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# ASSESSMENT REPORT ON THE 2018 PROSPECTING PROGRAM THERESA PROPERTY 

MCBEAN TOWNSHIP<br>THUNDER BAY MINING DIVISION, ONTARIO, CANADA<br>NTS: 42 E/10<br>CENTERED AT<br>UTM NAD83 ZONE 16<br>533100E 5505300N

Prepared by:
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(March 2018)

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### 1.0 Summary

The Theresa property is located 31 kilometers due east of the Town of Geraldton, Ontario in the McBean Lake Area of the Thunder Bay Mining Division. The property consists of 19 contiguous cell claims covering the main shaft of the historic Theresa Gold Mine. Access to the property is via the allweather Catlonite Road which departs from the Trans-Canada Highway 11 near the Town of Longlac and leads south for 14.5 kilometers to the property.

The property is situated within the Beardmore-Geraldton greenstone belt 180 km east of Lake Nipigon. The belt is dominated by a series of repetitive, east-trending, isoclinally folded, steeply dipping mafic volcanic and sedimentary units, believed to represent tectonically imbricated stratigraphy of an accretionary wedge. Regional shear zones within the Beardmore- Geraldton camp include the TombillBankfield shear, Portage shear, and the Long Lac shear, which are collectively known as the Barton Bay deformation zone. Gold mineralization in the area is closely associated with the Barton Bay deformation zone.

At the Theresa, vein structures are hosted marginal to a granodiorite by a series of high-strain zones showing oblique shear. The veins occur as stockworks of veinlets up to four (4) meters wide, or more commonly as lensoid- shaped veins with widths of several meters. Gold is reported to occur as free gold in some of the quartz veins and lenses of the mine and at surface showings peripheral to the shafts.

The Theresa Mine was developed underground via three shafts. The most extensive development work took place at the main shaft with production stopes on levels at 147 meters and 203 meters from surface. Stopes were established along quartz vein structures, at mining width from 1 to 1.6 meters, over lengths exceeding 30 meters. Recorded production from the Theresa Mine is 4,727 ounces of gold and 198 ounces of silver from 26,120 milled tons between 1935 and 1955 but more recent estimates of tailings on site and voids left open in stopes indicate a tonnage of closer to 36,000 tonnes was mined and sent to surface.

A short reconnaissance-scale prospecting program was undertaken in the area around the main shaft on May 22, 2018. Work completed included locating a historical trench, partially clearing and sampling it, as well as locating the main benchmark/survey monument from which the 'mine grid' was cut. A total of four (4) grab samples were collected and assayed for their gold content. Highlights of the prospecting program include $1.36 \mathrm{~g} / \mathrm{t}$ Au over one (1) meter in a chip sample collected at the northwest end of the trench.

### 2.0 Property Description and Ownership, Location and Accessibility

### 2.1 Location

The Theresa property is located 31 kilometers due east of the Town of Geraldton, Ontario in the McBean Lake Area of the Thunder Bay Mining Division (Figure 1). Approximate UTM coordinates for the center of the Theresa property are 533100 E 5505300 N (NAD 83, Zone 16). The property can be found on NTS map sheet $42 \mathrm{E} / 10$.


Figure 1. Map showing the location of the Theresa property.

### 2.2 Property Description

The property consists of 19 contiguous cell claims covering the main shaft of the historic Theresa Gold Mine. Greenstone Gold Mines boarders the property to the east and south. Claims comprising the property are shown in Figure 2 and summarized in Table 1.


Figure 2: Map showing claims of the Theresa property.

Table 1: List of claims comprising the Theresa property.

| Township / Area | Tenure ID | Grid Cell ID | Tenure Type | Anniver sary Date | Annual Work Requirement |
| :---: | :---: | :---: | :---: | :---: | :---: |
| MCBEAN LAKE AREA | 505406 | 42 E 101254 | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505405 | $42 \mathrm{E101253}$ | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505404 | 42 E 101252 | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505403 | 42 E 10 l 251 | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505402 | 42 E 101234 | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505401 | $42 \mathrm{E101233}$ | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505400 | 42 E 101232 | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 505399 | 42 E 10 I 231 | SCMC | 43931 | 400 |
| MCBEAN LAKE AREA | 203832 | 42 E 10 I 256 | SCMC | 43631 | 400 |
| MCBEAN LAKE AREA | 314334 | 42 E 101257 | BCMC | 43631 | 200 |
| MCBEAN LAKE AREA | 211117 | $42 \mathrm{E101237}$ | BCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 211118 | 42 E 101276 | BCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 239764 | $42 \mathrm{E101277}$ | BCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 247826 | $42 \mathrm{E101255}$ | SCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 247827 | $42 \mathrm{E101275}$ | BCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 314333 | $42 \mathrm{E101236}$ | SCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 326511 | 42 E 101235 | SCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 335222 | $42 \mathrm{E101297}$ | BCMC | 43546 | 200 |
| MCBEAN LAKE AREA | 159114 | $42 \mathrm{E101296}$ | ВСМС | 43546 | 200 |

### 2.3 Access

Access is via the all-weather Catlonite Road which departs from the Trans-Canada Highway 11 near the Town of Longlac and leads south for 14.5 kilometers to the property.

### 3.0 History

The Theresa Mine was developed underground via three shafts. The most extensive development work took place at the main shaft with production stopes on levels at 147 meters and 203 meters from surface (Levels 3 and 4; Figure 3). Stopes were established along quartz vein structures, at mining width from 1 to 1.6 meters, over lengths exceeding 30 meters. Recorded production from the Theresa Mine is 4,727 ounces of gold and 198 ounces of silver from 26,120 milled tons between 1935 and 1955, but more recent estimates of tailings on site and voids left open in stopes indicate a tonnage of closer to 36,000 tonnes was mined and sent to surface (Ellingham, 1988).


Figure 3. Composite mine plan of the Theresa Mine showing production levels.

### 4.0 Geological Setting

### 4.1 Regional Geology and Structure

The property is situated within the Beardmore-Geraldton greenstone belt 180 km east of Lake Nipigon. The belt is dominated by a series of repetitive, east-trending, isoclinally folded, steeply dipping mafic volcanic and sedimentary units, believed to represent tectonically imbricated stratigraphy of an accretionary wedge (Devaney and Williams, 1989)

Regional shear zones within the Beardmore- Geraldton camp include the Tombill- Bankfield shear, Portage shear, and the Long Lac shear, which are collectively known as the Barton Bay deformation zone. Gold mineralization in the area is closely associated with the Barton Bay deformation zone. In the Geraldton area, the deformation zone is approximately three kilometers wide and trends eastsoutheast. The deformation zone swings east-northeast to northeast into the area of the Theresa property, apparently deflected by the Croll Lake stock (Kresz and Zayachivsky 1993).

### 4.2 Property Geology, Mineralization and Structure

At the Theresa, vein structures are hosted marginal to a granodiorite by a series of high-strain zones showing oblique shear. The veins occur as stockworks of veinlets up to four meters wide, or more commonly as lensoid- shaped veins with widths of several meters (Ellingham, 1988).

The vein system stretches over distance 750 meters from the southwest to the northeast. Along this strike, the dip of the vein system changes from moderately southwards, to vertical, to shallowly westward in the extreme southwest near. Orebodies show a lenticular geometry with moderate westsouthwesterly plunges (Ellingham, 1988).

Gold is reported to occur as free gold in some of the quartz veins and lenses of the mine and at surface showings peripheral to the shafts. Associated minerals are tourmaline, chlorite and occasionally sulfides, mainly pyrite chalcopyrite and pyrrhotite. Gold grains, which vary from coarse to non-visible, are occasionally arranged in clusters whose distribution is erratic (Ellingham, 1988).

### 5.0 Exploration

### 5.1 Prospecting

A short reconnaissance-scale prospecting program was undertaken in the area around the main shaft on May 22, 2018. Work completed included locating a historical trench, partially clearing and sampling it, as well as locating the main benchmark survey monument from which the 'mine grid' was cut. A total of four (4) grab samples were collected and assayed for their gold content. The sampling was performed by Mike Tremblay of Wawa, Ontario.

Grab samples were collected with a field hammer by breaking off a representative sized piece sufficient for chemical analysis. The sample was then photographed and placed into a sample bag with the sample number clearly written on the bag and the associated sample ticket inserted into the bag. The bag was then securely sealed with flagging tape. A strip of flagging tape with the sample number written on it was tied to a representative sample and placed at the location the sample was taken. Another strip of flagging tape with the sample number clearly written on it was hung in a tree to help relocate the exact sample location in the future.

Locations of grab samples and historical workings were recorded with a hand-held Garmin Gps unit (GPSmap 64S), which was later downloaded to a computer. Sample site locations are shown in Figure 4. Sample descriptions were recorded in a field notebook and are shown tabulated along with sample location in Table 2.

All rock samples were sent to Wesdome in Wawa, Ontario where they were analyzed for gold by fire assay with gravimetric finish. Assay certificates can be found in Appendix II.

### 6.0 Results

The one day prospecting program was successful in locating the main benchmark/survey monument from which the 'mine grid' was cut, and a historical trench south-southwest of the main shaft. The trench was partially cleared and a total of four (4) samples were collected from freshly exposed mineralized quartz vein and wallrock material.

Highlights of the prospecting program include $1.36 \mathrm{~g} / \mathrm{t}$ Au from a one (1) meter chip sample collected near the northwest end of the trench.

Table 2. Sample Details

| Sample | Easting | Northing | Description | Au (ppm) |
| :---: | :---: | :---: | :---: | :---: |
| 6 | 534281 | 5504885 | Rusty quartz vein $w$ tr py in old trench (1980s) | 0.6 |
| 7 | 534274 | 5504900 | 1m chip sample of well mineralized vein | 1.36 |
| 8 | 534274 | 5504900 | Hanging wall of vein with host rock, tr py | 0.2 |
| 9 | 534274 | 5504900 | Footwall of vein with host rock, tr py | 0.08 |
|  |  |  |  |  |
|  | 534299 | 5505000 | Survey monument- Mine Grid Control Point |  |
|  | 534300 | 5505015 | Core Farm |  |



Figure 4.Map showing sample locations and waypoint in relation to the claim fabric.

### 7.0 Recommendations

The following recommendations can be made on the basis of limited research conducted for this report and the short prospecting program completed in May of 2018:

1. Full GIS compilation of historical work completed on the property.
2. A surface exploration work program including geological mapping, prospecting, and mechanized stripping is recommended. Any historical prospects, drill holes, shafts, etc., should be located in the field to confirm their location with respect to the current claim fabric. If warranted, detailed mapping, mechanized stripping, and sampling should be considered over selected targets.
3. Upon favourable surface results, diamond drilling could be considered to confirm and extend know mineralization and follow up on targets generated by the surface exploration program.

### 8.0 References

Kresz, D.V., and Zayachivsky, B., 1993. Geology of the Seagram Lake Area; Ontario Geological Survey, Open File Report 5802, p. 214.

Devaney, J.R., and Williams, H.R., 1989. Evolution of an Archean subprovince boundary: a sedimentological and structural study of part of the Wabigoon-Quetico boundary in Northern Ontario; Canadian Journal of Earth Sciences, v. 26, p.1013-1026.

Ellingham, E, 1988. Duration Mines Limited/Locator Exploration Limited, Theresa Property, OMEP OM87-4-L-123, Geological Report.

## Appendix I

## Daily Log

| Date | Activity | Unit | Unit Cost | Cost (\$) |
| :---: | :---: | :---: | :---: | :---: |
| May 102018 | Phone call to LL\#58 and LL\#77. Arranged meeting with Long Lake \#58. | 0.1 | 500 | 50 |
| May 152018 | Mobe to Geraldton for meeting on 16th with Long Lake \#58 | 1 |  | 500 |
| May 162018 | Short chat with Calvin Taylor of LL\#77 to arrange con-call for later in May | 0.1 |  | 50 |
| May16 2018 | Meet with Nat. Res dept at Long Lake \#58 FN. Demobe to Wawa | 0.9 |  | 450 |
| May 212018 | Mobe to Geraldton | 1 |  | 500 |
| May 222018 | Prospect at Theresa. 4 samples collected | 1 |  | 500 |
| May 232018 | Demobe to Wawa. Sample prep and delivery | 1 |  | 500 |
| May 282018 | Con-call with LL\#77 FN. All depts and council represented | 0.3 |  | 150 |

## Appendix II

## DAILY ASSAY REPORT

## EAGLE MINE

Sample Type:Custom Assay Mike Tremblay

Sample Number

| 1 | 006 | 0.60 |
| :--- | :--- | :--- |
| 2 | 007 | 1.36 |
| 3 | 008 | 0.20 |
| 4 | 009 | 0.08 |

Verified By: Derek Hardy

4 Samples @ $\$ 20.03=\$ 80.12+$ HST


Scott Carruthers

