

Public Land Surveys in Ts. 9 S., Rs. 14 and 15 E., Montana

And Retracement of North Boundary of Wyoming

By William R. Bandy

In 1936 I was assigned to complete the survey of section lines in Townships 9 South, Ranges 14 and 15 East, of the Principal Meridian, Montana with Roy Romberg as my assistant. The land lies in the roughest portion of the Beartooth Range of the Rocky Mountains. The block of land is six miles wide north and south and extends 10 miles east from the northeast corner of Yellowstone National Park, along the south boundary of the State of Montana. The general location of the land to be surveyed is further described as being on the headwaters of the following rivers: Clarks Fork of the Yellowstone, Stillwater and Boulder Rivers, and Soda Butte Creek. To emphasize its mountainous character is to say it lies between Index Peak and Granite Peak, the highest mountain in Montana.

Cooke City

The village of Cooke City, Montana is in Section 25, T. 9 S., R. 14 E. At that time (1936) the village consisted of one general store and post office, a saloon, and a night club known as the "White House". A few miners' cabins were on the hillsides. The town was reached by an unimproved road from Gardiner, Montana, 50 miles west. A trail almost impassable to wheeled vehicles leads southeast 15 miles to settlements on Crandal Creek and to Sunlight Basin, Wyoming.

Elevation

The elevation above sea level ranges from 7,300 feet on Soda Butte Creek to 10,300 feet on the mountain tops.

Previous Surveys

The north boundary of the State of Wyoming was surveyed by Roland Reeves in 1879 and 1880. More about that survey will be found later in this narrative. George T. Lamport a U.S. Deputy Surveyor had surveyed five sections in T. 9 S., R. 14 E. in 1890, and Charles Tappan had surveyed six sections in T. 9 S., R. 15 E. in 1893. Our job was to complete the survey of the remaining sections in those two townships. There are more than 100 surveyed and patented mining claims in the townships. We tied in those claims to section corners so they could be platted on the township plats.

Pack Train

For moving our tents, food, bedding and other camping equipment back into the mountains, we were provided with a pack train consisting of 16 head of sturdy pack mules about fifteen hands high and three saddle horses. Our headquarters camp was established on Soda Butte Creek four miles west of Cooke City. From there we packed into other camps established later on Lake Abundance, head of Broadwater Lake and Fox Lake, with a temporary camp on the Goose Lake Trail, as the work progressed. The terrain was exceedingly rough and cliffy, strewn with boulders 30 to 50 feet in size, with swampy places between, grown up with thickets of brush. Clouds of mosquitoes swarmed us at every opportunity, especially at lunchtime or when we stopped to write.

Moving Day

Moving camp by pack train was always a long day. Everything from toothpicks to cookstove had to be bundled or boxed to load on the back of a mule. Starting at 5:30 a.m. with a bell and the call from the cook to "roll

out and roll up" we jumped out of bed, dressed, rolled up our beds, packed our belongings in our warbags, and piled them all in front of the tent before breakfast. It was a good-natured race to see who could be first.

After breakfast, all would pitch in; some would clean up the dishes, while others would pack odds and ends in boxes or bundles wrapped in a canvas manta. All gear was securely tied with a manta rope ready for loading on a mule. The actual loading was left to experienced packers who carefully balanced each set of two bundles for each pack animal. Once the tents were down and everything bundled, the packers were left to load up while the rest of us walked on to the next campsite. Loading pack animals is a science in itself. Our pack saddles were of the swing type; that is, the heavy loads hung down the side of the animal for a lower center of gravity. Loads must be evenly balanced to avoid sore backs and to keep the loads from pulling down on one side. There were no sore backs and few delays to straighten loads. Blackie Postle, Oliver Tingley, Frank Montibeller, and Jack Morris were our experts and later on Seib Hottenstein and Myron Romberg qualified as packers.

At the new camp we would cut tent poles, build frames for tables, dig a garbage pit, level off a spot for the cook tent, get some firewood and have everything in readiness when the packers arrived with the equipment. Upon the packers arrival the first thing we did was put up the cook tent and commissary tent and get a fire going in the cookstove. All of us understood that the quicker that was done the sooner we would have supper. After the office tent was up, it was every man for himself. The first meal was the dedication of our new home.

Pack Animals

After being unloaded, the pack animals were fed oats and turned loose to graze. Halters were left on so they could be easily caught by offering them some oats in a nosebag. No fence or corral was needed, but if necessary our gray mare might be picketed and the mules would stay with her. If she was turned loose and the bell on her could be heard, we knew all was well.

Subdivision of the Townships

Since several sections in the interior of the townships had been surveyed back in the 1890's, the remaining meridional section lines were run from north to south with fractional measurements being thrown against the south boundary of the township, which in this case was the south boundary of the State of Montana. Closing corners referring to surveys in Montana were established at the intersection of such lines with the State line, with quarter-section corners set between closing corners.

The South Boundary of Montana

The south boundary of the State of Montana was surveyed by Roland Reeves in 1879 and 1880. The State line through the Cooke City area was run due east in 1879 and is high up on the steep cliffy north slope of Republic and Index Peaks. That line was retraced by me east from the east boundary of Yellowstone National Park at Mile Corner Number 53. Reeves ran his line from ridge top to ridge top, determining the distances by triangulation, limiting the corner monuments largely to witness mile corners on top of the ridges and spurs and not bothering to establish corner monuments in the intervening canyons and gulches. At times his corner monuments are from one and one-half to two and one-half miles apart. That made it necessary for me to run true lines between Reeves' witness corners to get the closing corners and quarter-section corners on the true State boundary line. That was a most laborious

and frustrating operation because of the steepness and cliffy nature of the slopes. Some points along the south sides of Sections 32 and 33 are 3,000 feet above the valley floor.

The last corner monument Reeves set high up on the mountain is Witness Mile Corner Number 58 plus 62.57. It is on the north shoulder of Index Peak at an elevation of over 10,300 feet above sea level and overlooks the country east as far as the Pryors and Big Horn Mountains 80 to 100 miles away on the east side of Big Horn Basin. We ate lunch at that point and left a flag that could be seen from the low country two and one-half miles east and beyond.

Search for Lost Corner Monument Number 60 + 31.12

Later in the fall, after completing surveys in T. 9 S., R. 14 E., and the north portion of T. 9 S., R. 15 E., we spent a week looking for Reeves' Witness Mile Corner Number 60 + 31.12. We picked up the line down near the Clarks Fork River by sighting back at the flag on Index Mountain, but no trace of the corner could be found. We discovered afterwards we were looking 49 chains too far west, due to an error in Reeves' measurement. After a closer study of Reeves' field notes, I found that from the high ridge he could see a dome-shaped rock on line about seven or eight miles east. We then could also see a dome-shaped rock above the trees. I decided to go four or five miles east and line up with the dome rock and search for the line. The country was too rocky and rough to get mules across it. The closest we could get a camp was on Fox Lake, some three miles north of line, in Section 24. We moved camp to Fox Lake and one morning got an extra early start and walked the four miles to the State line by way of Rock Island Lake, through the wilderness to a point due west of the dome rock. Picking up the line west of the rock with the solar attachment, we formed a north and south scouting line, spotting the men about a chain apart and drove west, as if we were pheasant hunting, looking

for evidence of the old line. Soon Sam Moss, one of my men, found a blazed tree (blazed on two sides). According to growth rings, it had been blazed about 50 years. Continuing west, Jim Minnie found another blazed tree, but it was not on line with the first one. Then Oliver Tingley found what we were looking for: a squared eight inch wooden post, charred on one side, lying on a mound of stone. Enough scribe marks were found to identify it as the 63 Mile Corner. It was a chain or more from the blazed line. With my movie camera I took a picture of a rehearsed finding of the corner and the rejoicing of the party. Sam Roberts patted the hero, Oliver, on the back. That film is among my records for future generations to see. We set a three inch iron post with a brass cap for Mile Post Number 63 and continued west. It took us several days to run the three miles back to where we had left off at the 60 + 31.12 Mile Corner. We found the other Corners, 61 and 62. Each day we had to walk the long four miles to work from camp at Fox Lake. It was through an awful jungle; swampy in places, over fallen logs and boulders, and through thick brush. As we passed Rock Island Lake, big trout up to two feet long could be seen in the clear water. Some campers said they had been there two days and had not caught any fish yet. We stopped and tried it for a few minutes, but no luck. The last morning we went by there I took some big worms, put them on my hook and tried again. The big blue nosed fellows would smell of it and go on by. Disgusted I reeled my hook in to quit, when about three feet from the bank a big one rushed in, grabbed my hook, splashed water, and startled me. I caught him and then did not know what to do, since I was on the way to work. I took a piece of line and picketed him to a tree until I went home in the afternoon.

[Back to Number 60 + 31.12 Mile Corner](#)

We found we had been looking 49 chains too far west for the Monument Number 60 + 31.12. Reeves had made a mistake in measurement of 49.10 chains in a triangulation. I found that corner monument consisting of moss-covered chisel marks on a flat rock about 40 x 50 feet square and 10 feet thick. I was attracted to the spot by a lone rock a foot and a half long lying isolated on the flat boulder. Under the rock were the chisel marks 45 N L^{MONT}.
The bearing of the line back to the flag on the mountain was due west according to my solar.

Complete Subdivisional Lines

With the State line established as our south boundary, we were ready to complete the subdivisional lines by running south to closing corners on the State boundary. Some nerve wracking experiences were encountered in running section lines over the mountain peaks. Once I got really scared when Bob Pyle and I were climbing Meridian Peak. I was following him with the transit and would hand him the transit to hold while I climbed after him. Bob came to a place where he could find no hand holds ahead. His toes were resting on a narrow shelf by my head, his heels right in front of my face. He wanted to back down, but I was in the way and I could not turn around. I was hanging on for dear life where I was. Bob got panicky and nervous, saying he was about to fall and I knew if he fell he would take me with him down on a pile of rocks below. His heel in front of my face nervously bobbed up and down. It was a serious situation, since I could neither go up nor down. Tingley had gone up a different way and heard of our plight, so he worked his way down to Bob and pulled him up. Then Tingley and Moss, like a couple of mountain goats, came down and helped me up. I still shudder everytime I think of

the narrow escape. The accompanying picture shows how Tingley and Ariel Barney helped the dog and me across a chasm at the head of Pebble Creek.

A Mountain Falls - A Once-In-A-Lifetime View

I got a full once-in-a-lifetime view, from beginning to end, of the actual falling of a huge section of a mountain. On a Sunday afternoon at our camp at Silver Gate, my wife Inez, daughter Zoe, and some relatives from Missouri came to visit. A drizzle of rain had been falling, but the sun broke through and lit up the valley and mountains. I stepped out of the tent with my binoculars to look around the peaks for mountain sheep. A colorful picture was formed by white fleecy clouds brushing the summit of Republic Peak and the bluest of sky spots between the clouds. As I focused my binoculars on the peak I was amazed to see a section of solid rock the size of the Federal Building at Helena slowly split loose from the main pinnacle! I was struck with awe; I could scarcely believe my eyes. An opening in the clouds let the bright sunlight in. There was no noise or dust for what seemed a long time as I watched the crack widen. Perhaps it was no more than two or three seconds as the block of stone tilted forward, hinged at the base. Then it started to break into thousands of pieces with a roar and a cloud of dust. The folks in the tent, hearing the noise, rushed out to see the mass of broken stone flow down the talus slope toward us. Entranced, we stood there as house-sized rocks bounded down the mountain, coming to rest in Soda Butte Creek, 300 feet in front of us, damming the stream. It was a phenomenon not to be forgotten!

Reminiscence

Aside from the technical aspect of public land surveys, much could be said about the social phenomena engendered by a group of young men living

together in isolated tent camps far back in the mountains: eating, sleeping, and working together all summer long; sometimes leaving camp only on the 4th of July and Labor Day. Lasting friendships were often formed. For example, in 1932 on the Park Boundary survey we never saw a wheeled vehicle from the time we left Sylvan Pass on June 15th until we reached Cooke City on September 15th. Upon reaching the road below Cooke City, the most exciting thing Jack Morris could think of doing to celebrate the occasion was to get a man to let him drive his team up and down the road, hitched to just the running gears of a lumber wagon. They passed us in the road and Jack was proud of sitting on the wagon reach holding the lines. He pointed at us saying to the man, "That's my bunch there." That night Red, the Kansas City boy, stayed in town a little too late and missed the truck going to camp on Pebble Creek. He found the trail hard to follow after dark, and he thought he saw a bear. He was out of breath when he got to camp!

We worked hard and played hard. Everyone was paid straight time whether or not he worked everyday. At times we might lay off a week during rainy and cloudy weather and the boys would get restless. But, I was glad of a chance to catch up on my office work. One time at the Crow Reservation the boys got out and ran a cottontail rabbit down just for fun.

A Good Life

Looking back over the years, it is remembered as a free and good life. Former members of my crews tell me, "Those were my happiest days."

THE END