

1966

A FIELD TRIP TO THE TRI STATE

by the

LINCOLN GEM AND MINERAL CLUB

A successful field trip begins with proper preparation. After carefully researching our expected needs for the trip into the mine we loaded hard hats, head lamps with extra batteries, a flashlight, rock hammer, several long and short chisels, nesting boxes, and packing newspapers for wrapping our expected loot, plus canteen and candy bars. Then we were off for Picher, Oklahoma and the mines.

1. The long trip from Lincoln, Nebraska to Picher, Oklahoma across the Kansas plains gave us ample opportunity to talk about rocks and rocky people.

2. Arriving at sundown we found a motel and a good place to eat at Commerce, Oklahoma.

3. Early in the morning, it seemed about 4 o'clock, we went out to an old mine. This is the hoist house, the "Rock of Gibraltar". It was build about 1910. Notice the guy wires to keep it from blowing over in the wind. Under the building is the mine shaft. In the building is the wench which hauls the miners and ore buckets in and out of the mine.

4. We rockhounds were a bit hesitant to step off into space and be lowered down into that black hole; but after a very fast and smooth descent, we were in the mine.

5. I looked back up the shaft and then came the uneasy feeling that maybe the man with the wench might get sick and leave, or the wench would break or the electricity would go off, etc. and then I knew that we were "in" a mine, for it is 214 feet straight up to the surface and there is no way out except by the wench.

6. We unloaded our nesting boxes and loaded ourselves and gear into an old Army jeep. These old workings go for miles in every direction and it is very easy to get lost in these many miles of old tunnels. The miner told us once he ran out of gas and went back to the shaft to get some. He didn't get lost but he lost his jeep for two days.

7. As we drove back to where the miner was mining, we drove past relics of a bygone era of mining. At the turn of the century mules were used to haul the ore. They were never brought to the surface--hay and water were brought to them. This is the old mule harness left in the old workings.

8. This is an ore bucket left by the miners of old. When I was off by myself I could almost hear and smell the ghosts of miners who made these vast workings with nothing but sweat, hard work, and black powder.

9. The miner and his hired man--back up to where they are going to mine lead ore, which is the mineral galena, a chemical compound of 86% lead and 13% sulphur.

10. The miner shows the roekhound what he is mining and nearby he shows us where we can collect some galena.

11. The only problem now--which crystal of galena is best? How would you like this for your wall paper?

12. We searched the area and were only bewildered by the beauty and number of crystals.

13. Soon we go to work on a nice one, trying to get some matrix, which is the rock surrounding thecrystal.

14. Note how Bruce is hitting the rock from the side. The main body of rock which the crystals grow on is chert, a variety of quartz, which is a tough, hard rock--so hard it will cut glass.

15. This is a crystal of galena; note its square shape; it belongs to the cubic or isometric crystal system. It will stay this nice because we immediately wrapped it in newspaper.

16. The other ore of this mine is the mineral sphalerite, a chemical compound of 67% zine and 33% sulphur. Note how in places the mine is being held up with imagination. A person has to be very careful when working in a mine not to be crushed by a rock fall.

17. This is a crystal specimen of sphalerite. It is recognized by its resinous luster and black or red brown color.

18. Much of the mining at the present time is done by hand by small mine operators, locally called "gougers". They mine the pockets of ore which were bypassed by the earlier miners.

19. It's hard work. Remember the ore is heavy---67% zinc plus the chert matrix.

20. A hard-working miner pauses to rest.

21. Here the miner must be very careful working out the sphalerite. Above his back is a hanging ceiling of hundreds of tons of rock that could come down any time.

22. All the light we work with is what we carry, and in these big rooms it is very dim indeed. This picture shows the normal light we work with. When we unwrapped our specimens we were often surprised at what we found.

23. One of the most dangerous things in a mine is a dynamite cap. The cap is the brass thing on the end of the orange fuse by the shovel handle. Never handle or touch a cap unless you are experienced with explosives. Also if you ever see a fuse poking out of a rock in a mine or quarry, never touch the fuse and warn others around you about it; if it is a live charge and is pulled out, the friction might set it off. Some dynamite does not go off and since it is dangerous to work with a capped explosive charge, the miner will many times just go off and leave it.

24. Dynamite itself when it is fresh is not very dangerous until it is capped. The way to make dynamite go off is to place a cap inside the stick of dynamite with a fuse inside the cap. Then the fuse is lighted and the fuse burns at the rate of about a foot per minute. Old dynamite is very dangerous. Always warn others about it.
25. The dynamite with its cap is placed in a hole and a little pink fertilizer is poured down the hole. Dynamite will explode the fertilizer which is ammonium nitrate. Note the use of a wooden stick to tamp the explosive.
26. Then dirt and rocks are placed in the hole to make the force of the explosion go outward into the rock and blast it loose.
27. One miner goes up to the explosives and the other miner starts the jeep; the old jeep doesn't always start.
28. One yells "Ready to fire", and the other man hollers "Fire in the hole", and lights the fuse.
29. "Let's get the h... out of here".
30. Two minutes later, the area we'd been mining in looked this way, because there was no one there to illuminate it.
31. We took our ore buckets back to the shaft to be unloaded.
32. The big hook is let down and hooked onto the bucket. When the miners are ready, they signal the wench man to pull it out by pulling on the signal wire, which the man in the blue shirt is doing.

33. "Steady, there".

34. Soon the empty bucket is returned to be refilled.

35. Before going back to work the miners need refilling first. We envied them their big sandwiches while we ate our candy bars.

36. Soon we are back looking and collecting. "What's in there, Bruce?"

37. Some of the minerals in the mine are almost uncollectable except on film.

38. This is selenite---gypsum which is hydrous calcium sulphate. In the mine there is not enough of it to be mineable ore.

39. Rockhounds like to know what's on every level of the mine.

40. This is a pocket or "vug" of calcite crystals. They are of the hexagonal system. Note the **s**ix sides as you look straight down on to them. Calcite is one of the most common minerals throughout the world. A good inexpensive test to help determine if a specimen is calcite is to drop a small piece into a glass of vinegar. If it bubbles slowly, it probably is calcite.

41. Some of the sphalerite has a thin coating on it causing an irridescent play of color over its surface.

42. All too soon the day was done, so we returned to the shaft. Secretly I was a bit apprehensive, but we pulled the wire and down came the can.

43. I was glad to get to the surface but it surely was cold. We unloaded our boxes of heavy specimens into the back of the pick up truck.

44. As the evening sun sank, all of us were quiet, reflecting on a really big day in our lives. The miners were probably thinking about how crazy these rockhounds were, working so hard for a few pretty rocks.

45. In our cold motel room a tired rockhound pauses to refresh and reflect, with a thought also on the rocks he wants to collect tomorrow.

46. Early the next morning, in a cloud of condensing water vapor coming up the shaft, the miner checks to make sure the shaft is clear. They almost always run the can down once to make sure the shaft is free of obstruction.

47. So we looked down too, and it seemed to be clear, and oh, so deep!

48. The miner spent some time showing us around.

49. We saw this well bit that a test hole well machine had gotten stuck and lost years ago. By drilling a test hole it can be determined if an ore body is there.

50. We drove past this old ore chute where in bygone days ore from an upper level was loaded into buckets.

51. At one place gypsum crystals covered the ceiling like frost, but the temperature in the mine was about 70 degrees.
52. In our exploring a small hole was found near the ceiling.
53. "Hey, you guys! There's a cave up here and I'm digging it out."
54. When Lloyd looked in, he exclaimed "A glory hole!"
55. He had found a whole cave full of calcite crystals.
56. This group is now in our Lincoln collections and a bit cleaner.
57. "Here, Bruce, take this one and wrap it up."
58. Soon the miner took us to another cave which he had previously dynamited.
59. This one was lined with dolomite and chalcopyrite crystals. About the only way to collect these fine crystals is to dynamite the cave to jar the dolomite off the walls and come back in a few days. Dynamite fumes are poisonous and even after several days will give you a headache. A very large and nice specimen was collected for the University of Nebraska Geology Museum. If you want to see it, stop in at Morrill Hall on the Nebraska University Campus in Lincoln, Nebraska.
60. A close look at dolomite, a calcium magnesium carbonate compound.

61. "What's around the corner?"

62. More mine. In these vast underground workings we came on this old relic. It is a huge board fence used to deflect the fumes of explosives out of a nearby shaft and provide better air ventilation.

63. This brace is a modern safety measure; 214 feet to the surface; I hope she holds.

64. It's worth it.

65. As we traveled around the mine we came to this beautiful grotto.

66. On the floor were green melanterite stalagmites. The green is caused by traces of copper in the specimen, but it is mainly a chemical compound of hydrous ferrous sulphate.

67. These are stalactites of melanterite. Note the drop of water on the dip of the one. This is how they form. The mineral comes out of solution when it hits the mine air.

68. The growth of the mineral under these conditions is quite rapid as indicated by the 8 inch growth on the mine timbers.

69. Not a fall outdoor scene...just a Tri-State mine.

70. These stalactites are stained, mainly by iron.

71. A yellow stalagmite of melanterite, probably one of the best. Can you imagine our feelings now? We did not collect these as they are just too beautiful. When nature makes a cave this extraordinary, we usually leave it as it is, take nothing but photographs and leave nothing but boot tracks.

72. The biggest one we saw...about 3½ feet tall.

73. More beautiful melanterite stalactites.

74. This photographer had quite a few problems. If you go into a cave it is hard to get enough light on your subject to see to focus your camera. Also you must carry your camera ready or in the rush you just don't get any pictures. If you take flash pictures, be sure to take your old flashbulbs out of the cave or mine with you. Remember, leave nothing but footprints. I used high speed Extachrome film on almost all these pictures, with a strobe light. There is almost no light reflection in a mine or cave as you would have in a room at home, and therefore more light is needed underground.

75. A last look and we leave the grotto.

76. We explored some more. Note the large rooms that were left by the miners and the column of rock left to hold up the ceiling.

77. After a long hike through tunnels and rooms, the miner let us on.

78. He took us to a large crystal cave with a tiny opening. Even our 70 year old pal squeezed through.

79. "Beautiful---breathtaking"...that was our thought.

80. "Eeney, meeney, miney, moe...which one here do I lay low?"

81. It would be impossible to collect these calcite crystals as a group without spending a great amount of money as they are very well attached to each other and the floor.
82. We set to work cutting off crystals and carefully wrapping them up.
83. In one place gypsum lay like snow between the calcite crystals.
84. "OUCH!" You can't sit or lay on these crystals without being punctured. Note how we rolled our newspaper into tight rolls. That way it is compact and convenient to use.
85. All too soon our day ran out, and so back we go through rooms, tunnels, etc. "Boy, am I glad to have that miner guiding us."
86. Going past an old pump reminded us that in the near future the ground water would raise and all this would be lost from man's sight forever.
87. "Here is the can. Let's go top side." said the miner.
89. Past mountains of waste---"chat" piles of rock, hauled out by thousands of hours of hard work, we drove back to Picher, Oklahoma.
90. At Picher we bought specimens from Chink Enders, a very nice rock hound and friend to rockhounds.
91. He sold these specimens to us to go to the University of Nebraska museum at Lincoln.

92. This specimen of calcite will be on display soon at the museum. It will fill out a Tri-State display which will be one of the best in the nation.

93. Well, we must go home with our heavy load; see you in Lincoln. The Lincoln Gem and Mineral Club welcomes you.