

THE GEOLOGICAL SURVEY OF WYOMING
Horace D. Thomas, State Geologist

Laramie
1944

FLUORSPAR INVESTIGATIONS

MEMORANDUM REPORT ON THE ROYAL PURPLE FLUORSPAR CLAIMS, BEARLODGE MOUNTAINS,
CROOK COUNTY, WYOMING

By J. C. Haff
June 1944

Compare to Cox 1945

Subject: FLUORITE claims.

Locators: Messrs. David B. Hilton, David Fraser and William Seig (the latter, County Superintendent of Schools, Crook Co.).

Name(s) and Date: "Royal Purple" lode claims #1, and #2, filed in May, 1944.

Location: The claims lie approximately $1\frac{1}{2}$ -2 miles westward from the south side of Warren's Peak, Bear Lodge Mts. The claims set on the south and north banks of what is probably the middle fork of Houston Creek. The exact location cannot be given but the claims are probably near the boundary between Sec. 5, Twp. T. 51 N., R. 63 W. and Sec. 32, Twp. T. 52 N., R. 63 W., Crook County, Wyoming.

JKK
pb on
Bear Den Canyon
E 1/2 sec 25 T52N R63W
W 1/2 sec 30 T52N R63W

probably incorrect location given following observations

Observations

The discovery "vein" or lode lies near the crest of a ridge on the south bank of, presumably, the middle fork of Houston Creek and is situated above a large, conspicuous exposure of phonolite or andesite-porphphy talus. The porphyry forms a large sill, at least 50-75 feet thick, intrusive into what is probably the Minnelusa sandstone. Both the sill and the sandstone trend approximately northwestward at this general locality and appear to dip westward some 20-30 degrees.

Fluorite grains are disseminated quite generally in the sandstone overlying the sill for a distance of perhaps 50-75 feet from the porphyry contact. Locally the fluorite forms coarsely crystalline aggregates, of deep purple to black color, which may reach 3 inches in thickness. The ore in the small discovery pit, which was one of the poorest exposures, might run 10-15% fluorite.

On the north side of the creek, also a few feet west of the porphyry contact and in sandstone, are five or six lenses, intermittent veinlets and blebs of dark purple to almost black fluorite which is quite vuggy and associated with calcite, quartz and siderite (?). These separate masses are from 1-2 feet wide and 8-10 feet long. In such high-grade lenses or pockets the fluorite seems to run from 50% to 90% by volume. Also on the north bank of the creek, and on the western face of the slope, is rather abundant disseminated fluorite in dense, well indurated, quartzitic sandstone. The lenses are sporadic in distribution and most probably discontinuous bodies.

The fluorite showings above the north bank of Houston Creek are far superior to those on the south. It seems expectable that more high grade fluorite lenses may occur northward beyond the claim limits.

In no case observed were the fluorite concentrations very remote from the porphyry contact. The deposits are apparently not continuous veins, but pockets and lenses which, as a group, appear to trend nearly parallel to the strike of the porphyry-sandstone contact. There is a suggestion that the higher grade fluorite masses may be associated with calcareous portions of the host sandstone. No definite control of deposition, other than localization of the lenses near the contact of the sandstone with the porphyry, could be established in the time available.

Conclusions

At the time of examination only two or three small trenches had been dug by
Drilling at an angle such as would cross the stratification of the westward
ing beds, and with closely spaced holes, would provide the most information as to
umber, size and grade of the fluorite bodies. As contrasted with the Frank
en, W. W. Wright and Ray Allen claims (which reports see) the showing on these
Purple" claims, in view of the number of small but comparatively high grade
te lenses exposed, compares very favorably. In general the showings are
ior in grade to those on the Wright-Allen ground and appear the equal of
ures on Petersen's ground although the latter are in limestone.