Two light shirts, an outer heavy wool shirt and a parka type outer wrap that was waterproof for my body. One extra pair of pants of the blue denim variety would go over what I wore to climb the mountain. I made myself a good meal at around three p.m. and fixed a lunch that I would eat up on the mountain top. The climb was scheduled to be a 1 hour, so I could take my time in order to be on top by 5pm.

The climb was uneventful. When I got to the tripod, I noticed that I could see my tent down in the ravine. Without hesitation, I immediately lined up my tent with a far off mountain top, and thought to myself, [good, just go toward the mountain top and you will run right into the tent]. I'm thinking that no way am I going to spend the night any place other than in my tent.

I put up my lights after orienting the blueprint to the intended observation stations. I waited for close to sundown and then turned them on a little early, I was sure. It was not long before I was called and I satisfied their requirements quickly. Very shortly all three called and now I had nothing to do but wait for their final call. This could come in three to five or more hours. As it got dark, I suddenly discovered that the mountain that I was going to use to guide me to my tent was not visible in the darkness. Oh, what a sinking feeling. Which direction was that mountain? I was very uneasy the rest of the night. When they finally called me, it was well after midnight. After I turned the lights out, it really was dark. No moon, nothing but the stars. It also was very cold.

Well, if you think I got lost getting off that mountain, you certainly guessed right. I can remember coming down, of going across an obsidian field, that certainly was not there on the way up. When I got to the base of the mountain, I knew I was lost. So, I found a nice sandy dry stream bed and lay down and went to sleep. In the morning the sun came up in the West. I was in territory that I had never seen before. Nothing to do, but climb that mountain again, for I knew I could see my tent from the tripod. As I arrived at the top, I could see my tent just about on the opposite side of the mountain from where I had spent the night. Believe me, I thought, nobody is going to know about this episode for a very long time.

Not all of my unusual experiences were over yet. Let me tell you that after getting to my tent and fixing my breakfast, I began to feel much better. After all, more than one person has gotten lost coming down a mountain. Then everyday things began to catch up with me. I could see that my cigarets were not going to last. I would have to do something to make them last longer. I finally figured out, that if I could snuff a lit cigaret out without crushing it, then I could relite it at a later date with no ill effects. OK, how? I got a flashlight battery and slipped the cardboard cover up, put the lit cigaret in and closed the end with my palm. No air, cigaret is out. Same thing as putting a lit cigaret in a small glass tube and closing the ends. This little invention saved me from; "Walking a mile for a Camel." Then the original thought came to mind for future trips. Why not roll your own! Thereafter, I always had a pack of papers and a can of Prince Albert tobacco in the grub box. Cheap and satisfying in a very poor way. But better than nothing by one long shot.

I am sure that there was not a living person of any type within 15 or 20 miles from my camp. Therefore, I expected an uneventful evening and night. I was rudely shaken to the core, when someone came knocking at my door. I was reading a magazine, minding my own business when all of a sudden a loud scratching noise took place on the tent top. I thought a monster was up there and he was going to rip it to shreds. I grabbed my flashlight and peered upward at the disturbance, looking for--I don't know what. What do you know--an owl or a hawk was trying to roost on my tent pole and kept sliding off. I actually served on the survey for 2 1/2 years, and never once again, did a bird try that trick. You never know just what to expect when you are living in the wilderness.

During the daytime, I explored the countryside. I never got too far from home base, maybe several miles or so. I often climbed small mountains just to see what was on the other side. It was hard to learn to live

with yourself all alone. You studied the blueprint and knew all the stations which had lines to Mount Hicks. You also studied the climbing times of all the mountains that you might get in the future. I attempted to carry on a pretty good conversation with questions and answers all by myself. It got to be extremely lonely, and when the O party arrived, I was starved for companionship and conversation. When it came time to go down the mountain, I kind of lagged behind. I wanted to see what the professionals would do to orient themselves in order to go to camp. They did not have any trouble, they just seemed to start out and they walked right into camp. Knowing that I was a green horn, they brought me some fresh meat and a fresh loaf of bread. It was very welcome and I told them so. It seems that I'm beginning to become a worthy member of the survey team. Only one more night to show lights at this station and then I would once again be in civilization for a day or so. I was already preparing in my mind what I could do to be fully packed by the time the truckdriver came to relieve me of my boredom. I also had visions of the things that I would like to do once I got into town. Mount Hicks was a nice station as stations go. Nothing special, except my first--and surely one that I never forgot.

CHAPTER 4

REMINISCING

Looking back, now some 50 years later, just think--I'll bet they have walkie-talkies now. I also bet everyone has a radio and perhaps even a battery television in camp. I will also bet that the Morse code is out and that all communications are via radio, and in English to boot. No, I don't even think the lightkeepers camp at the mountains any more. I believe they are set down by helicopter right on top of the mountain. Without all that mountain climbing, it would be a job worthy of any outdoor enthusiast. Might be, that they don't even need lightkeepers anymore. Just think, if you had the use of a helicopter, you could visit all stations, turn on the lights, go back to the observing station, and perform the survey necessities. You could go back the next morning, turn out the lights and then head for base camp. Then there is the nagging thought that the survey has accomplished it's goals and there is no need for further triangulation. I hope not, for I believe the lightkeepers had one very difficult character building job, which would not be available to the youngsters of today.

As I reported, I served on the survey for over two years (in fact, 2 years, 5 months and 8 days) and I climbed many-many mountains from Mexico to the Canadian

border, and from Texas to the State of Washington. The state of Nevada got good attention, as I believe I saw almost every section of the state. The longest line on our schematic was 93 miles. Many people will not believe that such a feat is possible, but I am here to tell you that it is true.

Believe me, when I tell you that I have had to wrack my brain in order to recall the following members of the survey party. Lt. Charles Pierce, I believe from the state of Washington. He was the boss, and although difficult, he was fair and well liked by his employees. Ray Faucett, an observer from Washington. He said his home was in the most northwestern city in the U.S. He was a great fellow, his nickname was Spigot, and a great poker player, who chain-smoked continuously. I understand that he now lives in Oracle, Arizona. The Sylar Brothers. The eldest was a sadist bully, and I can truthfully say that he was the only member of the party that I did not like. His younger brother was a great fellow. Warren Bronson, a lightkeeper from Moab, Utah. A great fellow who deserved the nickname Brigham. I understand that he stayed with the survey for a number of years. Jim Manning, a lightkeeper, from California. He was a worldwar vet with a plate in his skull. A good friend, good cook and good lightkeeper; he was the kind of guy that everyone liked without exception. Winnie Pierce, the brother of the Lt. He was a building party forman. Bruce Campbell, a recorder from Klamath, Oregon. a good friend and a fine fellow. A Jewish fellow from California by the name of Hirst who was a building party member. I can see (in my mind) the storekeeper--a real good-looking fellow--as well as a fellow with the nickname Heavy, but I cannot recall their names. I served under three different officers. All were Lieutenants. They were Lt. Charles Pierce, Lt. Frank Johnson, and a Lt. Porter.

In addition to the party members that I have previously enumerated, there were two other members of the survey that were from Arizona. They were Roy McDonald from Glendale and Elmer Wainwright, a building party foreman, from Phoenix. Mac and I made a few expeditions into the Superstition Mountains that were worthy of mention. Maybe someday I will relate them to you.

The next time you see Hoover dam, just recall that I was part of the surveying party that made all the initial reference marks on the dam and surroundings. They were for further evaluation, when and if, the dam ever got full. I actually went down the backside of the dam on a skid to one of our markers. It was quite scary. We saw the dam at three different times during construction.

Las Vegas served as the focal point for survey headquarters on a couple different occasions. This was super--the whole gang was filled with enthusiasm when we moved shop to this location. The young punk that I was; just like a true greenhorn, I just couldn't wait to watch all the professionals win their wad. Alas, it just didn't happen that way. On our nights off, everybody was to be found at one or another of the casinos.

Now you can see the trials and tribulations that I went through on my first job. You will also realize how difficult it was for me to send home 20 bucks out of my first paycheck. I later learned from Mom that it was a godsend.

I hope that you enjoy this long letter, for herein you will have found, why I liked the great outdoors so very very much. You will also discover that I overcame adversity that was not of my own making. The great depression of the 1930's, has not been repeated in my lifetime.

CHAPTER FIVE

DIFFICULTIES

My friends all want to know if I didn't experience some hair-raising events while working as a member of the U.S. Coast & Geodetic survey triangulation party. I was employed as a lightkeeper, whose duties required me to be at the assigned station 1/2 hour before sundown, usually on the top of a mountain. At that time I was to orient my lights towards the mountains that the observing parties were scheduled to be on. When darkness came on, they would call me with a light and by the means of Morse code would tell me to brighten or dim my lights according to their wishes.

My station, where this bone chilling episode took place, was on a mountain near Durango, Colorado. It took about 2 1/2 hours to climb. In the normal course of triangulation survey procedures, the lightkeepers are ahead of the observing parties on the first survey night. The second observing night, the observing party is at your station and the third and normal final effort, the observing party is ahead of you.

Now, I am sure you never heard of surveying at night. Moreover, would you ever think that they granted you the option of staying on the mountain until daylight or coming down the mountain after the survey period was over by flashlight? As a matter of practice, all lightkeepers headed for their tents just as soon as the final signal was given.

On my first effort climbing the mountain with about 40 pound pack was uneventful. A large part of the climb was on dirt and the adjoining territory was largely forested especially near the top. I was given a quit signal about 1am. I turned out my lights and prepared to descend the mountain. For some unexplained reason, I was a little apprehensive. Why, I did not know. For coming down the mountain in this manner was old hat. I had done this many many times in the past. When I was down about a 1/4 mile from the summit, I turned and looked over the trail to my rear with the flashlight just like I expected to see something but nothing was there. I got a little curious and made some loud noises just to see if I could spook whatever was bothering me. Then for some reason, I looked at the trail real closely and I spotted paw prints and now I knew what the game was. There was a mountain lion back there. He had followed my trail all the way to the top and now he was watching me descend I presume, planning his next move. I can tell you that I became very alert and most apprehensive.

Without further ado, I hightailed it down that mountain at a real good clip. When I reached my tent, I gave a sigh of relief. For I neither saw nor heard that cougar (mountain lion) on my descent. But, nevertheless, I decided I would give the Observing (O) party a thrill, [like I experienced] when they would be here for the next observing session, two days hence. Sure enough they arrived as scheduled and we prepared to climb the mountain. I casually mentioned that

this was great deer country and that I had seen their trails everywhere. They knew that everywhere deer are bountiful there was bound to be cougars in the area. The climb was uneventful and they set out to do the tasks that were required of them. True to form, the survey boss sent us terminal instructions about 1 am and we immediately prepared to descend. The O party consists of three men, so there were four of us in the party. When we had reached a good dirt surface, I called them to a stop and I proceeded to ask if there was a good tracker in the group. There being none, I cautioned them to not disturb our tracks coming up the mountain but to look carefully and see if they could find what had followed us all the way up the mountain. It took a little while and then they spied the cougar tracks in the soft dirt. It was a new ballgame--In short order three flashlights began examining the uphill behind us. Once again nothing was to be seen nor heard. However, the O party got rather loud about this time, just like they were trying to spook or scare something away. Sure enough that mountain lion had followed us all the way up that mountain and for all we knew he might be ready to ambush us.

I then told them about my experiences the previous trip down the mountain. Now they really began to pay attention. Once again they decided to take a look at the paw prints and I heard talk of estimating the size of the lion. They weren't kidding me for I knew what they were doing and I kind of laughed to myself. They were preparing a yarn about this event. Via scuttlebutt, this happening would be the talk of all 40 party members in short order. When we resumed our downward trek, let me tell you there was no cow's tail. They all became very alert. Everybody was bunched the whole trip to my tent.

That brings me to the third night and a culmination of fears for I had to climb and spend my time at the station all alone. I really dreaded this trip but there was no way out. I did not want to have another episode with the mountain lion. I thought to myself, the lion had followed me every time I had climbed the mountain, so why did I think he might not follow me tonight? While climbing the mountain, I examined the trail very carefully. There were no discernable tracks that one could make a case of. On occasion I would hide and watch the trail backward. No problems and I performed my tasks as scheduled. This was a long survey night, and on several occasions I would fan my flashlight in all directions just to see if I could spot some eyes in the darkness. No luck - thank goodness. It was 2 am or later that I received terminal instructions. As this was to be my last night on the station, I had to pack up all of my lights, batteries and other paraphernalia into my backpack. It was dark and cold and I was apprehensive as you can well imagine.

I started down the mountain at a pretty good clip. It wasn't long before I reached the dirt portion of the trail which I had previously examined thoroughly. I stopped and took a cursory look and sure enough that critter had followed me up that mountain again. He was bound to be somewhere to my rear, I prophesized, although I couldn't be sure. He had covered every other of my foot prints with his paw prints. This time I didn't have the O party to fall back on. I thought about what they would say if they were here. I wondered if he would be more aggressive now that I was alone.

I thought to myself, Oh boy, How do I get out of this one? I made enough noise and flashlight passes to my rear to try to forestall any aggressiveness that the lion might exhibit. I tried to make certain that the lion knew that I was aware of his proximity. My senses of sight, hearing and smell were all working overtime. I was keenly alert and made a noisy retreat. I wished that I had a drum that I could beat and a bugle that I could blow to arouse the inhabitants of the mountainside.

There was no use of dilly-dallying. I headed off at a fast pace with frequent abrupt stops to examine the rear with flashlight, and continued with my noisy retreat. I was elated when I spotted my tent. I was sure thankful that I did not have to climb that mountain again.

The following day, at headquarters everyone wanted to know all about the cougar. They wanted all the details of my experiences, especially on my last trip up and down the mountain. Sure enough, the O party had spread the word and everyone knew of the unseen encounter.

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A JOB AT LAST

PART I

I started my working life, in the midst of the great depression. I believe no one could be as close to financial zero as I was. It is interesting to note how it is possible to overcome such tragic conditions, that were not of your own making. When I started writing this letter, I thought it would be short and to the point. It wasn't long before I discovered I was writing a short story, not a letter.

I am not a very humorous kind of a fellow, but in this instance, I have described the essentials of this letter, more or less, in what I consider to be an amusing presentation.

CHAPTER 1

Just after I was graduated from Phoenix Union High School in the early 1930s, I finally became employed on the U.S. Coast and Geodetic Survey. I say finally, because it was during the great depression years. I tried so hard to land a job without result, that I actually thought that I would never get a job. My job title was lightkeeper. It paid the sum of \$95 per month and I had to pay for my board in camp. With these meager instructions, I packed my suitcase and boarded a bus for Lone Pine, California. Mom and Sis provided the travel funds and \$5 for miscellaneous expenses.

Upon arrival, I found Lt. Charles Pierce, the survey officer, and reported for duty. He very quickly informed me that my job was to maintain lights at night on mountain tops. [How is that for an opening]. Furthermore, in the interest of keeping the cost of the survey within bounds, all lightkeepers were required to maintain camp alone, at the base of the mountain to which they were assigned. He also informed me that he did not like political appointees. He flatly stated, "That I had better cut the mustard or I would be on my way home pronto." [You see, Mom, through her political connections, had asked one of the Congresswomen for help in securing a job for her son.]

His job of course was to find out very promptly, whether I was to be considered as a likely candidate for a rather permanent job. I knew by now, that I would have to become a mountain climber. Furthermore, that my back-pack including lights, batteries, food and clothing would weigh in at about 40 pounds. Furthermore, that I would have to become proficient in the Morse code, which is something that I believe I had heard of. They didn't tell me, but I soon found out that my life would depend upon my ability to communicate with lights via the Morse code, if dire circumstances were to occur. All of this, I thought I might be able to endure. It was only when I discovered that I would be on remote locations, all by myself, for periods of up to two weeks at a time, that I began to get anxious. Furthermore, if I were going to eat, I would be the cook. Now, I just didn't know whether I could take it or not. I finally faced up to reality; I had to succeed. Family requirements back in Phoenix, made me doubly determined to be successful. They were actually hungry and worried. So come what may, I was here to give this opportunity my very best effort.

I was given a (so called) seasoned lightkeeper to accompany me to my first station. He was to teach me the fundamentals of what I had to know, in order to hold my tentative and very insecure, but very important job. He was a big fat Swede, by the name of Ole Olson. At my introduction, he asked if I had ever climbed mountains. I told him truthfully that I had perhaps once or twice just for the sport of it. He reviewed what clothing that I had available and told me that I needed much warmer clothing to protect myself from the elements. He looked at my shoes, and prophesized that they might last several trips up and down the mountain. He gave me the impression that this was one task that he certainly was not going to enjoy. The only thing good that he could find pertained to my athletic appearance and my self-determination to give this job a try. As to my clothing, I could sympathize with him, because never in my wildest imagination, did I ever think that an Arizonian might need such substantial cold weather clothing.

He started my education by giving me some of the particulars pertaining to the operation of the survey party. Above all he said, "Be very attentive to the job you are assigned to and always do your level best to make the system work. "Also", he stated: "Because of the remote locations that we are required to work, it is necessary to be in good health. However, it is much more important that you stay that way". (I later found out that there are no doctors in the wilderness, in fact there was nobody, period.)

We went to the survey storekeeper, and here is a list of the items that he furnished to all lightkeepers, not counting actual survey items:

1. 1 12x12 foot canvas tent.
2. 1 canvas folding cot.
3. 1 gasoline lantern with spare mantles
4. 1 5 gal milk can (for water)
5. 1 Coleman gasoline stove (not real sure)
6. 1 lot of lumber with fixtures to make a grub box.
7. 1 gallon can of clear gasoline
8. 1 flashlight with extra batteries and bulbs
9. 1 hammer
10. 1 axe
11. 1 shovel
12. 1 lot of miscellaneous hardware (nails, screws, etc.)
13. 1 Canvas bed tarp
14. 1 Plum-bob
15. 1 Canvas back-pack

If you study the above, I am sure you will notice that there was no bedding in the above items. Of course you will also notice that there were no cooking utensils. Ole said, matter of factly; " We will use mine for this trip, then if you don't make the grade, you won't be out for some unnecessary expenditures. On the other hand, If you last to make another station, you will have to have boots. Also you will need clothing and cooking items. If you have to draw on your salary, then you will have to see the boss. He is touchy about advances and you had better have a good story, or you won't succeed". About now, one did not have to draw me a picture. It was abundantly clear that I was not about to be around very long, unless I proved my worthiness in a very short time. This was my first job, and I did not intend to flunk out without giving it my very best effort. Too many family members were depending upon me.

I borrowed some bedding from the storekeeper, and scrounged enough from others to make a comfortable bed. I told Ole that I was ready to go shopping for groceries. Right out of the blue!, how would you like to go shopping for enough food to last perhaps a week to 10 days? Ole knew his way around. He also had a well established grub box, which I later found out is very common among all the lightkeepers. But nevertheless, he carefully directed me to the necessities. We bought 3 dozen eggs for my account, and he showed me how to pack and case them, in such a manner, that a broken egg is the exception, notwithstanding, the jouncing and bouncing that the truckdrivers unintetionally inflicted upon you. Also, He showed me how to select my slab of bacon. Not too lean--nor too fat. How to carve it and to fold the

rind to avoid mildew. It was a lesson that I never forgot.

He kept admonishing me that we were going to have a lot of time on our hands. That planning for such an eventuality, would certainly help relieve the boredom or monotony that was to be expected. He also advised me to take a good look at his grub box. You will have to build your own before you make your next station. About the only thing I remember is the fact that it was substantial. By that I mean put together with screws not nails. I also remember that the lid when fully opened, served as your dining room table, when propped up with a survey light box.

Usually, we were scheduled to work Monday, Wednesday and Friday nights only. How was I going to occupy my time during the intervening periods? What was I going to read? These were questions, that I could not answer. He finished the shopping by selecting a can of almost everything in the store. For certain, he would purchase an item, if he had never eaten it before. Then, there was the matter of cigarets; how many do you require for a period of a week to ten days? Oh, these difficult decisions, when I only had small change in my pocket. I don't remember just what the financial arrangements were to cover my expenses on this trip. However, remembering Ole, there certainly was some deal, whereby he would get reimbursed some day. Most likely on my first payday.

The truckdriver reported that he was ready for the trip. This was akin to the Conductor of a railroad crying All Aboard. Ole and I loaded our few possessions aboard. Away we went for a far off desolate section of the Owens valley in California. He finally spotted the mountain to which we were assigned. I do not recall the name of the station. He maneuvered the truck in such a manner that you would never believe. After the road gave out, he followed a trail. When the trail gave out, he followed a wash. When the wash was no longer passable, he climbed on a ridge. When that came to an end and he could climb no higher, he looked for a flat spot for pitching our tent. He then proclaimed--this is it. "You fellows are lucky--I'll bet it's not more that one hour and a half to the top." I almost missed that r o b when we climbed out of the wash. For goodness sakes, I responded: "What is an r o b?" He replied, "rag on bush. Don't you believe that I was the first person to come up here--the reconnaissance team was here; they left the r o b. Also, they provided me with a detail description for precisely arriving right where we are." I was dumbfounded, I thought geewhiz, maybe this outfit is well organized.

Here we were on the side of a mountain miles and miles from a highway. It was just about as desolate as it could get. In a matter of minutes, we had the truck unloaded. The truckdriver, without further adieu, bid us farewell and hightailed it out of the wilderness. Now, Ole was really sad, he said; "It will be three or four days, maybe more, before we see another human being". I thought to myself--oh God, what have I got myself into?

At his direction, I quickly learned how to erect a tent all by myself. Ole never lifted a finger. He assumed the role of supervisor and he was exercising his prerogatives to the limit. He was great at telling me what to do, and when to do it. He told me why the tent door had always to be on the downward side of the slope. He said, "That way the water cannot run into your tent when it rains". Soon the tent was in order, the beds were in place, the stove and grub box had their places and the lantern hung on a nail in the tent pole. The grub box lid folded down on one of the survey light boxes, just as he had previously instructed me. I will confess that it did make an acceptable table. Light boxes were also used as chairs.

He asked me if I could cook? I told him that if I did, it would be the first time. "Well", he says, if you want to watch, be my guest. We are having salmon patties tonight. On the side, we will have fresh corn-on-the-cob, boiled potatoes, hot tea and toast. Fresh vegetables are nice, but they will not last in the heat". He gave me quite a lecture on the difference between Sockeye and Pink salmon. He also discussed the merits and demerits of all of the varieties of beans. Not only that, he was able to illustrate what he was talking about by providing a can from his grub box. He also informed me about such mundane items as; never buy green chile peppers unless they originated in New Mexico, and preferably in Hatch, New Mexico. I asked him why? He replied, "Oh its just one of those things that you will learn, if you get in enough time on the job." One thing for sure, Ole liked his food. He knew exactly who the real cooks on the survey were. He enumerated them for me, and promised, that if I were ever able to sup with them, it would be a memorable experience. He named four out of forty men on the survey. Chris, a Mexican, the truckdriver for one of the Observation parties was perhaps the best. Just because Ole liked his food, was no reason to expect that I would like it too. Just think, he cooked bacon just until it got greasy. He thought it was great--and I would prefer it nice and crispy.

After eating and meticulously cleaning up the dishes and utensils, at his direction, he quit supervising. He assumed the role of teacher and began my education into the intricacies of the triangulation

party of the Coast & Geodetic Survey. You will see it was not very thorough, as he as well as I, were not what you would call mathematical whizzes. I will try to be very brief, but it is essential to give you a feeling of what the surveying party is trying to accomplish. Geometry is the basis, I believe. Maybe, that is wrong, could be Trigonometry. I believe that makes more sense. It seems that there is a mathematical law, or some other such thing, that states: that the angles of every triangle must contain 180 degrees. This means that if you add up the value of the degrees of each of the three angles, you must by necessity end up with 180 degrees. There is another law, or some such thing, that states that if you know the length of one leg of a triangle and the degrees of two angles, it is possible to compute the length of the other two unknown sides. These two mathematical propositions (Theorems perhaps) form the basis for the survey. It is called triangulation. The actual calculations are done via logarithms, I believe, at least that is what Ole told me.

The survey actually measures, under exacting conditions, the length of one side of a small triangle. I don't know for sure, but I imagine the base is about 6 to 8 miles long. From the ends of this base line, they form a triangle which they quickly spread outward in great quads (double triangles) whose sides are 30 or more miles in length. To be able to see over these great lengths, you can begin to understand why they prefer mountain tops to be the focal points for the triangles. I'm going to stop here with the mathematics of this outfit, for I already believe, that I'm in over my head. If the above is incorrect, blame it on Ole. Suffice to say, that if you are going to make a map of the state of Arizona, it would be very beneficial, in fact almost elementary, to be able to designate the exact position, with precision, of some 30 or more mountain peaks before you ever start to make the rest of the map. For every schematic that the survey performs, they start out with a known length of one side of a triangle. When they finish the schematic, the last triangle also contains a known length. Thus, they are able to determine the accuracy of the survey job, that sometimes takes many months to complete.

The party consisted of some 40 men. There were three observing parties, consisting of three men each. All the other members of the party were lightkeepers, mechanics, storekeepers and truckdrivers. A reconnaissance and a building party preceded the actual survey party.

The reconnaissance party's function was to create the schematic and to furnish written details of how to arrive at the various points they had selected as stations. Their finished product was a blueprint that all members of the party used. They also gave climbing

instructions leading to the summit of the mountain.

The building party's function was to cement in the bronze-copper markers at the summit along with two azimuth markers. They also built the tripods over the station marker for use by the lightkeepers and the observing parties. They too, gave written instructions on how to arrive and climb to the station if different from the reconnaissance instructions..

The observing parties used an instrument called a theodolite. The best description that I heard was: It is a transit with a college education. These instruments were utilized to develop precisely the measurement of the angles of the triangles. This was done at night with lights. They measured the angles not only in degrees and minutes, but also in seconds of a degree. The accuracy was described to me as being acceptable if the triangle measured within three seconds of 180 degrees. It was only when I learned, that a second amounted to 1 foot in 30 miles, that I really became impressed.

As soon as it became dark, we bedded down and began the long and tedious process of talking to each other with our flashlights pointed at the top of the tent. Not only did you have to memorize the Morse code, you had to be able to receive messages as well as send them. It should be obvious to you, that it is much easier to send, than to receive. This is true because you know what you are going to say, and therefore, can visualize what is coming up. Not so, when you are receiving. First you have to recognize the letter being sent and then memorize it to merge with the following letter. For instance, -.. is a D, --- is an O, -.-. is a C, right about now you are thinking what word begins with DOC? After telling them to repeat several times, you finally recognize that the word is doctor. Ole was supposed to be my teacher. But in reality, he was very inadequate with the Morse code. I think that this condition was one of the reasons why the boss chose him for this task, and why he so wholeheartedly entered into the learning process, that apparently was for my benefit.

We did not go to work on our first night out. This was not the usual routine. The extra day was to provide time, to teach this neophyte the values that the party expected of you. There was a lot to learn and we did go at it systematically. Nothing too difficult--that is if you don't consider the Morse code. Wow! what an awkward and difficult way to communicate.

The main survey data, transmitted by lights, is done by the observing parties. They send their data of minutes and seconds for each of the angles they had measured. Therefore, considerable data in the form of numerals, occupy the dark sky in pulses of light, which are readily decipherable by the main observing party.

This party is usually the one headed by the Lieutenant. He determines whether the results are within the limits imposed and we can go home, or that we have to repeat the observations (another couple hours or so). Sometimes results are so bad that the schedule must be repeated on another night. It seems that atmospheric conditions have something to do with the results obtained.

I'm going to interpose here some of the climatic conditions that a lightkeeper is subject to encounter at any given time. They range from mild weather on a clearly moonlit night to the worst conditions imaginable. Such as a snow-bound mountain on a stormy night with severe winds and the temperature very cold. There will be a number of occasions when you are required to be well above the timber line, subject to whatever weather nature cares to dictate. There are other times when the mountain top is immersed in cloud cover, and to you it appears as a very dense fog that may stay for an hour or so, or all night long. A full moon is a lightkeepers delight. It enables sight at night when otherwise there would be none. Survey schedules require advance planning because of those who are out in the wilderness. Therefore, on scheduled survey nights, rain or shine, you must be on your location.

CHAPTER 2

MY FIRST MOUNTAIN CLIMB

After lunch, we occupied ourselves with the gear that we would have to carry up the mountain. The 1 1/2 volt dry cells had to be wired so that they could furnish the voltage required by the lights. There also was the proposition of wiring in series so that ampereage could be maintained for considerable time. This package when completed consisted of 12 or more batteries, which in turn were rather heavy. In fact, when you arrived at the top of the mountain, they were very heavy. The schedule required us to be at the station on top, 1/2 hour before sunset. With this in mind we proceeded to climb the mountain at a leisurely pace. My game plan dictated that Ole was not to arrive at the summit first. Not much to the climb, as we divided the load between us. Once there, we had to plumb the tripod, to be certain it was exactly over the copper (bronze) metal marker that the building party had cemented into the solid part of the peak. In our case, the marker contained a triangle to reveal that it was a part of a triangulation survey.

With the aid of a blueprint, we were able to pin-point the three mountains that the observing parties would be on. We then mounted the lights on the tripod (one on top of the other) and aimed them at the

target mountains. We hooked up the battery supply, turned the lights on and awaited the coming of darkness.

Ole politely informed me, that it was sometimes difficult to get off the mountain and back into your tent at some hour around midnight. It would be wise, he said, to take a real good look before darkness set in, to plan the route I would be taking after work was over. He said, "you know it is possible to get lost on your way down the mountain". He also told me to avoid difficult spots, if there were and easier way around. He said, "Coming up the mountain you can see real good, but coming down via flashlight, conditions are much more difficult and dangerous."

Very shortly, we began getting calls from the observing parties via lights that looked like search lights. They either wanted a brighter light, or more often a dimmer one. After we satisfied this initial inquiry, we never saw another light until they called us with terminal instructions. This was about 1 a.m. They sent a message that read THD 1. I kept telling Ole that the message was THD-1. Ole made them repeat it several times, but it always came back the same way. I guess he was disgusted, because the message meant that work tonight was not acceptable and that they would try again night after tomorrow. In other words--skip tomorrow night. Alas, Ole was really sad, for now it appeared that our stay in the wilderness, had just been lengthened two additional days.

Without further adieu, we turned the lights off and prepared to descend the mountain. Boy, how dark it was. It also seemed to get much colder. Ole took the lead and said, all you have to do is follow the footsteps we made coming up, and we will make the tent pronto. Of course he was whistling Dixie again, for it was not long that our footsteps were no longer discernable. Fortunately for us, our trail led into a gulch, and the gulch into a wash, and there was our tent on the upper bank. What a relief! Just think we could be out there wandering around all night long in this cold. This experience put two bees into my bonnet. I thought to myself, (wouldn't it be nice to rig a flashlight on the top of the tent pole, so you could find it in the dark). Also, (it would be expedient, before dark, to mark on the tripod the initial direction to head in coming off the mountain).

We bedded down and had a good night's sleep. The tent became lighter and warmer as the sun rose higher. After breakfast, (bacon and eggs of course), Ole wanted to know how I was going to occupy my time. I told him I was going exploring. I asked if he didn't want to come along. Not Ole, "I get all of that exploring stuff that I need on the job. You go, I'll stay here". Besides, he said; "What happens if you get into some trouble?" Don't worry, I replied. I'm off to

see just what this world is made of. I guess I was too naive to worry. The thought never occurred to me that I could get in trouble. You don't get many opportunities like this to explore real virgin territory.

Now, some 50 years later, I can see where my aggressiveness and rockhound leanings began. I also became a first class arrow-head hunter, and ultimately had a fairly good collection of beautiful flint, obsidian, agate, and Jasper arrow heads. If they were not perfect, they did not get into the collection. Some of the dry lake beds provided the best possible site for arrow head hunting. It seemed that the prehistoric Indians liked to shoot fish in the shallow lake with bow and arrow. Sometimes they apparently missed and the arrow stuck to the bottom and did not float back to the surface where it could have been retrieved. Years later and in due time, after the water evaporated, the wind once again uncovered the arrowhead, and placed it in plain sight for you to find.

Time did pass slowly, but at night we practised talking with flashlights into the early morning hours. Now, it was time to go up the mountain again. Nothing unusual to report except that we received an ST 1 as our final message. This meant that schedule was completed and that work would commence again, with one night intervening. To us, it meant something special. The schedule stated, the observing party would be on our station for the next observing night. We had no difficulty at all getting off the mountain and into our tent,-- one and a half hours to climb--26 minutes to get down, via flashlight. The following day, I went exploring much futher from the tent. In fact, I managed to occupy several hours before I returned. Ole wanted to know what I had found, if anything, and if I had anything worthwhile to report. All I had were some interesting rocks that he did not care a hoot for. At night, we practised the code till sleep made us quit.

The observing party arrived and it was fun. There were other people to talk to, (not that Ole was poor company). They had news of what was going on in the world. They also told us how the survey was progressing, and where the new headquarters would be located. There was always some scuttlebut about the antics of some party member. It was most rewarding to watch them work. They were truly professionals. After climbing the mountain (Harry first on top), they erected a small silk-like tent around the tripod. This provided them with protection against the wind. It was only neck high so they could observe at the theodolite level without hindrance. Soon as the sun went down, they had us call all the other lightkeepers they were going to utilize. After they located their positions,

they had us ask the lightkeepers to dim their lights until it was just a blip, like a small star in the Big Dipper. Then they proceeded to make their survey calculations, a matter of several hours or so.

The theodolite has a 360 degree circle base. It seems that it is almost impossible to manufacture a perfect circle with measured degrees. So, they make their calculations on different parts of the circle, according to established rules to arrive at the mean. These means are the finished product of the survey night. After computations had been made, they were duly sent by lights to the head of the observing party. None of this amateur business, they sent those calculations with the rapidity of a machine gun in action. Furthermore, they were received without incident. This had a profound affect upon me. I was determined to learn that code in such a manner that I could enjoy the respect of all the O parties. With such a gang, we had fun awaiting the verdict. It was not long in coming. Now to pack up and go down the mountain once again.

It seems in this business you are always saying goodbye. The O team was packing the truck and were going back to Lone Pine tonight. Oh, what a short-short visit. Just think--we were bursting to have conversation of any kind and here they were, chomping at the bit to be on their way home.

Ole was really sad, but all of a sudden, he recalled that we had only one more night to show lights on this station. Then we to would get a small taste of civilization before we were sent out into the wilderness once again. Sure enough, the time came when we were through. Barly in the morning, we packed up, pulled down the tent, and were eagerly awaiting the truckdriver. We actually were so darn lonely, that we had visions of just what we were going to do when we got to town. Foremost, I think was a big steak with mashed potatoes and gravy. Thoughts then wandered to such mundane things as an ice cream soda. We finally heard him far off in the distance. By the time he arrived, we were ready, willing, and eager to load. This time on the way out, the road seemed to be much better. After all it had received some needed additional usage.

CHAPTER 3

ON MY OWN

In due time, the boss called for me. I knew he had a report on what I was able to do. I felt confident, and sure enough he gave me the details of my next assignment. He also gave me an advance of funds, I believe, (I just don't exactly remember)-- which I promptly used for those necessities that were essential, such as new boots. My next assignment would be a station called Mount Hicks. It was a volcano cone on the eastern side of Mono Lake in Nevada. This time there would be no Ole to lean on. I would be alone and on my own. Best estimate was that I would be there a week to ten days.

By now, I had my grub box built. Now to fill it with food. I barely had enough money to purchase the necessities. Thank God, I won \$1.22 playing penny-ante poker last night.

Girls entered my head on a number of occasions. However, you just had to forget them, as financial and other conditions just did not give you enough leeway to try to make progress. For one thing, time was of the essence.

My kitchen utensils were bare bone aluminum type items. I borrowed a solid iron skillet and scrounged a used coffee pot. I considered myself fairly equipped, but I later learned that I didn't know what I was talking about.

The truckdriver told me it is time to go. It seems that all lightkeepers (worthy of the name), linger as long as possible, and often spend considerable time thinking of ingenious ways to forstall departure, even for an hour or so. The truckdriver on the other hand plays the game for his benefit. He does not give a hoot that an extra hour or so would be most enjoyable to the lightkeeper. All he thinks about is giving himself enough time so he can be certain of returning well before dark. This time, I checked off all the items to be certain that I had left nothing behind. I was absolutely certain that my survey items were in order and on board. Several members of the survey party were watching, with tongue in cheek, as they saw this rank amateur prepare to go to his first station. I guess to them, it was just like a solo flight, I presume.

It was the same old game. You just can hardly believe the way the truckdriver can operate a truck after the roads give out. They take chances that I would never dream of. I'm thinking he surely is going to get stuck! He was able to get me much closer to the

summit of Mount Hicks than I ever thought possible. It was only when he could go no further (wheels spinning), that he started looking for a flat spot for my tent.

It was good of him to help me unload my gear. Nevertheless, he was bound and determined to get away as soon as possible. Therefore, I had no help in getting my tent up. Then I remembered that Ole didn't help me either. I waved goodbye with the thought that there goes my last contact with a human being for several days. My tent was next to a ravine, a shallow one at that, but one that led towards the summit of the mountain.

I erected my tent without any mishap. Got everything in order, and filled the stove and lantern with gasoline. It was just about noon, so I had some time to reconnoiter the area around my tent, and also to size up the mountain I was going to climb. It seemed that Mount Hicks was a cinder-ash mountain of the shape of a cereal bowl upside down. Of course it did have a summit, but certainly not a steep one. I began to get my clothing together. Gloves for my hands, a knit stocking type hat that had ear wings for my ears. Two light shirts, an outer heavy wool shirt and a parka type outer wrap that was waterproof for my body. One extra pair of pants of the blue denim variety would go over what I wore to climb the mountain. I made myself a good meal at around three p.m. and fixed a lunch that I would eat up on the mountain top. The climb was scheduled to be a 1 hour, so I could take my time in order to be on top by 5pm.

The climb was uneventful. When I got to the tripod, I noticed that I could see my tent down in the ravine. Without hesitation, I immediately lined up my tent with a far off mountain top, and thought to myself, [good, just go toward the mountain top and you will run right into the tent]. I'm thinking that no way am I going to spend the night any place other than in my tent.

I put up my lights after orienting the blueprint to the intended observation stations. I waited for close to sundown and then turned them on a little early, I was sure. It was not long before I was called and I satisfied their requirements quickly. Very shortly all three called and now I had nothing to do but wait for their final call. This could come in three to five or more hours. As it got dark, I suddenly discovered that the mountain that I was going to use to guide me to my tent was not visible in the darkness. Oh, what a sinking feeling. Which direction was that mountain? I was very uneasy the rest of the night. When they finally called me, it was well after midnight. After I turned the lights out, it really was dark. No moon, nothing but the stars. It also was very cold.

Well, if you think I got lost getting off that mountain, you certainly guessed right. I can remember coming down, of going across an obsidian field, that certainly was not there on the way up. When I got to the base of the mountain, I knew I was lost. So, I found a nice sandy dry stream bed and lay down and went to sleep. In the morning the sun came up in the West. I was in territory that I had never seen before. Nothing to do, but climb that mountain again, for I knew I could see my tent from the tripod. As I arrived at the top, I could see my tent just about on the opposite side of the mountain from where I had spent the night. Believe me, I thought, nobody is going to know about this episode for a very long time.

Not all of my unusual experiences were over yet. Let me tell you that after getting to my tent and fixing my breakfast, I began to feel much better. After all, more than one person has gotten lost coming down a mountain. Then everyday things began to catch up with me. I could see that my cigarets were not going to last. I would have to do something to make them last longer. I finally figured out, that if I could snuff a lit cigaret out without crushing it, then I could relite it at a later date with no ill effects. OK, how? I got a flashlight battery and slipped the cardboard cover up, put the lit cigaret in and closed the end with my palm. No air, cigaret is out. Same thing as putting a lit cigaret in a small glass tube and closing the ends. This little invention saved me from; "Walking a mile for a Camel." Then the original thought came to mind for future trips. Why not roll your own! Thereafter, I always had a pack of papers and a can of Prince Albert tobacco in the grub box. Cheap and satisfying in a very poor way. But better than nothing by one long shot.

I am sure that there was not a living person of any type within 15 or 20 miles from my camp. Therefore, I expected an uneventful evening and night. I was rudely shaken to the core, when someone came knocking at my door. I was reading a magazine, minding my own business when all of a sudden a loud scratching noise took place on the tent top. I thought a monster was up there and he was going to rip it to shreds. I grabbed my flashlight and peered upward at the disturbance, looking for--I don't know what. What do you know--an owl or a hawk was trying to roost on my tent pole and kept sliding off. I actually served on the survey for 2 1/2 years, and never once again, did a bird try that trick. You never know just what to expect when you are living in the wilderness.

During the daytime, I explored the countryside. I never got too far from home base, maybe several miles or so. I often climbed small mountains just to see what was on the other side. It was hard to learn to live

with yourself all alone. You studied the blueprint and knew all the stations which had lines to Mount Hicks. You also studied the climbing times of all the mountains that you might get in the future. I attempted to carry on a pretty good conversation with questions and answers all by myself. It got to be extremely lonely, and when the O party arrived, I was starved for companionship and conversation. When it came time to go down the mountain, I kind of lagged behind. I wanted to see what the professionals would do to orient themselves in order to go to camp. They did not have any trouble, they just seemed to start out and they walked right into camp. Knowing that I was a green horn, they brought me some fresh meat and a fresh loaf of bread. It was very welcome and I told them so. It seems that I'm beginning to become a worthy member of the survey team. Only one more night to show lights at this station and then I would once again be in civilization for a day or so. I was already preparing in my mind what I could do to be fully packed by the time the truckdriver came to relieve me of my boredom. I also had visions of the things that I would like to do once I got into town. Mount Hicks was a nice station as stations go. Nothing special, except my first--and surely one that I never forgot.

CHAPTER 4

REMINISCING

Looking back, now some 50 years later, just think--I'll bet they have walkie-talkies now. I also bet everyone has a radio and perhaps even a battery television in camp. I will also bet that the Morse code is out and that all communications are via radio, and in English to boot. No, I don't even think the lightkeepers camp at the mountains any more. I believe they are set down by helicopter right on top of the mountain. Without all that mountain climbing, it would be a job worthy of any outdoor enthusiast. Might be, that they don't even need lightkeepers anymore. Just think, if you had the use of a helicopter, you could visit all stations, turn on the lights, go back to the observing station, and perform the survey necessities. You could go back the next morning, turn out the lights and then head for base camp. Then there is the nagging thought that the survey has accomplished it's goals and there is no need for further triangulation. I hope not, for I believe the lightkeepers had one very difficult character building job, which would not be available to the youngsters of today.

As I reported, I served on the survey for over two years (in fact, 2 years, 5 months and 8 days) and I climbed many-many mountains from Mexico to the Canadian

border, and from Texas to the State of Washington. The state of Nevada got good attention, as I believe I saw almost every section of the state. The longest line on our schematic was 93 miles. Many people will not believe that such a feat is possible, but I am here to tell you that it is true.

Believe me, when I tell you that I have had to wrack my brain in order to recall the following members of the survey party. Lt. Charles Pierce, I believe from the state of Washington. He was the boss, and although difficult, he was fair and well liked by his employees. Ray Faucett, an observer from Washington. He said his home was in the most northwestern city in the U.S. He was a great fellow, his nickname was Spigot, and a great poker player, who chain-smoked continuously. I understand that he now lives in Oracle, Arizona. The Sylar Brothers. The eldest was a sadist bully, and I can truthfully say that he was the only member of the party that I did not like. His younger brother was a great fellow. Warren Bronson, a lightkeeper from Moab, Utah. A great fellow who deserved the nickname Brigham. I understand that he stayed with the survey for a number of years. Jim Manning, a lightkeeper, from California. He was a worldwar vet with a plate in his skull. A good friend, good cook and good lightkeeper; he was the kind of guy that everyone liked without exception. Winnie Pierce, the brother of the Lt. He was a building party forman. Bruce Campbell, a recorder from Klamath, Oregon. a good friend and a fine fellow. A Jewish fellow from California by the name of Hirst who was a building party member. I can see (in my mind) the storekeeper--a real good-looking fellow--as well as a fellow with the nickname Heavy, but I cannot recall their names. I served under three different officers. All were Lieutenants. They were Lt. Charles Pierce, Lt. Frank Johnson, and a Lt. Porter.

In addition to the party members that I have previously enumerated, there were two other members of the survey that were from Arizona. They were Roy McDonald from Glendale and Elmer Vainwright, a building party foreman, from Phoenix. Mac and I made a few expeditions into the Superstition Mountains that were worthy of mention. Maybe someday I will relate them to you.

The next time you see Hoover dam, just recall that I was part of the surveying party that made all the initial reference marks on the dam and surroundings. They were for further evaluation, when and if, the dam ever got full. I actually went down the backside of the dam on a skid to one of our markers. It was quite scary. We saw the dam at three different times during construction.

Las Vegas served as the focal point for survey headquarters on a couple different occasions. This was super--the whole gang was filled with enthusiasm when we moved shop to this location. The young punk that I was; just like a true greenhorn, I just couldn't wait to watch all the professionals win their wad. Alas, it just didn't happen that way. On our nights off, everybody was to be found at one or another of the casinos.

Now you can see the trials and tribulations that I went through on my first job. You will also realize how difficult it was for me to send home 20 bucks out of my first paycheck. I later learned from Mom that it was a godsend.

I hope that you enjoy this long letter, for herein you will have found, why I liked the great outdoors so very very much. You will also discover that I overcame adversity that was not of my own making. The great depression of the 1930's, has not been repeated in my lifetime.

CHAPTER FIVE

DIFFICULTIES

My friends all want to know if I didn't experience some hair-raising events while working as a member of the U.S. Coast & Geodetic survey triangulation party. I was employed as a lightkeeper, whose duties required me to be at the assigned station 1/2 hour before sundown, usually on the top of a mountain. At that time I was to orient my lights towards the mountains that the observing parties were scheduled to be on. When darkness came on, they would call me with a light and by the means of Morse code would tell me to brighten or dim my lights according to their wishes.

My station, where this bone chilling episode took place, was on a mountain near Durango, Colorado. It took about 2 1/2 hours to climb. In the normal course of triangulation survey procedures, the lightkeepers are ahead of the observing parties on the first survey night. The second observing night, the observing party is at your station and the third and normal final effort, the observing party is ahead of you.

Now, I am sure you never heard of surveying at night. Moreover, would you ever think that they granted you the option of staying on the mountain until daylight or coming down the mountain after the survey period was over by flashlight? As a matter of practice, all lightkeepers headed for their tents just as soon as the final signal was given.

On my first effort climbing the mountain with about 40 pound pack was uneventful. A large part of the climb was on dirt and the adjoining territory was largely forested especially near the top. I was given a quit signal about 1 a.m. I turned out my lights and prepared to descend the mountain. For some unexplained reason, I was a little apprehensive. Why, I did not know. For coming down the mountain in this manner was old hat. I had done this many many times in the past. When I was down about a 1/4 mile from the summit, I turned and looked over the trail to my rear with the flashlight just like I expected to see something but nothing was there. I got a little curious and made some loud noises just to see if I could spook whatever was bothering me. Then for some reason, I looked at the trail real closely and I spotted paw prints and now I knew what the game was. There was a mountain lion back there. He had followed my trail all the way to the top and now he was watching me descend I presume, planning his next move. I can tell you that I became very alert and most apprehensive.

Without further ado, I hightailed it down that mountain at a real good clip. When I reached my tent, I gave a sigh of relief. For I neither saw nor heard that cougar (mountain lion) on my descent. But, nevertheless, I decided I would give the Observing (O) party a thrill, [like I experienced] when they would be here for the next observing session, two days hence. Sure enough they arrived as scheduled and we prepared to climb the mountain. I casually mentioned that

this was great deer country and that I had seen their trails everywhere. They knew that everywhere deer are bountiful there was bound to be cougars in the area. The climb was uneventful and they set out to do the tasks that were required of them. True to form, the survey boss sent us terminal instructions about 1 am and we immediately prepared to descend. The O party consists of three men, so there were four of us in the party. When we had reached a good dirt surface, I called them to a stop and I proceeded to ask if there was a good tracker in the group. There being none, I cautioned them to not disturb our tracks coming up the mountain but to look carefully and see if they could find what had followed us all the way up the mountain. It took a little while and then they spied the cougar tracks in the soft dirt. It was a new ballgame--In short order three flashlights began examining the uphill behind us. Once again nothing was to be seen nor heard. However, the O party got rather loud about this time, just like they were trying to spook or scare something away. Sure enough that mountain lion had followed us all the way up that mountain and for all we knew he might be ready to ambush us.

I then told them about my experiences the previous trip down the mountain. Now they really began to pay attention. Once again they decided to take a look at the paw prints and I heard talk of estimating the size of the lion. They weren't kidding me for I knew what they were doing and I kind of laughed to myself. They were preparing a yarn about this event. Via scuttlebutt, this happening would be the talk of all 40 party members in short order. When we resumed our downward trek, let me tell you there was no cow's tail. They all became very alert. Everybody was bunched the whole trip to my tent.

That brings me to the third night and a culmination of fears for I had to climb and spend my time at the station all alone. I really dreaded this trip but there was no way out. I did not want to have another episode with the mountain lion. I thought to myself, the lion had followed me every time I had climbed the mountain, so why did I think he might not follow me tonight? While climbing the mountain, I examined the trail very carefully. There were no discernable tracks that one could make a case of. On occasion I would hide and watch the trail backward. No problems and I performed my tasks as scheduled. This was a long survey night, and on several occasions I would fan my flashlight in all directions just to see if I could spot some eyes in the darkness. No luck - thank goodness. It was 2 am or later that I received terminal instructions. As this was to be my last night on the station, I had to pack up all of my lights, batteries and other paraphernalia into my backpack. It was dark and cold and I was apprehensive as you can well imagine.

I started down the mountain at a pretty good clip. It wasn't long before I reached the dirt portion of the trail which I had previously examined thoroughly. I stopped and took a cursory look and sure enough that critter had followed me up that mountain again. He was bound to be somewhere to my rear, I prophesized, although I couldn't be sure. He had covered every other of my foot prints with his paw prints. This time I didn't have the O party to fall back on. I thought about what they would say if they were here. I wondered if he would be more aggressive now that I was alone.

I thought to myself, Oh boy, How do I get out of this one? I made enough noise and flashlight passes to my rear to try to forestall any aggressiveness that the lion might exhibit. I tried to make certain that the lion knew that I was aware of his proximity. My senses of sight, hearing and smell were all working overtime. I was keenly alert and made a noisy retreat. I wished that I had a drum that I could beat and a bugle that I could blow to arouse the inhabitants of the mountainside.

There was no use of dilly-dallying. I headed off at a fast pace with frequent abrupt stops to examine the rear with flashlight, and continued with my noisy retreat. I was elated when I spotted my tent. I was sure thankful that I did not have to climb that mountain again.

The following day, at headquarters everyone wanted to know all about the cougar. They wanted all the details of my experiences, especially on my last trip up and down the mountain. Sure enough, the O party had spread the word and everyone knew of the unseen encounter.