PART- 1

COINCIDENTAL TOPOGRAPHIC-GEOPHYSICAL LINEAMENTS IN BROWER TOWNSHIP

Ontario Ministry of Northern Development and Mines
Mines and Minerals Division

M-0430 - BROWER - PORCUPINE Division

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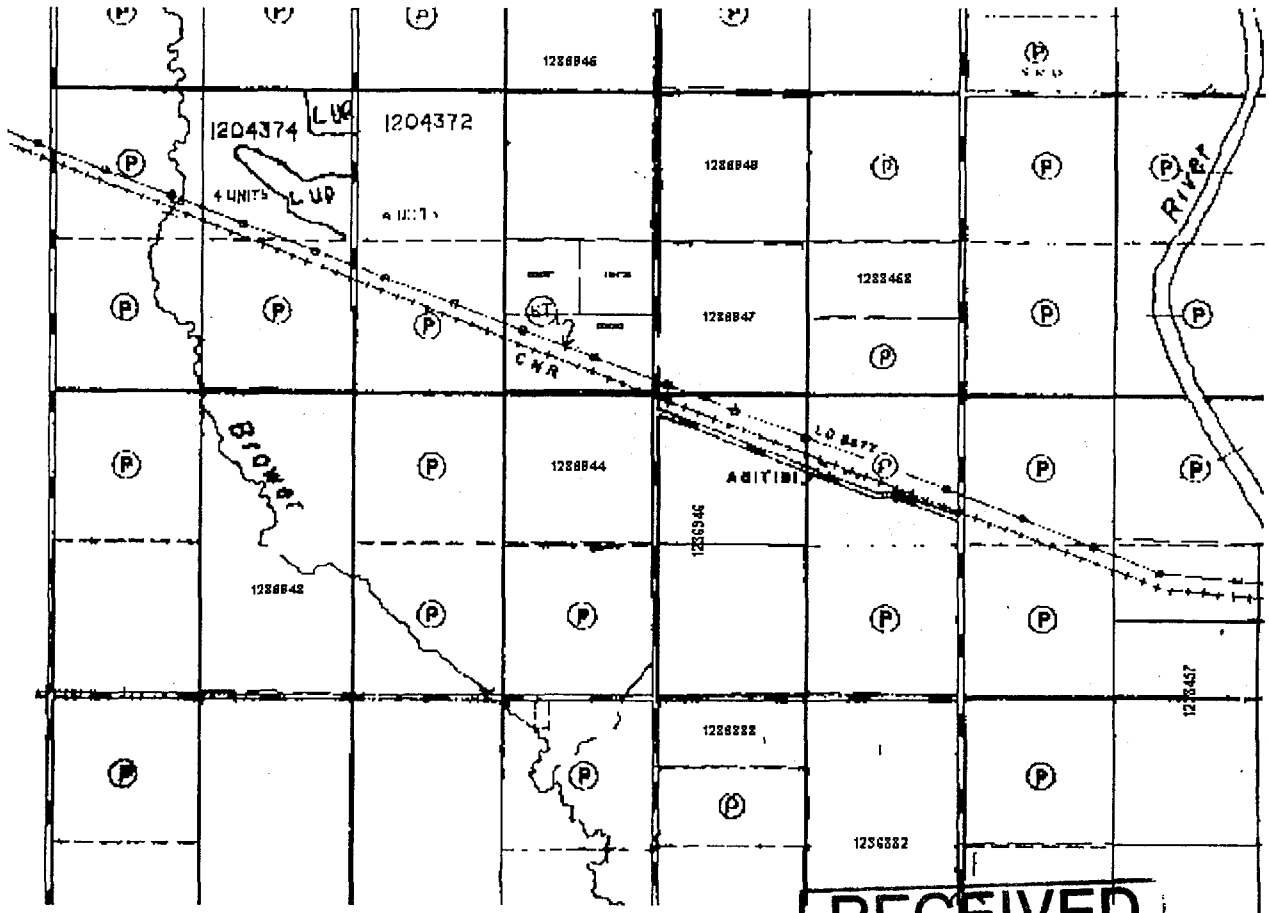

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COINCIDENTAL TOPOGRAPHIC-GEOPHYSICAL LINEAMENTS IN BROWER TOWNSHIP

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LOCATION AND ACCESS

The Brower Break claims, lie west of the Abitibi river occupying the west central part of Brower township, approximately 8 Km south east of the Town of Cochrane. The claims are surrounded by all weather roads, with Hwy. 652 being to the north, Cornel road along the east, Harold along the south, and Boundary road along the west. With the exception of the author's house and property, which is located 1.6 Km south of the highway on Berndt road, all other residences in the area, are located on the above roads. Thus the whole area comprising the claims is isolated and abandoned.

The claims may be accessed by driving east from Cochrane on Hwy, 652 for 6.5 Km., then south on Berndt road (which divides claims 1204372 and 1204374) for approximately 2.5 Km. to the abandoned CNR right of way . Since the rails and ties have been removed, a light truck may be driven eastward, through the central part of the claims to Cornel road. Parts of the north and south central areas of the claims, may be entered, by driving along sections of the abandoned north-south Lamothe road, which is reduced to an A.T.V. trail in the central area. The abandoned southern section of Cornel road and the east-west Con"s 2&3 , provide access to the claims, which lie south and south-east , of Harolds road. These old abandoned rights of way are now winter logging roads and summer A.T.V. trail's.

INTRODUCTION

The assessment work submitted was done within a contigious block of claims owned by the author and recorded in the Porcupine Mining Division.

This prospecting work consisted of:
1) A Topographic Lineaments mapping section which traces surface drainage patterns over an interpreted east-west trending deformation zone.

2) An attempt to locate close to surface metallic conductors with an E M instrument over an area that showed abnormal compass deviation. Follow up work over an interpreted conductor located with the instrument was also done. This work consisted of soil samples and their geochemical analysis and a series of holes washed down in an attempt to locate close to surface rock in the central area of the interpreted conductor.

The above work was done on claims, 1154735, 1236297, 1236298, 1236944, 1236945, 1236946, 1236947, 1238456 and 1238457, all of which lie within the contigious block of claims. Work was also done on claim 1236948 which lies 800 metres west of the above claim block.

All Topographic Lineaments mapping was done in early Spring over a consecutive two year period. The ravines and alder choked drainage channels that were mapped are next to impossible to walk along and in at any time of the year except the Spring. The combination of the hot sun on the snow in the afternoon and cold nights allows unlimited next morning access on a frozen crust to all the lineament areas.

Also included for assessment credit are maps and the first geophysical interpretation of the O.G.S., Operation Treasure Hunt data concerning all the author claims. The C.D. Rom disk was purchased by the author and value added work of specific areas was processed by Johnston Geophysics, Timmins On. Reference for the data is as follows:
Ontario Geological Survey, 2000. Ontario Airborne geophysical surveys, magnetic and electro-magnetic data; grid and vector data, Geo-soft format, Geophysical Data Set 1100b.

Previous work on the author's claims 1204372 and 1204374 mapped drainage pattern lineaments and topographic features of other kinds. This postulated that these highly visible lineaments were directly related to;

1) The Abitibi-Opatica sub province boundary.

2) An extension of the Cochrane-Milligan Shear Zone, which the O.G.S. had traced to the vicinity of the 49th Parallel and the east side of the Abitibi River.

3) A possible splay fault trending north-west off the Cochrane-Milligan Shear Zone (the Berndt Creek Ravine Lineament.

4) The possible junctions of north, north-west, east-west and north-east striking faults in the immediate vicinity.

5) The dextral displacement of the Brower Creek Depression and the possibly bedrock controlled springs within it.

The compilation map that was included with the assessment work clearly showed the surface features and their strike directions.

In March of 1999, contigious claims 1236297 and 1236298 were staked and recorded. Topographic lineament work on these claims which would be an extension to the south-east of the previous work was commenced. This along with other work on the claims, was still ongoing at the time and could not be included with the work done on claims 1204372 and 1204374.

This work, once completed, was intended to be filed as assessment work to show further proof of all the above five listed postulations and to enhance the claims prospectiveness. The work was to be presented using Topographic Base Map Sheet 20-17-5000-5430 showing the mapped ground lineaments and their relation to the features on the topographic map.

In early December 1999, the author commenced to stake and record claims 1236944 to 1238458. Topographic lineament work was also done on some of these claims to compliment all previous work and to show the pattern and extent of the surface drainage lineaments in this area of Brower Township.

OBJECTIVES

Paper 71-9 G.S.C. describes lineaments and structure as follows; " ***Many other lineaments, visible in the drainage pattern may mark the location of faults. Of the many possible criteria which may be used for defining lineaments the following have been used; fitting of lineaments with known sets of faults, the equidistance in their distribution, their extension along strikes of known faults and their continuity over long distances. Many more lineaments could be added if topographical features of other kinds are considered.***"(G.S.C. paper 71-9 Kutina & Fabbri 1971, Relationship of Structural Lineaments and Mineral Occurrences in the Abitibi Area of the Canadian Shield). Fracture and Drainage Patterns; page #6, paragraph 5.

Faults and lithologic structures in the interpreted Cochrane-Milligan Shear Zone/ Brower-Lamarche Deformation Zone, **are being telegraphed through to the surface,** and can be traced using highly visible, straight and narrow, Alder choked drainage channels, ravines and topographic features of other kinds.

These topographic features extend from the Abitibi River in the east, to and past Hwy 11 in the west, over printing the arcing volcanics through Brower and Lamarche Townships. Much of the authors previous assessment work and objectives has dealt with these lineaments in the

belief that the entire deformation zone could be followed on the surface.

With the staking and recording of all open property between the Abitibi River in the east and Boundary Road in the west, the mapping of drainage lineaments showing their lengths, widths and continuity could be completed and one objective obtained..

Another objective has always been the search for outcrop or sub-cropping rock in highly suspect areas, within some of these drainage lineaments.

In adjoining Lamarche Township a small outcrop exists approximately 2 Km south of the town of Cochrane. The outcrop occurs in a spruce bog, overlying the volcanics. It is apparently directly on strike with the interpreted Cochrane-Milligan Shear Zone, 2 Km to the east in Brower Township.

With this in mind plus all the indications of close to surface structures on claims 1236297 and 1236298 a combined; compass magnetic deviation mapping, E M traversing, soil analysis and ground probing work was attempted on the above claims, to try and locate sub-cropping structures. This work is mentioned here but is dealt with in a separate section following the topographic lineaments work.

Regarding the topographic lineament mapping; All of the ground work and mapping of the lineaments on the selected claims was completed prior to the release of the Operation Treasure Hunt data. Until this data became available, all the authors work on lineaments and their relation to the interpreted deformation zone, was postulation and was going to be presented as such.

However, with the release on July 20th , 2000 of the initial Map 82 006 Airborne Magnetic and Electromagnetic Survey's Cochrane Area, which used the Topographic Map 20-17-5000-5430, as the base map, the lineaments work could be marked in and their relationship to the geophysical data immediately compared. On September 29th, 2000 the interpretation of the O.G.S. Air Survey was received from Johnston Geophysics in Timmins. The topographic lineaments could also be used in conjunction with this data showing their relationship to the interpreted geophysical lineaments as marked on the maps.

Therefore, instead of the postulated theory that the drainage lineaments are related to close to surface structures the author is presenting this work as Coincidental Topographic-Geophysical Lineaments in Brower Township and Their Interpreted Relationship to Close to Surface Structures, all of which is based on the criteria of G.S.C. Paper 71-9.

MAPS and SKETCHES of TOPOGRAPHIC- GEOPHYSICAL LINEAMENTS

Several maps and specific sections of maps are included. The following is a brief outline of them, describing how they were produced and/or used to show the coincidental lineaments.

COMPILATION MAP #1-Drainage Patterns and Topographic Features of other kinds, Brower Township.

This is the author's base map. It was produced by walking the lineaments, measuring their approximate widths and lengths and sketching their characteristics and locations. They are marked on all the maps as Topographic Lineament (T L-) followed by a letter. All measurements were done with a hip chain using claim lines, claim posts and abandoned roads as reference points.

1200 metres of line was cut to get accurate measurements for the location of the work done on claims 1236297 and 1236298, and to measure the compass deviation to the north-east. The assessment work line L 8 E a on claim 1204372 was extended south for 800 metres, between post #4 on claim 1236297 and post #3 on claim 1236298. It was then cut east to the 400 metre post on claim 1236298, along overgrown Abitibi Junction Road.

COMPILATION MAPS #2-A, B, & C:

These maps are sections of the O.G.S. Map 82 006 Airborne Magnetic and Electromagnetic Surveys, which cover the authors claims.

Map #2-A shows the claims area with the unobstructed views of the topographic features and magnetics.

Map #2-B shows the claims locations and numbers.

Map #2-C shows the positions of the highly visible ravines and Alder choked drainage lineaments as taken from Comp. Map #1. It clearly shows the relationship to the creeks, total magnetic field and the E M conductors.

COMPILATION MAP #3-A & B:

These maps are black and white copies of the shaded colour 1st Vertical Magnetic Gradients Maps as produced by Johnston Geophysics.

Map #3-A shows the lineaments as interpreted faults or lithologic contacts and the E M conductors.

Map #3-B shows the topographic lineaments (TL-) from Comp. Map #1 and their coincidental relationship to the interpreted geophysical lineaments, the E M conductors, and certain magnetic highs within individual magnetic anomalies. Also shown on the map is the authors interpreted strike area of the Cochrane-Milligan Shears Zone, taken from the O.G.S. Map 2543.

All the above maps in conjunction with the following descriptions of the topographic drainage lineaments, traces the dextral wrench Cochrane-Milligan Shear Zone, as it strikes north-westerly through the Brower-Lamarche Deformation Zone, which in turn appears to be controlled by the Abitibi-Opatica Subprovince Boundary, on the north and the Granite Batholith to the south.

COINCIDENTAL TOPOGRAPHIC-GEOPHYSICAL LINEAMENTS IN BROWER TOWNSHIP

Note:

The drainage channels are referred to as Topographic Lineaments and printed in the report as TL-followed by a letter.

Operation Treasure Hunt data lineaments are printed as L- followed by a number.

TL-B, which is one lineament, represents a series of six consecutive north-west trending drainage lineaments, all on strike. Each section of this lineament is marked as TL-B on all maps and described in order from east to west.

Work Done:

A maze of ravines striking north-south, east-west and north-west/south-east occupy Claim 1238457 and the east half of Claim 1238456. The ravines are too numerous and convoluted to describe here, but are detailed on Comp. Map #1. Suffice to say the Trans-Continental Railway (CNR) "try-line crew" in the early 1900's apparently were intimidated enough by the depths and numbers to direct the railway bed around them to the north.

The northern section of a major north-south rending ravine, Topographic Lineament -A (TL-A) parallels the east edge of the claims. The southern section of TL-A appears to be displaced to the west. As can be seen on the maps, a cluster of five ravines lead into and around the central area of displacement from the east.

The OGS Survey of 1986 had previously traced the dextral wrench Cochrane-Milligan Shear Zone to the vicinity of the east side of the Abitibi River and the 49th Parallel (Con. 2-3 Brower Twp.), just south-east of the above ravine system.

Johnston Geophysics interpretation of the Operation Treasure Hunt data now shows L-1 (which the author interprets as the Cochrane-Milligan Shear Zone) as extending north-west from the OGS position. L-1 then strikes directly through the centre of TL-A which topographically shows the characteristics of a dextral wrench shear slicing through and displacing a major north-south lineament.

A major ravine, TL-B branches west then north-west from TL-A for approximately 1200 metres to Cornel Road where it slopes gently upward and abruptly ends. The above section of TL-B strikes north of and parallel to L-1. Just west of Claim 1238457 TL-B turns north, then north-west again before entering a large bowl just east of Cornel Road. As can be seen on the maps, this indicates a possible displacement to the north-east of a 500 metre length of TL-B.

Indeed, Operation Treasure Hunt data now shows the major north-east striking lineaments L-2 and L-3 as cutting through TL-B and bracketing the apparent area of displacement. With the exception of a minor north-east trending drainage channel in the vicinity of L-3, there are no surface features indicating the presence of L-2 or L-3.

West of Cornel road, TL-B continues north-west and appears as a 1000 metre long by 50 metre wide straight shallow trough terminating inside the eastern edge of Claim 1236946. Operation Treasure Hunt magnetics data locates seven EM conductors directly under this surface lineament and Johnston Geophysics shows L-1 as paralleling it to the south. TL-B extends several hundred metres into Claim 1236946 as a large alder area cutting the stunted spruce barrens that occupy the central area of the claim.

A major drainage channel, TL-C branches off TL-B and trends due north for 500 metres. TL-C strikes directly between the two magnetic highs of the interpreted iron formation lying directly under and parallel to abandoned Abitibi Junction Road and terminates in the vicinity of L-5

TL-B re-appears as a 1200 metre long 50 metre wide alder choked drainage channel, which cuts the north-east corner of Claim 1236944 and the south-west corner of Claim 1236298. The lineament is directly above L-1 and cuts between the two magnetic highs as shown on the maps.

Noranda's geophysicist described the southern mag. high as "a probable kimberlite pipe". While drilling the conductor north of it they cut through the eastern edge of this mag. high as shown on the magnetics map.

Now, it is in the above described vicinity that the author had previously postulated that the Cochrane-Milligan Shear Zone (TL-B & L-1) splayed into two and possibly three faults;

(1) the North Splay (TL-D).

(2) the Central Break (TL-B).

(3) the South Splay(s) ?

The North Splay (TL-D), strikes north-west through the southern edge of a major north-east drainage system TL-K just west of L-9 in the south-west corner of Claim 1236299. It was postulated that the 1400 metre long Berndt Creek Ravine TL-D, was directly related to or a splay off the Cochrane-Milligan Shear Zone. Operation Treasure Hunt data shows the Berndt Creek Ravine as paralleling, on the south, the interpreted iron formations between L-7 and L-9 and **striking** between the apparently southerly displaced iron formation at L-8. TL-D terminates in the Brower creek Depression (TL-E and L-7).

The Central Break- Magnetic lineament L-1 strikes slightly north-west along the 1200 metre long trough-ravine system TL-B which also terminates in the Brower Creek Depression just south of the North Narrows where the railway installed their bridge. A deep ravine, also part of

TL-B, trends westerly from the west side of Brower Creek to Boundary Road where it continues on as a shallow alder channel.

The above described section of TL-B and coincidental L-1, shows the north-west trending Cochrane-Milligan Shear Zone turning due west in the immediate vicinity of the Brower Creek Depression.

The South Splay(s), possibly striking due west or south-west into the South narrows where a dog-leg section of Brower Creek Depression strikes due south. On the east side of the Brower Trench area series of east, north-east and south-east trending ravines. These drainage lineaments occur between the South Narrows and a large bowl on Claim 1236948. It was thought that these east trending drainage channels were related to the Cochrane-Milligan Shear Zone and as such, represented possible faulting. However, with the exception of a due west trending alder channel which occurs along the south edge of Claim 1236944, there were no surface lineaments between them and the shear zone, and they stood alone.

Operation Treasure Hunt data now shows a 2200 metre long chain of EM anomalies striking westward from the magnetic high on Claim 1236944 and directly through the central area of the series of ravines. These E.M. conductors possibly indicate faulting in the area.

TL-E represents the Graben like trench system of the Brower Creek Depression L-7 as it cuts north-south through the volcanics between L-5 on the north (the sub-province boundary) and L-4 on the south (the Granite-Volcanic contact). This trench like system, which contains the twisty Brower Creek, is made up of many sections that eventually dog-leg their way back to the south-east to connect with L-4. The depression-trench is directly on strike with a major north trending fault, which the OGS had traced to Concession 2/3, Brower Township.

The south-west trending 600 metre length of TL-E between the North Narrows (NN) and the South Narrows (SN), is shown on Comp. map # 1 and Comp. Map#2-C. As shown it represents the most prominent area of dextral wrench as the Cochrane-Milligan Shear Zone sliced through it visually displacing the Depression-Trench to the West.

(TL-F) represents the long and visible Brower Creek Valley-Flood Plain which possibly marks the volcanic-granite contact along L-4

(TL-G), this major lineament is the immediate vicinity and runs parallel to the interpreted sub-province boundary. This 2 kilometre long Alder choked drainage channel-creek system also represents a definite straight line divisions along a large stunted spruce barren on the north-east. This surface lineament, which Operation Treasure Hunt data shows a L-5, controlled Noranda's staggered ground geophysics grid and they refused to do any work south of it.

Between magnetic lineaments L-7 on the north-west and L-9 to the south-east, occur four distinct east, north and north-east trending drainage system lineaments. They are apparently controlled in a corridor bounded by the Cochrane-Milligan Shear Zone (TL-B and L-1) on the south and the interpreted sub-province boundary (TL-G and L-5) on the north, and are described as follows;

((TL-H) represents an east trending major ravine-creek system 1400 metres in length from Brower Creek on the west to (TL-G) on the east.

(TL-1) flanks the south edge of the magnetic anomaly on Claim 1204374, cuts between the mag. highs of the anomaly and strikes easterly to Claim 1204372. The magnetics on this claim suggest a north-east tending fault between the two mag. highs. (note: there are no north-east tending ground lineaments in the vicinity of the Operation Treasure Hunt lineament L-8).

(TL-J) appears as a group of three long narrow drainage channels striking north-east and east from the mag. high along the south-east corner of Claim 1204372. All lineaments terminate a L-5.

(TL-K) appears as a pair of drainage lineaments striking north and north-east in the vicinity of L-9 and terminating in the vicinity of L-5.

CONCLUSION

The author has always maintained that the Brower Creek Depression-Trench system revealed all the characteristics of a Graben type fault and that the depression-trench had been displaced to the west, south of the CNR bridge, but during the early stages of exploration did not know why.

Later research showed that the Cochrane Milligan Shear Zone had been traced to the vicinity of the east side of the Abitibi River and the 49th parallel (OGS 1986), and that this dextral wrench shear zone, if it continued westerly, could be responsible for the displacement of the Brower Creek Trench.

It was also postulated that highly visible topographic features (lineaments) between Brower Creek and the Abitibi River were possibly the surface expressions of a buried structure and that they are so shallow and/or massive, that the glaciers enhanced their features rather than completely burying them.

The author who lives in the vicinity had always known of the large prominent topographic features (Brower Creek and the ravines), but until research was done on lineaments and their relationship to faulting they remained singular oddities.

Over the years as other lineaments were discovered a giant jig-saw puzzle took shape and it became a pursuit to put it all together. With staking of Noranda's former claims the exact positions of other lineaments could be determined and the puzzle completed, thus obtaining a major objective.

Operation Treasure Hunt data shows 10 distinct east-west, north-south, north-east and north-west trending faults or lithologic contacts in Brower Township.

The geophysical data, which without doubt, mirrors the coincidental topographic drainage features, showing not haphazard glacial remnants, but conformity to apparently massive underlying structures.

These coincidental lineaments trace the Cochrane-Milligan Shear Zone from its interpreted position east of the Abitibi River, northwesterly through much of the author's claims, before turning east-west and displacing the Brower Creek Depression.

According to (Hodgson et al) one of the theories for the formation of the Western Abitibi Greenstone Belt, in short, was "during the final stages of building the Opatica Metasediments rafted into the Abitibi volcanics in a Himalayan type collision, producing north-east trending D_2 back thrust faults which splayed off the already existing east-west trending D_1 major faults. In some locations all this activity produced dilated (pull apart) structures in which major lode gold camps are sited". Interpreted faults of this type are especially evident in the corridor between the interpreted Cochrane-Milligan Shear Zone (L-1) and the interpreted sub-province boundary (L-5).

The magnetics and drainage lineaments in this corridor also suggest several other north-east trending faults or contacts between magnetic highs of individual interpreted iron formations along the northern edge of the volcanics.

Compass declination in the immediate vicinity of north and north-east trending drainage lineaments just west of L-9 are coincidental with the surface features. This and other surface oddities along this corridor, (which are described in a following section) reveal a structural system quite possibly very close to the surface. The author believes that this topographically mapped corridor, with its coincidental magnetic lineaments, offers further geophysical and geochemical exploration opportunities directly over and in the immediate vicinity of the surface lineaments. These lineaments quite possibly mark the locations of north-east back thrusts faults and lithologic structures as postulated by Hodgson et al and Kutina and Fabbri (OGS Paper 71-9).

September 29, 2000

Brower Break Resources
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Attn: Mr. P. Haire

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Attn: Matthew Johnston

Geophysical Processing, Map Production, and Interpretation - Airborne Surveys - Cochrane District - Brower Township Area

Memo

September 24, 2000

To: Paul Haire

From: Matthew Johnston

Re: Brower Township Geophysics

Introduction

The purpose of the current geophysical interpretation is to discuss the results of the recent airborne geophysical surveying carried out in the Cochrane area. This survey was part of the Operation Treasure Hunt geoscience program carried out by the Ontario government.

This specific discussion concerns the Brower township area; most of which was covered by the recent airborne geophysical survey. This area was not previously covered by high-resolution geophysical surveys available to the public. The data was made available on CD-ROM disk by the Ontario government. The disk was purchased by Mr. Paul Haire; a resident of Brower township and given to me in order to window specific portions of the data sets.

In addition to the geophysical data set, the recent geological map entitled, Geological Compilation of the Lake Abitibi Area, Abitibi Greenstone Belt; was also utilized. This map was published in 1999 by the Ontario Geological Survey (map P. 3398) at a scale of 1:100,000. In the Brower township area, the geology indicates a northwest-southeast trending sequence of intermediate to mafic volcanics intercolated with chemical metasediments. The sediments are identified on the geological map as oxide facies iron formations located at the contacts between the mafic volcanics and the intermediate metavolcanic lithologies.

Geophysical Processing

The data on the CD-ROM disk was processed with the Geosoft geophysical processing software. The primary data set that was processed was the total field magnetic data set. This data set was windowed to cover all of Brower Township plus some additional area immediately adjacent to this township. In addition to the magnetic data, the electromagnetic anomaly database was also utilized in order to identify any discrete bedrock conductors located within the claim groups.

The data window considered for this study is encompassed within UTM coordinates 501000E to 516100E; and 5422950N and 5435500N. All data was displayed in NAD 27 UTM projection within zone 17.

The primary data set utilized for the interpretation was the total field magnetic data. After the total field magnetic data was windowed to the appropriate area, the 1st vertical derivative was computed on this data set to yield a calculated vertical magnetic gradient data set as well. The vertical magnetic data is a very useful data set with which to interpret magnetic lineaments and lithologic contacts. Both the magnetic and gradient data set were also shadowed to produce shaded relief maps of the magnetic data. The shadow direction was set to be 60 degrees, as this direction is perpendicular to the predominant geologic strike of the area under consideration. Shaded relief maps are often useful in distinguishing subtle textures and lineaments within magnetic data sets. This aids in interpreting lithologic contacts as well potential faults.

The electromagnetic database was utilized to aid in interpretation of the Brower township properties. The anomaly database was windowed and the interpreted bedrock conductors from the database were plotted on the maps as well.

Interpretation and Discussion

Two distinct magnetic domains underlie Brower Township, striking at approximately 120 degrees through the claims group with a distinct shifting of strike direction to approximately an east-west direction at the western portion of the map area.

The colour magnetic contour maps clearly distinguish a generally flat magnetic background to the north and the south that is interrupted by strong linear magnetic highs striking northwest-southeast through the central potion of the township. It is quite possible that these linear magnetic highs represent the metasedimentary volcanic rocks that are mapped to occur at the contacts between the mafic volcanics and intermediate volcanic lithologies that are shown on the geological map. The magnetic gradient map clearly distinguishes these horizons. These magnetic highs range up to 1500 nT above background, and are indicative of iron formations. These magnetic horizons likely define the inferred contact between the mafic to intermediate volcanics which are mapped in this area and serve as a good marker horizon.

Using both the total field magnetic data and the calculated vertical gradient data, a number of magnetic lineaments were interpreted within Brower Township. These lineaments are labeled L-1 to L-10, and are displayed on all the maps. The lineaments are thought to represent either litholigic contacts or possibly faults. The lineament labeled L-1 may possibly be the extension of the Cochrane-Milligan fault zone according to Mr. Paul Haire. This deformation zone is thought to be a splay off of the Porcupine-Destor fault zone, which is an important structural control, related to gold deposits found within the Abitibi greenstone belt. It is not possible based on the data at hand to confirm or deny this interpretation.

The other significant lineaments interpreted within the claim area are several crosscutting features interpreted to be faults. The most significant are L-2 and L-3 which strike across the predominant geophysical and geological trends in this area at azimuth 40 to 50 degrees. This zone appears to be a major structural zone as the magnetic contours are clearly and distinctly interupted within this area. Other interpreted lineaments which cross cut the predominant trend are L-7, L-8, L-9 and L-10.

Conclusions and Recommendations

The analysis and interpretation of the Brower Township magnetic data sets has yield positive results and provided directions for future exploration of this area. With respect to the interpreted magnetic lineaments and faults, the prime areas for follow-up

work occur near where cross cutting structural features occur in close proximity to the predominant lithologic trends. In particular, the contacts between the mafic volcanic stratigraphy with intermediate volcanic stratigraphy; and close to any cross cutting lineament might represent an area of structural deformation. These zones are often strongly associated with gold occurrences. These contacts are likely defined by the strong linear northwest-southeast trending magnetic anomalies, thought to represent oxide facies iron formations.

The bedrock conductors defined by the electromagnetic survey also warrant consideration for further investigation. These anomalies should be considered viable targets for potential accumulations of sulphide minerals that are often associated with economic base metal deposits. In particular, any electromagnetic anomaly, which is coincident with or adjacent to magnetic highs, should be considered a priority target for further investigation.

The current geophysical interpretation presented in this brief analysis should be considered in conjunction with any existing geological, geochemical, or other pertinent data that may exist in this area. A compilation of all the existing data in addition to the recent airborne geophysical survey results would greatly aid in defining and targeting specific areas within the claim groups.

Statement of Qualifications

This is to certify that: MATTHEW JOHNSTON

I am a resident of Timmins; province of Ontario since June 1, 1995.

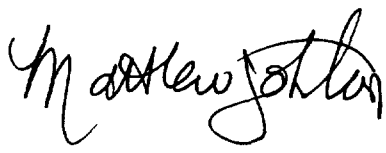
I am self employed as an Consulting Geophysicist, based in Timmins, Ontario.

I have received a B.Sc. in geophysics from the University of Saskatchewan; Saskatoon, Saskatchewan in 1986.

I have been employed as a professional geophysicist in mining exploration since 1986.

I do not hold nor do I expect to receive any interest of any kind in these claims held under option by; or wholly by **Paul Haire**.

Signed in Timmins, Ontario, September 25, 2000.



Ontario 3rd Version

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Ontario Airborne Geophysical Surveys, Magnetic and Electromagnetic Data; Grid and Vector Data Cochrane Area - Geosoft® Format Geophysical Data Set 1100b

Ontario Ministry of Northern Development and Mines

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PART-2

COMPASS DEVIATION MAPPING,
EM TRAVERSE, SOIL ANALYSIS
AND
GROUND PROBING WORK
CLAIMS 1236297-1236298

Compass Deviation Mapping, E.M. Traverses,
Soil Analysis and Ground Probing Work
Claims 1236297 - 1236298 - 1154735

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MAPS AND SKETCHES

COMPASS DEVIATION MAPPING, EM TRAVERSE, SOIL ANALYSIS AND GROUND PROBING WORK CLAIMS 1236297-1236298

Introduction:

Noranda exploration, who used to own these claims refused to do any work in certain areas and the area directly south-east on what is now Claim 1236946. Therefore, until the Operation Treasure Hunt data became available, the only geophysical data for the area was the 1964 Government Air Survey Abitibi-2338G. This air magnetics map showed an area of high magnetics trending south-east through claims 1204374 &1204372 and terminating in the immediate vicinity of Claims 1236297 and 1236298.

In previous assessment work and in the topographic lineaments mapping section of the present work, it was noted that this area was highly suspect for possible close to surface structures. It was postulated that the above area and the immediate vicinity surrounding it marked the junctions of::

(1) the Abitibi-Opatica Sub-Province Boundary,

(2) the Cochrane Milligan Shear Zone

(3) a north-west trending splay off the Cochrane-Milligan Shear Zone.

(4) a possible through going north trending fault.

(5) one or more north-west back thrust faults.

Within this area occur highly visible north-west, north-east and north trending drainage lineaments. Along with the drainage lineaments, several other topographic and magnetic features in the vicinity, pointed towards possible massive structural damage. Because of these indications the other topographic and magnetic features are outlined in conjunction with the other work completed on the claims. Standing by themselves, they are just singular oddities, but when combined they proved very useful for prospecting and interpreting the area. They are:

(1) Compass Deviation.

(2) Excavation for Railway Bed.

(3) Frost Heaving of Poles.

(4) Tower Line Anchoring Problems.

(5) High Ground Springs.
The Operation Treasure Hunt data is also referred to and used to describe, locate and confirm the results of the work done.

One Compilation Map is included to show the location of the work areas and the work done in them and includes the following:

COMPILATION MAP-CLAIMS 1236297-1236298 - 1154735 - 1204372

- Compass Deviation Mapping
- EM Traverses.
- Soil Analysis.
-Ground Probing Work.

Separate sketches were drawn for all of the above listed work. They are:

Sketch #1	Magnetic Deviation and Its Relationship to Major Drainage Lineaments.
Sketch #2	EM Traverse and Interpreted Close to Surface Metallic Conductors.
Sketch #3	Geochemical Sample Sites and Ground Probing for Possible Close to Surface Structures.

An enlarged section of the Coincidental, Topographic-Geophysical Lineaments, Comp. Map 3-B is also included to show the lineaments relationship to the work done and other topographic features of the area.

COMPASS DEVIATION

Introduction:

The 2 unit claim 1236298 was staked clockwise from Post #1. Abandoned Lamothe and Abitibi Junction Roads were followed to Post #3 and no compass was used. Striking north from post #3 the line broke out of the bush and onto the CNR tracks considerably more east than anticipated. the author knew the area quite well and Post # 4, when placed, should be well west of where he was headed.. A direction change was made and Post #4 was planted beside the hydro tower at the west end of a major north-east trending drainage channel, as shown on the compilation maps.

Working eastwards past the 400 metre post, the compass controlled line broke out of the thick bush into the north end of the large semi-circular beaver meadow, along the west edge of the interpreted subprovince boundary as shown on the map. Immediately it was realized something was wrong as the line should have come out in the vicinity of the centre of the beaver meadow across the Post #1.

After walking over to Post #1, a west compass bearing was taken and a line was flagged back to the vicinity south of the 400 metre post. Walking north to the post a line was then cut and blazed eastwards to Post #1 and finished.

While staking from Post #4 at the beginning of this east trending line it was noticed that the flagged line was bending to the north. This was compensated for by ignoring the compass in two clear areas and keeping a straight flagged line by looking behind. If the compass alone had been used in the area, the line, without a doubt, would have deviated much more to the north-east than it did.

Similar problems were encountered while working between Post #4 and Post #1 on the one unit Claim 1236297 to the north. The author knew that the 400 metre post on Claim 1236298 was north of where it should be so after completing the line between Post #4 and Post #1 on Claim 1236297, the south trending line between Post #1 and the 400 metre post to the south was measured.

It was expected that the line would measure less than 400 metres in length. However the line proved to measure 403 metres in length, showing the same amount of compass deviation as the southern line. Post #1 of Claim 1236297 sits on the eastern edge of the also apparently highly magnetic major north-west/south-east trending drainage lineament, which is now shown on the Operation Treasure Hunt data as L-5 cutting the north-east corner of the claim.

The north-south line between Post #1 on Claim 1236297 and the 400 metre common post on Claim 1236298 also deviated to the south-west towards the apparently highly magnetic drainage channel.

Objective:

While staking the claims erratic compass readings were noted in and along specific areas. It appeared that these erratic readings were directly related to the drainage features of the area, which were at the time believed to be possible surface expressions of buried structures. It was decided to measure and map the compass deviations to determine their spatial relationship to the surface lineaments.

Work Completed:

In April of 1999 measuring and mapping of the compass-staking lines was started. Working westward the line between Posts #1 and #4 (which is south of the 400 metre post) was extended past the 400 metre post to cross over and beyond the east trending line. This is marked on the sketch as line A-B. The distance from the cross over point to Post #4 was a measured 285 metres. 200 metres east of Post #4 a north-south measurement showed a 10 metre separation of the lines.

The east trending line from Post #4 was extended out into the drainage channel as shown on the sketch and is marked as line C-D. 200 metres west of Post #1 a north-south measurement showed a 54 metre separation of the lines.

Line X-Y on Claim 1236297 is interpreted and places Post #1 (Y) the previously measured 403 metres north of Line C-D. (This was later confirmed while staking claim 1236945. The east trending line from post #2 of this claim deviated to the south-west, approximately 40 metres south of post #1, on claim 1236297.)

The 403 metre line Y-Z trends southwesterly to intersect line C-D, 18 metres west of the common line-corner post of the claims. The distance between the above post and the section of line A-B is also 18 metres.

The north trending line from Post #3 to the CNR showed a north-east deviation of approximately 48 metres from where the known property line is and Post #4 is planted.

Conclusion:

In 1999, while talking to Ann Wilson, Resident Geologist Porcupine Mining Division, a description of the above erratic compass lines and a sketch was shown to her. I mentioned close to surface iron formation structure as possibly affecting the compass and she mentioned possible faulting as the cause of the compass deviation.

As can be seen on Sketch #1, the original staking lines and follow up measuring and mapping clearly show major magnetic deviations on the claims. The most pronounced area lies in and around The major north-east trending drainage channels. Indeed, the compass was attracted to it, along the total length of its southern edge, as shown by line C-D.

The north-south staking line Y-Z, also deviated to this area as was possibly the line north from Post #3 on Claim 1236298 to the CNR tracks. This latter line passes directly through the interpreted Cochrane-Milligan Shear Zone (TL-B & L-1) which possibly accounts for the initial deviation.

Operation Treasure Hunt data now shows the central area of deviation to be approximately 200 metres west of magnetic lineament L-9, on the southern edge of the interpreted iron formation. The data also shows the north-east drainage lineament, as possibly intersecting L-9 at L-5 to the north east.

Line X-Y shows an attraction to the major north-west/south-east trending drainage lineament paralleling the interpreted sub-province boundary. Operation Treasure Hunt data now shows magnetic lineament L-5 as also striking parallel and along this area.

It is postulated that the major north-east striking drainage lineament and the cross connecting north striking lineament are the surface expressions of lightly buried faults cross cutting the interpreted iron formation magnetic anomaly as mapped in this area. It is also thought that since the topographic lineaments do not extend through the major north-west/south-east striking drainage lineament (L-5) which itself appeared highly magnetic, this latter lineament possibly marks the Abitibi-Opatica Sub-Province Boundary.

It is believed that these highly magnetic drainage lineaments can be used as markers for further geophysical and geochemical surveys in the area.

EM TRAVERSE"S

Introduction:

It was thought that if structures were close to the surface they would be in the area of the major fault like drainage lineaments previously described. The erratic compass readings and subsequent magnetic deviations mapping pointed to this possibility.

Other features in the immediate vicinity also point to shallow buried structures. These features are outlined here to show their relationship to the drainage lineaments, and the EM traverses within their vicinity.

Excavation for Railway Bed:

The Transcontinental Railway (CNR) excavated a shallow trench through this area lengthwise, through a small shallow knoll coincidental with and along the strike of the iron formation, now shown on the O.T H. data. The excavated area commences immediately and hard up against the south western end of the above described major north-east trending lineament (TL-K). The excavation runs for a total length of 650 metres through L-9 and ending abruptly on the eastern edge of the circular magnetic high centred on the railway bed just west of Lamothe Road. The above excavation is shown on sketch #2. It may also be located on the insert of Comp. Map 3-B.

High Ground Springs:

Massive springs occur along the southern side of the railway bed also on the eastern edge of this above circular mag. high which flood the railway bed for several months of the year. It is believed these springs represent close to surface faults, which channel the water.

Frost Heaving of Poles:

The original tooth pick size one wire telegraph poles, all leaned at crazy angles, along the entire length of the excavation, with the exception of three poles. The only vertical poles were the three exceptions which had rock filled cribs around their base, one crib was made with original railway ties and two cribs were made with replacement steel culverts. All three posts once stood in the immediate vicinity of and just west of L-9. They have since been removed but the sites are marked by the cribbing rocks. The railway staff experienced a great deal of trouble keeping these small posts upright along this area, suggesting frost action between the bottom of the posts and possible bedrock, particularly in the area of L-9.

Tower Line Anchoring Problems:

Abitibi's high voltage line along the north side of the railway bed was installed parallel to, and at a measured distance from the tracks through much of it's length. However, commencing on the west at the same location as the excavation, the tower line describes a 1200 metre long northerly arc, easterly to almost Cornel Road. The railway bed and the abandoned Abitibi Junction Road which parallels it to the south appear to be controlled by a long north-west/south-east trending strip of clay cutting through the stunted spruce swamp in this area. Also, confined to this strip of clay are a few long and narrow homesteaders clearing along the abandoned road.

The O.G.S. MAP # 2543 shows the interpreted sub-province boundary as cutting southeasterly through the central area of this strip of clay, and possibly contacting the Cochrane-Milligan Shear Zone, which the author interpreted to be in the vicinity. It was believed that the sub-province boundary faulting and or the Cochrane-Milligan Shear Zone caused the glaciers to drop off predominantly clay till along a massive fault.

It was also believed that like the telegraph poles along the railway, Abitibi also ran into anchoring problems with their towers, causing them to arc around the area to the north, possibly indicating shallow glacial overburden.

Objective:

To search for close to surface metallic conductors within the drainage lineaments and in the vicinity of other surface features and anomalies.

Work Done:

Three separate traverses were completed using a 2 Box Fisher Metal Detector. This shallow penetrating EM instrument supposedly could trace close to surface metallic conductors to a depth of 20 feet (6 metres).

In May of 2000, starting at the southwest end and traversing north-south in "zig-zag" lines, the entire length and width of the north-east trending drainage channel was covered. Sections of the north trending channel and the junction with the major north-west/south-east drainage lineaments (TL-G) were also searched.

This area immediately north of the former CNR railbed is 100% beaver pond, meadow and tag alders, which at the time the beaver had vacated leaving the area almost high and dry.

Particular attention was paid to the vicinity of the cross-over lines A-B and C-D as shown on the compass deviation map. The first interpreted metallic contact occurred hard up against the north of the small remaining beaver pond east of the dam.

Searching then continued north for 100 metres in and along the north channel. Walking back south, the beaver dam was crossed. Sound and meter readings from the instrument indicated a

possible contact. The area south of the beaver pond and around the cross-over lines was searched with many contacts made while cris-crossing the area.

Leaving the area, the traversing was continued north east in and along the channel to the junction of TL-G. This area was searched in the channel areas and north east into the spruce barrens. With the exception of the beaver pond/cross-over line area, no other contacts were encountered.

The next day, new batteries were installed in the instrument, pickets, flagging tape and with the hip-chain packed the area of instrument activity was again investigated. Two interpreted conductors were outlined (an east conductor and a west conductor). The west conductor measures 48 metres x 6 metres. The east conductor measures 35 metres x 5 metres. Both have a north-south strike direction and they are approximately 30 metres apart.

The west conductor may extend north under the beaver pond to the area where the instrument first started to show a definite response.

Sketch #2 shows the conductors located in the immediate vicinity of the cross-over just south of the junction of the drainage channels. The west conductor was marked with several pickets length wise through the centre and flagged around the edges. The smaller east conductor was flagged through its centre.

Two other traverses with the instrument were done. One traverse parallels the south edge of the CNR right-of-way following the low clay knoll in this area and out into the alder-spring area to the east. Nothing of any interest was found.

The other work was done in the south-east corner of Claim 1204372 and the north-west corner of Claim 1236297.

Sections of the north-west trending and east trending drainage lineaments (TL-J) were traversed looking for possible conductors similar to the two previously located. Scattered areas produced noise from the instrument but nothing definite could be outlined.

Conclusion:

The author is quite familiar with the instrument and knows how it re-acts to cultural anomalies such as buried culverts and old fences lying hidden in the ground. Given the conductors locations cultural anomalies were ruled out.

The meter on the instrument is calibrated between 0 and 100 and it continuously indicated readings between 55 and 65 with its highest readings over the centres of the conductors. A culvert or a fence sends the meter well past its maximum and cause the speaker to "srceam". Therefore, the readings over the conductors are interpreted as the same as a culvert would indicate if it was buried 6 metres or deeper if the conductor is of metallic origin.

SOIL ANALYSIS & GROUND PROBING WORK

Objectives:

Soil; sampling was done over the interpreted metallic conductors for indications of mineralization. The EM instrument is supposed to be reliable to a depth of 6 metres. It was decided to probe the indicated close to surface conductor to try and confirm the instruments readings.

Soil Analysis Work Completed:

Work was confined to the west conductor only. In late August of 2000, a total of 7 sample sites were picketed and surface samples taken to a depth of 6 inches (15 centimetres).

Four of the sample sites were located along a north-south line through the central area of the conductor as shown on Sketch #3. Two other sites were located east and west of and between sites #2 and #3 along the respective edges of the conductor. Site #7 was located in a small set of springs 12 metres west of site #4

Samples 1 to 5 were light colored clay and sample 6 and 7 were black muck. Analysis by I.N.A.A. showed less than 2 to 4 Parts Per Billion Au. The full analysis report is included herein.

Ground Probing Work:

Using a high pressure Wajax water pump and 1 inch wash rods, four holes were washed down in an attempt to locate bedrock and rule out clay conductivity. The first hole #A, was washed down between sample sites 2 & 3 in the approximate centre of the conductor, and at a depth of 4.2 metres (14 feet) rock was encountered.

Three step out holes, # B, C, & E, one to the north, east and south, each approximately 5 metres distance from the centre hole were washed down to a depth of 7.5 metres (25 feet) with no rock encountered. The holes locations are also shown on Sketch #3.

During the washing of all holes only clay came to the surface and there were no indications by sound or feel on the wash rod that gravel or any small rocks were encountered.

The above work was a one day affair in late August with a cold rain starting to fall, and a decision was made to only go 7.5 metres on the step out holes. There was no time for the washing of a hole to the west. Some beaver had moved back in and the work area had 6 inches of water covering it in places. There was no attempt to recover any clay possibly washed up from above the centre hole for analysis or to chip away at the rock with a hardened steel point on the wash rod.

Conclusion:

A large rock was encountered in Hole # 1 which was located in the centre of a possible metallic conductor as indicated by the EM response.

As seen on the insert of the Magnetics Lineaments Map 3-B, the conductor and wash hole lay at the junction of the TL-K surface lineaments which occur directly above the south-east end of an interpreted iron formation.

It is undetermined if a large piece of float was hit or possibly the tip of a east or north-south trending structure.

Follow up work in the summer of 2001 is planned to extend the depth of the outlaying holes. A hole will be washed west of Hole #A and other probing closer to the original contact in Hole #A will be attempted to determine exactly what the wash rod contacted. A test pit 4.2 metres deep is within the reach of a tracked backhoe - shovel.

Respectively submitted by:

Paul Haire Paul Haire

Quality Analysis... *Innovative Technologies*

Invoice No.: 20247
Work Order: 20565
Invoice Date: 13-SEP-00
Date Submitted: 31-AUG-00
Your Reference: BROWER 2000
Account Number: 1927
GST # R121979355

BROWER BREAK RES.
C/O PAUL HAIRE
RR #2
COCHRANE, ON
P0L 1C0

No. samples	Description	Unit Price	Total
7	1D ENHANCED	$ 14.00	$ 98.00
		Subtotal :	$ 98.00
		GST (7.0%) :	$ 6.86
		Prepayment :	($ 105.30)
		CREDIT :	$ 0.44

Net 30 days 1 1/2 % per month charged on overdue accounts.

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Activation Laboratories Ltd. Work Order: 20565 Report: 20247 Page: 1 of 2

Sample description	AU PPB	AG PPM	AS PPM	BA PPM	BR PPM	CA %	CO PPM	CR PPM	CS PPM	FE %	HF PPM	HG PPM	IR PPB	MO PPM	NA %	NI PPM	RB PPM	SB PPM	SC PPM	SE PPM	SN %	SR %	TA PPM	TH PPM
SL-1-00	3	<5	5.1	730	3.5	<1	18	88	5	4.12	4	<1	<5	4	1.20	136	122	0.3	12.0	<3	<0.01	<0.05	<0.5	12.2
SL-2-00	<2	<5	5.2	710	3.7	2	18	97	4	3.77	4	<1	<5	<1	1.32	130	117	0.4	12.0	<3	<0.01	<0.05	<0.5	11.5
SL-3-00	<2	<5	5.5	630	3.8	2	19	96	5	4.19	4	<1	<5	1	1.17	<28	132	0.4	12.6	<3	<0.01	<0.05	<0.5	12.8
SL-4-00	4	<5	5.4	640	4.5	6	15	87	5	3.76	3	<1	<5	5	1.04	<27	108	0.4	11.3	<3	<0.01	<0.05	<0.5	11.7
SL-5-00	<2	<5	4.7	320	12.4	2	7	60	3	1.63	2	<1	<5	<1	0.28	<24	66	0.4	6.8	<3	<0.01	<0.05	<0.5	8.5
SL-6-00	<2	<5	3.1	580	4.2	<1	14	93	4	3.85	4	<1	<5	<1	1.16	<31	131	0.4	12.6	<3	<0.01	<0.05	<0.5	13.5
SL-7-00	<2	<5	3.9	370	15.5	2	10	62	3	2.52	2	<1	<5	<1	0.42	<24	80	0.4	8.2	<3	<0.01	<0.05	<0.5	9.3

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Sample description	U PPM	W PPM	ZN PPM	LA PPM	CE PPM	ND PPM	SM PPM	EU PPM	TB PPM	YB PPM	LU PPM	Mass g
SL-1-00	2.8	<1	94	32.7	66	23	4.6	1.1	<0.5	1.5	0.24	25.07
SL-2-00	2.1	<1	88	33.6	77	25	4.7	1.0	<0.5	1.6	0.25	26.00
SL-3-00	2.2	<1	77	39.5	79	30	5.3	1.2	<0.5	1.7	0.27	28.78
SL-4-00	1.8	<1	100	36.9	73	26	4.9	1.1	<0.5	1.7	0.28	26.91
SL-5-00	2.5	<1	112	27.5	54	20	3.5	0.8	<0.5	1.1	0.16	16.29
SL-6-00	2.1	<1	183	40.0	79	30	5.7	1.4	<0.5	1.8	0.28	21.92
SL-7-00	5.0	<1	160	32.7	64	22	4.1	0.8	<0.5	1.1	0.17	19.65

GEMINI-3 SPECIFICATIONS[1]

DIMENSIONS[2]
- Length on handle . . . . . 49¼"
- Transmitter-Receiver Box Assy. . 9¼" X 12" X 6"

WEIGHT[2]
- Complete . . . . . 7 lbs
- Transmitter . . . . . 2.4 lbs
- Receiver . . . . . 2.9 lbs
- Handle . . . . . 1.7 lbs

FREQUENCY
- RF Search and Trace . . . . . 81.92 KHz Crystal Controlled
- Audio Target Response . . . . . (VCO)[3]

OPERATING MODES
- Search . . . . . 1. Narrow Scan, Inductive
  2. Wide Scan, Inductive
- Trace . . . . . 1. Inductive
  2. Conductive[4]

TARGET RESPONSE
- Meter . . . . . 2¼" X 1¾", Analog
- Speaker . . . . . 2¼" 100 ohm, Moisture Proof Cone
- Headphones[5] . . . . . ¼" Jack, 8-16 ohms, Stereo/Mono

BATTERIES
- Receiver . . . . . (8) AA 1.5v
- Transmitter . . . . . (8) AA 1.5v
- Life[2,6] Carbon Zinc . . . . . 30 Hours
  Alkaline . . . . . 50 Hours
  Ni-Cad . . . . . 20 Hours

WARRANTY[7] . . . . . 5 Year, Gold Seal, Limited

NOTES

1. Subject to improvement or modification without notice.
2. Approximate
3. Voltage Controlled Oscillator. Volume and pitch both increase as target is approached for easier, more accurate pinpointing.
4. With optional ground plate assembly.
5. Optional stereo/mono headphones.
6. Use of headphones will significantly increase battery life.
7. One year parts and labor plus four years parts only. The length and terms of the warranty will vary outside the U.S. Check with your distributor for details.

FISHER m-SCOPE®

GEMINI-3

Deep-search, 2-Box metal and mineral detector

- Detects all metals.
- Sensitive to large objects or ore veins twenty feet deep or more.
- State-of-the-art, crystal-controlled circuitry.
- Lightweight, rugged, compact.
- Four operating modes.
- Uses standard Penlite batteries.
- Five Year Limited Warranty.

OPERATING MANUAL

FISHER RESEARCH LABORATORY

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1. ABOUT YOUR GEMINI-3

Two-box metal detectors have long been used by prospectors, geologists, Treasure Hunters and public utilities to locate large, deep objects, ore veins, pipes and cables. Fisher Research Laboratory is the recognized leader in the field, in fact we were granted the first two-box patent over fifty years ago.

You might think it would be difficult to improve on a product which has been in a constant state of development for so many years. But, the fact is, the Gemini-3 is probably the biggest leap forward in two-box design since we replaced its vacuum tubes with transistors back in the 1950s.

The new Gemini-3 goes 10-20% deeper than its predecessor. It will trace most pipes and ore veins at least 50% farther and the all new crystal controlled circuitry is rock stable. The old metal-rim antenna is gone and so are the hard to get batteries. The Gemini-3 is easier to use, two pounds lighter, features VCO (Voltage Controlled Oscillator) audio target response for precision pinpointing and has built-in battery recharge circuitry for an optional battery recharge kit.

Your Fisher Gemini-3 is an expensive, high quality, precision instrument engineered by the oldest and proudest name in metal detectors. Treat it right, read this instruction manual thoroughly and practice often. Who knows, with skill, patience and a little luck you may find the **BIG** one.

Drop us a line if you have any questions, comments or exciting Gemini-3 stories. In the meantime...

Good Hunting
Fisher Research Laboratory

2. BASIC THEORY OF OPERATION

The GEMINI-3 was engineered to detect conductivity changes in the earth over which it is carried. Hence, a positive response by the GEMINI-3 indicates the presence of a metal, ore vein or mineral which is more conductive than the surrounding rock or soil.

The function of the Transmitter is to send an RF (Radio Frequency) signal down to a conductive object and generate an electromagnetic field around that object. When used in any of the Inductive modes, the RF signal travels through the ground to the object. When used in the Conductive Trace mode, the signal is transmitted directly through a wire attached to an exposed portion of the object.

The function of the Receiver is to locate the object by detecting the electromagnetic field around it and responding with audio and visual outputs.

3. DEPTH

The GEMINI-3 was designed to locate large, deep objects. Like an iron chest, a pipe or an ore vein. It will not detect small coin sized objects. A quart jar full of coins, however, may be detected one to three feet deep. A 55 gallon drum may be detected as deep as ten feet. A very large object, like an automobile, may be detected at twenty feet or more.

The ability of the GEMINI-3 to detect objects at various depths depends on several factors:

1. **Ground mineralization:** The penetrating power of the GEMINI-3 is adversely affected by the presence of magnetite (a black iron oxide) and wet conductive mineral salts. For an example: an object which can be detected at 15 feet in neutral ground may be detected no deeper than 5 feet in highly mineralized ground.
2. **Size and depth of object:** A 4-inch diameter target will produce a signal 64 times stronger than a similar 1-inch diameter target at the same depth. An object 1-foot underground will produce a signal 4,000 times greater than the object 4-feet deep.
3. **Length of time object is buried:** An object which has been buried for a long time may be easier to detect than a newly buried object. Rust and other oxides as well as mineralization caused by the interaction of the metal with the soil chemicals are good conductors and aid detection.
4. **Shape of object:** Ring or looped shaped objects lying flat produce best results. Flat or dish-shaped targets are also easy to detect. Rod-shaped objects, especially when scanned on end, are very difficult to detect.
5. **Operator skill:** Probably the most important factor of all. Practice over known buried targets is essential.

4. DESCRIPTION

A. COMPLETE GEMINI-3 AND ACCESSORIES

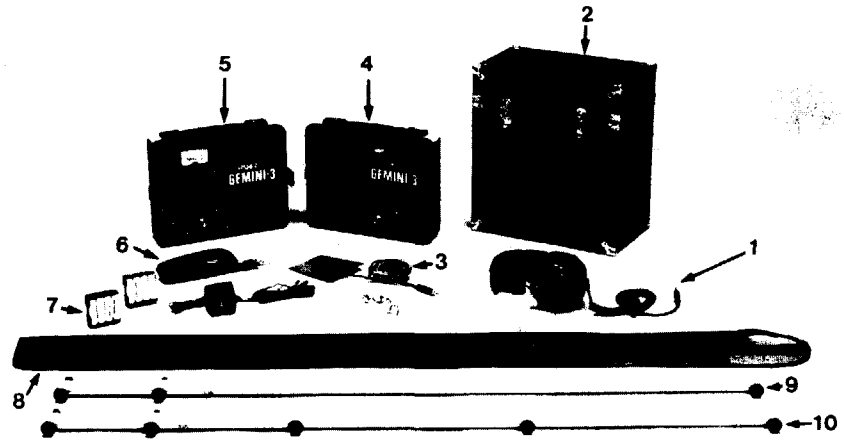

FIGURE 1. COMPLETE GEMINI-3 AND ACCESSORIES

1. STEREO HEADPHONES (optional).
2. CARRYING CASE (optional).
3. GROUND PLATE (optional).
4. TRANSMITTER
5. RECEIVER.
6. HANDLE STRAP.
7. BATTERY RECHARGE KIT (optional).
8. VINYL HANDLE BAG (optional).
9. ONE PIECE HANDLE (optional).
10. THREE PIECE HANDLE.

B. TRANSMITTER

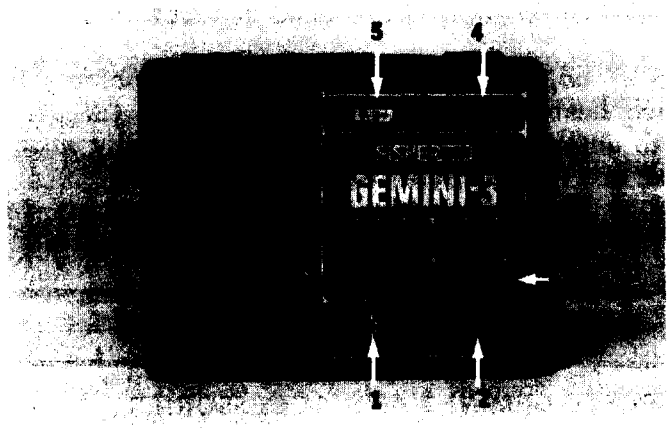

FIGURE 2. TRANSMITTER

1. POWER SWITCH: Pulling switch turns on transmitter.
2. GROUND PLATE JACK: Used with the optional Ground Plate Assembly for the Conductive Trace Mode.
3. NI-CAD BATTERY RECHARGE: To be used only with the optional recharge kit. The recharger plugs into the jack and the red light indicates the batteries are being replaced.
4. BATTERY TEST SWITCH: Push button switch for reading on Battery Test Meter.
5. BATTERY TEST METER: Gives a visual indication of battery strength.

C. RECEIVER

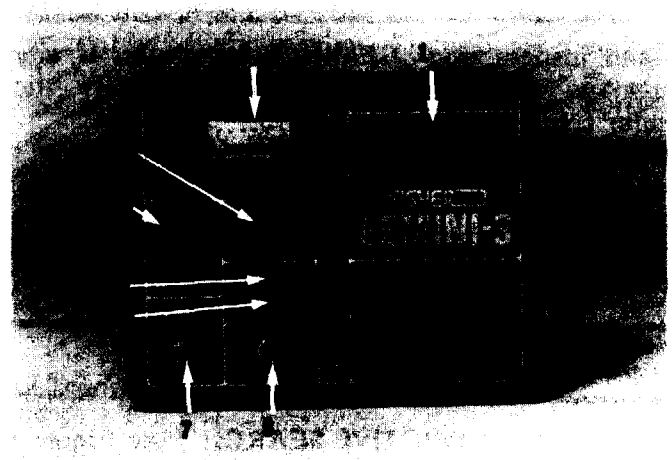

FIGURE 3. RECEIVER

1. SPEAKER: Provides audible indication of the Receiver signal for balancing and detecting.
2. METER: Provides visual indication of the Receiver signal response for balancing and detecting. Also used as a battery test indicator.
3. RANGE SWITCH: Selects NORMAL or HIGH sensitivity range.
4. SENSITIVITY CONTROL: Used to control sensitivity level selected by the RANGE switch. The circled "7" indicates the starting level used for Narrow Scan Inductive Search Mode.
5. NI-CAD BATTERY RECHARGE: To be used only with the optional recharge kit. The recharger plugs into the jack and the red light indicates the batteries are being recharged.
6. BATTERY TEST SWITCH: Press button for a reading of battery condition on meter.
7. HEADPHONE JACK: Accepts stereo or monaural headphones and silences speaker when headphones are plugged in. (stereo/mono headphones should be in "stereo" position.)
8. POWER SWITCH: Pulling switch out turns on Receiver.

5. UNPACKING AND CHECKOUT

Unpack and inspect your GEMINI-3 carefully. If any obvious shipping damage is observed, immediately notify the carrier and the dealer from whom you made your purchase.

Check the condition of the Receiver and Transmitter batteries by pressing the BATTERY TEST buttons on each front panel. A meter reading in the "Batt OK" region should be observed.

If either battery set indicates a less than "OK", refer to the Battery Replacement section of this manual.

6. SEARCHING

A. NARROW SCAN INDUCTIVE SEARCH (See Figure 4)

This mode of operation is performed by a single operator using the 3-piece handle. It is the best method for locating small or short objects (chest, coin-jar, rifle, etc.) however, it is also an effective way to locate pipes, cables and ore veins.

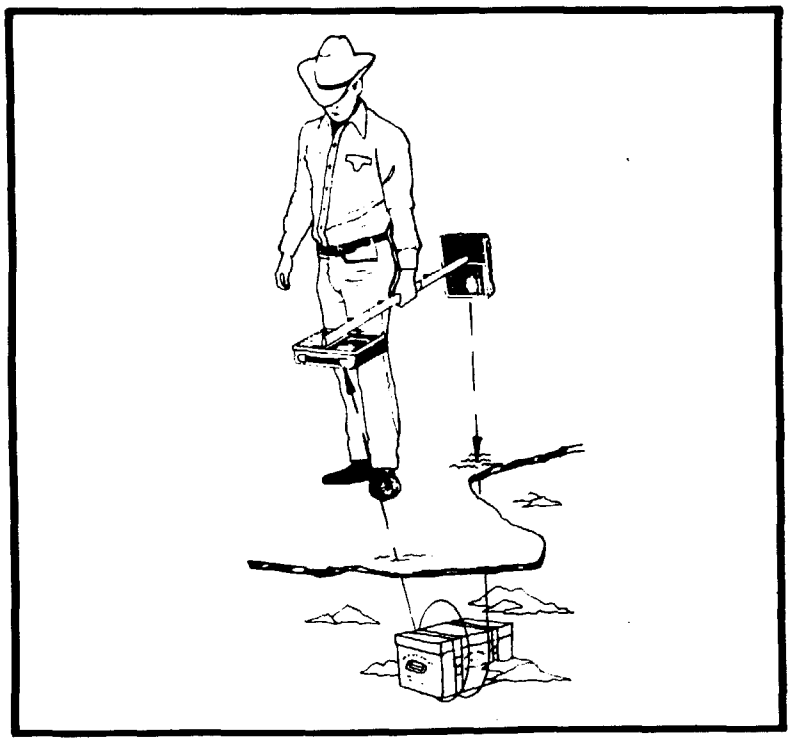

FIGURE 4, NARROW SCAN INDUCTIVE SEARCH

Set up – Narrow Scan Inductive Search (See Fig. 5)

1. Assemble the 3-piece handle by inserting each end piece into the center handle section. Tighten the two center knobs finger tight until there is no wobble. Place the Transmitter on its back and insert the end of the handle with the single brass shaft into the V-shaped slot. Turn the knob until it is finger tight and the handle is firmly in the slot.
2. Align the Receiver panel holes with the upper handle threaded shafts. Tighten the lower black knob until it is finger tight.
3. Turn the balance knob (with white arrow) until the spring is under tension (at least 10 turns).

Tuning – Narrow Scan Inductive Search

1. Set the Transmitter:
   POWER : ON
2. Set the Receiver:
   POWER : ON
   SENSITIVITY : 7
   RANGE : NORMAL

   You should get a strong audio tone and meter indication at this point.

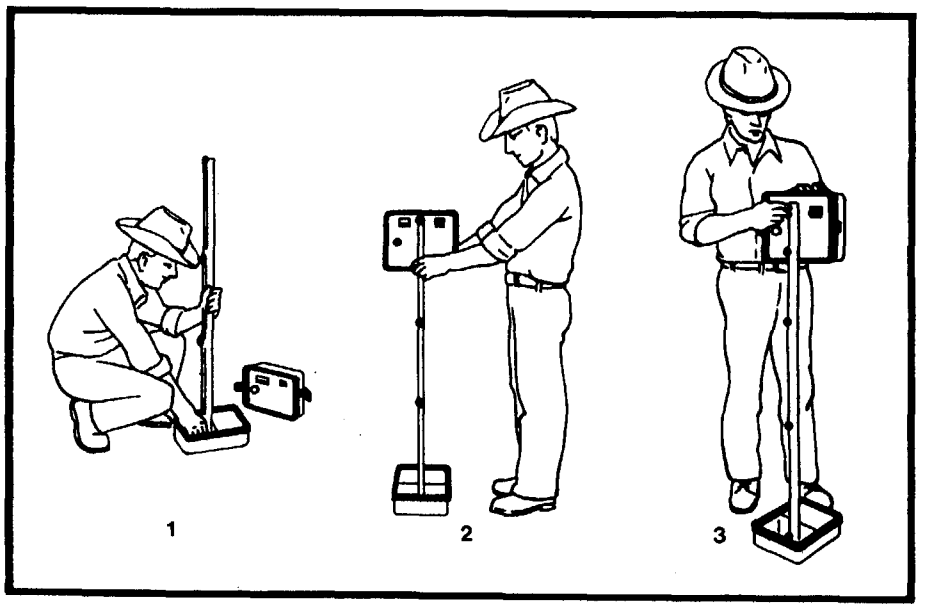

FIGURE 5.
ASSEMBLY FOR NARROW SCAN INDUCTIVE SEARCH

CAUTION: Never attempt to tune the GEMINI-3 in the presence of metal objects like cars, metal walls, roofs or heavy metal reinforcements in any structure. Their presence will make proper balancing impossible.

3. Pick the unit up by the handle and balance it so that it is level with the ground and at normal carrying height (arm's length).
   For a deeper search, attach the fully lengthened carrying strap to the eyelets on either end of the handle (see fig. 6). You will need to hold the instrument at this lower level while tuning if you plan to use it lowered. On some highly mineralized ground and some asphalt, you may not be able to use it with the strap fully lengthened. You will know this during tuning if you cannot reach a "null". Not reaching a null can also indicate the presence of nearby metal.
4. Still holding the GEMINI-3 parallel to the ground, slowly turn the BALANCE knob (with arrow) counter-clockwise until you get a sharp null in sound and meter reading. At this point there should be no sound as you rotate the knob 1/8 to 1/4 turn.
5. If you cannot null the audio or your null point is less than 1/8 turn, reduce SENSITIVITY slightly and try again.
6. If you can turn the knob more than 1/4 turn without an increase in the sound or meter, increase SENSITIVITY slightly and try again.
7. You are ready to search when the GEMINI-3 is tuned to a 1/8 to 1/4 turn null in audio and meter indications. Slight adjustments to the BALANCE knob and/or the SENSITIVITY control may have to be made if the GEMINI-3 is operated at a different height from the ground than the one for which it was originally tuned.

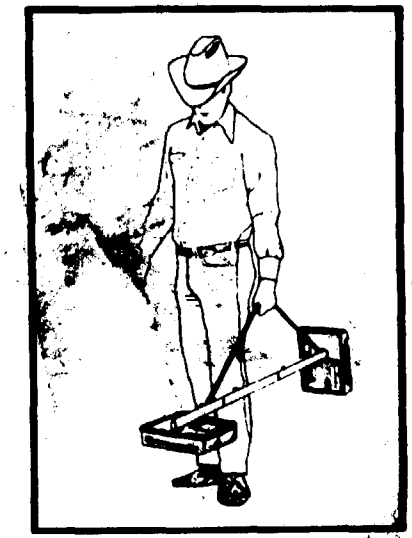

FIGURE 6. HANDLE STRAP

Using the handle strap increases depth however it may be difficult to tune the GEMINI-3 this close to highly mineralized ground.

Operation - Narrow Scan Inductive Search

1. Test your GEMINI-3 in an area you are reasonably sure is free of large buried objects. Scatter some metal objects, such as a tool box, piece of pipe and a coat hanger in a clear area.
2. With the instrument properly tuned and held in the hand or suspended by the strap, slowly walk directly towards your test object. Keep the handle as level and steady as possible while in motion or the tuning may change and you'll receive false signals and/or lose sensitivity.
3. As you approach your target, the speaker sound and meter indication will increase. They will reach maximum readings when you are directly over the conductor. Remember, on the GEMINI-3, unlike earlier models, the sound volume and pitch continue to increase after the meter pegs. This will allow you to do most of your pinpointing without constantly readjusting the SENSITIVITY knob.
4. As you cross the target, the indications will begin to decrease because you are moving away. To get a precise fix on the location, make a mark at your feet when readings reach their maximum. Cross over the target, turn around and come back. Make a second mark when readings return to maximum. Your target will be centered between the two marks.
5. For even more accurate pinpointing of short objects, (i.e., not a pipe, cable, etc.), approach the test object at right angles from your previous direction. Mark the ground as

you did before. Your test object should be approximately centered between four marks.

6. To establish the path of a pipe, cable, or other long conductor, pinpoint two more locations 15-20 feet apart. From these three locations you should be able to draw a straight line (unless pipe has turned). Careful additional locations may be necessary if no prints of the area are available.
7. It may be necessary to reduce sensitivity with the knob when the pipe or cable is large and/or shallow. If the meter needle has peaked and sound is at a high level, you will want to bring the sensitivity down to see the peak of the needle at a point less than 100 as you move in half or quarter steps back and forth to get your peak reading.
8. If at all possible, practice over some buried targets of known size and depth.

   NOTE: There are several things to consider when locating buried objects:

   a. Precise location depends on operator skill.
   b. Position of the ground marks does not indicate size of the object or its depth.
   c. More than one metal object may cause a wider or stronger response than expected.
   d. Deeper targets may not be detected until the operator has passed over them.
   e. Reducing the Receiver SENSITIVITY control will narrow the area between the ground marks for more precise pinpointing.
   f. Small or deeply buried objects such as a cache of coins, require a tight, closely traversed search pattern. Large or shallow objects can be located successfully with a larger, more widely traversed search pattern.

B. WIDE SCAN INDUCTIVE SEARCH (See Figure 7)

This mode of operation is the preferred method for searching a large area fast. Two operators are required and the handle assembly is not used.

The Wide Scan Inductive Search mode is practical only when searching for ore veins, pipe or cable 40 feet long or more. If the operators are too close together, "direct air coupling" will result, meaning the Receiver is detecting the Transmitter signal directly through the air instead of through a buried conductor.

Set up - Wide Scan Inductive Search

Two operators line up at least 30 feet apart, one with the Receiver and one with the Transmitter, parallel to the assumed direction of the buried conductor. The Transmitter and Receiver should be in line with each other, facing the same direction.

Tuning - Wide Scan Inductive Search

1. Set the Transmitter:
   POWER : ON
2. Set the Receiver:
   POWER : ON
   RANGE : NORMAL for short distances between operators.
   : HIGH for long distances between operators.
   SENSITIVITY : ZERO
3. Slowly increase the SENSITIVITY control until audio is heard, then reduce SENSITIVITY until the audio just disappears. This is the point at which "air coupling" has been eliminated.

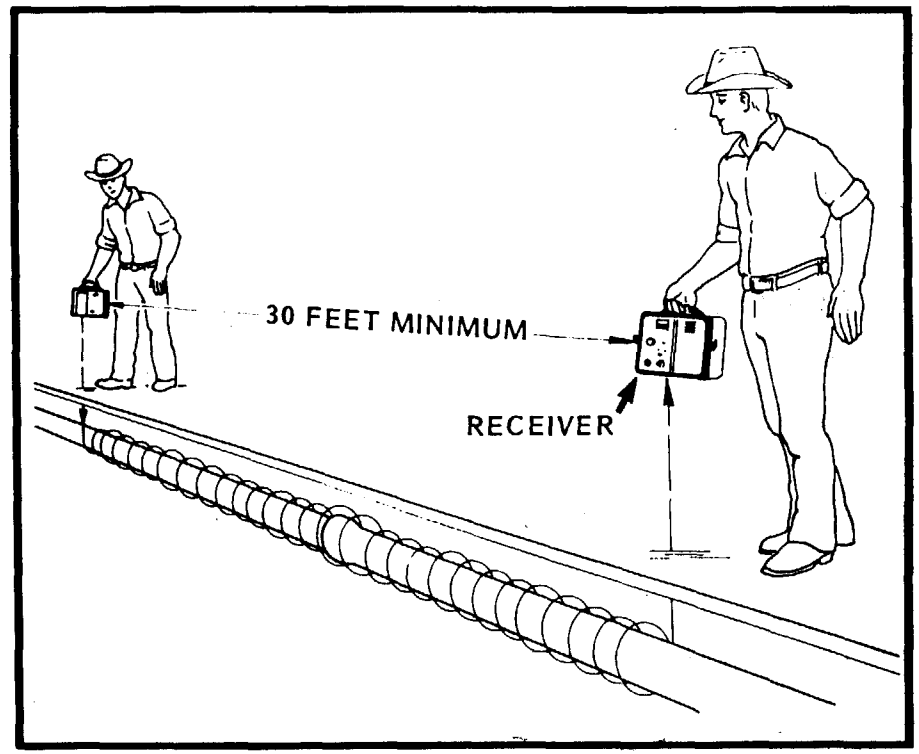

FIGURE 7, WIDE SCAN INDUCTIVE SEARCH

Operation - Wide Scan Inductive Search

1. Keeping the Receiver and Transmitter sections in line, the two operators can now walk their predetermined search pattern. The SENSITIVITY and RANGE controls should be checked periodically to insure that the Receiver is tuned just below the "air coupling" threshold.
2. If both operators cross the same conductive body (pipe, cable, ore vein, etc.) at approximately the same time, the Receiver tone and meter will rise to indicate its presence. The Receiver operator should alert the Transmitter operator that they have detected a conductive object.
3. The Receiver operator should then hold his position while the Transmitter operator moves back and forth for the strongest Receiver response. At this point, the Transmitter operator should stop and place the instrument on the ground with the handle grip on top.
4. The Receiver operator can then pinpoint the buried object by moving the Receiver back and forth in line with the Transmitter. The object should be directly beneath the point of maximum audio and meter response. If the Receiver is held horizontally, face up, the location will be indicated by a "null" or the point of minimum response.
5. The Receiver operator may then trace the signal through the length of the unseen object as described in the INDUCTIVE TRACE section.

7. TRACING

A. INDUCTIVE TRACING (See Figure 8)

The Inductive Trace mode is usually used to trace a long object (pipe, ore vein, etc.) which has no exposed portions and two starting points are known.

Set up - Inductive Trace

Locate two points at least 30 feet apart over the object as described in the WIDE SCAN or NARROW SCAN INDUCTIVE SEARCH sections. The Transmitter and Receiver should be in line with each other, both facing the same direction. The Transmitter should be on the ground and the Receiver held by the operator.

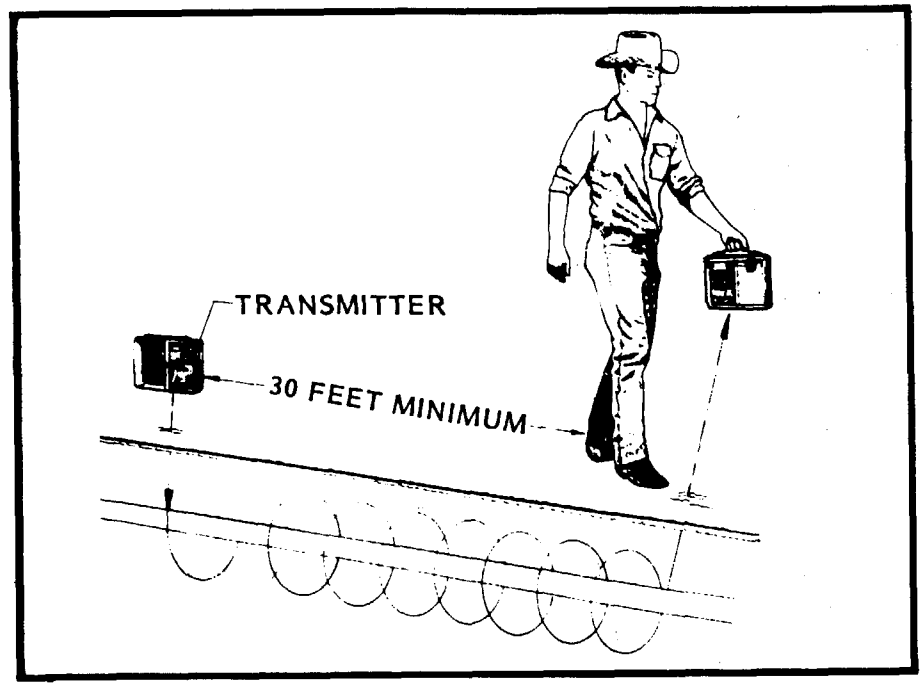

FIGURE 8. INDUCTIVE TRACE

Tuning - Inductive Trace

1. Set the Transmitter:
   POWER : ON
2. Set the Receiver:
   POWER : ON
   RANGE : NORMAL
   SENSITIVITY : ZERO
3. Increase the Receiver SENSITIVITY control until you have an audio response and at least a mid-scale meter deflection.
4. Determine that you are not direct air coupling by moving the Receiver back and forth. The audio and meter indications should peak over the object. No peak will be observed if the Receiver is too close to the Transmitter and direct air coupling is occuring.

Operation - Inductive Trace

1. Once the two starting points have been established and the Receiver tuned, walk away from the Transmitter in the assumed direction of the buried conductor.
2. Hold the Receiver vertically to maintain a peak signal or horizontally, face up, to maintain a null or minimum signal. Either method indicates that you are over the object and

tracing its path.

3. As the distance from the Transmitter increases, the signal will fade. As this occurs, increase the SENSITIVITY as required and finally switch the RANGE control to HIGH.
4. When the signal becomes too weak to trace, stop and move the Transmitter closer.
5. Be aware that if you are tracing a pipe, each time a "T" junction or lateral is encountered, the signal will split and weaken.

B. CONDUCTIVE TRACE (See Figure 9)

This is the best method for tracing a single pipe in the presence of other pipes. A portion of the pipe must be exposed in order to energize it by direct connection utilizing the optional Ground Plate Assembly.

Set up – Conductive Trace

1. If possible, clean the contact point of the pipe with a wire brush.
2. Connect the ground plate clamp to the contact point.
3. Plug the Ground Plate Assembly into the Transmitter Ground Plate Jack.
4. Set the Transmitter on the ground and in an upright position as far away from the contact point as possible, at right angles to the assumed direction of the pipe or cable. Insert the Ground Plate in the ground as far away from the Transmitter as possible. Lay the Ground Plate flat on paved surfaces. Placing it in a puddle of water and weighing it with a rock will help conductivity.
5. Hold the Receiver vertically, in line with the contact point of the pipe at least 30 feet away.

Tuning – Conductive Trace

1. Set the Transmitter:
   POWER : ON
2. Set the Receiver:
   POWER : ON
   RANGE : NORMAL
   SENSITIVITY : ZERO
3. Slowly increase the SENSITIVITY control until you receive an audio signal, then reduce sensitivity until the audio disappears. This is the point at which air coupling has been eliminated.

Operation – Conductive Trace

1. Locate the buried pipe by circling the contact point, keeping the Receiver in line with the contact at all times. Stay at least 30 feet from the Transmitter.
2. Once the pipe has been located by a sharp increase in the audio and meter signals, the pipe may be traced exactly as described in the operation section of the INDUCTIVE TRACE instructions.
3. Be aware that a non-conductive gasket in the pipe will terminate the RF signal from the Transmitter.

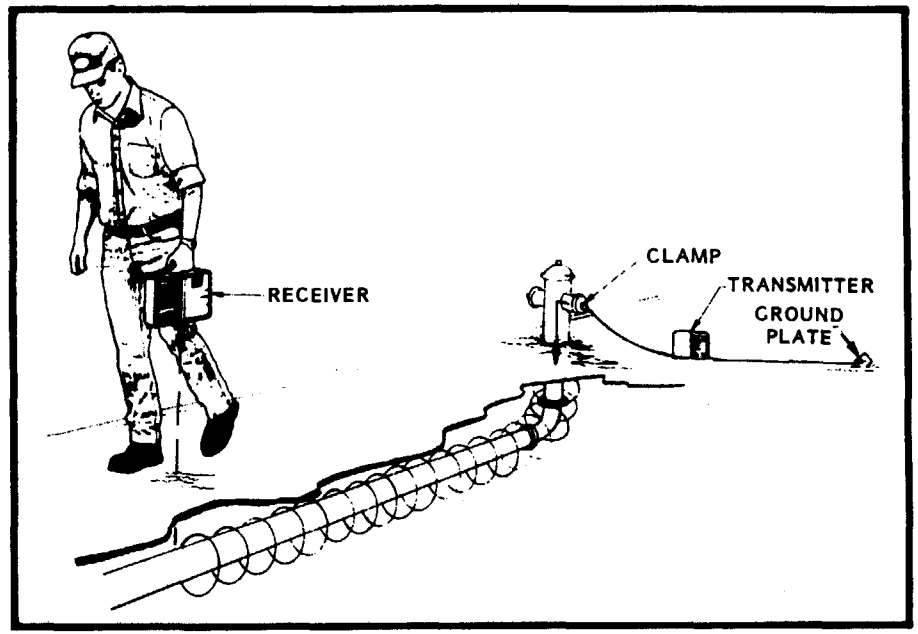

FIGURE 9. CONDUCTIVE TRACE

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8. PROSPECTING TIPS

A. Mapping

When an area of high conductivity is encountered, outline and stake it by crossing and recrossing, using the Narrow Scan Inductive Search mode. It will be noted that in and near the conductive zone, a maximum indication will be received in only one definite direction when the operator stands at one point and rotates the instrument parallel to the surface of the ground. Record the meter readings as read in the maximum directions, at various points along the zones. Note the character of the overburden, outcrops, and topographic features.

When the area being inductively surveyed has been completely covered and all of the conductive zones have been staked, these zones are surveyed and plotted on a map. The map should include all creek bottoms, gullies, outcrops, and other physical features. The ideal map on which to plot the conductive zones is a topographic and geological map of the proper scale. In this way it is possible to correlate the zones directly with the topography and geology, and thus determine the possible reasons for the presence of the various conductive zones.

B. Locating Placer Deposits

A lot of prospectors have told us they would like to use a two-box for locating placer gold. In general, these deposits contain such a small amount of gold that it cannot be detected. Placer gold, however, is usually associated with a certain amount of black sand, and some placer deposits carry iron sulphide. Both of these mineral substances are definitely conductive, and may be detected by the GEMINI-3. It is through the detection of these minerals that the placer gold may be located.

C. Sources of Error

The most common non-productive zones of conductivity are:

1. **Dissolved mineral salts.** Mineral salts become conductive when dissolved in water. As a result, the presence of saline water or water saturated soil high in salt content, may render the GEMINI-3 useless.
2. **Rough terrain.** In very rough terrain it may be difficult to maintain the GEMINI-3 parallel to the ground, resulting in frequent false signals.

3. **Irregularities in the over-burden and bedrock.** The GEMINI-3 may detect sharp changes in conductivity which are of no important geological significance.
4. **Fault zones.** Fault zones often give positive indications because they are highly fractured and usually contain concentrations of water and minerals.
5. **Alluvial deposits along creek bottoms.** Conductive deposits along creek beds usually have no economic value or importance in determining the geology.
6. **Conductive debris.** Unexpected high readings are often due to highly conductive debris near the surface such as scrap iron, tin cans, etc.
7. **Magnetite:** Heavy concentrations of magnetite will cause false signals and/or loss of penetrating power.

It is obvious from the above that every response by the GEMINI-3 does not indicate the presence of valuable ore, but rather an indication that the earth's conductivity has changed. It remains for the operator to properly interpret this data. The successful prospector will have some understanding of the ore he is seeking and of the existing geological conditions. The successful operator also will have studied that area and will know in advance what ore he is seeking and where the best opportunity exists for locating it. Under these conditions, the GEMINI-3 can provide valuable information. On the other hand, random wandering and prospecting for no ore in particular can be an expensive waste of time.

Work Report Summary

Transaction No: W0160.00068 **Status:** APPROVED
Recording Date: 2001-MAR-26 **Work Done from:** 1999-APR-10
Approval Date: 2001-JUN-20 **to:** 2000-AUG-27

Client(s):

300251 HAIRE, PAUL GREGORY

Survey Type(s):

PROSP

Work Report Details:

Claim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
P 1154735	$569	$569	$0	$0	$569	569	$0	$0	2002-JAN-06
P 1204372	$30	$30	$1,600	$1,600	$0	0	$0	$0	2002-JUL-06
P 1204374	$0	$0	$547	$547	$0	0	$0	$0	2001-JUL-06
P 1236297	$1,027	$1,027	$0	$0	$1,027	1,027	$0	$0	2001-MAR-30
P 1236298	$1,156	$1,156	$0	$0	$521	521	$635	$635	2001-MAR-30
	$2,782	$2,782	$2,147	$2,147	$2,117	$2,117	$635	$635	

External Credits: $0

Reserve:

$635 Reserve of Work Report#: W0160.00068

$635 Total Remaining

Status of claim is based on information currently on record.

42H02SW2004 2.21001 BROWER 900

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

GEOSCIENCE ASSESSMENT OFFICE
933 RAMSEY LAKE ROAD, 6th FLOOR
SUDBURY, ONTARIO
P3E 6B5

Tel: (888) 415-9845
Fax:(877) 670-1555

Date: 2001-JUN-20

PAUL GREGORY HAIRE
R.R. #2
COCHRANE, ONTARIO
P0L 1C0 CANADA

Submission Number: 2.21001
Transaction Number(s): W0160.00068

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at bruce.gates@ndm.gov.on.ca or by phone at (705) 670-5856.

Yours Sincerely,

Ron Gashinski
Supervisor, Geoscience Assessment Office

Cc: Resident Geologist

Paul Gregory Haire
(Claim Holder)

Assessment File Library

Paul Gregory Haire
(Assessment Office)

Work Report Summary

Transaction No: W0160.00067 **Status:** APPROVED
Recording Date: 2001-MAR-26 **Work Done from:** 1999-APR-11
Approval Date: 2001-JUL-03 **to:** 2000-SEP-29

Client(s):

300251 HAIRE, PAUL GREGORY

Survey Type(s):

GEOL

Work Report Details:

Claim#	Perform	Perform Approve	Applied	Applied Approve	Assign	Assign Approve	Reserve	Reserve Approve	Due Date
P 1154735	$100	$81	$400	$0	$0	81	$0	$0	2002-JAN-06
P 1204374	$0	$0	$1,053	$957	$0	0	$0	$0	2002-JUL-06
P 1236297	$175	$142	$400	$400	$0	0	$0	$0	2002-MAR-30
P 1236298	$214	$174	$800	$800	$0	0	$0	$0	2002-MAR-30
P 1236944	$264	$215	$0	$0	$264	215	$0	$0	2001-DEC-30
P 1236945	$422	$343	$0	$0	$422	343	$0	$0	2002-JAN-06
P 1236946	$406	$330	$0	$0	$406	330	$0	$0	2002-JAN-11
P 1236947	$204	$166	$0	$0	$204	166	$0	$0	2002-JAN-17
P 1236948	$557	$453	$557	$453	$0	0	$0	$0	2002-JAN-25
P 1238456	$342	$278	$0	$0	$342	278	$0	$0	2002-MAR-28
P 1238457	$526	$428	$0	$0	$526	428	$0	$0	2002-MAR-28
	$3,210	$2,610	$3,210	$2,610	$2,164	$1,841	$0	$0	

External Credits: $0

Reserve:

$0 Reserve of Work Report#: W0160.00067

$0 Total Remaining

Status of claim is based on information currently on record.

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Ontario

GEOSCIENCE ASSESSMENT OFFICE
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Tel: (888) 415-9845
Fax:(877) 670-1555

Date: 2001-JUL-03

PAUL GREGORY HAIRE
R.R. #2
COCHRANE, ONTARIO
P0L 1C0 CANADA

Submission Number: 2.21001
Transaction Number(s): W0160.00067

Dear Sir or Madam

Subject: Approval of Assessment Work

We have approved your Assessment Work Submission with the above noted Transaction Number(s). The attached Work Report Summary indicates the results of the approval.

At the discretion of the Ministry, the assessment work performed on the mining lands noted in this work report may be subject to inspection and/or investigation at any time.

Assessment work credit has been approved as outlined on the AMENDED Declaration of Assessment Work Form accompanying this submission.

If you have any question regarding this correspondence, please contact BRUCE GATES by email at bruce.gates@ndm.gov.on.ca or by phone at (705) 670-5856.

Yours Sincerely,

Ron Gashinski
Supervisor, Geoscience Assessment Office

Cc: Resident Geologist

Paul Gregory Haire
(Claim Holder)

Assessment File Library

Paul Gregory Haire
(Assessment Office)

MINISTRY OF NORTHERN DEVELOPMENT AND MINES
PROVINCIAL MINING RECORDER'S OFFICE

MINING LAND TENURE MAP

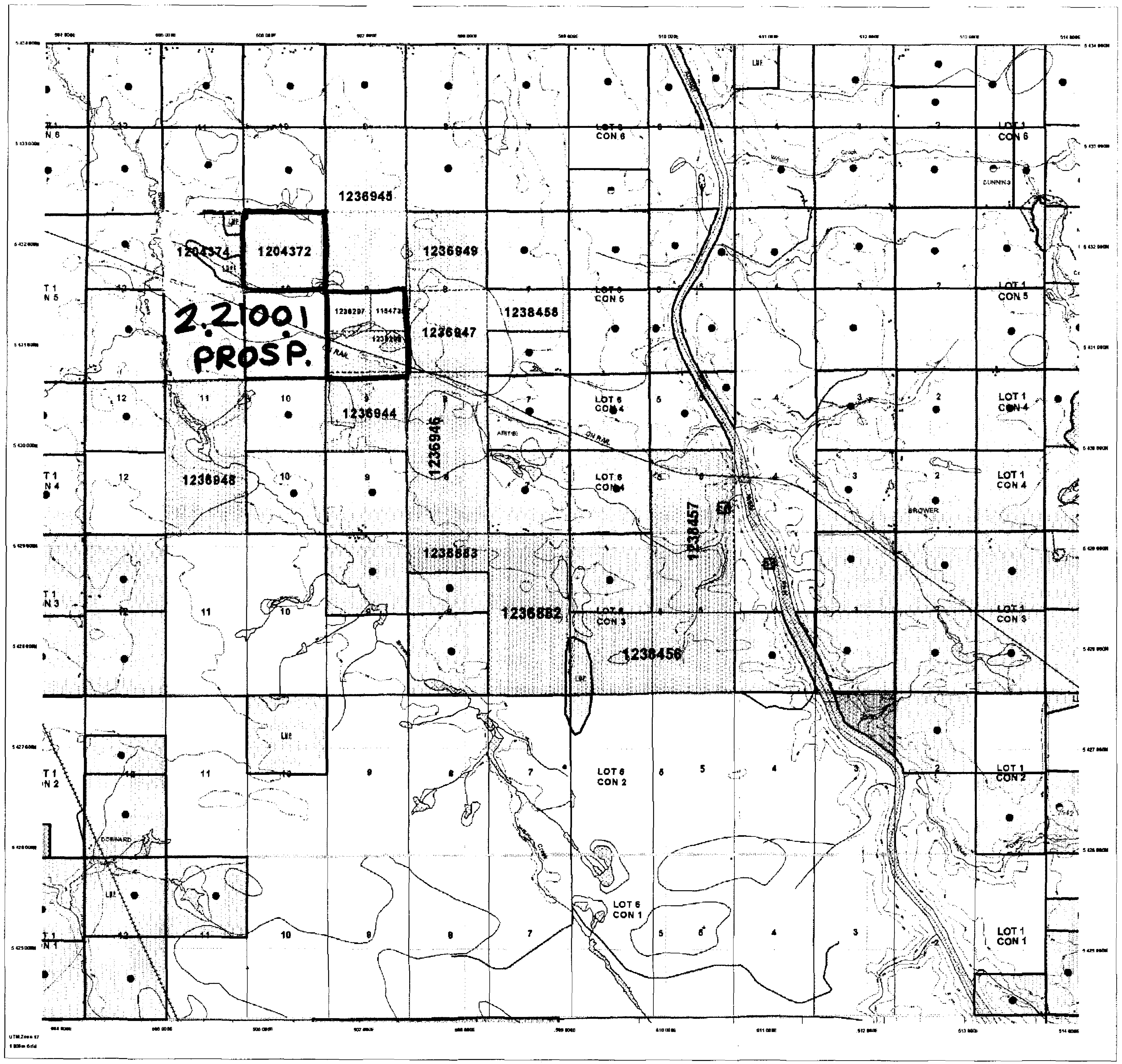
Date / Time of Issue Apr 27 2001 09:56h Eastern

TOWNSHIP / AREA: BROWER

PLAN: M-0430

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division	Porcupine
Land Titles/Registry Division	COCHRANE
Ministry of Natural Resources District	COCHRANE



TOPOGRAPHIC

LAND TENURE

LAND TENURE WITHDRAWALS

IMPORTANT NOTICES

LAND TENURE WITHDRAWAL DESCRIPTIONS

Identifier	Type	Date	Description
2488	Wsm	Jan 1 2001	PENDING APPLICATION UNDER THE P.L.A. NOTICE RECEIVED [illegible]
2487	Wsm	Jan 1 2001	Pending Application under the Public Lands Act [illegible]
2582	Wsm	Jan 1 2001	400 FEET SURFACE RIGHTS RESERVATION AROUND ALL LAKES & RIVERS
2535	Wsm	Jan 1 2001	MINING AND SURFACE RIGHTS WITHDRAWN FROM STAKING UNDER SEC.35 OF THE MINING ACT R.S.O. 1990 ORDER NO WP [illegible] DATED DEC 6 1994
2542	Wsm	Jan 1 2001	PENDING APPLICATION UNDER THE PUBLIC LANDS ACT JUNE 2, 1993
2546	Wsm	Jan 1 2001	NR [illegible]
2543	Wsm	Jan 1 2001	SURFACE RIGHTS WITHDRAWN UNDER SECTION 36 OF THE MINING ACT R.S.O. 1990 ORDER [illegible]
2519	Wsm	Jan 1 2001	FLOODING RIGHTS ALONG SHORES OF ABITIBI RIVER RESERVED TO H.E.P.C.
W.L.L. C[illegible]	Wsm	Jan 1 2001	SEC. 35 W. LL. [illegible] ONT MAY 13[illegible]

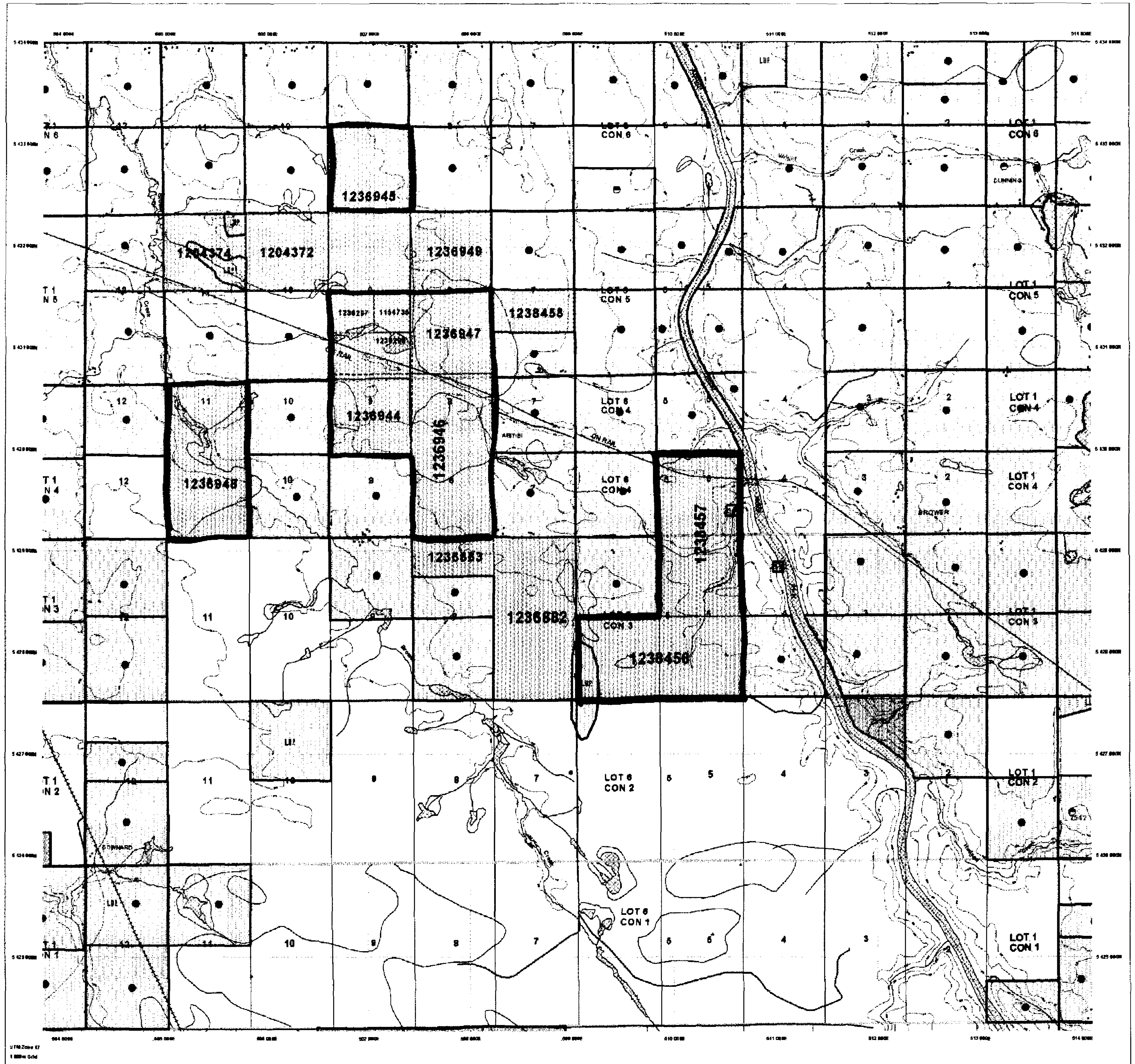
IMPORTANT NOTICES

Areas under which special regulations, limitations or conditions exist that affect normal prospecting, staking and mineral development activities.

General Information and Limitations

42H02SW2004 2.21001 BROWER 200

42H02SW2004 2.21001 BROWER 210



MINISTRY OF NORTHERN DEVELOPMENT AND MINES
PROVINCIAL MINING RECORDER'S OFFICE

MINING LAND TENURE MAP

Date / Time of Issue Apr 27 2001 08:56h Eastern

TOWNSHIP / AREA: BROWER

PLAN: M-0430

ADMINISTRATIVE DISTRICTS / DIVISIONS

Mining Division	Porcupine
Land Titles/Registry Division	COCHRANE
Ministry of Natural Resources District	COCHRANE

TOPOGRAPHIC

- Administrative Boundaries
- Township
- Concession, Lot
- Provincial Park
- Indian Reserve
- Cliff, Pit and Pile
- Contour
- Contour - Approx. Auxiliary, Depression
- Shaft
- Mine Headframe
- Railway
- Road
- Trail
- Natural Gas Pipeline
- Hydro Line
- Communication Line
- Wooded Area
- Monument - Cadastral, Historical, Horiz. Control

LAND TENURE

Freehold Patent
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

Leasehold Patent
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

Licence of Occupation
- Land not Specified
- Surface And Mining Rights
- Surface Rights Only
- Mining Rights Only

- Land Use Permit
- Order In Council
- Water Power Lease Agreement
- Mining Claim

LAND TENURE WITHDRAWALS

Areas Withdrawn from Disposition

Mining Act Withdrawal Types
- Wsm Surface and Mining Rights Withdrawn
- Ws Surface Rights Only Withdrawn
- Wm Mining Rights Only Withdrawn

Order In Council Withdrawal Types
- W'sm Surface and Mining Rights Withdrawn
- W's Surface Rights Only Withdrawn
- W'm Mining Rights Only Withdrawn

IMPORTANT NOTICES

0 m 1000.0 m

LAND TENURE WITHDRAWAL DESCRIPTIONS

Identifier	Type	Date	Description
2469	Wsm	Jan 1 2001	PENDING APPLICATION UNDER THE P.L.A. NOTICE RECEIVED 99NOV.08
2467	Wsm	Jan 1 2001	Pending Application under the Public Lands Act 2000/05/09
2682	Wsm	Jan 1 2001	400FEET SURFACE RIGHTS RESERVATION AROUND ALL LAKES & RIVERS
2535	Wsm	Jan 1 2001	MINING AND SURFACE RIGHTS WITHDRAWN FROM STAKING UNDER SEC.35 OF THE MINING ACT R.S.O. 1990 ORDER NO WP 187/94 NER DATED DEC 6 1994
2542	Wsm	Jan 1 2001	PENDING APPLICATION UNDER THE PUBLIC LANDS ACT JUNE 2, 1993
2646	Wsm	Jan 1 2001	NR W40/92
2545	Wsm	Jan 1 2001	SURFACE RIGHTS WITHDRAWN UNDER SECTION 35 OF THE MINING ACT R.S.O.1990 ORDER W-01/91/ONT
2518	Wsm	Jan 1 2001	FLOODING RIGHTS ALONG SHORES OF ABITIBI RIVER RESERVED TO H.E.P.C.
W-LL-C16800	Wsm	Jan 1 2001	SEC. 35 W. LL.- C16800/99 ONT. MAY 13/99 M+S

IMPORTANT NOTICES

Areas under which special regulations, limitations or conditions exist that affect normal prospecting, staking and mineral development activities.

2.21001
GEOG

Those wishing to stake mining claims should consult with the Provincial Mining Recorders' Office of the Ministry of Northern Development and Mines for additional information on the status of the lands shown hereon. This map is not intended for navigational, survey, or land title determination purposes as the information shown on this map is compiled from various sources. Completeness and accuracy are not guaranteed. Additional information may also be obtained through the local Lands Titles or Registry Office, or the Ministry of Natural Resources.

The information shown is derived from digital data available in the Provincial Mining Recorders' Office at the time of downloading from the Ministry of Northern Development and Mines web site.

General Information and Limitations

Contact Information:
Provincial Mining Recorders' Office
Willet Green Miller Centre
933 Ramsey Lake Road
Sudbury, ON P3E 6B5
Home Page: www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Toll Free Tel: 1 (888) 415-9845
Fax: 1 (877) 670-1444

Map Datum: NAD 83
Projection: UTM (6 degree)
Topographic Data Source: Land Information Ontario
Mining Land Tenure Source: Provincial Mining Recorders' Office

This map may not show unregistered land tenure and interests in land including certain patents, leases, easements, right of ways, flooding rights, licences, or other forms of disposition of rights and interest from the Crown. Also certain land tenure and land uses that restrict or prohibit free entry to stake mining claims may not be illustrated.

COMPILATION
MAP
2-A

Ontario

Ontario Geological Survey

MAP 82 006

AIRBORNE MAGNETIC AND
ELECTROMAGNETIC SURVEYS

COCHRANE AREA

Scale 1:20 000

500 m 0 0.5 1 km

OBM References: 20 17 5000 54200, 20 17 5000 54300,
20 17 5100 54200, 20 17 5100 54300.

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2.21001

CN RAIL

LAMARCHE TWP.

BROWER TWP.

Clay Lake

Abitibi River

Brower

COMPILATION MAP 2-B

Ontario

Ontario Geological Survey

MAP 82 006

AIRBORNE MAGNETIC AND ELECTROMAGNETIC SURVEYS

COCHRANE AREA

Scale 1:20 000

500 m 0 0.5 1 km

OBM References: 20 17 5000 54200, 20 17 5000 54300, 20 17 5100 54200, 20 17 5100 54300.

42H02SW2004 2.21001 BROWER

1236945

1204374

1204372

1236949

1238458

1236947

1236298

1236944

1236948

1236940

1236883

1238457

1236882

1238456

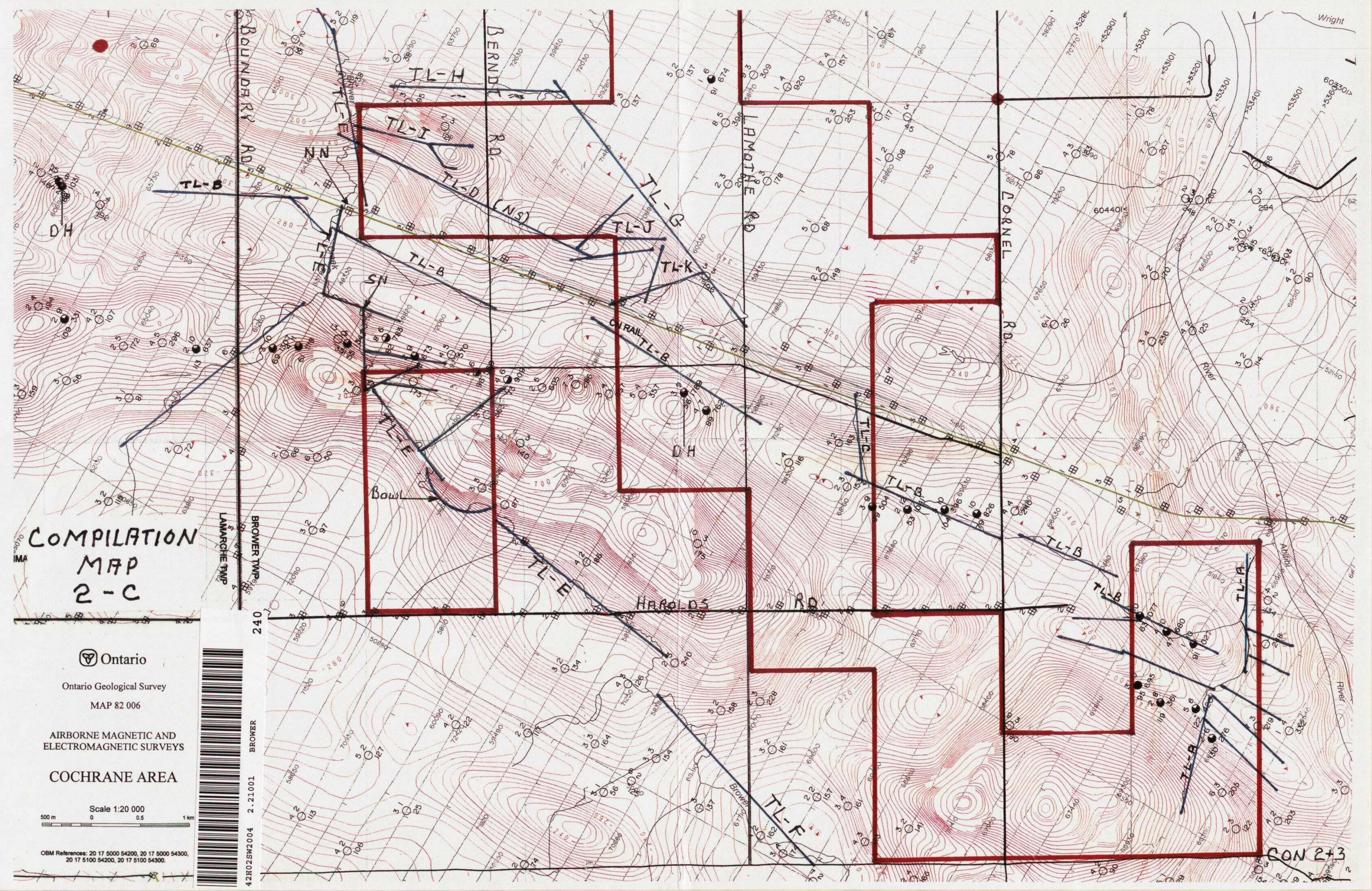
ON RAIL

LAMARCHE TWP

BROWER TWP

Wright

Abitibi River


COMPILATION MAP 2-C
Ontario
Ontario Geological Survey
MAP 82 006
AIRBORNE MAGNETIC AND ELECTROMAGNETIC SURVEYS
COCHRANE AREA
Scale 1:20 000
500 m 0 0.5 1 km
OBM References: 20 17 5000 54200, 20 17 5000 54300, 20 17 5100 54200, 20 17 5100 54300.
42H02SW2004 2.21001 BROWER 240
BROWER TWP
LAMARCHE TWP
BOUNDARY RD
BERNDT RD.
LAMOTHE RD
CORNEL RD
HAROLDS RD
CN RAIL
Wright
River
Abitibi
Brower
TL-A
TL-B
TL-C
TL-D (NS)
TL-E
TL-F
TL-G
TL-H
TL-I
TL-J
TL-K
NN
SN
DH
Bowl
CON 2+3

BROWER

Highway 652

Abitibi River

Cochrane - Milligan Fault

Hudson Creek

Power Line

C.N. Rail

Drill Hole

L-1 L-2 L-3 L-4 L-5 L-6 L-7 L-8 L-9 L-10

TL-A TL-B TL-C TL-D TL-E TL-F TL-G TL-H

Volcanic - Granite Contact as shown on O.G.S. MAP 2543

A.S.A.R.C.o Overburden Drill Program - TEST LINE

attempt to trace anomalous gold bearing till.

Also - NORANDA Exp. IP surveyline

Strike area of the Cochrane - Milligan Shear Zone as shown on O.G.S. MAP 2543

501000E 502000E 503000E 504000E 505000E 506000E 507000E 508000E 509000E 510000E 511000E 512000E 513000E 514000E 515000E 516000E

-80°55' -80°50'

5435000N 5434000N 5433000N 5432000N 5431000N 5430000N 5429000N 5428000N 5427000N 5426000N 5425000N 5424000N 5423000N

49°

INTERPRETED BEDROCK CONDUCTORS
CONDUCTIVITY (Seimens)

- > 50
- 30 - 50
- 20 - 30
- 10 - 20
- 5 - 10
- < 5

COINCIDENTAL TOPOGRAPHIC-GEOPHYSICAL LINEAMENTS IN BROWER TOWNSHIP

COMPILATION MAP 3-B

Scale 1:20000

250 0 250 500 750 1000 1250 1500

metre

NAD27 / UTM zone 17n

BROWER TOWNSHIP AREA
CALCULATED VERTICAL MAGNETIC GRADIENT ERLIS DATA SET 1100b - OPERATION TREASURE HUNT CONTOUR INTERVAL = .2, 1 nT/m
NAD 27 UTM ZONE 17 FLIGHT LINE SPACING 200 SAHED RELIEF GRADIENT I=37° D=60°
JOHNSTON GEOPHYSICS - TIMMINS, ON. (705) 268 0830

42H02SW2004 2.21001 BROWER

250

2.21001

COMPILATION MAP #1

DRAINAGE PATTERNS AND TOPOGRAPHIC FEATURES OF OTHER KINDS

BROWER TOWNSHIP

N MAGNETIC

0 100 400 800

METRES

LEGEND

TL- TOPOGRAPHIC LINEAMENTS

--- MAGNETIC CONTOURS - INTERVAL 200 GAMMAS

CLUB MOSS LINEAMENT

4 SPRINGS (

—— INTERPRETED SUB PROVINCE BOUNDARY (O.G.S. MAP 2543)

COCHRANE-MILLIGAN SHEAR ZONE O.G.S. 1986

HWY 652

BOUNDARY ROAD

BERNDT ROAD

LAMOTHE ROAD

CORNEL ROAD

LAMARCHE TWP

INTERPRETED SUBPROVINCE BOUNDARY

TL-E

TL-H

TL-I

TL-D

TL-G

TL-J

TL-K

TL-B

TL-F

TL-A

1236945

1236949

1154735

1236297

1238458

1236947

1236298

1236944

1236946

1236948

1236883

1236882

1238457

1238456

CNR

SOUTH NARROWS

BROWER CR

ABITIBI JUNCTION ROAD

ROAD BED EXCAVATION

OLD CLEARING (OVERGROWN)

CLEARING SLOPES TO SECTION OF TOBOGGAN TROUGH

ABITIBI JUNCTION

HYDRO ROAD

ALDERS

TROUGH

BOWL

HARROLD'S ROAD

ABITIBI RIVER

INTERPRETED SUB PROVINCE BOUNDARY

O.G.S. MAP 2543

49°

COCHRANE-MILLIGAN SHEAR ZONE O.G.S. 1986

2.21001

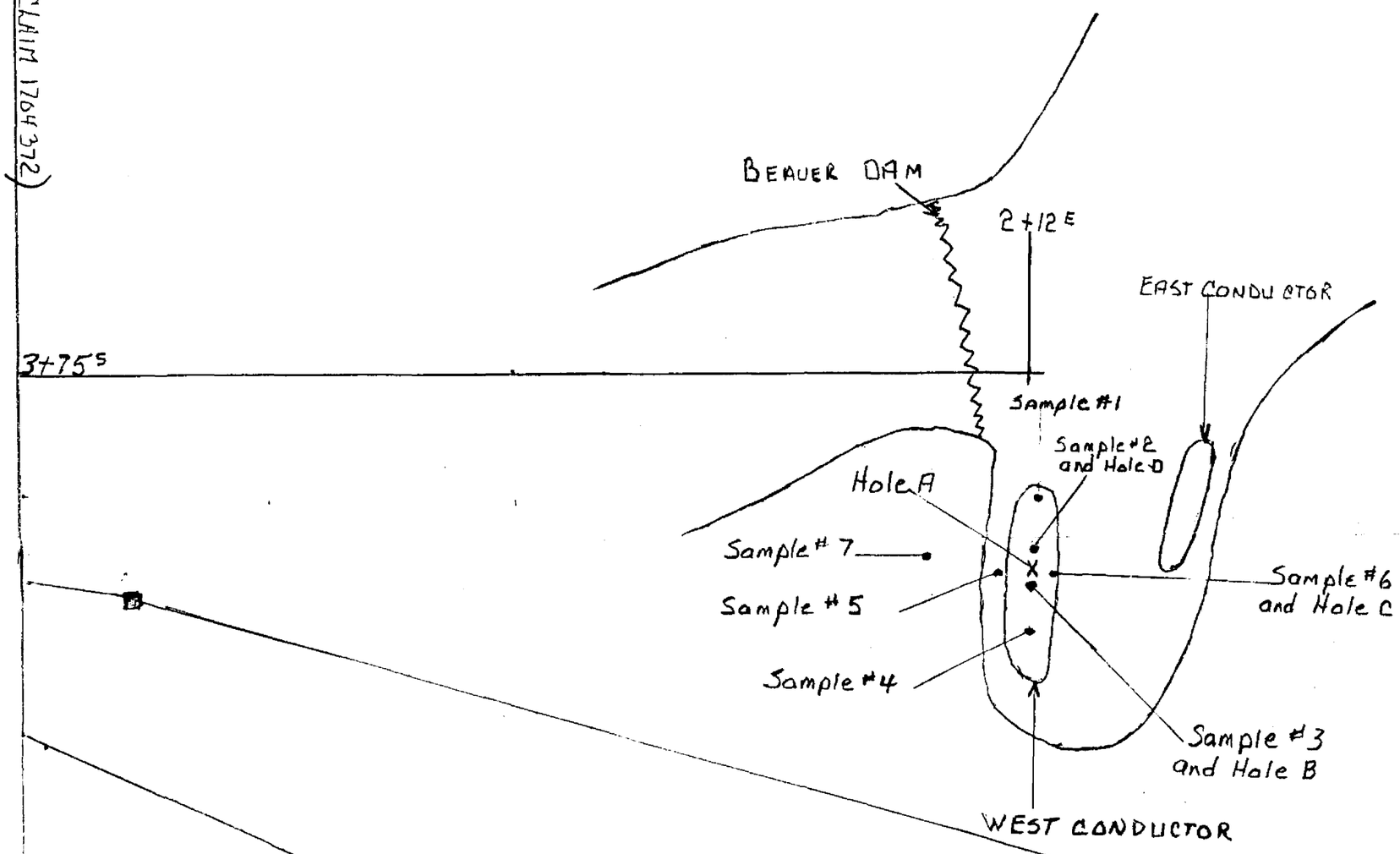
SKETCH #3

SOIL SAMPLE SITES AND GROUND PROBING WORK

CLAIMS 1236297-1236298
BROWER TOWNSHIP

1236297

← EXTENSION OF L.8.E (CLAIM 1764372)



N
MAGNETIC

0 25 50 100
METRES

LEGEND

X WASH HOLE #A

• SAMPLE SITES AND COINCIDENTAL WASH HOLES B-C-D.

HYDRO

C.N.R.

1236298

SKETCH #1

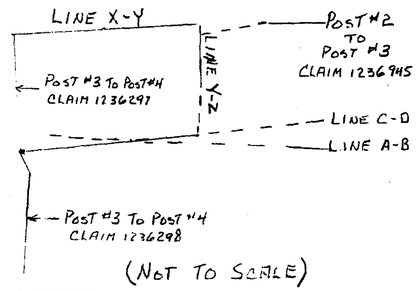
MAGNETIC DEVIATION
And ITs RELATIONSHIP TO
MAJOR DRAINAGE LINEAMENTS
BROWER TOWNSHIP

1236949

N
MAGNETIC

0 25 50 100 200
METRES

LEGEND



(NOT TO SCALE)

COMPASS DEVIATION DIRECTION
BLAZED STAKING LINES
FLAGED EXTENSIONS
INTERPRETED ABITIBI-OPATICA SUBPROVINCE BOUNDARY

L8E
1204372
SUB
1236945
Y
STUNTED SPRUCE BARRENS
THICK POPLAR
LANGTHE RD. (Abandoned)
Btoos
X
ALDERS
COMPASS DEVIATION WHILE STAKING 1236945
1154735- 1 UNIT
1236297- 1 UNIT
403M
PROVINCE
CUT LINE EXTENSION OF L8E (claim 1204372)
Beaver Dam
POSSIBLE EXTENSION of WEST CONDUCTOR?
CROSS OVER
POND
18M
D
B
10M
3475
22M
C.N.R. (Abandoned)
EAST CONDUCTOR
WEST CONDUCTOR
Z
18M
BLAZED STAKING LINE
58M
36M
A
1236947
CLAIM LINE 1154735 KEPT STRAIGHT WITH OPEN AREA BY LOOKING BACK ALONG LINE. NO COMPASS USED.
COMPASS HEADING FROM POST #1 ACROSS 200M OPEN AREA TO SPECIFIC POINT.
1236298- 2 UNITS
HYDRO LINE
BOUNDARY
CUT LINE TO 400M POST
ABITIBI JUNCTION RD. (Abandoned)
C.N.R. (Abandoned)
(Abandoned)
1236946
1236944

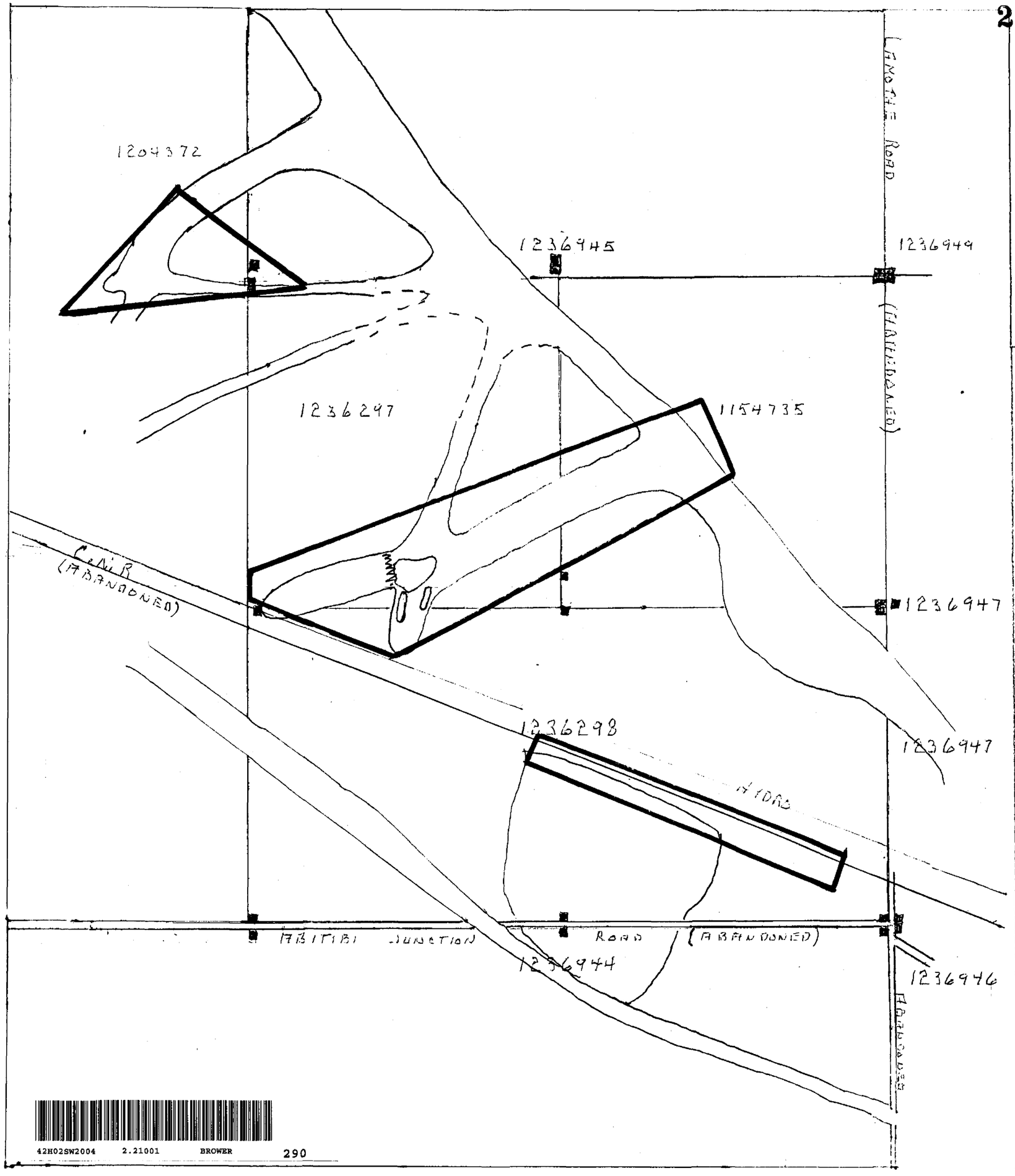
2. 21001

COMPILATION MAP #1

LOCATION'S OF:

1) COMPASS DEVIATION MAPPING
2) EM TRAVERSES
3) Soil ANALYSIS + GROUND PROBE WORK

CLAIMS – 1236297 - 1236298 - 1154735
BROWER TOWNSHIP



N
MAGNETIC

0 50 100 400
METRES

LEGEND

COMPASS DEVIATION
EM TRAVERSE #1
Soil ANALYSIS + GROUND PROBE

EM TRAVERSE #2

EM TRAVERSE #3

42H02SW2004 2.21001 BROWER 290

TL-Q

TL-D

1154735

1236297

TL-

L-9

1236298

HYDRO

L-5

TL-B

SPRINGS

TL-C

Drill Hole

L-1

TL-B

COMPILATION MAP #3-B

ENLARGED SECTION

CLAIMS - 1236297-1236298-1154735

LINEAMENTS RELATIONSHIP TO WORK DONE AND OTHER TOPOGRAPHIC-FEATURES of THE AREA

N

MAGNETIC

0 100 400

METRES

SKETCH #2

EM TRAVERSE'S AND INTERPRETED CLOSE TO SURFACE METALIC CONDUCTOR'S

CLAIMS 1236297-1236298-1154735-1204372

BROWER TOWNSHIP

0 25 50 100 200

METRES

N MAGNETIC

LEGEND

- TRAVERSE AND DIRECTION
- SPRINGS
- R.R. ROAD BED EXCAVATION STARTS WEST EDGE CLAIM 1236298 APPX 1.0 METRE DEPTH CENTRAL AREA.
- INTERPRETED ABITIBI-OPATICA SUB PROVINCE BOUNDARY
- EAST CONDUCTOR
- WEST CONDUCTOR

L6E
L7E
L8E
SUB
1204372
1236945
1236949
BEAVER DAM
START TRAVERSE #3
8+00S
TL-J
FINISH #3
ALDERS
TL-G
LAMPTHE ROAD (ABANDONED)
1236297
1154735
TL-K
FINISH TRAVERSE #1
DRAIN
CUT SURVEY LINE EXTENSION OF L8E CLAIM 1204372
BEAVER DAM
POND
DRAIN ENDS
3+75S
C.N.R. (ABANDONED)
DRAIN
EAST CONDUCTOR
WEST CONDUCTOR
1236947
PROVINCE
START TRAVERSE #1
ROAD
1236298
650 METRE LONG KNOLL
RED EXCAVATION
HYDRO LINE
START TRAVERSE #2
BOUNDARY
TL-B
DRAIN
HIGH GROUND SPRINGS
CLEARING (OVERGROWN)
FINISH TRAVERSE #2
ABITIBI JUNCTION ROAD (ABANDONED)
C.N.R
1236944

501000E 502000E 503000E 504000E 505000E 506000E -80°55' 507000E 508000E 509000E 510000E 511000E 512000E -80°50' 513000E 514000E 515000E 516000E

5435000N 5434000N 5433000N 5432000N 5431000N 5430000N 5429000N 5428000N 49° 5427000N 5426000N 5425000N 5424000N 5423000N

Highway 652

Abitibi River

BROWER

Power Line

C N Rail

L-1 L-2 L-3 L-4 L-5 L-6 L-7 L-8 L-9 L-10

Cochrane - Mulligan Fault ?

Abitibi River

INTERPRETED BEDROCK CONDUCTORS
CONDUCTIVITY (Seimens)
- > 50
- 30 - 50
- 20 - 30
- 10 - 20
- 5 - 10
- < 5

2.21001

GEOPHYSICAL LINEAMENTS

COMPILATION MAP

3-A

Scale 1:20000

250 0 250 500 750 1000 1250 1500

metre

NAD27 / UTM zone 17N

42E02SW2004 2.21001 BROWER 320

BROWER TOWNSHIP AREA

CALCULATED VERTICAL MAGNETIC GRADIENT
ERLIS DATA SET 1100b - OPERATION TREASURE HUNT
CONTOUR INTERVAL = .2, 1 nT/m

NAD 27
UTM ZONE 17
FLIGHT LINE SPACING 200
SAHED RELIEF GRADIENT I=37° D=60°

JOHNSTON GEOPHYSICS - TIMMINS, ON. (705) 268-0830

2.21001

1ST VERTICAL MAGNETIC GRADIENTS

BROWER

CLAIMS SECTION MAP 3A

Power Line

C N Rail

RIVER

L-7

L-8

L-9

L-6

L-5

L-4

L-3

L-2

L-1

L-10

Cochrane - Milligan Fault ?