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Preliminary Report on Pickle-Crow Gold Area

Government Geological Party Made Examination of Pickle Crow Area in the Patricia District During the Past Summer. Preliminary Report Just Issued.

(By Jas. E. Thomson)

During the past summer, a detailed geological examination was made of most of the properties being actively developed in the Pickle-Crow area. These extend for about nine miles from the Gateway Patricia claims on the west to the Kaw Crow Patricia property on the east.

The Pickle-Crow area has two producing mines, Central Patricia and Pickle Crow; shaft sinking is under way at the Albany River property and the Springer (No. 2) operation of Central Patricia. During the summer a diamond drilling programme was being carried out at the Gateway Patricia, Winoga Patricia, Kaw Crow Patricia, the Cohen group of claims north of the Pickle Crow mine, the Sutherland group of Coniagas Mines, and the Pickle Crow mine. Surface development was done on the Roanor, Crow River, Pickwick Syndicate, Connell Mining and Exploration, Dona Patricia, and other groups of claims. A large part of the country is covered by swamp, muskeg, and overburden. Detailed examination of this ground is being carried on by means of geological mapping, electrical, geophysical, and dip-needle surveys, and diamond drilling.

General Geology

The geology and the gold deposits of the area have been discussed by M. E. Hurst in the annual report of the Ontario Department of Mines, Volume XXXIX, Part 2, 1930.

Most of the area is underlain by Keewatin rocks, chiefly basic volcanics. Interbedded with these lavas are bands of iron formation, agglomerate, tuff, and volcanic breccia. The lavas are fairly massive and commonly show pillow structures, but may be locally sheared and drag-folded. In a few places bands of diorite strike parallel to the general trend of the lavas and are probably sill-like intrusives of about the same age and composition as the flows.

The bands of iron formation range from tiny patches only a few inches wide lying between lava flows to bodies two or three hundred feet in width that may be traced for several miles. The traceable horizons may pinch and swell or even die out at various places along the strike but are sufficiently continuous to provide marker horizons in the greenstone complex; they afford the only reliable clues to the details of structure in the rock formations.

This rock assemblage is intruded by irregularly shaped bodies and dikes of granite, porphyry, and lamprophyre, two distinct types of porphyry occur, a sheared quartz porphyry and massive syenite or quartz-feldspar porphyry. North of the Central Patricia mine are sill-like bodies and dikes of quartz porphyry, which show various degrees of shearing and alteration to quartz-sericite schist. An elongated body of massive quartz porphyry occurs near the northwestern extremity of the Albany River and Winoga Patricia claims. West of the Albany River shaft is a small stock of massive quartz-feldspar porphyry. Small syenite porphyry dikes are occasionally found. The lamprophyre cuts the granite of the area, and a lamprophyre dike cuts the main vein at the Pickle Crow mine. A diabase dike runs southeastward across the Central Patricia claims east of the mine and is presumably Keweenawan in age.

Structural Geology

The interpretation of the geological structure in the area is impeded by lack of rock exposures and the uniformity of rock types over most of the country. The tracing of horizons of iron formation, however, is proving to be of considerable use in showing the deformation of the region. By this method it has been found that the formation immediately north of the Pickle Crow mine has been folded into a syncline, the axis of which strikes about N. 45 degrees E. The axial plane is overturned to the north with a dip of about 75 degrees. North and east of the mine this syncline noses out, and a series of dip measurements taken on the nose of the folds indicates that it plunges to the northeast at an angle somewhere

between 45 and 70 degrees. Two horizons of iron formation have been traced around both limbs of the syncline. A third and possibly lower horizon exists on either side of the above structure but has not been traced around the nose of the syncline. The southeastern band, which may be a limb of the third and lowest prominent horizon of iron formation, has been traced from a point near the Springer vein to the Central Patricia Mines across the Pickle Crow, the northern part of the Winoga Patricia, and the Albany River claims. That this horizon of iron formation was the locus of considerable fracturing is shown by the fact that numerous veins and sheared zones, including the vein at the Pickle Crow mine and the main gold occurrences on the Albany River, Winoga, and Springer claims, are located either in or fairly near this band.

In the vicinity of the Central Patricia mine a number of bands of iron formation have also been traced for some distance. Here there is evidence of faulting in an east-west direction along the Crow river and of cross-faulting which has offset the iron formation.

Veins and Mineralization

Gold occurs in several types of deposits in the area.

1. Quartz veins occupying fractured zones in massive or slightly sheared lavas.—These veins are generally twisted, contorted, or drag-folded. They contain tourmaline, chlorite, and native gold, but sulphide mineralization is rather sparse. This group is represented by quartz veins on the Springer (No. 2) operation of Central Patricia and some of the veins on the Pickle Crow claims, including the main (Howell) vein.

2. Sulphide bodies occupying fractures in iron formation or replacing certain parts of this rock.—In this group belong the ore bodies at the Central Patricia mine. Here, pyrite, chalcopyrite, pyrrhotite, and arsenopyrite are the sulphides with which the gold is associated, especially the latter two. On the Albany River claims gold is also associated to some extent with pyrite in iron formation. Sulphide bodies occur at the Pickle Crow mine in the iron formation adjacent to the main vein but carry only low values.

3. Silicified sheared zones in lavas or at the contact of lavas and tiny bands of iron formation.—These may be mineralized with sulphides. Such sheared zones occur on the Albany River claims, where gold is associated with pyrite and, to a lesser extent, chalcopyrite. At the Cohen-McArthur showing north of the Pickle Crow mine, quartz veins occur in silicified sheared zones, are mineralized with arsenopyrite, and contain native gold.

Descriptions of Properties

Albany River Mines.—During the summer a vertical shaft was being sunk in the vicinity of a gold showing previously exposed in surface test-pits and intersected by diamond drilling.

The gold-bearing zone lies in an area of basic lava flows containing many small bands of iron formation and adjacent to a small stock of massive quartz-feldspar porphyry. The shaft zone lies immediately off the nose of the main porphyry mass, where it fingers out into small dikes and irregularly shaped bodies. At the main surface showing (No. 1 vein), located 200 feet northeast of the shaft, results of sampling and diamond-drilling to a depth of 136 feet are reported to show an average value of \$23.64 a ton across 5.4 feet for a length of 20 feet. Here gold occurs in a silicified sheared zone with pyrite mineralization; the zone strikes N.30 deg.-35 deg. E., and dips 65 deg.-68 deg. N.W. Seventy feet north of this lies No. 2 vein, which is said to have been traced 125 feet by diamond drilling and which contains gold values. Drilling at intervals over a distance of 800 feet to the southwest along the strike of No. 1 vein zone has indicated gold values in a number of places, but these intersections are difficult to correlate from drilling data, and only underground work can establish their exact relationship. Gold seems to be associated with pyrite mineralization

both in the iron formation and the silicified sheared zones in lava.

At the southwestern extremity of the property and about 200 feet from the Winoga Patricia boundary, a silicified sheared zone in greenstone near a small band of iron formation carries gold values, especially where sulphides are present.

Central Patricia Gold Mines.—At the main property the mine has been developed by 8 levels to a depth of 1,000 feet. Up to the present the ore mined has come from above the 500-foot level. Four new levels are now being opened up. During the first nine months of 1936 the mill treated an average of 155 tons daily with an average recovery of \$19.00 per ton.

The ore bodies occur within a band of iron formation, which is bordered by Keewatin greenstone. The iron formation trends about east-west and dips to the north at an angle of about 75 degrees. It ranges in width from 5 feet to about 75 feet and is revealed by surface trenching for 1800 feet. Ore bodies occur in those parts of the iron formation that have undergone fracturing, which has allowed the mineralization solutions to penetrate these openings and replace certain parts of the iron formation. Gold values occur in bodies of sulphides and networks of quartz veinlets containing varying amounts of sulphides. The sulphides are pyrrhotite, arsenopyrite, pyrite, and chalcopyrite. Gold is found in close association with these, especially with pyrrhotite and arsenopyrite, and is scarcely ever seen in the visible state. The quartz does not contain much gold.

A number of ore shoots occur along the band of iron formation, the most productive to date being B and C ore bodies. All these have a definite easterly rake, which averages about 53 degrees. The localization of the ore-shoots is thought to have been controlled by zones of cross-fracturing in the iron formation.

During the summer drifting westward on the 375-foot level disclosed a new ore section in a band of iron formation with sulphide mineralization similar to the above-mentioned ore bodies.

The Springer (No. 2) operation is located about 4 miles east of the main workings. A shaft was sunk 175 ft., and lateral work was done at the 150-foot level on the Springer vein. At present this shaft is being deepened to 500 feet, and other levels will be opened.

The gold-bearing quartz vein, which occupies a fracture in fairly massive greenstone, has been traced about 350 feet on the surface, but disappears under swamp to the east. It has been drag-folded and contorted, and the general strike swings around considerably. The vein is generally narrow but local bulges show widths up to 8 feet. The vein filling consists of white quartz, black tourmaline, and traces of sulphides. Native gold occurs in conspicuous amounts in certain parts of the vein.

On the 150-foot level four ore shoots, ranging in length from 25 feet to 90 feet, were found. These made a total ore length of 198 feet, averaging 2.35 ounces gold over a width of 14 inches.

Pickle Crow Gold Mines.—The main vein at the Pickle Crow mine has been explored from six levels to a depth of 750 feet. The shaft has recently been sunk to 1200 feet, and three new levels will be opened up. During the first nine months of 1936 the mill treated an average of 146 tons daily, with an average recovery of \$30.20 per ton. The mill is now being enlarged to handle 400 tons daily.

The vein has been explored underground over a total length of 1500 feet. On the surface it extends 200 feet west of any underground exploration. The vein strikes roughly N.65-75° E., but in places is much contorted by drag folds. The general dip is about 75° N.W., but between certain levels is almost vertical. The vein angles across the enclosing rock formations, which have a general northeast-southwest strike in its vicinity. The eastern and western parts lie in greenstone, and the central section is either along the contact of greenstone and iron formation or entirely within the latter rock.

Mine officials estimate that 80 to 85 per cent. of the ore section lies in greenstone. It is said that, in general, the part of the vein in iron formation is wider and slightly lower in grade than the part in greenstone. In limited sections, where ore is being stoped in the iron formation, parallel fractures filled with quartz veins and stringers occur across widths of 20 feet or more. Three pronounced drag folds occur along the vein, and in the vicinity of these good ore widths are found.

Typical vein material is banded white quartz with chlorite or tourmaline occupying narrow fracture planes. Sulphides are comparatively rare, and visible gold is not abundant. Gold values are generally consistent along the vein.

Winoga Patricia Gold Mines.—The company owns a group of nine claims located immediately east of the Pickle Crow. These are being actively developed by surface-trenching and diamond-drilling. Owing to the fact that most of the ground is covered by overburden, a geophysical and electrical survey was made during the summer to assist in the drilling campaign.

The exposed rocks are largely basic lavas with minor amounts of volcanic fragmentals. A band of iron formation runs northeastward across the north-west corner of the property. North of this, an elongated mass of porphyry and some smaller dikes cut the greenstones.

A number of gold-bearing veins and stringers have been intersected by diamond-drilling. The most interesting values to date have been obtained on the company's northwestern claim near the Pickle Crow boundary and north of the band of iron formation.

Kaw Crow Patricia Gold Mines.—This company owns a large block of claims that surround the Winoga on the south and east and adjoin the Albany River property on the North. The south-

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tern claims tie on to Pickle Crow ground. A considerable part of these claims is covered by overburden, and geophysical and electrical surveys were made of the western part of the group. Development work has been carried on by surface-trenching and diamond-drilling.

The rocks on the claims consist largely of Keewatin lavas, agglomerate, and tuff, which are intersected in places by porphyry and rhyolite dikes. Two outcrops of altered sediments and iron formation occur on the southwestern claim of the group.

A drill-hole 100 feet east of the Winoga boundary on claim Pa. 2122 cut a 4-foot vein, which assayed \$8.40 per ton in gold.

Gateway Patricia Gold Mines.—The company owns a group of 27 claims, which adjoin the Central Patricia on the west. These claims, which are underlain by Keewatin greenstones, have been explored by an electrical survey, surface-trenching, and systematic diamond-drilling in the drift-covered sections.

Cohen-McArthur Claims.—The Cohen-McArthur claims lie immediately north of the Pickle Crow and west of the Albany River. A gold discovery was made on this group by Jack MacArthur and opened up by surface-trenching in 1934. The showing was diamond-drilled during the past summer.

The rocks on the claims are largely basic lavas. A siliceous carbonate body in the greenstone extends in an east-west direction across claims Pa.777 and 774. On the north side of this body sheared zones occur in the greenstone and contain irregularly located quartz veins and stringers. These are mineralized with arsenopyrite and contain some native gold. Gold values have been obtained in the surface trenches over a length of about 150 feet. Twelve hundred feet to the northeast of this, a series of discontinuous sheared zones contain some quartz stringers and a little arsenopyrite. A section across 85 inches in one trench is reported to assay \$9.00 in gold.

Coniagas Mines.—During the summer two groups of claims were staked in the northeastern part of the Pickle-Crow area by Jack Sutherland for Coniagas Mines. A band of iron formation was traced for a distance of 12,000 feet across the northeastern group of claims by a dip-needle survey. A series of exploratory diamond drill holes were put down to intersect the iron formation at intervals along the strike.

Rceanor Gold Mines.—The company holds a group of claims which adjoin the Central Patricia on their west boundary and the Kaw Crow on the north. During the summer the claims were prospected and developed by surface-trenching. The rock exposures are largely altered agglomerate and tuff with lesser amounts of basic lavas. Some quartz veins were found. A silicified sheared zone with pyrite mineralization was traced and explored on the surface.

Ottawa Journal.—Mr. Hepburn says he is proud to associate himself with President Roosevelt. We have yet to hear from the party of the second part.

Globe and Mail.—In the House of Commons on Friday the fact was emphasized that the British people have a King because they want one. A motion to establish a republican form of government mustered only five votes.

Mineral Estates Let Drilling Contract

Property has Already Most Extensive Geophysical Survey Given Any Ground in Canada.

(From Financial Review)

With the announcement of plans for an immediate and comprehensive diamond drilling campaign for the holdings of Mineral Estates, Ltd., in the Porcupine field, the operation reaches its most interesting stage to date. A contract for a minimum of 5000 feet of drilling is being negotiated by Mining Research Corporation, Ltd., consulting engineers, and the work is expected to get under way without delay. For months, Mineral Estates has been carrying on a very extensive programme of exploration on its large acreage to the west of Timmins, and results have been such that conditions indicate new history in the making for this premier gold camp.

Probably not more ambitious mine-making project has before occupied the attention of the investing public than the effort of Mineral Estates, Ltd., on its vast stretch of mineral ground west of the Mattagami River. The very acreage of the company's holdings is unique, and the magnitude of the possibilities has aroused interest throughout the mining industry. The forthcoming diamond drill campaign can be expected to provide news of profound significance to Ontario mining and may write a new chapter in the history of the leading gold province.

For months a programme has been under way which has embraced surface work, a limited amount of diamond drilling, and the most extensive geophysical survey ever conducted in Canada. The enterprise has thus reached the stage where it may be the foundation for not only one mine, but several, if the results achieved to date can be taken as a criterion.

A review of the situation to date may be of assistance in interpreting the significance of anticipated success. It has long been held that the belt of Timmiskaming sediments—with which are associated the major producers of the famous Porcupine camp—would be found to extend westward from the present recognized productive area. There was among geologists and engineers a disposition to seek such extension along a presumed strike somewhat to the southwest. A very large amount of development funds has been expended by some of the foremost operators on the continent along such a premise, and without any outstanding success.

Adopting a somewhat different view of the conditions, the property of Mineral Estates, Ltd., was acquired on the expectation that the extension of the sediments continues westerly through the townships of Mountjoy, Godfrey and Turnbull, and others to the southwest. Taking the broad view of the exploration possibilities, should such a condition be proven, sponsors of Mineral Estates, Ltd., acquired more than 20 square miles of territory in the townships of Mountjoy, Godfrey, Turnbull, Carscallen, Bristol and Ogden. Then came a programme which has embraced very modern prospecting practice, directed by an organization especially qualified—the staff of Mining Research Corporation, Ltd.

Where practicable, surface work was done, and some major vein occurrences were disclosed, in some of which very high gold returns were reported. At other sections of the holdings—which extend for some 14 miles west of Timmins—the amount of overburden dictated different methods. For structural information some diamond drilling was done, and this work definitely indicated that the sedimentary belt could be traced on the Mountjoy township claims. Then followed a geophysical survey, by which method large areas can be mapped and rock structures defined without the costly work of trenching and sinking test pits through the overburden. This survey, as mentioned, is the largest contract ever undertaken in Canada and was carried out by Hans Lundberg, Ltd., recognized as the leading organization offering such technical service.

The geophysical survey has now



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traced the desired formation over several thousand acres of the property of Mineral Estates, Ltd. Correlated with the surface data and close study of the geology, it is now possible to plan a diamond drilling campaign with confidence that vein structures and ore results will be forthcoming. Hence, with every expectation of success, Mineral Estates, Ltd., now enters an advanced stage of exploration and, considering the vast amount of favourable ground to be developed, places itself among the most absorbing mining ventures in Canada.

forces for a series of drills preliminary to a western exhibition trip at the end of the season. Smythe thought it would be a good idea to try out some youngsters he had been watching.

Powers suggested Doran, Miller and Wilf Hannebury of the South Porcupine junior team. The three youngsters thrilled by the invitation, responded. It takes two days to get from South Porcupine to Toronto, but the boys were there just as fast as the trains would take them. In that first practice session Doran rapped home no less than 10 goals, as Powers tells the story.

Smythe and Powers looked at each other significantly. A few minutes after the practice they had Doran's name on a contract.

Doran's Great Play Costly for Huggins

The following is from a recent issue of The Post-Standard, of Syracuse, N. Y.:

(By Louis Kosoff)

Have a laugh, you hockey fans, with Bummer Doran, scintillating left-wing recruit of the Syracuse Stars, and Coach Eddie Powers.

Yes, sir, have a real laugh. It's on Al Huggins, who not so long ago parolled a left-wing berth for Coach Powers with these self-same Stars.

Al Huggins quit the Stars at the beginning of last season to take a position as hockey and baseball coach of the South Porcupine, Ont., senior amateur team.

You really can't appreciate the story unless you get out your atlas and find South Porcupine. It's way up in the wilds of Ontario, in the heart of the gold-mining country, where they play their hockey on natural ice rinks with the temperature anywhere from zero to 50 below.

South Porcupine with the mining industry booming, takes its sports seriously. The "boys" are not averse to digging up a nugget or two to help some of the "amateurs" along.

Last year South Porcupine had only a fair senior hockey team. It had a crack junior outfit, however. Bummer Doran and Mike Miller of the Stars were members of the junior outfit.

At the end of the season, the "boys" called in Al Huggins.

"We want a good senior team next year. Better start making your plans now," they suggested.

"How about trying Doran with the seniors," someone proposed.

But Huggins turned thumbs down on this suggestion.

"Doran," he said scathingly, "why that gawky kid will never make the grade."

"No," Huggins said, "I'll go down to Toronto and pick up some real players."

So a day or two later Huggins started for Toronto.

At about the same time Conny Smythe of Toronto Maple Leafs and Coach Powers of the Stars joined their

Syracuse training camp at the beginning of the season and promptly won himself a place in the Twinks' first line. And with the first games, he began to pop goals and figure in scoring plays.

The season is now only one quarter gone, and Doran has already registered nine goals and is one of the leading scorers in the league.

The whole story of Huggins and his bet got back to Bummer and to Coach Powers, which may explain why Eddie is as tickled as a youngster with his first pair of skates when Doran raps in one of those trick shots of his. It also may explain why Doran always skated back to Powers after he scores and says:

"That's just one more for Al Huggins, coach."

Doran reported at the Toronto-Syracuse training camp at the beginning of the season and promptly won himself a place in the Twinks' first line. And with the first games, he began to pop goals and figure in scoring plays.

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