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**PEM GEOPHYSICAL REPORT**  
FOR  
***CENTRAL TIMMINS EXPLORATION CORP***  
ON THE  
***MOUNTJOY PROJECT***  
MOUNTJOY TOWNSHIP  
PORCUPINE MINING DIVISION  
NORTHEASTERN ONTARIO

*JCGrant*

Prepared by: J. C. Grant,  
May 2019

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## **SUMMARY**

Central Timmins Exploration Corp. (CTEC) has an extensive property position within the City of Timmins, Ontario (**FIG. 1**). Several PEM geophysical profiles (8) of varying lengths, were completed within the Mountjoy portion of the much larger CTEC Central Timmins Project. This work was performed by Exsics Exploration Ltd. OF Timmins, Ont., from February 21<sup>st</sup> and March 21 along profiles with chained data point intervals. All GPS coordinates are NADS 83 UTM Zone 17.

The purpose of the program was to test the area for favorable responses that could be indicative of potential gold and base metal deposition. The surveys were also intended to follow up on soil geochem (MMI) survey results that had been completed earlier and to provide potewntial diamond drilling targets.

The PEM survey returned some encouraging results across several of the PEM areas. In particular one anomalous response is potentially related to bedrock conductor that may also correlate with a known airborne EM conductor. A follow up IP survey should be considered to better define any of the PEM zones prior to diamond drill testing.

## **INTRODUCTION**

This assessment report covers recent exploration work completed on a portion of Central Timmins Exploration Corporation (CTEC) mineral exploration Mountjoy Township Project within the Porcupine Mining Division in Northeastern Ontario.

The services of Exsics Exploration Limited were retained by Mr. Charles Gryba, on behalf of Central Timmins Exploration Corp., (CTEC) to complete a ground PEM geophysical program across a portion of their claim holdings in Mountjoy Township.

The purpose of the program was to survey by way of a series of 8 east-west and north-south grid lines, a select portion of their claim blocks that were considered prime locations for VMS and or gold deposition. Current work was completed between February 21<sup>st</sup> and March 21<sup>st</sup>, 2019, providing additional data for potential future diamond drilling.

## **PROPERTY LOCATION AND ACCESS**

The Mountjoy Project covers much of Mountjoy Township and is contiguous with additional mining lands westerly in Godfrey Township. Areas surveyed are located in the south central and southwestern section of the township. The areas to be surveyed were designated M8, M9 north, M9 south and M11 as with the previously completed MMI survey, and generally lie within the Timmins city limits. (**FIG. 1&2**)

Access to all of the grids was ideal. The three lines that represent the M9 North area lie to the immediate west of Shirley Street, north of Highway 101 west with the two westerly lines

lying on either side of Government road. Both of these lines either cross or lie to the immediate south of the Sandy Falls access road.

The two lines that represent M8 area lie to the immediate south of the Sandy Falls access road and to the immediate east of Jaguar road.

The two lines that represent the M9 South area lie to the immediate east of Jaguar road and both lines are cross cut by Highway 101 west.

The single line that represents the M11 area lies about 2.3 kilometers northwest of the junction of Highway 101 west and the Kamiskotia turn-off and is about 150 meters to the southwest of the southern end of Horseshoe Lake.

Traveling time to all of the grids is about 20 minutes from the City center.

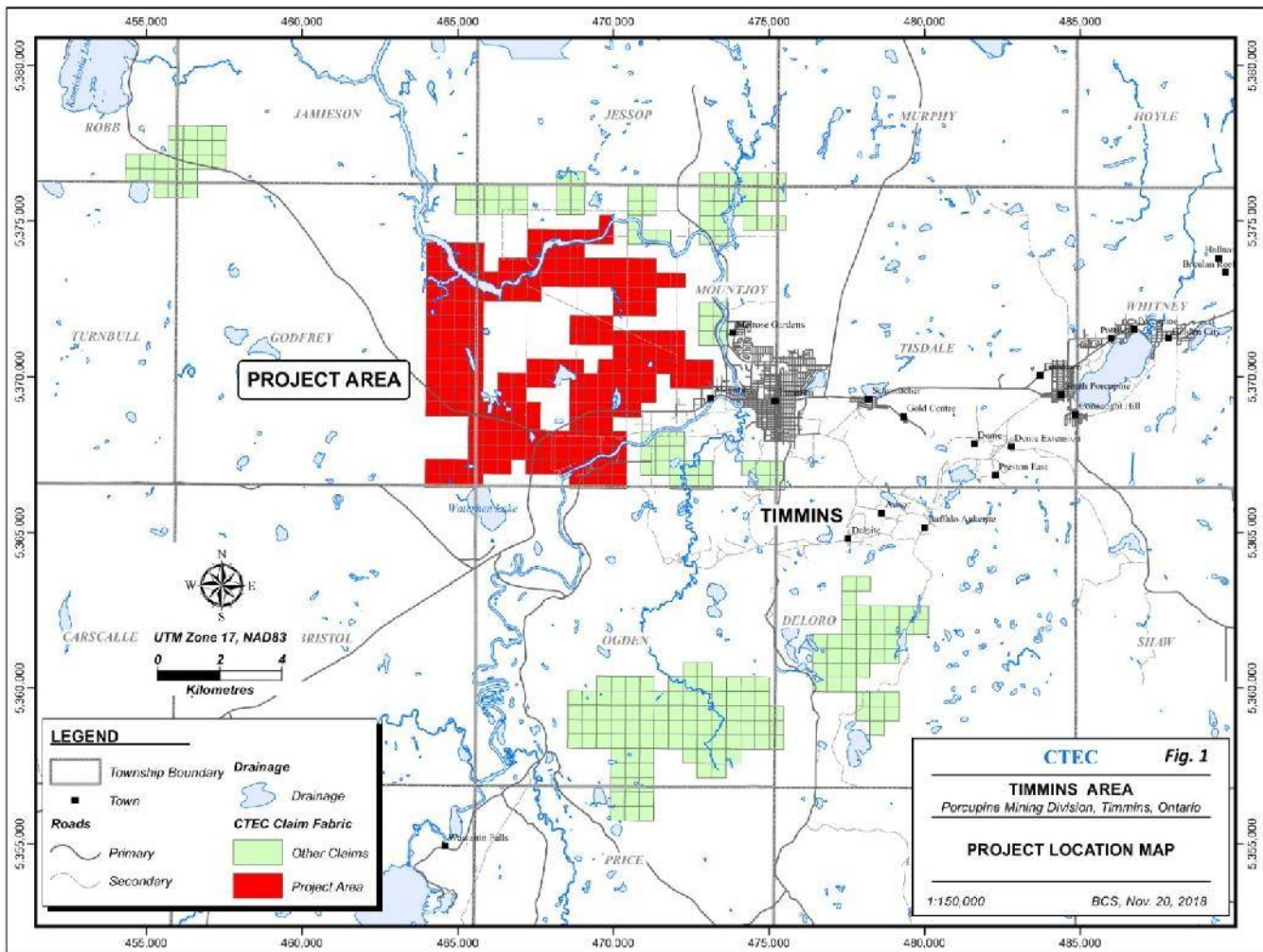
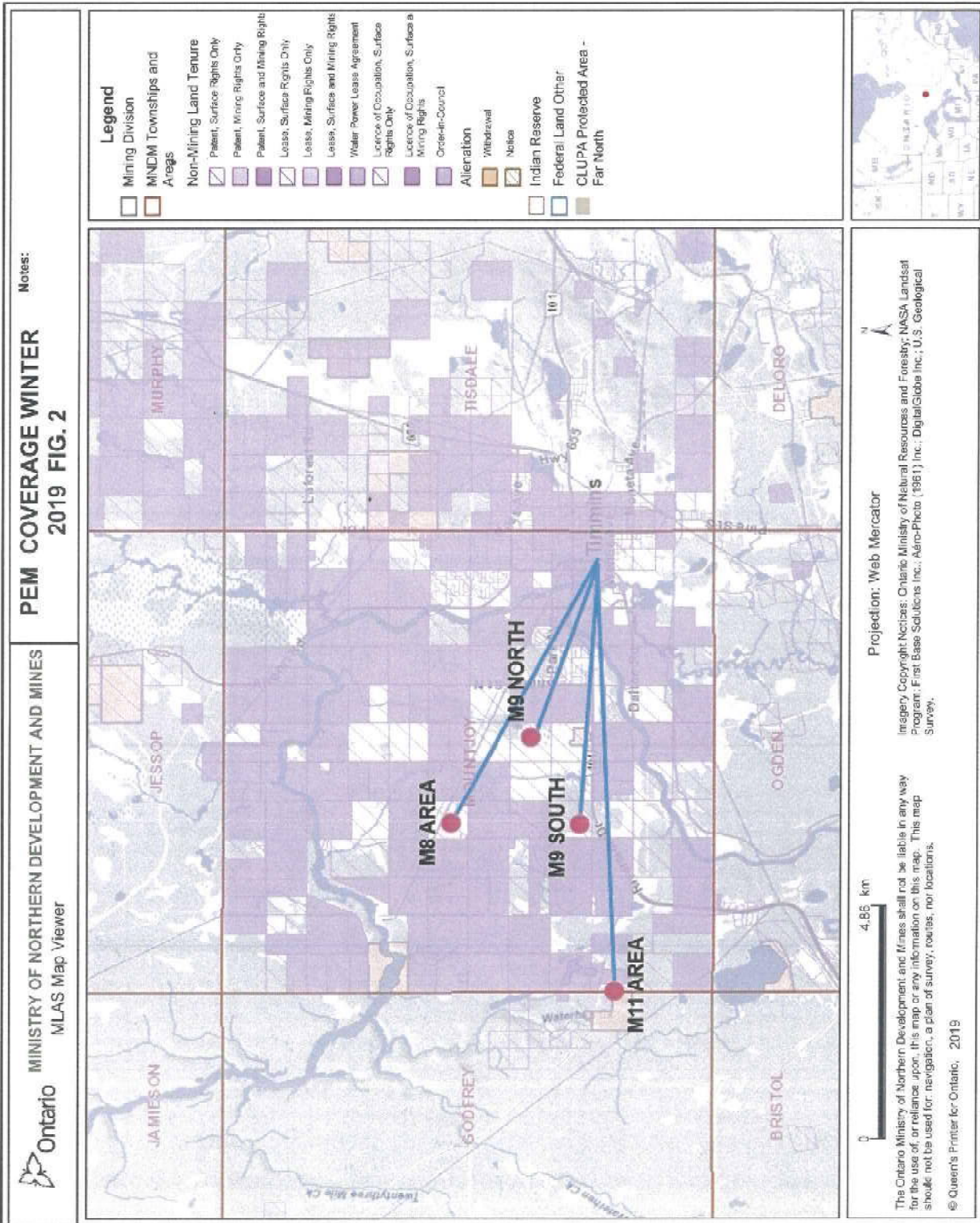


FIGURE 1: PROJECT LOCATION MAP



**FIGURE 2: PROGRAM LOCATION MAP**

## **CLIMATE AND PHYSIOGRAPHY**

The Mountjoy groups lie within the Boreal Shield and is marked by warm summer and cold, snowy winters with snow accumulations up to 2 metres. The climate is considered to be continental with overall temperature ranges of -40°C to +35°C. Despite the at times harsh climatic conditions, geophysical surveying and diamond drilling can be performed on a year-round basis. Geological mapping and geochemical sampling are typically restricted to the months of May through to October.

The regional landscape is generally of low relief dominated by fine-textured, level to undulating lacustrine deposits and loamy tills with local sand and gravel deposits. Intermixed within these deposits are bedrock outcrops and organic deposits. The area is an active agricultural district with a high density road network and cultural/infrastructure development may limit exploration activities in some areas.

The Mattagami River provides major regional drainage in the project area cutting ENE in the southern portion, SN in the east, and EW across the northern portion . Both the Mattagami and northern Mountjoy River flood plain with local meandering, are within the Project area.

The area is characterized by isolated stands of white spruce, balsam fir, birch, and poplar. Drier sites may have stands of jack pine or mixtures of jack pine, birch, and poplar. Agriculture is common in the township.

## **GEOLOGY AND MINERALIZATION**

### **Regional Framework**

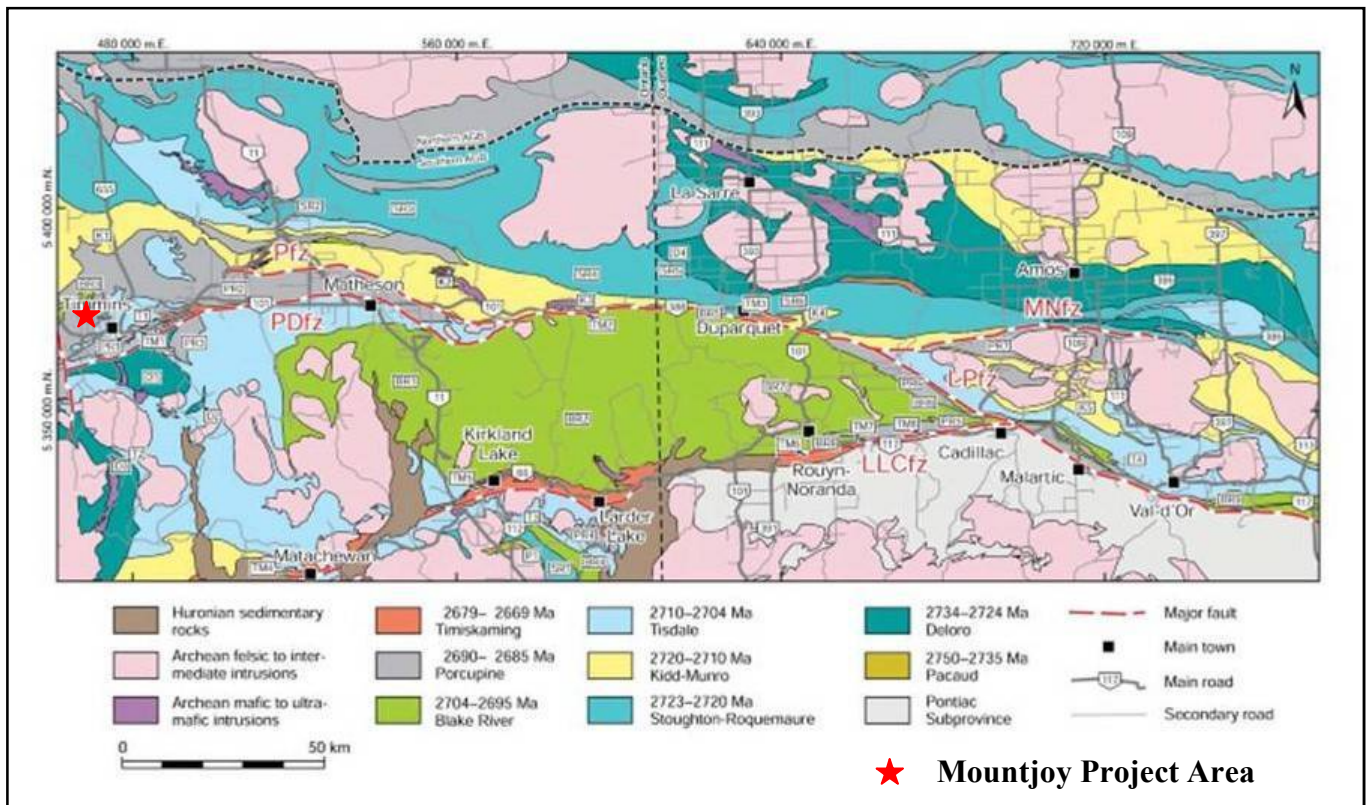
The Mountjoy Project is part of the Central Timmins Project which lies within the Southern Abitibi Greenstone Belt (SAGB) of the Superior Province in northeastern Ontario (FIG. 3). In very general terms, the Abitibi Sub-province consists of Late Archean metavolcanic rocks, related synvolcanic intrusions, and clastic metasedimentary rocks, intruded by Archean alkaline intrusions and Paleoproterozoic diabase dikes. The traditional Abitibi greenstone belt stratigraphic model envisages lithostratigraphic units deposited in autochthonous successions, with their current complex map pattern distribution developed through the interplay of multiphase folding and faulting.

At a regional scale, the distribution of supracrustal units in the SAGB is dominated by east- west striking volcanic and sedimentary assemblages. The structural grain is also dominated by east-west trending Archean deformation zones and folds. The regional deformation zones commonly occur at assemblage boundaries and are spatially closely associated with long linear belts representing the sedimentary assemblages. The dominant regional fault in this area is the Destor-Porcupine, referred to as the Destor-Porcupine Fault Zone (DPFZ). The current locations of these regional deformation zones are interpreted to be proximal to the locus of early synvolcanic extensional faults. Belt scale folding and faulting was protracted and occurred in a number of distinct intervals associated at least in the early stages with compressive stresses

related to the onset of continental collision between the Abitibi and older sub-provinces to the north. Throughout the history of the Abitibi Sub-province, there was repeated plutonism defined by three broad suites: 1) synvolcanic plutons, 2) syntectonic intrusions that range in age from 2695 Ma to 2680 Ma and include tonalite, granodiorite, syenite, and granite, and 3) post-tectonic granites that range in age from approximately 2665 Ma to 2640 Ma.

The volcanic and sedimentary rocks of the Timmins-Porcupine camp belong to the Deloro, Tisdale, Porcupine, and Timiskaming assemblages.

The Deloro assemblage only occurs to the south of the DPFZ. It is mainly composed of pillowed calc-alkaline mafic volcanic rocks, and constitutes the oldest volcanic rock assemblage in the camp. Intermediate to felsic volcanic and/or volcanoclastic rocks and iron formations are also present in the Deloro assemblage.



**FIGURE 3: ABITIBI GEOLOGICAL FRAMEWORK**

A disconformity and/or a reverse fault marks the contact between the volcanic rocks of the Deloro assemblage and those of the overlying Tisdale assemblage. In contrast to the Deloro assemblage, the Tisdale assemblage, in particular the Hersey Lake Formation, is present both to the south and to the north of the DPFZ.



The contact between the volcanic rocks of the Tisdale assemblage and the overlying sedimentary rocks of the Porcupine assemblage has been described as a disconformity. A distinct, discontinuous horizon of carbonaceous argillite (approx. 100m thick) separates the Tisdale and Porcupine assemblages in much of the camp. The Porcupine assemblage comprises the following, from base to top:

- (1) calc-alkaline pyroclastic and volcanoclastic rocks (debris flow, talus breccia) of the Krist Formation,
- (2) greywackes, siltstone, and mudstone of the Beatty Formation, and
- (3) greywacke, siltstone, and mudstone of the Hoyle Formation. Locally, minor conglomerate and iron formation are also present.

The sedimentary rocks of the Timiskaming assemblage (approximately 900 m thick) are only distributed along the north side of the DPFZ and unconformably overlie the Porcupine and Tisdale assemblages. The Timiskaming angular unconformity cuts both limbs of the Porcupine syncline.

The structural setting of the Timmins-Porcupine gold camp is complex and comprises several stages of deformation and/or strain increments. The main structural feature of the camp is the east-northeast to east-west trending ductile-brittle DPFZ. It is a poorly exposed, regionally extensive (approximately 550 km), long-lived major fault zone that can be more than 100 m wide. The DPFZ is characterized by steeply dipping penetrative composite foliations (S3 and S4). The fault zone is marked by highly strained mafic and ultramafic rocks of the Tisdale and Deloro assemblages, transformed into talc-chlorite schists as well as sedimentary rocks of the Porcupine and Timiskaming assemblages. Quartz  $\pm$  carbonate veins and breccias, pervasive iron-carbonate hydrothermal alteration, and local development of fault gouge are also common within or in the vicinity of the fault zone.

Stratigraphic relationships indicate that, overall, the fault is characterized by a south-side-up motion, however, the fault zone has a complex geometry and kinematic history. The dip of the fault zone is steep and varies from north to south along its length with evidence for both vertical and strike-slip displacements. Presence of Porcupine assemblage sedimentary rocks and local volcanic rocks and/or intrusive rocks of the Hersey Lake Formation on both sides of the DPFZ indicate that it is not a terrane-bounding structure.

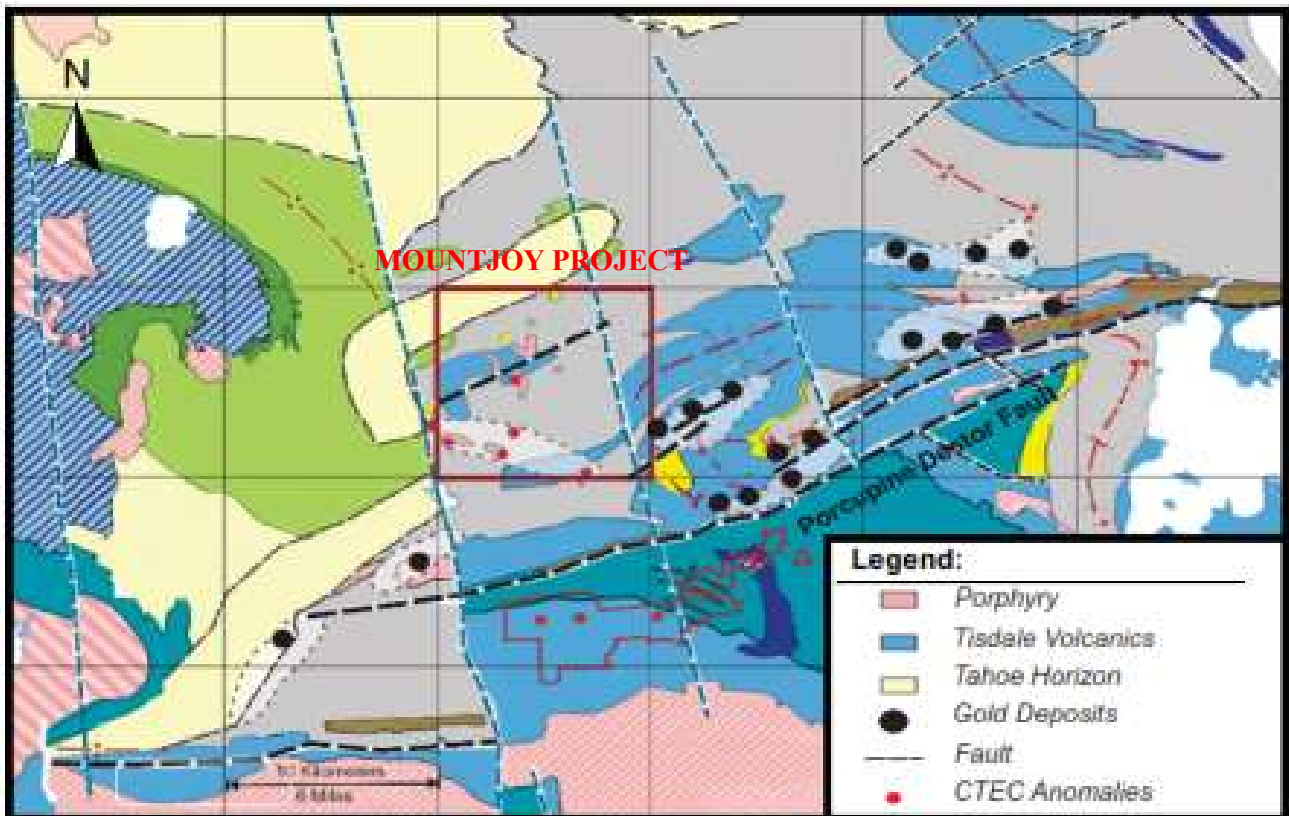
Most gold deposits in the camp are located in a carbonate alteration corridor that affects, with variable intensity, all rock units up to approximately five kilometres north of the DPFZ. This carbonate alteration footprint is particularly well developed in the flexure area, where the orientation of the DPFZ changes from an approximately east-west to west-southwest trend. The Dome fault is located in that flexure zone, and has been interpreted as a splay of the DPFZ as well as the faulted south margin of the Timiskaming basin.

## Mountjoy Project Area

According to Hinse (1974), Mountjoy Township (**FIG. 4**) contains northeasterly trending pillow lavas and andesites in the northwest quadrant of the township while a zone of volcanic rocks trend east to northeasterly in the southeast quadrant of the township. The volcanic rocks are bounded on the south and southeast by an extensive sedimentary trough. At least three small quartz feldspar porphyry plugs intrude the sediments at Sandy Falls along the Mattagami River.

The major fault in the area is the Mattagami River fault which has a northeasterly strike. This fault system separates the massive andesites in the west from the volcanics in the eastern part of Mountjoy Township. These two units cannot be correlated with each other, thereby suggesting that some form of unconformity exists between the two units (Hinse, 1974).

The central portion of the township contains a few localized areas of slate and greywacke that strike northeasterly and dip to the southeast. A general trend of carbonate units exists and is interpreted to strike in a northeast direction. The carbonate units are thought to be bounded on their flanks by areas of shale and greywacke (Hinse, 1974).



**FIGURE 4: MOUNTJOY PROJECT AND CAMP GEOLOGY**

Using a combination of aeromagnetism, historical geological mapping and drilling results, Burt (2018) re-interpreted the geological map of the Mountjoy Township area (**FIG. 5**) and

concluded that the geology was more complicated than is depicted on any published maps.

The presence of Tisdale assemblage tholeiitic volcanics, coupled with agglomerates and conglomerates, suggest that the centre of the township is similar to the geology of the Timmins area. Interbedded sediments and felsic tuffs encountered in many of the historical drill holes are suggestive of Krist Formation lithologies. Drilling suggests that the central portion of the township is underlain by either a large porphyry body, or a series of porphyritic dykes and/or sills intruding all other rock types. The porphyry contacts are marked by intense silicification and sericitization.

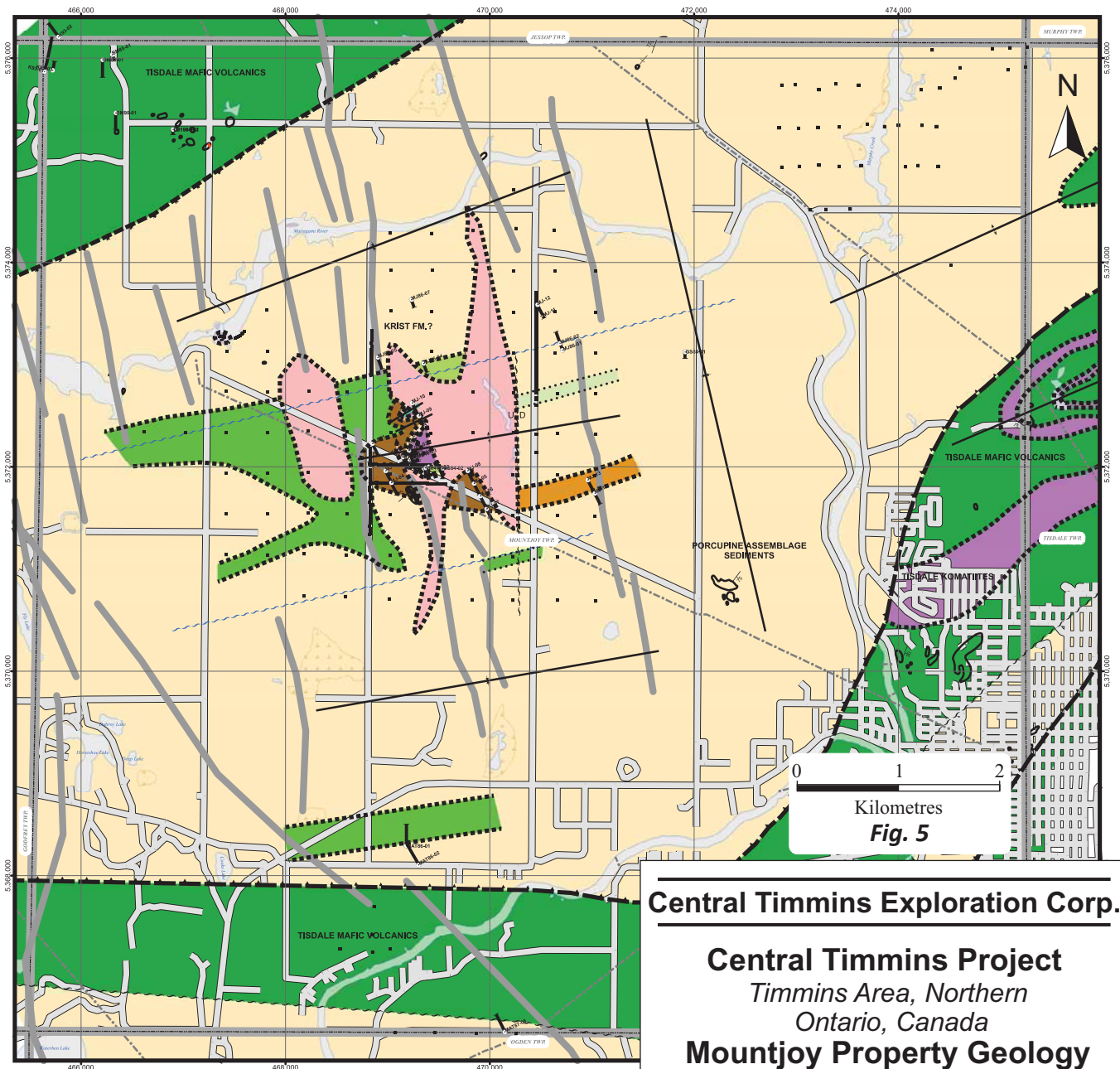
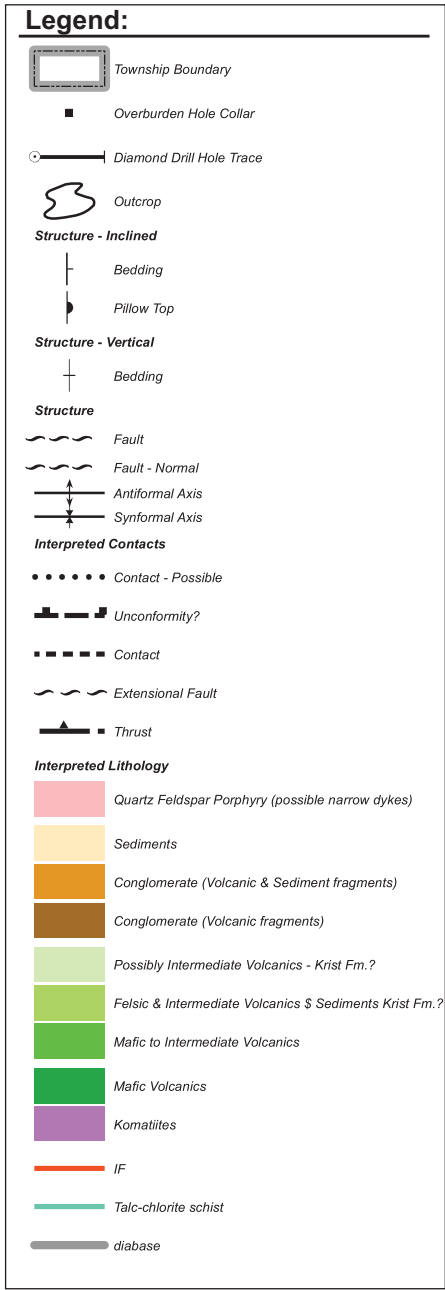
Burt concludes that the supposed Porcupine assemblage sediments are neither as widespread nor as thick as shown on current geological maps. Burt also suggests that the area has undergone at least two phases of folding and cross faulting. Westerly trending and northerly trending fold axes are the most likely directions forming tight, doubly plunging synforms and antiforms throughout the township (Burt, 2018).

### **Gold Mineralization and Deposit Types:**

Quartz-carbonate vein deposits are typically associated with deformed greenstone belts characterized by variolitic tholeiitic basalts and ultramafic flows in turn often intruded by intermediate to felsic porphyries along major crustal-scale fault zones.

Most gold deposits in the Timmins camp are located in a carbonate alteration corridor that variably affects all rock units up to approximately five kilometres north of the DPFZ. This carbonate alteration footprint is particularly well developed in the flexure area, where the orientation of the DPFZ changes from an approximately east-west to west-southwest trend. The Dome fault (Ferguson et al., 1968; Holmes, 1968; Rogers, 1982) is located in that flexure zone, and has been interpreted as a splay of the DPFZ (Davies, 1977; Proudlove et al., 1989; Brisbin, 1997) as well as the faulted south margin of the Timiskaming basin (Bateman et al., 2008).

The Dome fault consists of a brittle-ductile east-northeast trending and south dipping reverse fault (D3 or younger) that juxtaposes the “South Greenstone” Tisdale basalt of the Central Formation and ultramafic rocks of the Hersey Lake Formation in the hanging wall, onto younger folded (F3 syncline) greywacke and mudstone of the Timiskaming assemblage in the footwall (Holmes, 1968; Hodgson, 1983; Brisbin, 1997; Pressacco et al., 1999). The  $2690 \pm 2$  Ma Paymaster and  $2688 \pm 2$  Ma Preston porphyries (Marmont and Corfu, 1989; Gray and Hutchinson, 2001) are locally highly strained and are located in the immediate footwall (north) and hanging wall (south) of the fault zone (Rogers, 1982; Pressacco et al., 1999). The Dome fault was well exposed in the Dome open pit and underground, where it coincides with a several metre wide hydrothermal alteration corridor that hosts the high-grade quartz-fuchsite vein. The latter is located near the contact between the Tisdale volcanic rocks and the Preston porphyry or the Timiskaming sedimentary rocks. This alteration corridor consists of strongly iron-carbonate, quartz, sericite, and fuchsite altered and foliated mafic and ultramafic rocks and quartz-feldspar porphyry (e.g., Holmes, 1948; Rogers, 1982; Hodgson, 1983; Moritz and Crocket, 1990, 1991).



**Central Timmins Exploration Corp.**

**Central Timmins Project**  
*Timmins Area, Northern Ontario, Canada*  
**Mountjoy Property Geology**

Source: CTEC, 2018.

The quartz-carbonate vein gold deposits range from simple to complex networks of laminated quartz-carbonate fault-fill veins within moderately to steeply dipping brittle to ductile shear/ fault zones with locally developed shallow dipping extensional veins and hydrothermal breccias. Extensive ankerite alteration is common and frequently accompanied by sericite and fuchsite. Gold is generally concentrated in the quartz-carbonate vein network but does occur in significant amounts within iron-rich sulphidized wall rock/vein selvages or within silicified and arsenopyrite-rich replacement zones.

Mountjoy Township is located immediately to the west of the Hollinger-McIntyre gold system in a heavily overburden covered area historically thought to be underlain by predominantly sedimentary lithologies. Bedrock lithologies are now known to be more complex than originally thought and include greenstone lithologies, porphyritic intrusive bodies, and conglomerates, all known hosts for the Timmins Camp gold mineralization

### **Base Metal Mineralization:**

Base metal mineralization expected in this area is primarily of the Volcanogenic Massive Sulphide (VMS) type given the known geology of the property. They are commonly found in Precambrian volcano-sedimentary greenstone belts with extensional arc environments such as rifts or calderas.

VMS deposits are synvolcanic accumulations of metal enriched sulphide minerals found in geological domains characterized by submarine volcanic rocks, commonly tholeiitic to transitional and bimodal. These deposits are often spatially associated with synvolcanic faults, rhyolite domes or paleo-topographic depressions, caldera rims, or subvolcanic intrusions. The sulphides represent exhalative deposits in favourable settings that enable the focused discharge of hot, metal-rich hydrothermal fluids from sub-seafloor fluid convection systems, driven by large, 15 km to 25 km long high level subvolcanic intrusions.

Idealized, un-deformed and un-metamorphosed Archean VMS deposit typically consists of a concordant lens of massive sulphides, typically containing in excess of 60% pyrite-pyrrhotite-sphalerite-chalcopyrite-(magnetite). These cap a discordant stockwork or stringer zone of vein-type sulphide mineralization with pyrite-pyrrhotite-chalcopyrite-(magnetite) generally contained in a pipe of hydrothermally altered rock. A deposit may consist of several individual massive sulphide lenses and their underlying stockwork zones. Stockwork zones are thought to be near-surface channel ways of submarine hydrothermal systems with massive sulphide lenses representing the accumulation of sulphides precipitated from the hydrothermal solutions on the sea floor above and around the discharge vent.

Deformation, faulting and other structural complexities frequently result in discordant stockwork vein systems or pipes. The associated pipes are typically comprised of inner chloritized cores surrounded by an outer zone of sericitization and occur centrally to more extensive and discordant alteration zones. Alteration zones and pipe systems may extend vertically below a deposit for several hundred metres or may continue above the deposit for tens to hundreds of metres as a discordant alteration zone. Proximal alteration zone and attendant stockwork/pipe vein mineralization have been known to connect in a series of stacked massive

sulphide lenses, evidence for synchronous and/or sequential phases of ore formation during successive breaks in volcanic activity.

## **MOUNTJOY PROJECT SELECTED HISTORY**

The exploration and development history of the greater Mountjoy Project has not been as intense as other areas of the Timmins gold camp. Burt (2018) indicates that relevant work on the Mountjoy Project dates back to the 1930's when four diamond drill holes were completed by Mineral Estates Ltd. in the central portion of the township. The first of these holes returned a 9.14 m (30 ft) intersection grading 0.03 oz/ton Au within which a 0.61 m (2 ft) band of massive pyrite assayed 0.08 oz/ton Au in carbonatized volcanic.

Since that time, and prior to Claim Post's involvement, Burt (2018) lists the following drill from the ENDM assessment/data files:

1922 Canadian Longyear	30 DDH
1964 Hollinger Consolidated Gold Mines	2 DDH
1974 Kerr Addison Ltd.	13 DDH and 87 reverse circulation (RC) holes
1980 Comstate Resources Ltd.	1 DDH
1981 Comstate Resources Ltd.	16 RC holes
1981 D. Pyke	61 RC holes
1982 Comstate Resources Ltd.	30 RC holes
1982 D. Pyke	42 RC holes
1983 Grand Saguenay Mines and Minerals	2 DDH
1984 Noranda Exploration Ltd.	2 DDH
1984 Comstate Resources Ltd.	1 DDH
1984-86 K3 Dev. and Mining (Bonhomme)	4 DDH
1986 Zahavy Mines Ltd.	7 DDH and outcrop stripping
1986 Pamour Exploration	36 RC holes
1986 Noranda Exploration Ltd.	2 DDH, 5 RC holes
1987 Noranda Exploration Ltd.	7 DDH
1993 John Huot	4 DDH
1996 Caron	7 RC holes

Additional data on file includes several airborne surveys, both government and corporate, were completed covering various portions of Mountjoy Township. Comstate (1983) undertook a Questor Input EM and Mag airborne survey. In 1987 the OGS carried out a regional EM and Mag airborne survey. Most recently a Mag and Radiometric survey was completed by Osisko in 2013 in northern Mountjoy.

Ground geophysics includes;

- 1930's Mineral Estates Mag and EM survey
- 1972 Bonhomme EM and Mag survey
- 1974 Kerr Addison Mag survey

1974 Ecstall Mining Mag and HEM  
1983 Grand Saguenay Mines and Minerals IP surveys  
1993-95 Caron Mag, HEM, IP, and EM surveys  
1997-99 Comaplex Minerals Mag and IP surveys  
2012 Geomark Exploration Mag and EM survey

Soil geochem was undertaken in 1981 by Comstate focusing on A horizon sampling with a total of 319 samples at 100' spacing. Channel sampling was carried out by Comaplex in 2007 as were analyses of outcrop grab sample in 1997 and whole rock in 1994 of the original historical gold showing.

### **Recent Claim Post Resources and CTEC Work**

In 2006, Claim Post commissioned MVW White and Associates Ltd. (White) to complete a compilation of available historical work, geological, geophysical and geochemical data into a geo-referenced digital database. Elements of the compilation included airborne gamma-ray spectrometry, used to detect and map potassium alteration associated with magmatic-hydrothermal mineralization related to a variety of mineral deposit types (Shives, Charbonneau and Ford, 2000), and whole rock litho-geochemical sampling. The compilation results suggest that Mountjoy Township is characterized by a significant alteration system which appears to be spatially related to a similar alteration system overlying major gold producers in the Timmins Camp.

During the late summer of 2010, Claim Post contracted Exsics Exploration Limited (Exsics) to establish pace and compass, flagged grid lines over a number of claim blocks and along certain roads in Mountjoy Township and to complete MMI soil sampling along the newly created grids. A total of approximately 182 km of lines were established, and samples were collected on a 200 m x 25 m grid with a stainless steel auger at a target depth of approximately 25-30 cm. Select survey results were subsequently filed in 2011 for assessment including work on former claims.

In December 2010, Nadeau (2011) was engaged by Claim Post to review and interpret the results of the soil samples taken by Exsics earlier in the year. The soil samples were subjected to a weak leach according to the MMI method, which is reported to be effective in areas of deep overburden. The leachates were subsequently analyzed for a suite of 47 trace elements and six major elements by ICP-MS. A total of 2,975 samples were analyzed. Anomalous areas were re-sampled to confirm the results. It was noted that some anomalies may have resulted from historical contamination.

Nadeau (2011) identified eight gold targets and one anomalous area defined by high Ce and cerium/ytterbium which he interpreted to be caused by granitic or felsic porphyritic rocks. Several single sample copper, zinc, and lead anomalies were defined, most of which could be ascribed to contamination. Nadeau recommended extending the soil sampling on some grids where anomalous results were achieved.

In 2016, Nadeau re-interpreted the MMI results from the 2010 sampling and integrated

the results of a 41-hole RC overburden drilling program completed by Kerr Addison Mines Limited (Kerr Addison) on a 400 m x 400 m grid during the 1960s in the northern portion of Mountjoy Township. This overburden drilling program was followed by a ten-hole diamond drilling program by Kerr Addison. Additional soil sampling and/or a deep penetrating EM survey was recommended by Nadeau before diamond drill testing of the MMI targets.

In 2017 and 2018, a total of 1,537 and 1,853 (respectively) MMI soil samples were taken on some of the previously sampled grids and results re-interpreted.

## **MOUNTJOY PEM SURVEY**



**FIGURE 6: LOCATION GRID LINES - ALL AREAS**

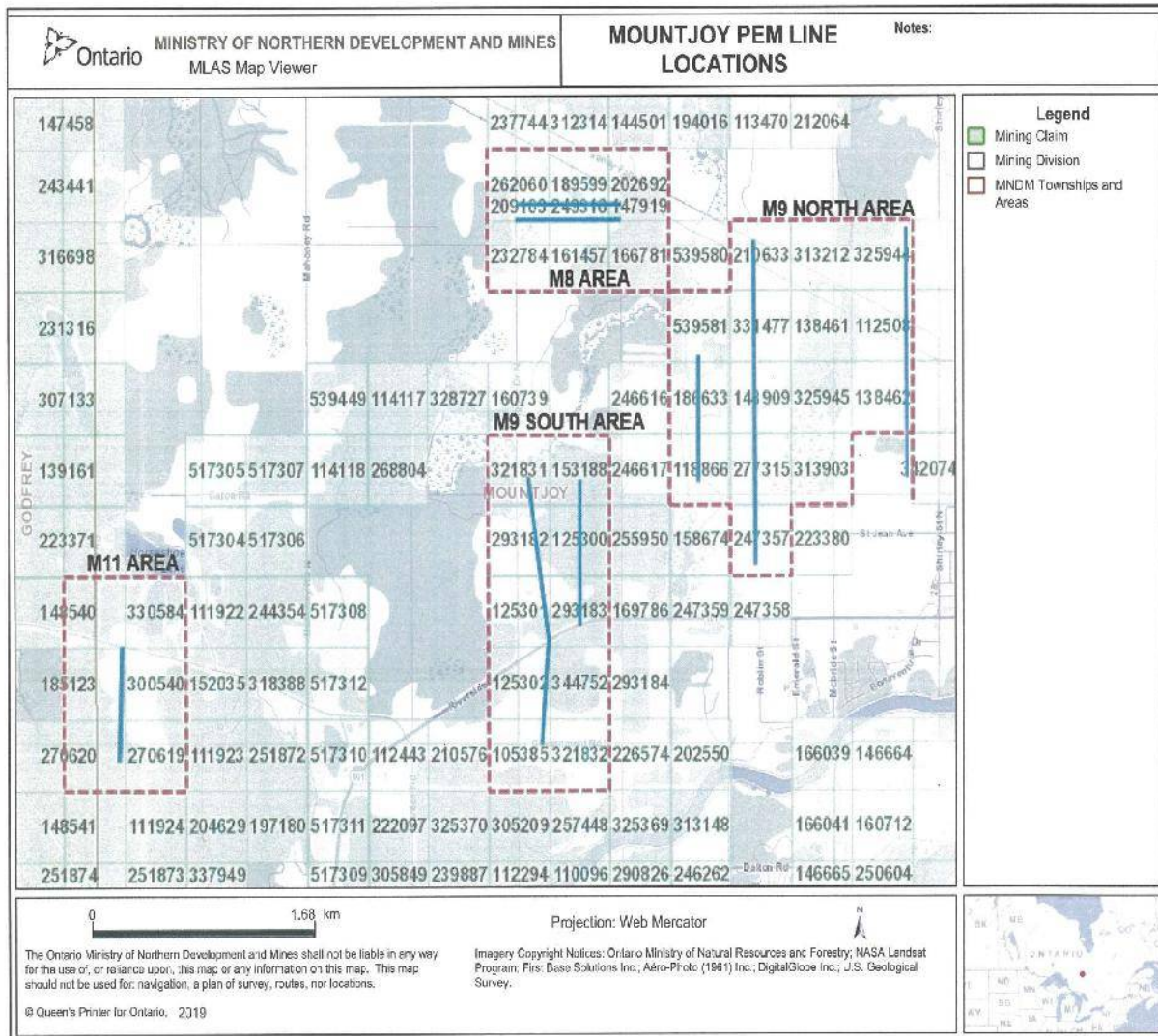
## **CLAIM BLOCKS**

The claim units covered by the current geophysical program and that represent a portion of CTEC holdings in the area are as follows:



AREA 8: 262060, 249316, 147919, 166781, 161457, 232784  
 AREA 11: 148540, 330584, 185123, 300540, 270620, 270619  
 AREA 9 NORTH: 210633, 313212, 325944, 112508, 138461, 331477, 539581, 186633,  
 143909, 325945, 138462, 118866, 277315, 313093, 247357,(342074)  
 AREA 9 SOUTH: 321831, 153188, 125300, 293182, 125301, 293183, 125302, 344752,  
 321832, 105385

Refer to **FIG. 7**, copied from the MNDM Plan Map of Mountjoy Township for the positioning of the grid line and claim numbers within the Township.



**FIGURE 7: GRID LINE LOCATION WITH CLAIM BLOCKS**

## **PERSONNEL**

The PEM field crew directly responsible for the collection of all the raw survey data were:

J. Francoeur	Timmins, Ontario
D. Porier	Timmins, Ontario
R. Bradshaw	Timmins, Ontario
G. Martin	Timmins, Ontario
D. Clement	Timmins, Ontario

All of the plotting, interpretation and report was completed by J. C. Grant of Exsics Exploration.

## **GROUND PROGRAM**

The ground program consisted of establishing and reading a number of scattered grid lines across various sections of Mountjoy Township. This involved a 2 man crew that were to compass pace and flag grid lines across specific locations using hand held GPS units to control the orientation of the grid lines. These lines were then covered by a 4 man crew involved in completing a Pulse Electromagnetic, (PEM), survey across each line that was established. The start and end points for each grid line was laid out according to client specifications.

This survey was completed using the Pulse Electromagnetic, (PEM), survey using the Crone PEM system. Specifications for this system can be found as Appendix A of this report. The survey was completed between February 21<sup>st</sup> and March 21<sup>st</sup> 2019.

## **EXPLANATION OF THE CRONE PEM SYSTEM**

The Crone PEM system is a moving coil EM system that is primarily used with a horizontal loop configuration. Both receiver coil and transmitter coil are moved along the survey line perpendicular to the suspected strike and the reading point is midway between the two coils. The transmit loop is 45 feet, (13.7 meters), in diameter and it is laid out on the ground with the survey station roughly in the middle of the loop. The receiver coil is stationed about 100 meters ahead of the transmitter loop and it is held in a tripod setup for ease in stabilizing the unit for reading purposes. This receiver coil is then connected to the receiver console in preparation for survey. The transmitter loop is then energized by a pulse of current from the transmitter of approximately 20 amps that is turned off by a special ramp circuit. The on-off time is 10.8ms. The signal on the receiver coil is sampled averaged and stored during the reading interval. One sample is taken of the primary pulse and 8 samples are taken of the secondary field during the off time. Time synchronization is by radio link between the two units.

The frequency range from sample 1 trough to sample 8 is between 2000Hz and 16Hz with a potential exploration depth of 75 meters for vertical conductors and 150 meters for flat lying conductors with a coil spacing of 100 meters.

A typical curve response for a conductor would be negative shoulders on either side of a positive peak. The positive peak represents the conductor axis. The side with the greater negative values represents the down dip side of the target.

## **PEM SURVEY PARAMETERS**

Line length total (data)	8,300 meters
Station spacing	25 meters
Reading intervals	25, 50 meters
Transmitter output	15 amps
Primary Pulse	800ms
Coil separation	100 meters
Theoretical search depth	75-85 meters

Once the survey was completed the collected data was then plotted on a section plan map profiling the 8 recorded channels as stacked profiles for channels 1 through 8 that were profiled at 1 cm to +/- 100% channel 1, 2 and +/- 20 % for channels 3 to 8. A copy of these profiled plan sections are included in this report.

**FIGURE 6**, a Google map of the PEM grid lines outlined in white, shows the location and orientations of each line covered by the survey.

## **PEM SURVEY RESULTS**

Each of the 4 areas tested by the PEM ground program will be discussed in detail along with their corresponding grid map.

### **AREA M 11 PEM SURVEY RESULTS**

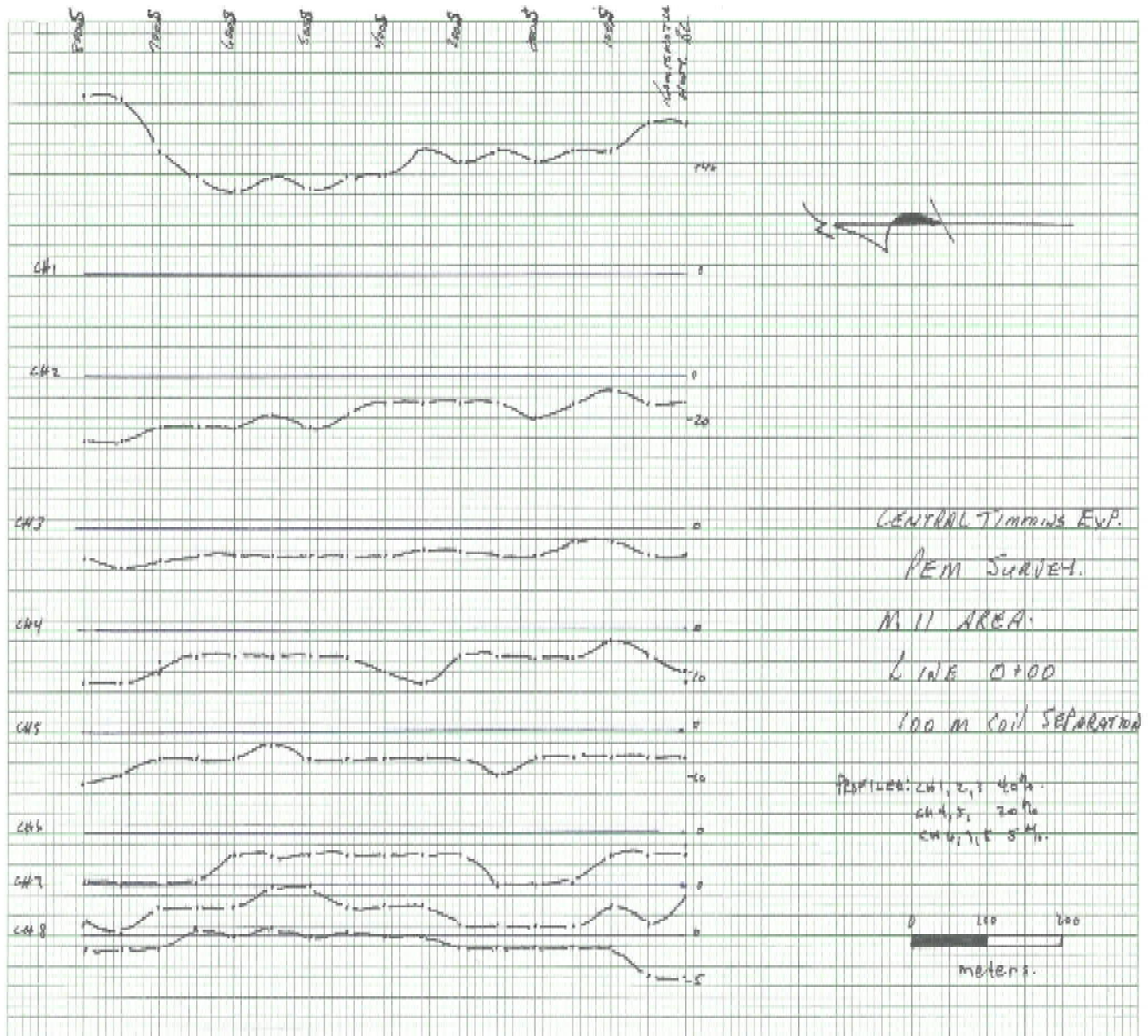
This area was covered by one 800 meter long grid line that commenced at the Kamiskotia access road. The line, labeled Line 0, was compassed and flagged with GPS controlled stations set at 25 meter intervals for 800 meters south through an open field.

This line was completed over a possible porphyry like unit that had been noted in an airborne magnetic survey. No obvious PEM zone was detected over the target area. A very broad, weak and questionable zone lies between 250MS and 600MS that may represent a clay filled ridge or trough.

**AREA 11 GRID LINE LOCATION MAP**



LINE 0+00 PEM SURVEY RESULTS



## **AREA 8 PEM SURVEY RESULTS**

Two grid lines were completed across this Area. The lines commenced at Jaguar Road and ran 800 meters east. The lines were labeled line 500MN and 600MN and again both lines were compassed paced and flagged with 25 meters stations intervals that were controlled by hand held GPS units. Both lines are located to the east of Jaguar road and are in open field.

Line 500MN outlined a possible weak and or deep rooted zone between 500ME and 600ME that corresponds to anomalous gold values outlined in the soil sampling program.

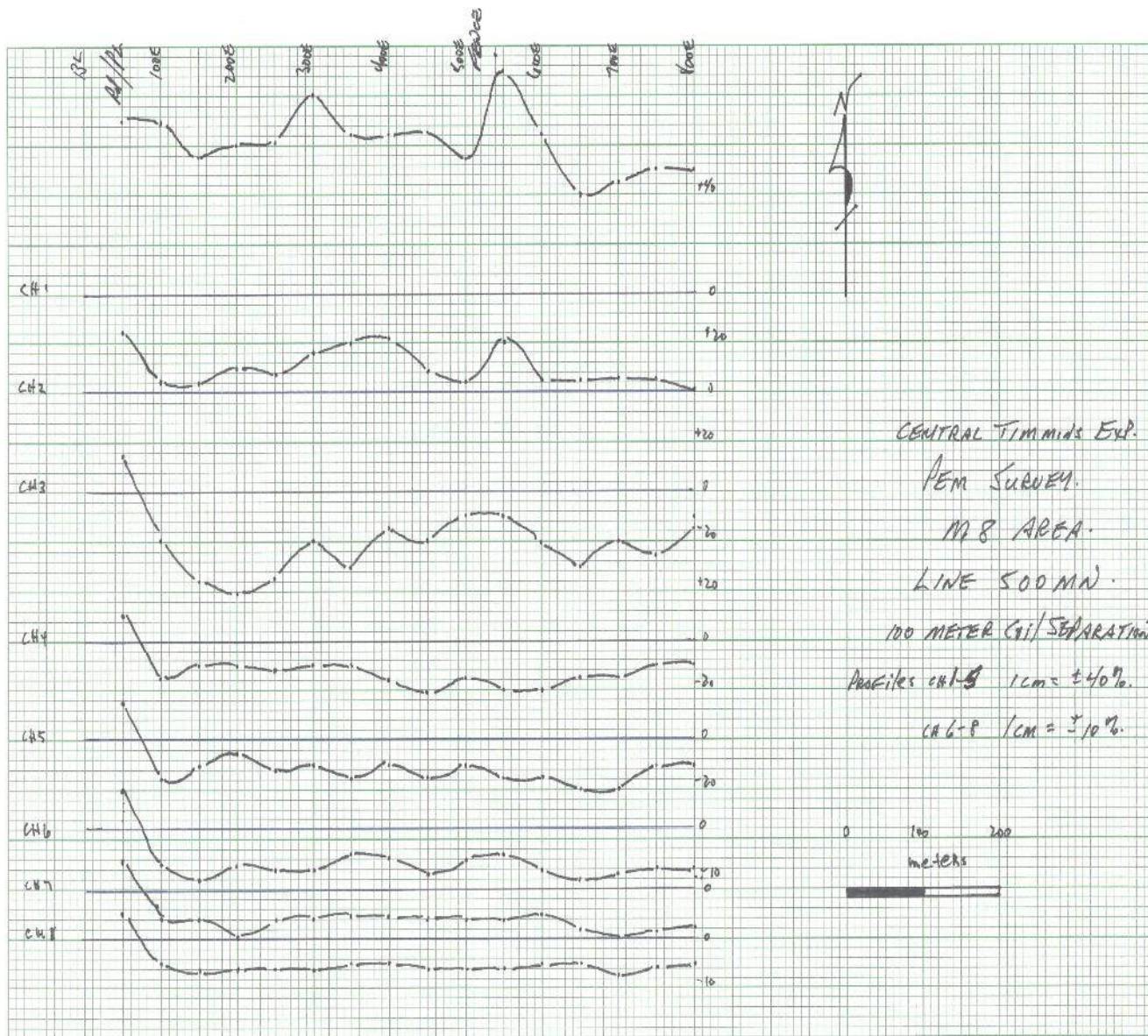
Line 600MN may also have outlined a very weak and or questionable zone between 350ME and 475ME on the middle channels.

Both weak zones generally correlate with or are on strike to the suspected porphyry in the area.

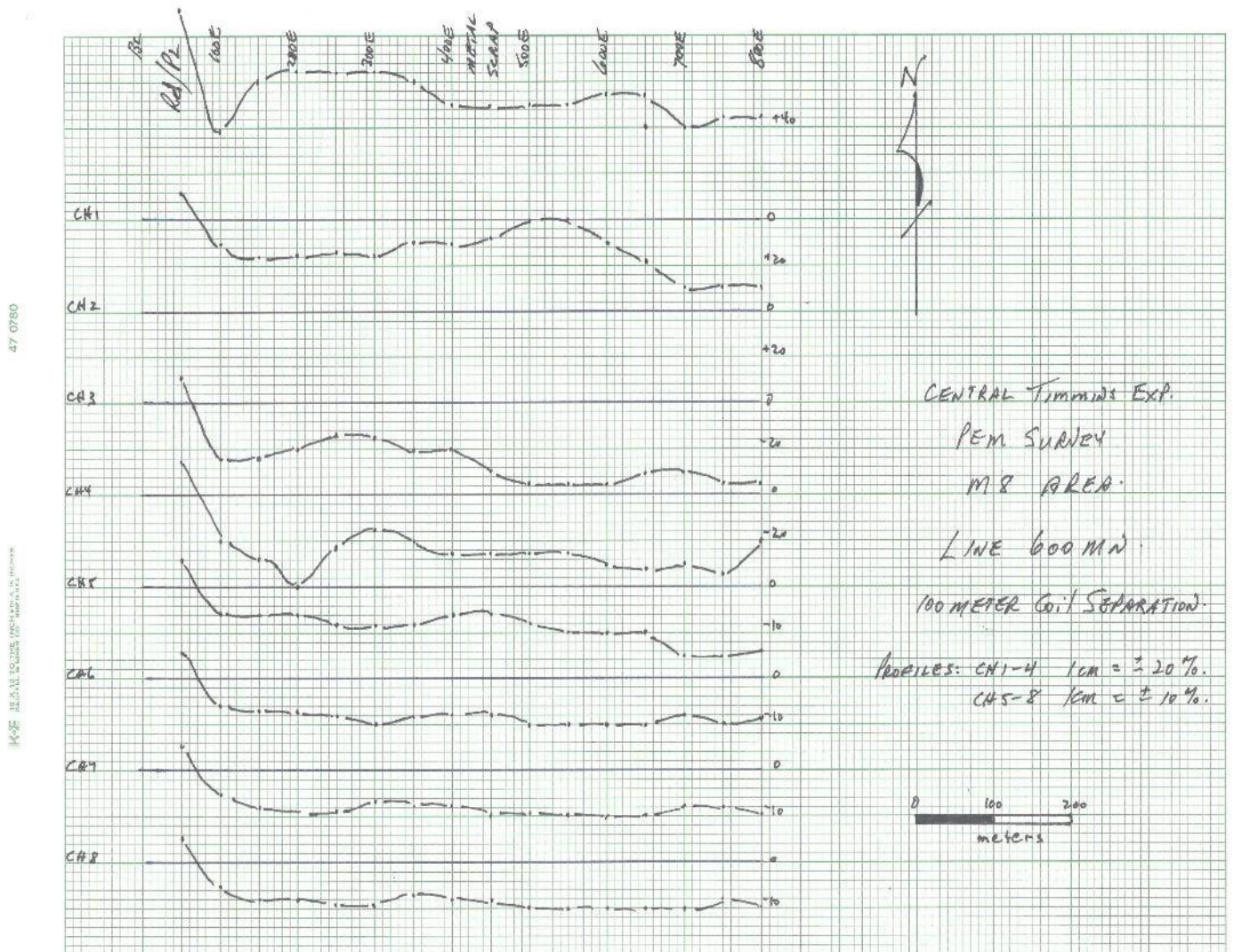
## **AREA 8 GRID LINE LOCATION MAP**



# LINE 500MN PEM RESULTS



## LINE 600MN PEM RESULTS



## AREA 9 SOUTH PEM SURVEY RESULTS

Two grid lines were covered by the PEM survey across this area and were labeled line 900ME and 300ME. Both lines lie to the east of Jaguar Road and Highway 101 west crosses line 900ME and line 300ME commences at the Highway. Line 300ME was compassed, paced and flagged at 25 meter intervals to 900MN and line 900ME was compassed, paced and flagged at 25 meter intervals from 600MS to 950MN. The north end of line 900ME was roughly striking north-northwest to skirt along the backyard boundaries of a number of homes that lie to the immediate west of the line location.



Line 300ME outlined a weak broad and or possibly deep zone lying between 425MN and 650MN that was noted on the middle and lower channels. This zone may split into two parallel zones at depth.

Line 900ME did not return similar results. A possible weak and or deep zone may lie between 150MS and 350MS which is evident in the lower channels but this response also coincides with the eastern boundary of an industrial yard in the same vicinity.

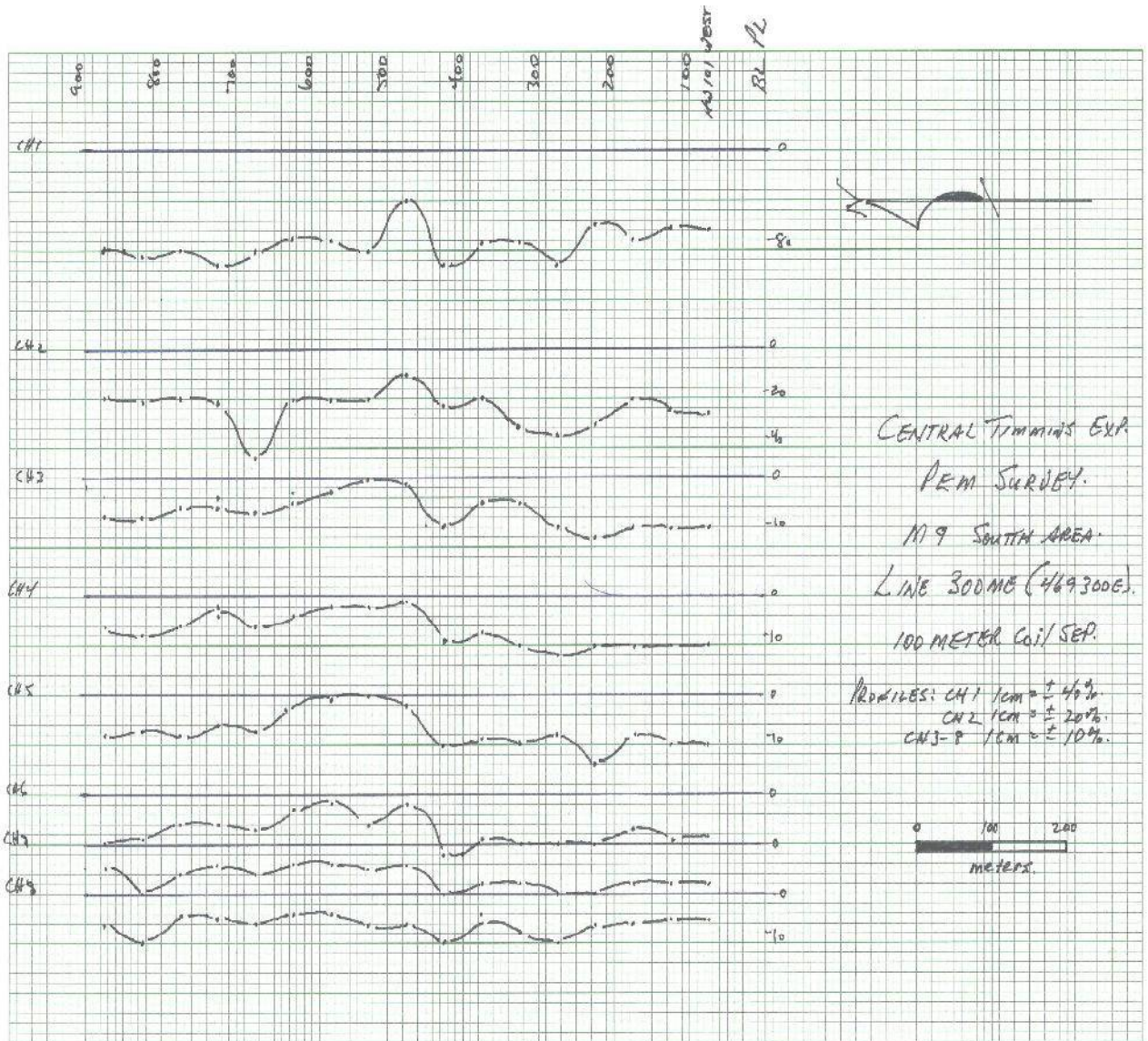
**AREA 9 SOUTH GRID LINE LOCATION MAP**



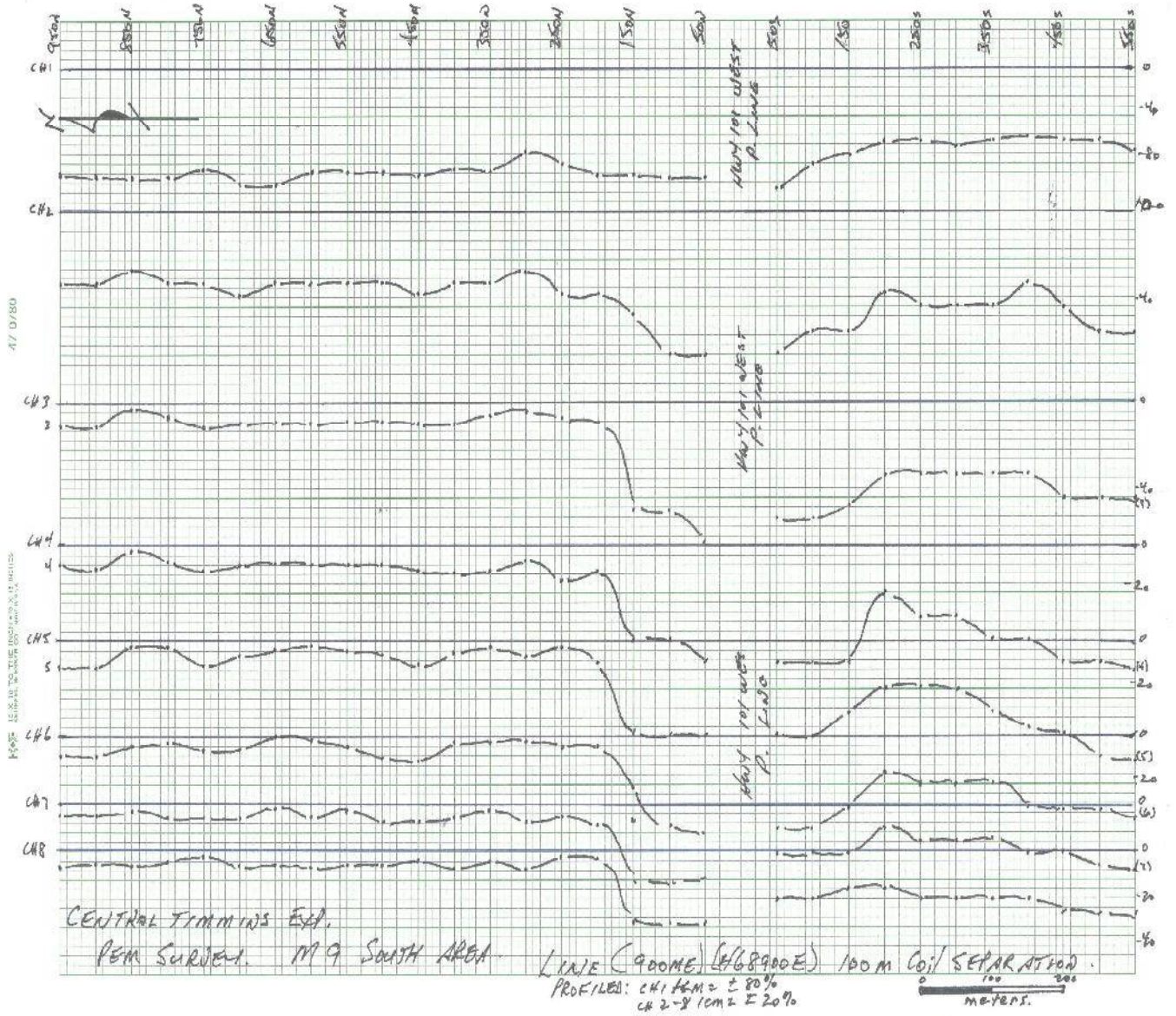
# LINE 300ME PEM SURVEY

47-0780

MAPS REL. TO THE EASTERN PROVINCES



# LINE 900ME PEM SURVEY



## **AREA 9 NORTH PEM SURVEY RESULTS**

Area 9 North consisted of three lines labeled line 200ME that lies just to the west of Government Road, line 600ME that lies just to the east of Government road and commences at Sandy Falls road and line 1800ME that lies just to the west of Shirley Street and is cross cut by the eastern end of Sandy Fall road.

All of the lines were compassed paced and flagged with 25 meter stations that were controlled by hand held GPS units.

### **LINE 200ME:**

This line outlined a weak and or questionable zone between 100MN and 225MN which was noted mainly in the upper three channels only. The lower channels show a slight increase in values between 175MN and 75MN. Further follow up would be needed to better define the source.

### **LINE 600ME:**

This line outlined a weak, deep and or questionable zone between 1400MN and 1500MN that generally follows through all of the channels. The zone is relatively narrow and may be affected by local power lines and or buried gas and hydro lines. The remainder of the line is fairly non descriptive.

### **LINE 1800ME:**

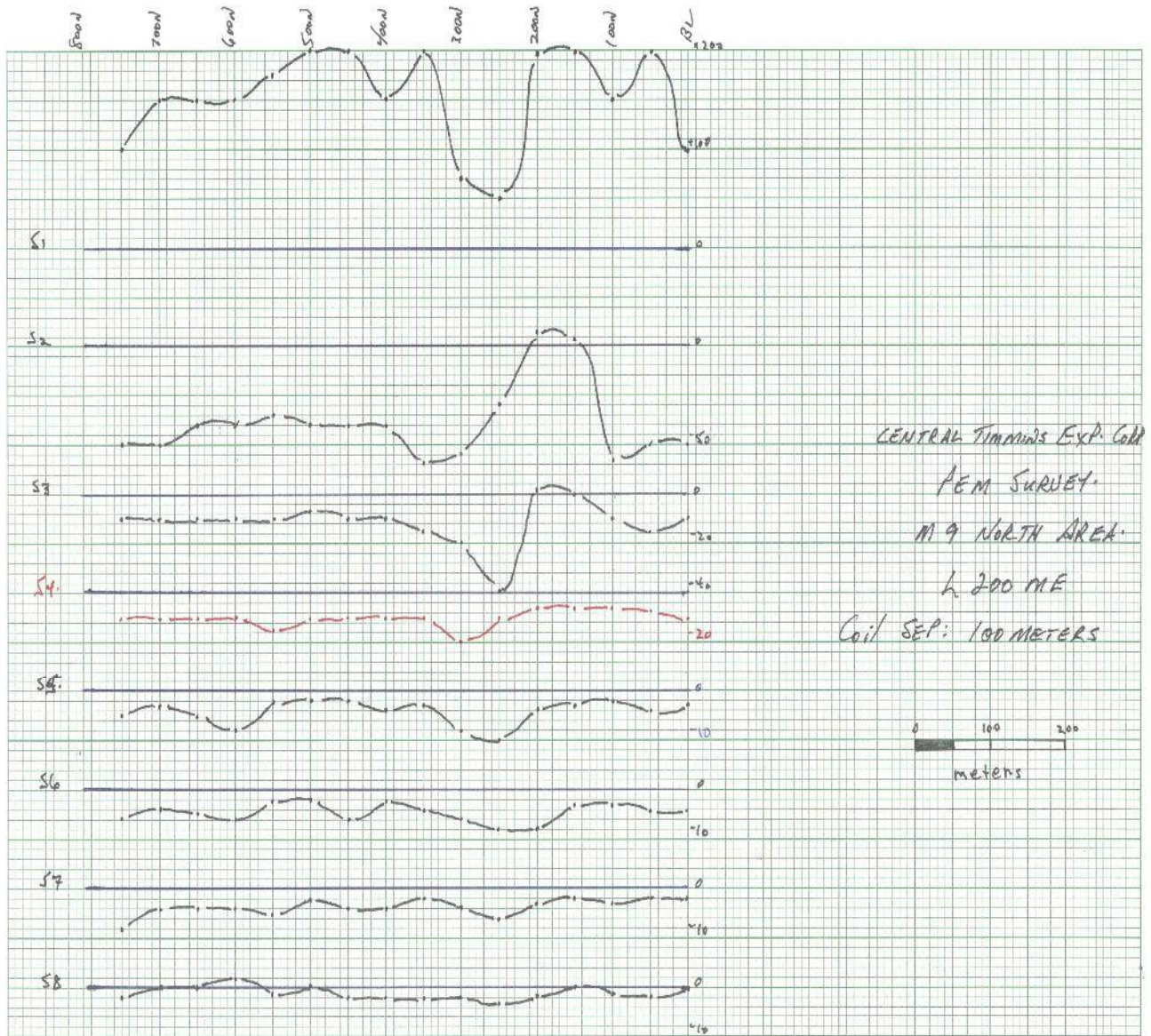
This line returned the most interesting zone of the area. The survey outlined a modest zone lying between 1400MN and the north end of the line that is still open to the north. This zone lies to the north of Sandy Fall access road and appears to correlate with an airborne conductor located in the same vicinity.

Until the northern shoulder of the target is located a dip direction is difficult but it would be safe to assume the zone is not flat lying at this writing.

**AREA 9 NORTH GRID LINE LOCATION MAP**



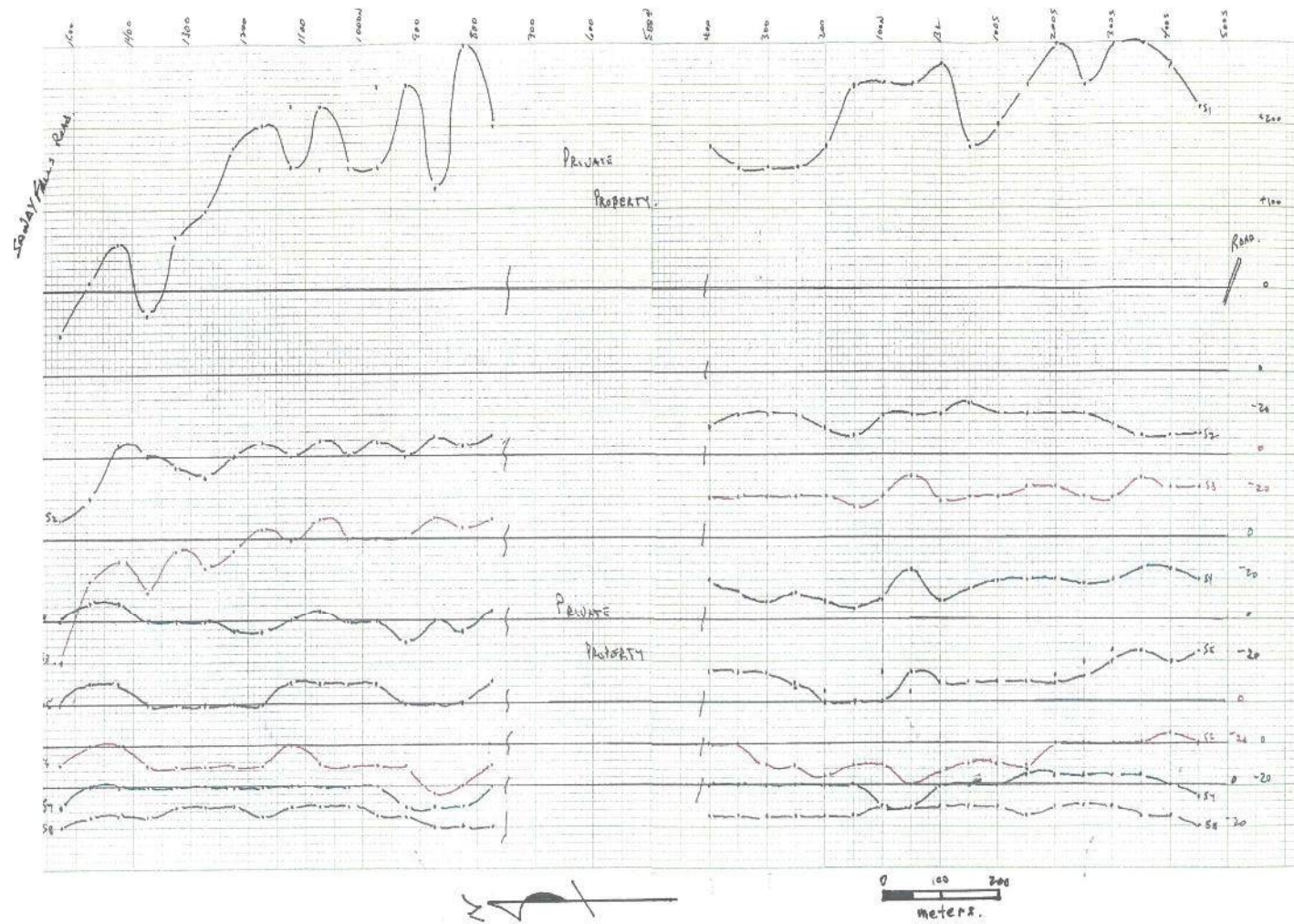
# LINE 200ME PEM SURVEY RESULTS



47 0780

40 SE REPORT TO USER (200 ME) S. W. 1000000

# LINE 600ME PEM SURVEY RESULTS



CENTRAL TIMMINIS EXPLORATION  
 PEM SURVEY.  
 M9 NORTH AREA.  
 LINE 600ME  
 (oi) SEP: 100 METERS.

# LINE 1800ME PEM SURVEY RESULTS





## **CONCLUSIONS AND RECOMMENDATIONS**

The PEM survey did return some encouraging results across several of the PEM areas. The most interesting zone outlined was on Line 1800ME of the AREA 9 NORTH grid. This zone appears to relate to a bedrock conductor which appears to correlate with a known airborne EM conductor. A follow up IP survey should be considered across the same grid line using a Pole-Dipole array and at least 8 electrodes with a spread of 25 meters to verify the PEM zone. This line should extend about 500 meters on either side of the PEM zone to define both shoulders for a better determination of the dip of the zone.

Another area of interest would be the broad zone outlined on line 300ME between 450MN and 625MN located in AREA 9 SOUTH. This line lies to the north of Highway 101 west and appears to lie within a vacant area of bush with no man made structure around the zone. The zone was outlined on most of the lower channels of the PEM survey and it may split into two parallel zones at depth. A follow up line of IP on the same line using the same specifications as outlined above should be considered to better define the zone.

The north end of line 600ME located in AREA 9 North should be considered in the IP follow up program to test the northern end of the line between 1400MN and 1550MN. Cultural structures would be evident in the immediate area and should be ruled out before the IP survey is considered.

The broad zone outlined weakly on line 0+00 of AREA 11 should be considered for a follow up IP survey to test the validity of the broad zone located between 200MS and 450MS. This line is all located in a wide open field and can be done quite quickly.

Should the follow up IP survey better define any of the PEM zones then the next stage would be a diamond drill program to test the features. Casing should be left in all of the drill holes in the event a Mise a la Masse down-hole survey is considered to define the geometry of the zone that may have been intersected in the drilling.

Respectfully submitted

*JC Grant*

J. C. Grant, CET, FGAC  
May 2019.

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## Appendix A

### Field Notes

M11 Pem Line 0430  
AREA

8A	+70	-25	-12	-10	-8	-5	-4	-2
	+70	-25	-15	-10	-10	-5	-5	-2
7B	+50	-20	-12	-8	-8	-5	-2	-2
	+60	-20	-10	-5	-5	-5	-2	+2
6B	+35	-20	-10	-5	-5	-2	-2	0
	+40	-15	-10	-5	-5	-2	0	+2
5B	+35	-20	-10	-5	-2	-2	0	0
	+40	-15	-10	-5	-5	-2	-2	+1
4B	+40	-10	-10	-8	-5	-2	-2	0
	+50	-10	-8	-10	-5	-2	-2	0
3B	+45	-10	-8	-5	-5	-2	-4	-2
	+50	-10	-10	-5	-5	-5	-4	-2
2B	+45	-15	-10	-5	-8	-5	-4	-2
	+50	-10	-5	-5	-5	-5	-4	-2
1B	+50	-5	-5	-2	-5	-2	-2	-2
	+60	-10	-10	-5	-5	-2	-4	-4
RL	+60	-10	-10	-8	-5	-2	-2	-4

RL LCU

LOXVO M11  
AREA

Handwritten signature





	M9 SOUTH 469700E	LINE	300M2
1825	-80 -20 -8 -7 -8 -10 -5 -6		
825	-85 -25 -8 -8 -7 -9 -10 -10		
795	-80 -20 -6 -6 -8 -6 -5 -4		
725	-90 -25 -6 -4 -6 -6 -4 -5		
625	-80 -55 -7 -6 -7 -7 -6 -6		
625	-70 -20 -5 -4 -3 -3 -4 -4		
525	-75 -20 -3 -2 -1 -2 -4 -4		
525	-80 -20 0 -2 0 -6 -5 -6		
425	-40 -70 -1 -1 -2 -2 -4 -6		
405	-90 -25 -10 -9 -10 -12 -10 -10		
375	-75 -20 -5 -7 -9 -9 -8 -4		
325	-75 -70 -5 -10 -10 -10 -8 -8		
275	-90 -25 -70 -12 -8 -10 -10 -10		

225	-65 -30 -10 -10 -15 -10 -10 -10	
175	-70 -20 -10 -10 -8 -7 -8 -4	
125	-65 -25 -10 -10 -10 -8 -8 -5	
75	Skidoo Travel P. Line	
	King	
	<del>FOC</del>	
	M9 SOUTH	
	LINE 300M2	
	ggh	
	OK	

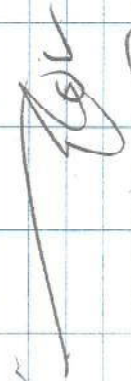
Att. in the Rain

	Good (11706 40E)	M9 NORTH
40S	+220 -30 -15 -20 -15 -20 -25 -20	
45	275 -30 -15 -15 -20 -15 -20 -15	
50	300 -30 -10 -15 -15 -20 -15 -15	
55	300 -25 -20 -20 -20 -20 -20 -15-10	
60	280 -20 -20 -22 -22 -22 -22 -20 -15-10	
65	300 -20 -15 -20 -30 -30 -20 -15-10	
70	250 +20 -15 -20 -30 -30 -30 -15-15	
75	200 -20 -20 -20 -20 -20 -20 -20-10	
80	175 -15 -20 -25 -30 -30 -30 -20-10	
85	275 -20 -22 -30 -35 -35 -20-10	
90	250 -20 -10 -15 -25 -40 -30-10	
95	200 -20 -30 -30 -40 -30-30-10	
100	200 -30 -25 -35 -40 -30-20-15	
105	175 -25 -20 -20 -35 -35 -20-15	
110	150 -20 -20 -25 -30 -30 -20-15	
115	150 -20 -20 -30 -35 -30-20-15	
120	+150 -20 -20 -25 -35 -35 -20-15	
125	+175 -20 -20 -20 -35 -20 -20-15	
130		
135		
140		
145		
150		
155		
160		
165		
170		
175		
180		
185		
190		
195		
200		

775W	+200 -30 -30 -35 -30 -30 -20-20
800W	+300 -35 -35 -45 -40 -40 -30-20
825W	+125 -30 -30 -40 -40 -40 -30-20
850W	+250 -40 -40 -50 -40 -30 -30-15
875W	+150 -35 -40 -40 -30 -30 -20-15
900W	+150 -40 -40 -40 -30 -30 -20-10
925W	+225 -35 -30 -35 -20 -30 -20-10
950W	+150 -40 -40 -40 -30 -20 -20-10
975W	+200 -35 -35 -45 -40 -30 -20-15
1000W	+175 -40 -45 -45 -40 -30 -20-10
1025W	+100 -50 -50 -40 -30 -30 -20-10
1050W	+65 -45 -45 -40 -40 -30 -20-10
1075W	-30 -40 -45 -40 -30 -20-15
1100W	+60 -35 -50 -30 -30 -20-15
1125W	+10 -60 -60 -30 -30 -20-15
1150W	-55 -70 -90 -40 -40 -30-20
1175W	
1200W	
1225W	
1250W	
1275W	
1300W	
1325W	
1350W	
1375W	
1400W	
1425W	
1450W	
1475W	
1500W	
1525W	
1550W	
1575W	
1600W	
1625W	
1650W	
1675W	
1700W	
1725W	
1750W	
1775W	
1800W	
1825W	
1850W	
1875W	
1900W	
1925W	
1950W	
1975W	
2000W	

Now Road

900 01L  
Keston, Michigan

3N	-15	-30	-10	-10	-10	-8
2N	-25	-30	-8	-8	-8	-6
1N	-20	-30	-8	-8	-8	-5
	-12	-35	-8	-8	-8	-5
	-15	-31	-8	-8	-10	-5
	-20	-34	-20	-8	-10	-5
						
L 1800 mE						
NE 9 NORTH						

Feb. 12

MA NORTH  
1800 E

130	17	-55	-20	-15	-20	-7	-20	-35
150	80	122	130	-8	-9	-7	-20	-25
	70	120	115	-20	-30	-30	-15	-6
14	70	-15	-10	-20	-30	-20	-10	-6
	65	-25	-30	-25	-35	-20	-8.5	-7
13	58	-10	-25	35	-40	-18	-7.5	-11
	55	-6	-35	-40	-35	-11	-11	-15
12	50	-8	-20	-20	-20	-11	-11	-10
	45	-10	-10	-10	-15	-15	-11	-10
11	45	-10	-10	-10	-15	-17	-13	-10
	45	-20	-20	-15	-15	-12	-20	-10
10	40	-40	-17	-10	-15	-20	-20	-11
	40	-50	-20	-10	-15	-20	-20	-10
9	40	-50	-20	-10	-15	-20	-20	-11
	40	-45	-25	-10	-15	-20	-20	-15
8	30	-45	-25	-10	-15	-15	-20	-15
	35	-50	-30	-10	-10	-15	-15	-15
7	40	-55	-30	-9	-10	-15	-15	-15
	-20	-50	-40	-10	-10	-15	-15	-10
6	15	-40	-45	-10	-11	-15	-15	-10
	-28	-40	-40	-9	-11	-10	-15	-10
5	12	-30	-40	-8.5	-11	-12	-20	-11
	-15	-30	-40	-9	-9	-10	-15	-10
4	10	-40	-40	-8	-9	-10	-15	-10
	25	-30	-30	-8	-8	-10	-10	-8

Return to base

1500N M8 AREA

100E	+70	+45	+5	-20	-15	-15	-7	-6	-5
200	+155	+10	+5	-35	-10	-10	-6	-6	-6
300	+160	+5	-35	-12	-12	-8	-6	-6	-6
400	+180	+7	-20	-10	-10	-8	-6	-6	-6
500	+165	+10	-30	-10	-15	-5	-5	-5	-5
600	+165	+12	-15	-15	-10	-6	-5	-5	-5
700	+165	+8	-20	-20	-15	-9	-6	-6	-6
800E	+155	+4	-10	-15	-10	-6	-6	-6	-6
	+70	+10	-10	-20	-15	-5	-6	-6	-6
	+65	+5	-20	-20	-15	-8	-5	-5	-5
	+140	+5	-25	-15	-20	-10	-8	-5	-5
	+145	+5	-20	-15	-20	-9	-10	-9	-6
	+150	+5	-25	-10	-10	-8	-9	-6	-6
	+150	0	-15	-10	-10	-8	-8	-8	-5

502  
AREA  
M8

LINE 500MN

1600N

800	+145	+10	-35	-20	-15	-10	-10	-8
700	+145	+10	-35	-30	-15	-10	-10	-8
600	+145	+10	-35	-30	-15	-10	-10	-8
500	+155	+22	-30	-32	-10	-10	-10	-8
400	+155	+30	-35	-30	-10	-10	-10	-8
300	+150	+40	-35	-25	-10	-10	-10	-8
200	+150	+46	-35	-25	-8	-10	-10	-8
100	+150	+36	-30	-25	-6	-8	-10	-8
	+150	+30	-20	-25	-6	-8	-10	-8
	+160	+30	-24	-20	-8	-8	-8	-7
	+165	+35	-15	-15	-8	-10	-7	-7
	+165	+27	-17	-22	-8	-8	-9	-8
	+165	+25	-20	-10	-6	-7	-9	-7
	+160	+25	-24	-28	-6	-7	-8	-6
	+160	+30	-25	-20	-6	-7	-8	-6
	+190	+32	+10	+15	+6	+4	+5	+6
	+220	+30	+25	+25	+8	+6	+8	+6

AREA

M8

LINE 600MN

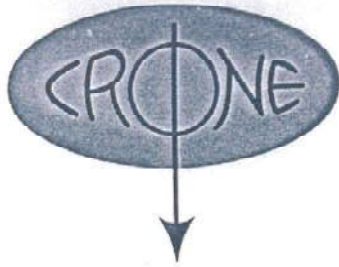
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5,						
1m	50	-60	-10	-7	-2	-3-3 -1'
50	200	-50	-15	-9	-4	-1-2 -2
BL	100	-50	-10	-10	-3	-4-2 20
EOL						
QVA 1FE L 200MB						
M9 NORTH.						
All OK						
B&B on line						

7x8m	nx 100	M9	NORTH
L200E	(4	70	200E)
7m	+100	-50	-10 -10 -5 -6 -8-2
7m	+150	-50	-10 -10 -3 -4 -4 0
650	+150	-40	-10 -10 -5 -5 -5 0
600	+100	-40	-10 -10 -8 -6 -4 +2
550	+175	-35	-10 -15 -2 -2 -5 -1
500	+200	-40	-7 -11 -2 +2 +2 20
450	+200	-40	-10 -10 -2 -4 -4-2
400	+150	-40	-10 -10 -4 -2 -4-2
350	+200	-60	-15 -10 -3 -4 -2-2
300	+70	-55	-20 -20 -8 -6 -4-2
250	+50	-30	-10 -10 -8 -6 -3
200	+200	+7	+1 -9 -4 -8 -3-2
150	+200	+4	0 -7 -3 -3 -2 0

## APPENDIX B

### Crone Pulse EM-PEM



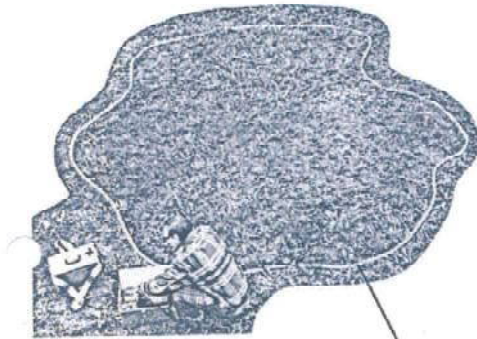
## CRONE GEOPHYSICS LIMITED

3607 WOLFEDALE ROAD,  
MISSISSAUGA, ONTARIO  
CANADA, L5C 1V8

Phone: (416) 270-0096

# PULSE EM-PEM

### TRANSMITTER

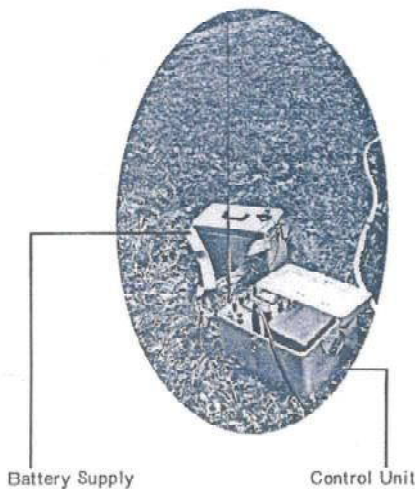


Transmit Coil

**A GROUND PULSE EM** Instrument with moving coil transmitter and receiver that can be operated with several coil configurations.

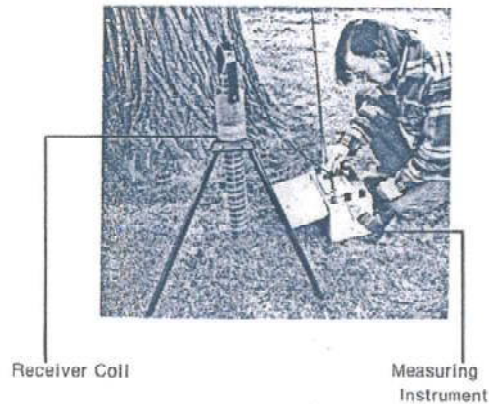
- 8 samples of the secondary field provide a wide frequency response.
- Deep penetration through conductive overburden without large coil separations,
- High resolution of anomalies.
- Accurate interpretation as to conductivity, width, depth and dip of conductor.
- Simple Operation
- Rugged Equipment

### RECEIVER



Battery Supply

Control Unit

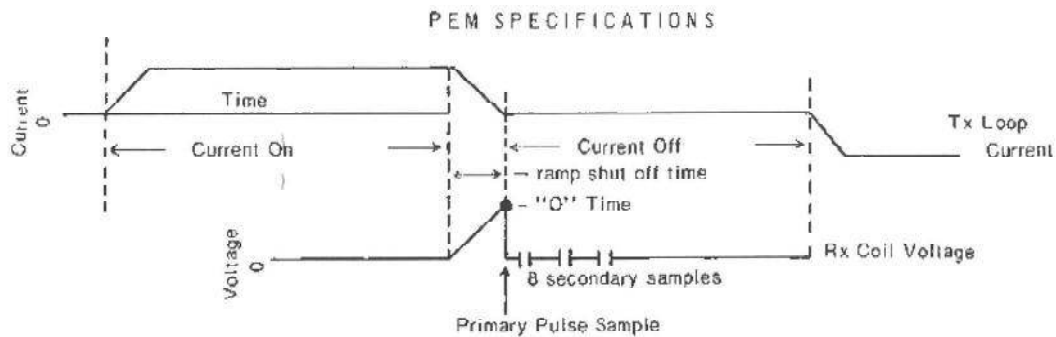


Receiver Coil

Measuring Instrument

DEVELOPED WITH THE ASSISTANCE OF NEWMONT EXPLORATION LIMITED





Current Off time: 9.4 ms  
 Current on time: 10.8 ms  
 Current shut off (ramp) time: 1.4 ms  
 Sample times (zero to centre of sample): .15ms, .45ms, .85ms, 1.45ms, 2.45ms, 3.75ms, 5.85ms, 8.85ms.

Sample width: 100  $\mu$ s  
 Zero time set at drop off point of primary pulse

**TRANSMITTER** — Transmitter power and loop size may be increased to obtain increased penetration. Weight, portability and power capabilities of the control instrument are the limiting factors. The standard transmitter is designed to be carried by two men.

Loop diameter	—	minimum 4 meters (13 feet)
Loop current	—	15 to 20 amps
Loop applied voltage	—	24 volts
Loop output	—	minimum 4500 amps x meter <sup>2</sup>
Loop weight	—	11.8 kilos (26 lb)
Control unit weight	—	10 kilos (22 lb)
Control unit dimensions	—	20.5cm x 25.5cm x 36.5cm (8" x 10" x 14.5")
Battery supply weight	—	18.1 kilos (40 lb)
Battery supply	—	2 of 12 volt, 14 to 20 ampere hour
Timing control	—	by radio synchronization

**RECEIVER**

- Receive coil dimensions: 55cm x 15cm (22" x 6")
- Receive coil weight: 4.5 kilos (10 lb)
- Pre-amplifier in coil
- Pre-amplifier batteries: 2 of 9 volt
- Receive coil tripod mounted
- Receiver measuring instrument dimensions: 28cm x 18cm x 21.5cm (11" x 7" x 9")
- Receiver measuring instrument weight: 6.3 kilos (14 lb)
- Timing control by radio synchronization
- Primary sample width: 100  $\mu$ s
- Primary sample can be swept through primary pulse by means of a time calibrated pot
- Zero time set at primary pulse drop-off
- Secondary samples (eight of them) width: 100  $\mu$ s
- Secondary samples time (zero to middle of sample): (1) .15ms (2) .45ms (3) .85ms (4) 1.45ms (5) 2.45ms (6) 3.75ms (7) 5.85ms (8) 8.85ms
- Automatic sampling for 5 seconds then all samples automatically stored
- Sample read out by means of meter
- Continuous sampling possible by switching function switch to "Continuous"
- Noise can be monitored by switching function switch to "Noise"
- Battery supply: 24 volt rechargeable, 2 of 12 volt Gel GC 12-15

## APPENDIX C

### Property Details

<b>Township</b>	<b>Cell ID</b>	<b>Cell Type</b>	<b>Group</b>
GODFREY	105960	Boundary Cell Mining Claim	G1
GODFREY	119987	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	139161	Single Cell Mining Claim	G1
GODFREY	143312	Boundary Cell Mining Claim	G1
GODFREY,MOUNTJOY	143313	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	147458	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	148540	Single Cell Mining Claim	G1
GODFREY	158671	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	185123	Single Cell Mining Claim	G1
GODFREY	203288	Single Cell Mining Claim	G1
GODFREY	203289	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	222071	Single Cell Mining Claim	G1
GODFREY	223370	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	223371	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	231316	Single Cell Mining Claim	G1
GODFREY	239111	Single Cell Mining Claim	G1
GODFREY	239852	Boundary Cell Mining Claim	G1
GODFREY,MOUNTJOY	243441	Single Cell Mining Claim	G1
GODFREY	247353	Single Cell Mining Claim	G1
GODFREY	247354	Single Cell Mining Claim	G1
GODFREY	250784	Boundary Cell Mining Claim	G1
GODFREY	258044	Boundary Cell Mining Claim	G1
GODFREY	277308	Single Cell Mining Claim	G1
GODFREY	298000	Boundary Cell Mining Claim	G1
GODFREY	305807	Boundary Cell Mining Claim	G1
GODFREY,MOUNTJOY	307133	Single Cell Mining Claim	G1
GODFREY	307134	Single Cell Mining Claim	G1
GODFREY	307135	Single Cell Mining Claim	G1
GODFREY	307136	Boundary Cell Mining Claim	G1
GODFREY,MOUNTJOY	316696	Single Cell Mining Claim	G1
GODFREY	316697	Boundary Cell Mining Claim	G1
GODFREY,MOUNTJOY	316698	Single Cell Mining Claim	G1
GODFREY,MOUNTJOY	325339	Boundary Cell Mining Claim	G1
GODFREY	326659	Single Cell Mining Claim	G1
GODFREY	334745	Boundary Cell Mining Claim	G1
GODFREY	119986	Single Cell Mining Claim	G1
GODFREY	131452	Single Cell Mining Claim	G1
GODFREY	131453	Single Cell Mining Claim	G1
GODFREY	222072	Single Cell Mining Claim	G1
GODFREY	223284	Single Cell Mining Claim	G1
GODFREY	231315	Single Cell Mining Claim	G1
GODFREY	243442	Single Cell Mining Claim	G1
GODFREY	250783	Single Cell Mining Claim	G1
GODFREY	250785	Single Cell Mining Claim	G1
GODFREY	257160	Single Cell Mining Claim	G1
GODFREY	257161	Single Cell Mining Claim	G1
GODFREY	279312	Single Cell Mining Claim	G1
GODFREY	305806	Single Cell Mining Claim	G1
GODFREY	338265	Single Cell Mining Claim	G1

Township	Cell ID	Cell Type	Group
MOUNTJOY	112576	Single Cell Mining Claim	M4
MOUNTJOY	112577	Single Cell Mining Claim	M4
MOUNTJOY	112578	Single Cell Mining Claim	M4
MOUNTJOY	112579	Single Cell Mining Claim	M4
MOUNTJOY	112580	Single Cell Mining Claim	M4
MOUNTJOY	138541	Single Cell Mining Claim	M4
MOUNTJOY	139947	Boundary Cell Mining Claim	M4
MOUNTJOY	143981	Single Cell Mining Claim	M4
MOUNTJOY	143982	Single Cell Mining Claim	M4
MOUNTJOY	143983	Single Cell Mining Claim	M4
MOUNTJOY	145902	Single Cell Mining Claim	M4
MOUNTJOY	158034	Single Cell Mining Claim	M4
MOUNTJOY	158035	Single Cell Mining Claim	M4
MOUNTJOY	202674	Single Cell Mining Claim	M4
MOUNTJOY	210707	Single Cell Mining Claim	M4
MOUNTJOY	212612	Single Cell Mining Claim	M4
MOUNTJOY	222741	Single Cell Mining Claim	M4
MOUNTJOY	222742	Single Cell Mining Claim	M4
MOUNTJOY	230817	Single Cell Mining Claim	M4
MOUNTJOY	230818	Boundary Cell Mining Claim	M4
MOUNTJOY	258707	Single Cell Mining Claim	M4
MOUNTJOY	268054	Single Cell Mining Claim	M4
MOUNTJOY	276671	Single Cell Mining Claim	M4
MOUNTJOY	307934	Single Cell Mining Claim	M4
MOUNTJOY	326027	Single Cell Mining Claim	M4
MOUNTJOY	327961	Boundary Cell Mining Claim	M4
MOUNTJOY	210706	Single Cell Mining Claim	M4
MOUNTJOY	248663	Single Cell Mining Claim	M4
MOUNTJOY	306490	Single Cell Mining Claim	M4
MOUNTJOY	517340	Single Cell Mining Claim	M4
MOUNTJOY	517346	Single Cell Mining Claim	M4
MOUNTJOY	517347	Single Cell Mining Claim	M4
MOUNTJOY	113470	Single Cell Mining Claim	M5
MOUNTJOY	159403	Single Cell Mining Claim	M5
MOUNTJOY	159404	Single Cell Mining Claim	M5
MOUNTJOY	194015	Single Cell Mining Claim	M5
MOUNTJOY	194016	Single Cell Mining Claim	M5
MOUNTJOY	212064	Single Cell Mining Claim	M5
MOUNTJOY	224126	Single Cell Mining Claim	M5
MOUNTJOY	224127	Single Cell Mining Claim	M5
MOUNTJOY	248613	Single Cell Mining Claim	M5
MOUNTJOY	260067	Single Cell Mining Claim	M5
MOUNTJOY	268012	Single Cell Mining Claim	M5
MOUNTJOY	327916	Single Cell Mining Claim	M5
MOUNTJOY	331918	Single Cell Mining Claim	M5
MOUNTJOY	331919	Single Cell Mining Claim	M5
MOUNTJOY	262060	Boundary Cell Mining Claim	M8
MOUNTJOY	249316	Boundary Cell Mining Claim	M8
MOUNTJOY	232784	Single Cell Mining Claim	M8
MOUNTJOY	166781	Single Cell Mining Claim	M8
MOUNTJOY	161457	Single Cell Mining Claim	M8
MOUNTJOY	147919	Boundary Cell Mining Claim	M8

<b>Township</b>	<b>Cell ID</b>	<b>Cell Type</b>	<b>Group</b>
MOUNTJOY	123897	Single Cell Mining Claim	M9
MOUNTJOY	125301	Single Cell Mining Claim	M9
MOUNTJOY	125302	Single Cell Mining Claim	M9
MOUNTJOY	135382	Single Cell Mining Claim	M9
MOUNTJOY	138460	Single Cell Mining Claim	M9
MOUNTJOY	138462	Single Cell Mining Claim	M9
MOUNTJOY	153188	Single Cell Mining Claim	M9
MOUNTJOY	169786	Single Cell Mining Claim	M9
MOUNTJOY	181847	Single Cell Mining Claim	M9
MOUNTJOY	186633	Single Cell Mining Claim	M9
MOUNTJOY	210633	Single Cell Mining Claim	M9
MOUNTJOY	223380	Single Cell Mining Claim	M9
MOUNTJOY	235222	Single Cell Mining Claim	M9
MOUNTJOY	246616	Single Cell Mining Claim	M9
MOUNTJOY	246617	Single Cell Mining Claim	M9
MOUNTJOY	247358	Single Cell Mining Claim	M9
MOUNTJOY	247359	Single Cell Mining Claim	M9
MOUNTJOY	257271	Single Cell Mining Claim	M9
MOUNTJOY	258638	Single Cell Mining Claim	M9
MOUNTJOY	293182	Single Cell Mining Claim	M9
MOUNTJOY	293184	Single Cell Mining Claim	M9
MOUNTJOY	306422	Single Cell Mining Claim	M9
MOUNTJOY	313212	Single Cell Mining Claim	M9
MOUNTJOY	313903	Single Cell Mining Claim	M9
MOUNTJOY	321831	Single Cell Mining Claim	M9
MOUNTJOY	325944	Single Cell Mining Claim	M9
MOUNTJOY	325945	Single Cell Mining Claim	M9
MOUNTJOY	342074	Single Cell Mining Claim	M9
MOUNTJOY	112508	Single Cell Mining Claim	M9
MOUNTJOY	118866	Single Cell Mining Claim	M9
MOUNTJOY	125300	Single Cell Mining Claim	M9
MOUNTJOY	138461	Single Cell Mining Claim	M9
MOUNTJOY	143909	Single Cell Mining Claim	M9
MOUNTJOY	158674	Single Cell Mining Claim	M9
MOUNTJOY	234464	Single Cell Mining Claim	M9
MOUNTJOY	247357	Single Cell Mining Claim	M9
MOUNTJOY	255950	Single Cell Mining Claim	M9
MOUNTJOY	277315	Single Cell Mining Claim	M9
MOUNTJOY	293183	Single Cell Mining Claim	M9
MOUNTJOY	331477	Single Cell Mining Claim	M9
MOUNTJOY	344752	Single Cell Mining Claim	M9
MOUNTJOY	328727	Single Cell Mining Claim	M10
MOUNTJOY	268804	Single Cell Mining Claim	M10
MOUNTJOY	166068	Single Cell Mining Claim	M10
MOUNTJOY	160739	Single Cell Mining Claim	M10
MOUNTJOY	114118	Single Cell Mining Claim	M10
MOUNTJOY	114117	Single Cell Mining Claim	M10

Township	Cell ID	Cell Type	Group
MOUNTJOY	111922	Single Cell Mining Claim	M11
MOUNTJOY	111923	Single Cell Mining Claim	M11
GODFREY	139275	Boundary Cell Mining Claim	M11
GODFREY,MOUNTJOY	148541	Boundary Cell Mining Claim	M11
MOUNTJOY	152035	Single Cell Mining Claim	M11
GODFREY	164097	Boundary Cell Mining Claim	M11
MOUNTJOY	197180	Single Cell Mining Claim	M11
MOUNTJOY	204629	Single Cell Mining Claim	M11
MOUNTJOY	244354	Single Cell Mining Claim	M11
MOUNTJOY	251872	Single Cell Mining Claim	M11
MOUNTJOY	251873	Single Cell Mining Claim	M11
GODFREY,MOUNTJOY	251874	Boundary Cell Mining Claim	M11
MOUNTJOY	270619	Single Cell Mining Claim	M11
GODFREY,MOUNTJOY	270620	Boundary Cell Mining Claim	M11
MOUNTJOY	300540	Single Cell Mining Claim	M11
GODFREY	307259	Boundary Cell Mining Claim	M11
BRISTOL,GODFREY,MOUNTJOY,OGDEN	307260	Boundary Cell Mining Claim	M11
BRISTOL,GODFREY	307261	Boundary Cell Mining Claim	M11
BRISTOL,GODFREY	314518	Boundary Cell Mining Claim	M11
BRISTOL,GODFREY	314519	Boundary Cell Mining Claim	M11
MOUNTJOY	318388	Single Cell Mining Claim	M11
MOUNTJOY	330584	Single Cell Mining Claim	M11
MOUNTJOY	337949	Single Cell Mining Claim	M11
MOUNTJOY	111924	Single Cell Mining Claim	M11
MOUNTJOY	517304	Single Cell Mining Claim	M11
MOUNTJOY	517305	Single Cell Mining Claim	M11
MOUNTJOY	517306	Single Cell Mining Claim	M11
MOUNTJOY	517307	Single Cell Mining Claim	M11
MOUNTJOY	517308	Single Cell Mining Claim	M11
MOUNTJOY	517309	Single Cell Mining Claim	M11
MOUNTJOY	517310	Single Cell Mining Claim	M11
MOUNTJOY	517311	Single Cell Mining Claim	M11
MOUNTJOY	517312	Single Cell Mining Claim	M11
MOUNTJOY	105385	Single Cell Mining Claim	M12
MOUNTJOY	112294	Single Cell Mining Claim	M12
MOUNTJOY	112443	Single Cell Mining Claim	M12
MOUNTJOY	202550	Single Cell Mining Claim	M12
MOUNTJOY,OGDEN	206514	Single Cell Mining Claim	M12
MOUNTJOY	210576	Single Cell Mining Claim	M12
MOUNTJOY	222097	Single Cell Mining Claim	M12
MOUNTJOY	226574	Single Cell Mining Claim	M12
MOUNTJOY	239887	Single Cell Mining Claim	M12
MOUNTJOY	246262	Single Cell Mining Claim	M12
MOUNTJOY,OGDEN	254328	Single Cell Mining Claim	M12
MOUNTJOY,OGDEN	254329	Boundary Cell Mining Claim	M12
MOUNTJOY	257448	Single Cell Mining Claim	M12
MOUNTJOY	305849	Single Cell Mining Claim	M12
MOUNTJOY	313148	Single Cell Mining Claim	M12
MOUNTJOY	325369	Single Cell Mining Claim	M12
MOUNTJOY,OGDEN	341176	Single Cell Mining Claim	M12
MOUNTJOY	110096	Single Cell Mining Claim	M12
MOUNTJOY	290826	Single Cell Mining Claim	M12
MOUNTJOY	305209	Single Cell Mining Claim	M12
MOUNTJOY	321832	Single Cell Mining Claim	M12
MOUNTJOY	325370	Single Cell Mining Claim	M12

## APPENDIX D

### Costs and Certification

Exsics Exploration Limited  
TIMMINS, ONTARIO  
P4N-7X1

PHONE: (705)-267-4151 OR 267-2424  
E-MAIL ADDRESS: exsicsentl.sympatico.ca

Advance INVOICE #: 1849  
PROJECT #: E-1056

ON ACCOUNT WITH: Central Timmins Exploration Corp.  
365 Bay Street, Suite 400  
Toronto, Ontario  
M5H-2V1

Attention: Charles Gryba  
H.S.T. REGISTRATION # 113433791

RE: PEM surveys MOUNTJOY selected areas and Four corner grid

AT A RATE OF:

5 man crew, all gear, 2 skidoos, Trucks, gas, sleigh and trailer. @ \$3,600.00/day 10 survey days	\$36,000.00
1 line setup day for access @ \$1,600.00/day, 3 man crew, truck, skidoos, sleigh, Four corners Trailer and gas.	\$ 1,600.00
1 day set up for grids M9 North and South and M11 3 men, truck, gas, skidoo	\$ 1,600.00
All plots and reports	<u>\$ 1,500.00</u>
Sub-total:	\$40,700.00
13% HST	<u>\$ 5,291.00</u>
Total:	\$45,991.00

Advance not received at the time of this Invoice  
\_\_\_\_\_ \$25,000.00

DATE: February 28<sup>th</sup>, 2019  
SIGNED: J. C. Grant

PAYMENT DUE UPON RECEIPT OF INVOICE.  
TERMS: NET 30, 2% INTEREST PER MONTH ON OVERDUE ACCOUNTS.

**Total cost for Mountjoy PEM survey, all inclusive, is \$39,100**  
**(\$36,000 + \$1,600 + \$1,500)**





### PEM Survey Cost Allocation (by CTEC)

Area	Line	Survey Length (m) (from profiles)	Tenure Number	Surveyed (m)	Assessment Allocation
11	0+00	800	185123	500	\$ 2,355
			270620	300	\$ 1,413
			Subtotal	800	
8	500mN	750	262060	400	\$ 1,884
			249316	1000	\$ 4,711
	600mN	750	147919	100	\$ 471
			Subtotal	1500	
9S	900mE	1,400	293182	350	\$ 1,649
			125301	500	\$ 2,355
			125302	400	\$ 1,884
			105385	150	\$ 707
			Subtotal	1400	
	300mE	750	153188	75	\$ 353
			125300	500	\$ 2,355
			293183	175	\$ 824
			Subtotal	750	
9N	200mE	750	186633	500	\$ 2,355
			118866	250	\$ 1,178
			Subtotal	750	
	600mE	1,600	210633	200	\$ 942
			331477	500	\$ 2,355
			143909	150	\$ 707
			277315	500	\$ 2,355
			247357	250	\$ 1,178
			Subtotal	1600	
	1800mE	1,500	325945	300	\$ 1,413
			112508	500	\$ 2,355
			138462	500	\$ 2,355
			342074	200	\$ 942
Subtotal			1500		
TOTAL metres		8,300		check	\$ 39,100

all inclusive costs \$ 39,100

COST / KM SURVEYED \$ 4,711

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CERTIFICATION

I, John Charles Grant, of 108 Kay Crescent, in the City of Timmins, Province of Ontario, hereby certify that:

- 1). I am a graduate of Cambrian College of Applied Arts and Technology, 1975, Sudbury Ontario Campus, with a 3 year Honors Diploma in Geological and Geophysical Technology.
- 2). I have worked subsequently as an Exploration Geophysicist for Teck Exploration Limited, (5 years, 1975 to 1980), and currently as Exploration Manager and Chief Geophysicist for Exsics Exploration Limited, since May, 1980.
- 3). I am a member in good standing of the Certified Engineering Technologist Association, (CET), since 1984.
- 4). I am in good standing as a Fellow of the Geological Association of Canada, (FGAC), since 1986.
- 5). I have been actively engaged in my profession since the 15<sup>th</sup> day of May, 1975, in all aspects of ground exploration programs including the planning and execution of field programs, project supervision, data compilation, interpretations and reports.
- 6). I have no specific or special interest nor do I expect to receive any such interest in the herein described property. I have been retained by the property holders and or their Agents as a Geological and Geophysical Consultant and Contract Manager.

John Charles Grant, CET., FGAC.

