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REPORT ON
THE SPRY SPHALERITE-ZINKENITE SHOWINGS
KALADAR TOWNSHIP
LENNOX & ADDINGTON COUNTY, ONTARIO

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INTRODUCTION

This report on the Spry Sphalerite-Zinkenite Showings cover a mineralized zone which extends for a strike length of 4,250 ft. Four distinct veins, or mineralized horizons, occur on surface as follows:

A Zone	extends	for	1,730	ft.	and	is	mineralized	with	sphalerite,
B Zone	"	"	600	ft.	"	"	"	"	zinkenite,
C Zone	"	"	350	ft.	"	"	"	"	"
D Zone	"	"	200	ft.	"	"	"	"	"

The rock trench in A Zone yields assays as high as 15.42% Zinc over a width of 2 ft. while a grab sample from B Zone gave an assay of 7.07 ozs. of Silver and 0.07 ozs. of Gold to indicate that the Zinkenite zones must be seriously considered for their silver possibilities.

LOCATION AND ACCESS

The property is located in the Township of Kaladar in Lennox and Addington County, Ontario. The zones occur on two patented lots owned by William Clifford Spry - namely, Lot 2 in Concession VI and Lot 3 in Concession VII. Access is by Highway 41 which runs across Lot 2. Two claims, EO 33021 and EO 33020 are also part of this property.

GENERAL GEOLOGY.

D.E. Hewitt¹, in the Geological Circular, Madoc-Gananoque Area, shows this area to be part of a long, narrow, Precambrian sedimentary basin which stretches from Tweed eastward across Kaladar, Kennebec, Olden and Oso Townships. The synclinal axis runs through the middle of a band of crystalline limestone which is about one third of a mile in width. The Spry Showing occurs in this band and the writer feels that the showings themselves lie astride the synclinal axis. The rock in the mineralized zone is almost entirely composed of dolomitic, crystalline limestone. There are three phases:

(a) SILICATED LIMESTONE or SILICATED MARBLE. This rock has layers of silicates, and in many places, quartz stringers. The silicates are commonly actinolite, tremolite, enstatite, serpentine, talc, long light-green tourmaline (?) crystals, and others. Black tourmaline occurs in the vicinity of B Zone. The rock is usually white, dense, compact, or occasionally indistinctly granular. The mineralization occurs mostly in this rock.

(b) SHALY LIMESTONE. This rock occurs in bands on either side of the silicified limestone bands. It is sugary in texture, white, grey, or bluish-grey and has a wet appearance. The blue-grey color is common in the zink-

¹Hewitt, D.F., Geological Notes for Maps Nos. 2053 and 2054, Madoc-Gananoque Area, Ontario Department of Mines, 1964.

enite areas while the grey variety is more common in the sphalerite area. (c) COARSE-GRAINED LIMESTONE: This forms the general country rock of this limestone band. It is coarse-grained, generally white but frequently grey, bluish-grey, reddish, buff or light brown. All of the limestones of this area are dolomitic.²

Some small bodies of diorite and meta-greywacke occur in places. The author feels that the mineralized zones, which form together a Y-shaped structure with the branches to the south-west, occur along the synclinal axis. The two zinc veins in the rock trench at the east end would thus represent one original bed folded into a tight U, while the B and C Zones would be the north side of a broader U which would link up with the D Zone. The numerous surface occurrences of sphalerite and zinkenite fall naturally into four zones named A, B, C, and D on the accompanying ~~map~~ map.

A ZONE

This zone was discovered by William Clifford Spry in the year 1952. Harry Knight and John McClasky obtained control of the property at this time and did some X-ray diamond drilling on this showing. Five short holes were put down. The drilling results for the first three holes are unavailable to the writer, although he had seen a copy of them many years ago. Hole #1, under the rock trench, was abandoned after about 13 ft. when the bit was lost. Hole #2, again under the trench, encountered values similar to those in the trench. Hole #3 was drilled about 200 ft. to the west of the trench and appears to have been the best hole. Hole #4, another 200 ft. to the west, cut only 2.3% Zinc over 2 ft. Hole #5, drilled by the old cars 650 ft. east of Spry's house, again got low values, 5.10% Zinc over 1.7 ft. The writer feels, from surface observations and from the drilling, that there is at least a length of 500 ft. in the vicinity of the trench where values, similar to those in the trench itself, can be obtained. No drilling was done east of the trench where mineralization continues for another 400 ft. before passing under overburden. The rock trench was sampled in the fall of 1965 by George Ross, a geologist, who obtained the following results: (from N to S)

1.02%	Zinc over	2.5 ft.
15.40%		2.0 ft. (Select grab, 17.00 %)
.08%		3.0 ft.
.12%		4.0 ft.
.58%		1.0 ft.
12.40%		1.0 ft.
.33%		2.0 ft.

2. Harding, W.D., Geology of Kaladar and Kennebec Townships, Ontario Department of Mines, Vol. LI, Part IV, 1942.

B ZONE

This showing is exposed in three locations of which the central showing contains up to 10% zinkenite mineralization in spots over a width of approximately 2 ft. A spectographic analysis was run on a sample from here with the following significant data:

Antimony	Medium-High	(5-50%)
Bismuth	Faint Trace	(.002%)
Copper	Trace Low	(0.1%)
Lead	Low-Medium	(.5-1%)
Silver	Faint Trace	(3-5 ozs.)
Zinc	Low-Medium	(1%)
Arsenic	Possible trace	

Samples of the grey sulfide were sent to the Department of Mines and Technical Surveys in Ottawa where C.H.R. Gauthier identified it as zinkenite. A grab sample sent out for assay gave 0.07 ozs. Gold and 7.07 ozs. Silver.

Zinkenite ($PbS.Sb_2S_3$) is a soft, steel-grey mineral which resembles stibnite. It contains: Antimony, 41.8%; Lead, 39.5% and Sulfur, 22.3%. It frequently shows parallel lines and sometimes shows a tendency for a basal cleavage. Dana mentions a large argentiferous zinkenite deposit at Dundas, in Tasmania. Generally, a few grains of pyrite and sphalerite are associated with the zinkenite in this zone.

The B Zone of a narrow quartzite horizon which carries abundant bluish-grey actinolite in fan-shaped bundles. This blue-grey actinolite is an indicator mineral for zinkenite. Grey actinolite is widespread, but not bluish-grey.

C Zone

This zone is narrower, generally from 6 inches to 1 foot wide. Here, quartz stringers are lightly mineralized with zinkenite and minor sphalerite. No sampling has yet been done on this newly-uncovered zone. The presence of vein quartz here may be favourable for the precious metals.

D Zone

This zone was opened up by a rock trench by W.C. Spry in 1952. Anthony Strickland sampled this trench at that time and got the following results over 2.5 ft.: 0.32% Sb, 0.33% Pb, and 1.00% Zn. It is noteworthy that apparently no one has checked the showing for silver, which, it appears, should be present in some amount.

CONCLUSIONS

While the A Zone has been diamond-drilled, the writer does not feel that this drilling has significantly eliminated the possibility of an ore body. The drilling has, however, tended to substantiate the surface indications that no important zinc occurs (near the surface) beyond a point 350 ft. west of the trench. The drilling at the trench did not cut the entire width of mineralization since zinc occurs in the south trench in the shaly limestone. To the east, where strong mineralization continues for 400 ft. before going under overburden, no drilling was done. Again, the drilling was all very shallow.

The shaly limestone is a rock which weathers very easily and one suspects that any zinc which might occur in this rock would be removed entirely from the surface horizon. Even on the surface of the silicated limestone, the zinc is badly leached and it is extremely difficult to follow the mineralization. The writer traced out the zone by running a picket line and carefully lining up the occurrences.

Although the D Zone of the zinkenite mineralization has been known for some time, any assaying that was done was mainly for antimony - it being assumed that the mineral was stibnite. Thorough sampling may reveal important silver and gold values.

Because of the abundant leaching and considerable overburden, the writer recommends that the above zones be diamond drilled to determine their economic possibilities. Only a small part of the 4,250-ft. zone has been explored at all, let alone thoroughly. With such widespread mineralization, the possibility exists that a narrow, high-grade silver vein, or, an economic concentration of zinc, may be found by further work.