REPORT ON JEHANN EAST EXTENSION GROUP OF CLAIMS PENHORWOOD TOWNSHIP, SUDBURY MINING DIVISION, PROVINCE OF ONTARIO

CANADIAN JOHNS-MANVILLE COMPANY LTD.

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REPORT ON JEHANN EAST EXTENSION GROUP OF CLAIMS, PENHORWOOD TOWNSHIP, SUDBURY MINING DIVISION, PROVINCE OF ONTARIO.

Location & Access:

The Jehann East Extension Group is located in Penhorwood Township, Sudbury Mining Division, Province of Ontario. It joins the Jehann South Extension Group to the south, the Reeves fibre group to the north and the Jehann (Old Arkell) group to the west. The east is open ground. Access to the group is best from the new road, following the Esker chain but the old road, south of Reeves camp also cuts across the East Extension claims.

The north boundary of the group is also the Reeves-Penhorwood Township line; the three and one-half mile post being included in the group. Entrance to this group is from the new road, built during the Fall of 1956 south from the Warren Lake Road, about forty miles west and south of Timmins. The northern boundary of this claims group lies about three and one-half miles south of the Warren Lake Road.

History:

The claims in this group were staked at different times. The core of the group was staked during the Spring of 1956 adjacent to the Jehann Group. Other claims were added later, especially to the southeast.

Topography:

The eastern edge of the property consists of a continuous chain of eskers. These eskers drop off precipiteously on both sides to typical Pre-Cambrian shield monotony. Along the margins of this esker chain are many lakes; some small and others quite large. These lakes, on the western side of the chain, have steep eastern shores and flat western banks.

The north edge of the property is a large, rounded hill with many outcrops. The topography slopes gradually to the south and into a dense cedar swamp which has a few outcrops around its fringes. Directly to the south of this cedar swamp, on the northern four claims of the South Extension Group, is a very steep, high hill.

The southeast block consists of a low sand plain, gradually rising to the east until it goes up steeply to include parts of the esker chain. This sand plain has an open growth of jackpine on the low ridges and open spruce parks in the intervening flat valleys.

Regional Geology:

The general geology is the same as that for the Jehann South Extension Group; in fact much of this claims group was mapped as an extension of the South Jehann Group. Most of the same rock types are found in their same field relationships.

Not all the rock typres present on the Jehann South Extension are present on this group but all of the major rock types found there are also found here. The major groups include serpentine, gabbro, volcanics and sediments. Granite was not observed but is probably present in the southeast block. The regional trend to the northeast is observable in the strike of the shearing and in the faults where they were recognized. But the cross-flexure structures of basic and ultrabasic plutons are more recognizable and can be closely defined.

Detailed Geology:

1. Rock Types and Relationships:

The oldest rock type is a series of volcanics and sediments. These sediments were observed only in drill holes and were graphitic. The volcanics outcrop over wide areas and are mostly intermediate.

The next rock type is gabbro. It has an old look and is generally carbonated. In some places it is up to 50% carbonate. It outcrops over a wide area. One new phase of gabbro was mapped on this area but it may be the interior of thick flows. It was always found as small outcrops in the volcanics. It is a hard, dense rock, seldom sheared. Its distinguishing characteristic was the presence of fuzzy dark crystals of hornblende or augite in a finer ground mass. The crystals are roundish and form indistinct eyes. No clear contact was seen and the crystals were not oriented in any preferred direction.

The next rock type observed was serpentine. It was found in one outcrop and in two of the three drill holes. In the outcrop it was part of one of the larger plutons that extends down into the South Extension but in the drill holes it was dike rock.

11. Structures:

Structure is difficult to determine in the volcanics where all of the facies are the same. When a traceable bed is found the task is made much easier. A traceable bed was found in this claim block and it was outlined by the ground EM survey. This bed was graphitic sediments. The graphite is found in a series of sediments and volcanics. The graphite was generally massive and amorphous with pyrite bedding. In many places it was contorted and brecciated and intruded by ultrabasic dikes. The graphite, being an excellent conductor of electricity, the extent of the graphitic sediments was easily outlined with very high crossover angles. The presence of graphite was little suspected until the drill road was built and during this construction several pieces of graphitic drift were uncovered. The rock enclosing the graphitic sediments was not volcanics, as would be suspected, but a highly carbonated gabbro which in places, especially near the serpentine, was rich in disseminated sulphides.

These bands of good conducting graphitic sediments have been interpreted as doubly plunging, steep dipping to vertical synclinal troughs, preserved as deep rooted pendants at the top of a pluton of gabbro. The axis of the troughs of these synclinal remnants have been intruded by dikes of ultrabasics which have been serpentinized and carbonated. These ultrabasic dikes are relatively rich in disseminated sulphides, which are for the most part pyrrhotite. At the bottom of this synclinal trough, as interpreted from drill hole JEE #3, the graphitic sediments are highly contorted and brecciated.

The complimentary anticlinal domes, to the graphitic synclines, are composed of gabbro which has also been highly (up to 50%) carbonated, and impregnated with disseminated sulphides when near the ultrabasic dikes. These

rocks are extremely soft and are well covered with overburden, even near the crests of the local hills. All rocks capable of carbonatization, in this area, are thoroughly carbonated. The area immediately to the west seems to be the centre of intense regional carbonatization which extends several miles in all directions that have been investigated.

The trend of the sedimentary (graphitic) synclines is generally north-south, which also agrees with the trend of the serpentine bodies and the carbonated gabbro bodies. To the east the regional trend is northeast to east. This may either be due to a cross flexure in regional structure or a regional band, but the former seems more probable, because the serpentine bodies to the west also have a north-south strike.

Conclusions:

The base metal hopes of this property seem nearly disproved while the fringe potential of the serpentine bodies is yet to be tested. This fringe area of serpentine lies to the south, just north of the No. 1 base line north and in the vicinity of line 91+00 to 97+00. There may also be serpentine from the Jehann pluton extending over into the west boundary of the East Extension Group. This remains to be indicated by a ground magnetometer survey.

Recommendations:

Complete the ground magnetometer survey in order to outline the fringes, especially the northern fringes, of any serpentine bodies; cut new lines with good horizontal control over the northern four claims of the South Extension and remap them geologically. Then run a reconnaissance EM survey. Complete the surface geology of the central portion of the East Extension and draw the geological map of this area as an extension of the structure indicated in the South Extension. With this completed the Jehann and

Reeves groups can be tied on as they are completed, thus giving a regional picture to be modified or confirmed as more detailed work is done in the future.

R. E. SEAVOY
per. [signature]
Ronald E. Seavoy.


63A 373 (duplicate)
LOCATION SKETCH
Scale 1" = 50 miles
MAP AREA
REEVES TWP.
PENHORWOOD TWP.
TIE LINE
VERONICA LAKE
GRAPHITE LAKE
OUTCROP LAKE
ABIF LAKE
REEVES CAMP
59023 P
59022 P
94199
94200
94201
94202
94203
94204
94205
94206
94207
94208
94209
94210
94211
93741
93742
93743
93744
93747
93748
93749
93750
90111
90112
POPLAR-BIRCH-SPRUCE
HIGH POPLAR-BIRCH-SPRUCE OUTCROP RIDGE
OPEN SWAMP
SPRUCE MUSKEG
POPLAR-SPRUCE
HIGH FLAT POPLAR RIDGE
LOW POPLAR-BIRCH OUTCROP RIDGE
HIGH OUTCROP RIDGE POPLAR-BIRCH
SEMI-OPEN SPRUCE MUSKEG
LEGEND
Intermediate to basic volcanics
Gabbro-diorite complex
Gabbro
Carbonated serpentine
SYMBOLS
Quartz vein
Outcrop
Fault zone
Strike and dip of schistosity
Jeep road
Tractor road
Diamond drill hole
PENHORWOOD BASE LINE #1
Geology by R. SEAVOY & E. ROWLY

LOCATION SKETCH
Scale: 1" = 50 miles
MAP AREA
59023 P
59022 P
3½ MILE POST
TIE LINE
POPLAR-BIRCH-SPRUCE
HIGH POPLAR-BIRCH-SPRUCE OUTCROP RIDGE
KAKIE LAKE
94199
94200
94201
SPRUCE MUSKEG
POPLAR BIRCH SPRUCE
OPEN SWAMP
GRAPHITE LAKE
POPLAR-SPRUCE ALDERS
POPLAR-BIRCH-SPRUCE OUTCROP RIDGE
94202
94204
94203
HIGH OUTCROP RIDGE
POPLAR-BIRCH
OUTCROP LAKE
HIGH POPLAR BIRCH SPRUCE RIDGE
POPLAR-SPRUCE
HIGH-FLAT POPLAR RIDGE
SEMI-OPEN SPRUCE
94206
HIGH FLAT POPLAR RIDGE
94207
94208
SPRUCE MUSKEG
SEMI-OPEN SPRUCE MUSKEG
REEVES CAMP
94211
94210
94209
LOW POPLAR-BIRCH OUTCROP RIDGE
93741
93742
93743
90111
90112
93748
93749
LEGEND
Intermediate to basic volcanics
Gabbro-diorite complex
Gabbro
4b Carbonated serpentine
SYMBOLS
Quartz vein
Outcrop
Fault zone
Strike & dip of schistosity
Jeep road
Tractor road
Diamond drill hole
PENHORWOOD BASE LINE # 1
Geology by R SEAVOY & E ROWLEY

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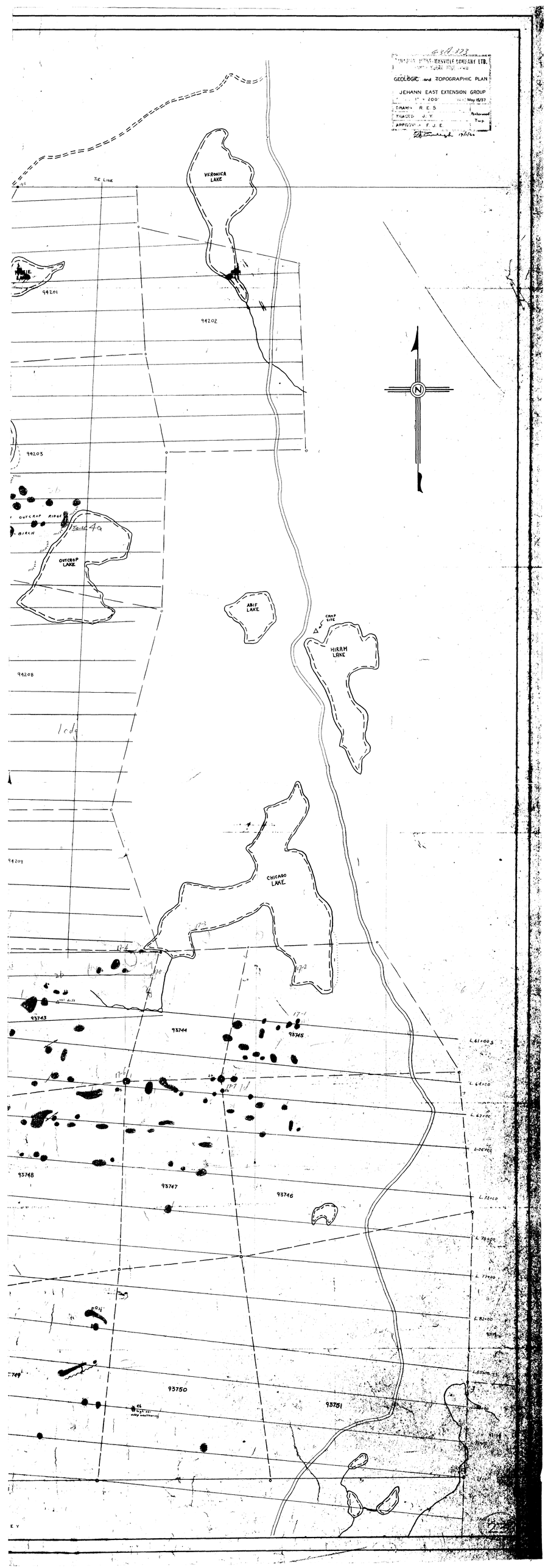
GEOLOGIC and TOPOGRAPHIC PLAN
JEHANN EAST EXTENSION GROUP
1" = 200'
May 15/57
DRAWN R.E.S
TRACED J.Y.
APPROVED F.J.E.
TIE LINE
VERONICA LAKE
99201
99202
99203
OUTCROP RIDGE
BIRCH
OUTCROP LAKE
ABIF LAKE
CAMP SITE
HIRAM LAKE
99208
99209
CHICAGO LAKE
93743
93744
93745
93748
93747
93746
93750
93751
L.61+00S
L.64+00
L.67+00
L.70+00
L.73+00
L.76+00
L.79+00
L.82+00
L.85+00

GEOLOGIC and TOPOGRAPHIC PLAN
JEHANN EAST EXTENSION GROUP
1" = 200'
May 15/57
R. E. S.
J. Y.
F. J. E.
Penhorwood Twp.
19/1/60
TIE LINE
VERONICA LAKE
KAKIE LAKE
94201
94202
GRAPHITE LAKE
94203
OPEN SWAMP
POPLAR BIRCH SPRUCE
HIGH OUTCROP RIDGE
POPLAR BIRCH
OUTCROP LAKE
ABIF LAKE
CAMP SITE
HIRAM LAKE
94208
94209
CHICAGO LAKE
93743
93744
93745
93748
93747
93746
93749
93750
93751
L. 61+00 S
97113
97114
SEAVOY & E ROWLEY
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