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ANNUAL REPORT OF THE MINISTER
OF MINES
for 1936

PART D ------- SPECIAL REPORT.

by
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Hedley Dome Gold Mines, Ltd.: This property includes the Speculator group of 18 claims, owned in 1935 and 1936 by the Osoyoos Mining Syndicate. It is 2 miles east of the Lost Horse on a prominent ridge immediately south of Johns creek, at an elevation of 5,000 to 5,500 feet. This section flanks high broken summits to the west and drops off in timbered bluffs to the east; the south side of the narrow ridge is bare and grass-covered and on the north side are long wooded slopes. Outcrops are fairly plentiful. Water is obtained ½ mile distant from the principal showing.

The claims are reached by the Paul Creek trail from which, about one mile south of the Lost Horse, a trail leads for 2 miles easterly -- a total distance from the river of about 7 miles. This connects with another trail from near Hedley which follows up Jameson creek and across the head of John creek; the latter trail is a little the longer.

The sedimentary rocks here include considerable limestone. The average strike is north 25 degrees west and the dip is 55 degrees south-westerly; there is a little contortion locally. Dykes of fine-grained augite andesite, many of which carry fine pyrrhotite, intrude the sediments. The east end of the ridge is granodiorite which forms part of an extensive body in this area, and a dyke of the same rock several hundred feet wide occurs 500 feet west of the main contact.

On the ridge referred to, elevation 5,250 feet, between the main body and dyke of granodiorite are a number of exploratory open-cuts. The open-cuts at random intervals, extend about 300 feet down the steep south slope and for 300 feet down the wooded northern slope, These are all in or near to a sill of diorite about 20 feet thick that follows fairly closely the sedimentary bedding. A 3- to 5-foot dyke striking east-west is seen in one cut, and a few thin granodiorite and pegmatitic dykes are seen in two others; one lamprophyre dyke has been exposed. The sill is an altered hornblende (?) diorite containing perhaps a little primary quartz and fine primary pyrrhotite. Mineralization is confined to the sill and traces of sulphide are seen locally in scarce cherty black argillite; the limestone contains no sulphide. In only one place on the sill, in cut No. 1 on the crest of the ridge, is there appreciable mineralization other than the scattered pyrrhotite. This cut is 40 feet long, trend north 35 degrees east across the sill at a point where the sill is cut

by a fault zone that dips 70 degrees north and which moves the north segment to the east some 10 feet. The zone is 3 feet wide, of decomposed and thoroughly oxidized material. Adjacent to the zone, on both sides for a total distance of 12 feet the diorite is strongly altered to whitish or pinkish fine-grained dense hard rock consisting of quartz grains, epidote, calcite, diopside (?) zoisite, apatite; ganular massive arsenopyrite occurs in this material as replacement masses and seams, and is accompanied by some pyrrhotite and pyrite. Throughout the remainder of the cut there is some alteration and mineralization, but more erratic and less intense; the alteration and mineralization is not seen in nearby cuts except locally in cut No. 2 close by. Two chip-samples from near the center of the cut and from the south-west end, taken to include considerable arsenopyrite, returned 0.02 and 0.01 ounces gold per ton, respectively.

The mineralization and accompanying alteration are both locally strong and occur within the sill. The sill dips south-westerly and the fault 70 degrees northerly so that if the mineralization is as closely related to the fault as is indicated the mineralized body is likely to be pipe-like in form.
