



R E P O R T

J. G. Crang et al

South Group

Powell Township

"Matachewan Area", Ontario

July 1948

Property: Size, Location and Access

The "South Group" of claims of J. G. Crang et al consist of eight mining claims situated in Powell Township, Montreal Mining Division, in the "Matachewan" area of Ontario. The claims adjoin Ryan Lake Mines to the East.

The claims are more specifically described as

MR 15047, -48, -49, -50, -51 and -52

MR 9538 and -39

Claims MR 9538 and -39 are held under Mining Lease.

In area they comprise approximately 320 acres.

The claims lie approximately four miles from town of Matachewan and access is gained to them from an old wagon road and trail branching from the Ashley highway just a few hundred feet north of the 4 mile Post. The Ashley highway passes through claim 5527 of Ryan Lake Mines Limited and is about 1600' from the Crang claims.

The Young-Davidson and Matachewan Consolidated Mines lie approximately $1\frac{1}{2}$ mile distance to the south, at which point "Hydro" is available.

Topography

The main topographical feature of the claims are north, trending diabase ridges. The claims are largely drift covered and outcrops are scarce, though the depth of overburden is not thought to be deep.

History and Development

The area was first prospected for silver in 1906 and later spasmodic prospecting was carried on for gold.

The first real interest in the area was the finding in 1916 of what are now the Young-Davidson and Matachewan Consolidated Mines. As the deposits were not commercial at \$20.00 per ounce gold, interest died down to be revived with the increase in gold and the bringing into production of these two mines.

Late in 1946 copper was found on the property of Ryan Lake Mines adjoining to the West. Since then a diamond drilling campaign has disclosed two copper zones with economic possibilities.

GEOLOGY

General: The oldest and most extensive rocks of the area are Keewatin volcanics and related fragmentals, along with some basic intrusives, now highly altered.

Infolded in the Keewatin, and mainly exposed in Powell and Cairo townships, are sediments of Temiskaming age.

Intruding the Keewatin and Temiskaming formations are a large number of stocks and dykes of Algonian age, varying from granite to basic diorites. The intrusives are mainly syenitic.

Believed to be the end phase of the Algonian period, though given and age classification of its own, are the large number of north trending diabase dykes which are assigned to the Matachewan period.

In the southern part of the area the Cobalt conglomerates lie unconformably on the foregoing formations.

The youngest rocks of the area are Keweenawian diabases seen to be cutting the Cobalt conglomerate in at least one place in Powell township.

Economic: It is to the syenite porphyries of the Algonian period that the gold deposits of the area are related. The deposits being found either in or close to the porphyries. The two known mines of the area being located along a line of weakness marking a contact of the Keewatin and Temiskaming.

The copper mineralization is believed to be related to the magma that produced the numerous diabase dykes.

Structural: Broadly speaking the structure is that of a series of tightly folded synclines lying in a larger synclinal trough.

The Temiskaming sediments being tightly folded in the Keewatin volcanics and mark the axis of some of the synclines. The folds being so close that the dips are nearly vertical.

The synclinal trough is bounded by Algonian batholiths and it is believed that the folding was due to compressive stresses acting during this period.

The shearing in general follows the regional strike favouring the schistosity, bedding and contacts between formations.

Two major faults occur in the area following the valleys of the Montreal River and Mistinikon Lake. The faults trend north and south and are later than the folding, shearing and the syenitic intrusions but before the intrusion of the numerous diabase dykes.

The Montreal River fault is very complicated but appears to have been a thrust fault with a large vertical component.

The Mistinikon Lake fault, while appearing to have caused just a simple lateral displacement, may have been more complex and to have had some vertical component.

The block of ground caught between these two faults would be subject in a lesser degree to the forces that caused the main faults. The lateral movements would tend to open up the old regional east-west shears and cause new ones in that direction. While thrust faulting would cause vertical movements along them.

The parallelism of the diabase dykes to the two major faults and especially the great number of such dykes occurring between them would tend to the belief that they are filling tension faults set up after the period of compression and folding, caused by the Algonian batholiths, had ended and while the cooling of the batholiths was going on. The resulting strain from the cooling would be tensional and at right angles to the regional strike. The faults apparently extending to a depth deep enough to tap the still molten portion of the now basaltic magma.

Local Geology

The "South Group" of claims lies in the block of ground caught between the two major faults of the area (the Montreal River and Mistinikon Lake faults).

A major shear zone has been disclosed by trenching on claim MR 9538 striking roughly parallel to the major faults.

The claims are largely underlain by Keewatin lavas mainly basic in composition. Apparently intruding these lavas over a considerable area is a highly altered basic intrusive, which where found least altered had the appearance of a gabbro. It seems to be featured by having a large content of magnetite disseminated through it.

The south side of the north band of Temiskaming sediments cross the northern row of claims.

In the very southeast of the claims sediments again occur.

Intruding the above are numerous dykes ranging from basic to acid in composition, being however, mainly syenite porphyries.

Cutting through all are the diabase dykes, often standing out as N-S ridges.

The general trend of the formations and schistosity is roughly E-W but toward the east side of the Crang claims there appears to be a decided swing to the N-E and in the outcrop area, on claims 15049 and 15050, the greenstone are quite schistose and more highly altered.

The Keewatin volcanics occupy an anticline between the two synclinal bands of Temiskaming sediments.

Ryan Lake Mines

As the Crang claims lie east of the property of Ryan Lake Mines along the general strike of their copper zone; what has been found there will have a large bearing on them.

Work to date, geological mapping, dip-needle survey and over 12,000 feet of diamond drilling has disclosed two Copper Zones occurring in or near a "Major Break" at the Temiskaming-Keewatin Contact.

The mapping and dip-needle survey tend to show the "Break" to continue east beyond Ryan Lake itself as far as the dip-needle survey was taken. Surface work and diamond drilling has disclosed the zone to be accounted for by the large amount of magnetite present in the "Break."

It is not known whether the "Break" leaves the Keewatin-Temiskaming contact as the same sequence of rocks, i.e. sediments, peridotite, acid flows is found on the west side of Ryan Lake striking in a southerly direction while sediments have been found on the north side of the Lake and a highly carbonate zone which resembles the one occurring in the "Break" has been picked up east of the Ashley Highway lying in the "Zone" outlined by the dip-needle survey.

The "Original" or "South Zone" occupies a strong shear in what appears to be a peridotite. Diamond drilling to date on this zone has shown along a length of 800 feet, the zone to average 3.74% Cu over a calculated true width of 6.75'. Along with the copper occur interesting values in gold and silver and also occurring with the copper is molybdenite often quite rich, which it is thought will make an economic by product.

North, approximately 200 feet, widespread copper mineralization has been found occurring in acid flows, porphyries and diorites. The best assay over a good width was 1.65% Cu/35.4 ft. The true width is thought to be at least 24 feet.

Surface work and diamond drilling show the "Original Zone" to lie on either side of a diabase dyke (100' wide). The formations are displaced on the east side of the dyke to the south but the zone continues on line. It is possible that the fault, now occupied by the diabase dyke opened up the east-west shear and allowed the copper solutions to come up.

Summary and Conclusions

The "South Group" of claims lie on the indicated line of strike of Ryan Lake Mines.

The "Original" Zone at Ryan Lake Mines lies in an E-W shear on either side of a N-S trending fault now occupied by a diabase dyke. At least one strong N-S trending fault is known to exist on the claims.

Both copper zones at Ryan Lake Mine are found in a magnetite rich zone and magnetite rich rocks are found on the "South Group" on either side of the extension of the Ryan Lake Baseline.

Just south of #3 Post of claim 15052 a highly carbonated and sheared greenstone occurs which on strike would soon cross into claim 15052.

A decided change of strike of the formations and schistosity is noted toward the eastern side of the claims. Such flexure of the formations would tend to open up channels which solutions could ascend.

The draws and depressions suggest topographical expressions of possible fault zones.

The claims lie about $1\frac{1}{2}$ miles north of the Matachewan Consolidated Mines and several porphyry dykes, some sheared and heavily mineralized, have been found on the property.

Recommendations

The Crang "South Group" of claims possess excellent prospecting possibilities for the finding of copper, molybdenite and gold occurrences and the following program of work is fully warranted.

A minimum of 10,000 feet of diamond drilling:

1. To cross section northward from the south boundary along Picket Line #5 to explore the extension of the highly sheared and carbonate zone lying just south of the #3 post of claim 15052, the highly mineralized and rusty zone exposed in the first trench, to probe the possibilities of the E-W trending draw just north of it, the rest of the magnetite rich rocks and the N-W trending draw north of the baseline.
2. To drill across the highly sheared and schisted greenstone and sheared and altered porphyries outcropping near the #1 Post of claim #15049 and continuing across the N-W trending draw, where the greenstone is most highly schisted and considerable asbestos is developed.
3. To cross section N-S from the baseline on #1 P.L. for E-W shears that might be opened up by a fault that is assumed to lie along the lake just to the west and also to ascertain the significance of the high magnetic attraction.
4. To explore along the strong N-S trending fault zone exposed in the trenches along the South boundary of claim 9538, especially where it might intersect E-W shears.
5. To explore the possibility that the creek that crosses claims 9538 and 9539 might be the topographical expression of a fault.

The program of work is not rigid but should be modified to conform to results obtained.

It is possible that from some of the results a geophysical survey might be indicated to help in outlining structure or tracing zones.

The above program of work is estimated to cost approximately \$35,000.00 to \$40,000.00.

Respectfully submitted,

G. E. Moody
(signed) G. E. Moody, M.P.

Noranda, Quebec,

July 6th, 1948.

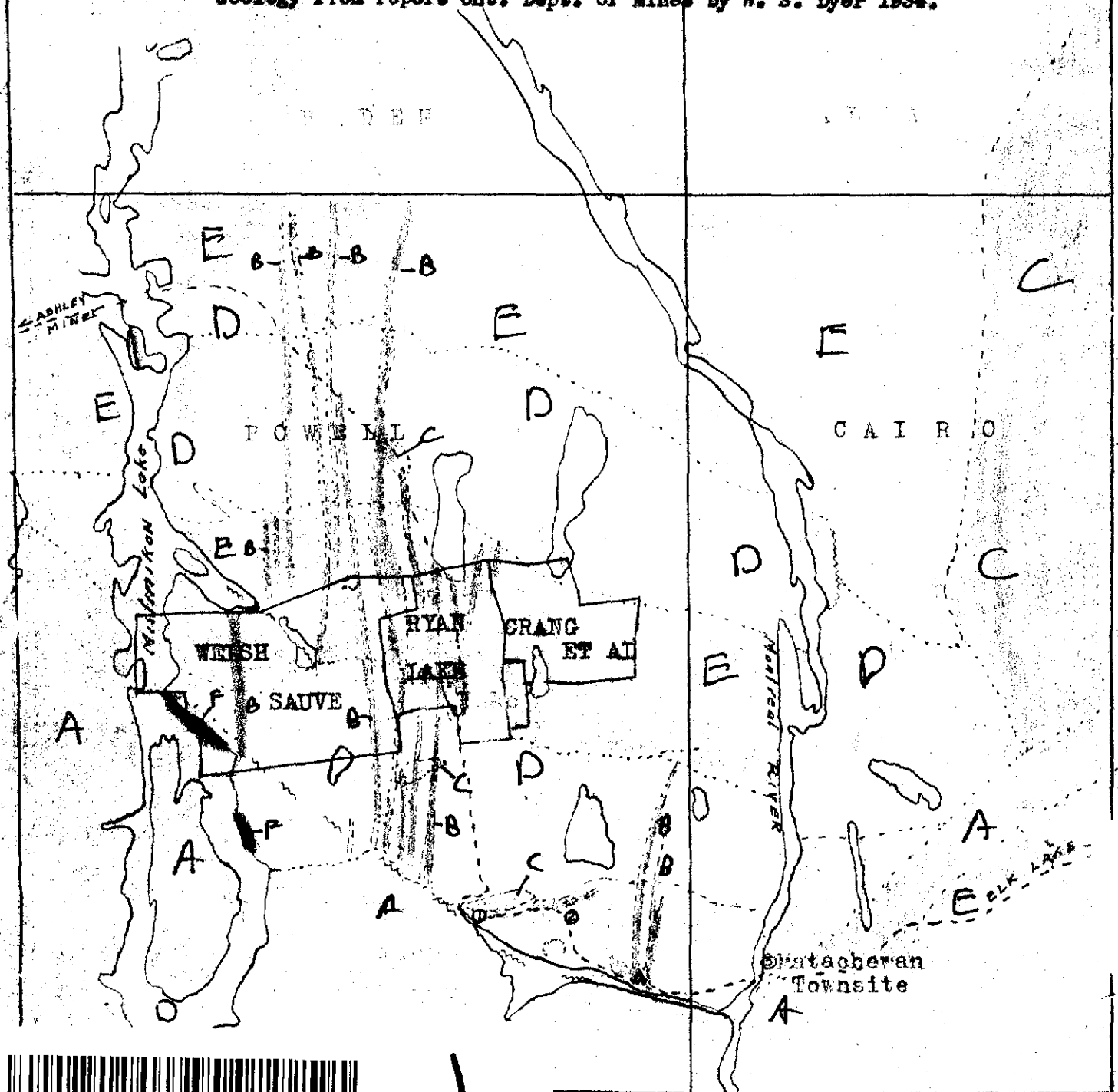


- DIABASE
- SYENITE-PORPHYRIES
- BASIC INTRUSIVE WITH DISSEMINATED MAGNETITE-KEEWATIN
- TEMISKAMING SEDIMENTS
- KEEWATIN GREENSTONE

J.G. CRANG ET AL
SOUTH GROUP
 POWELL TOWNSHIP, ONTARIO
 SCALE 1" = 200' JULY 1948

KEY MAP

Geology from report Ont. Dept. of Mines by W. S. Dyer 1934.



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|---|------------------------|---|-------------------------|
| ⊙ | — Young -Davidson | C | — Syenite Porphyry |
| ⊙ | — Matatchewan Consol. | D | — Teniskaming Sediments |
| A | — Cobalt -Conglomerate | E | — Keewatin Volcanics |
| B | — Diabase | F | — Diorite |
- Scale 1 in. - 1 mile