REPORT ON

GROUND MAGNETIC AND HORIZONTAL LOOP EM SURVEYS

ADRIAN PROJECT

ADRIAN-LAURIE PROPERTIES, WIEGAND RIVER AREA

ADRIAN TOWNSHIP, ONTARIO

THUNDER BAY MINING DIVISION, ONTARIO.

N.T.S: 52 A/5

for

LADEROUTE/MURDY PARTNERSHIP

by

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2. THE SURVEY RESULTS

2.1 Geological Comments

The following geological comments are taken from a letter by David Laderoute (December, 1991). He writes:

"*the most extant interpretation is that the bulk of Adrian, Laurie, Horne and Sackville Townships are underlain by a mafic to felsic volcanic pile of Archean Age; specific rock types observed in these townships include massive mafic flows, intermediate to felsic pyroclastics (lapilli tuffs to agglomerates), minor felsic (i.e. rhyolitic) flows, banded chert-oxide facies iron formation and minor graphitic-pyritic interflow sediments*".

According to Laderoute the Southeast and Northwest Grids are "*almost entirely underlain by fine to coarse felsic pyroclastics and possibly minor rhyolitic flows; the extreme southern portion block A* (the Southwest Grid) *may be underlain by mafic to intermediate flows. Other units such as iron formation and graphitic-pyritic interflow sediments have not been observed on these claims, although a narrow horizon of the latter material was intersected in two Noranda drill holes 1967 immediately southwest of block B* (the Northwest Grid)... *A thick folded iron formation occurs in the souther portion of Adrian Township*".

Two geochemical anomalies were detected from surface samples collected during the summer of 1991.

Line 300E, St. 1+25N, Southeast Grid:

"*coarse felsic pyroclastic (rhyolitic fragments in a dacitic to rhyodacitic groundmass)containing 10-20% stringer and aggregate pyrite*" (Laderoute, 1991) gave 1510 ppm Zn and 273 ppm Cu and

Baseline, St. 5+50E, Northwest Grid:

"*material similar to that above, but containing 20-40% pyrite and minor chalcopyrite returned 4160 ppm Cu and 315 ppm Zn*" (Laderoute, 1991).

2.2 Previous Work

According to the available information there is no recorded work over the claim blocks. Both grids are covered by the 1991 Ontario Geological Survey airborne (helicopter) electromagnetic and total intensity magnetic survey, Shebadowan Area, Maps 81578, 81579 and 81591, published at a scale of 1:20,000 scale.

The airborne magnetic map over the Northwest Grid suggests a generally non-magnetic environment as it is observed by the airborne sensor at 45 m above the ground. Apart from the modest airborne electromagnetic indications within the claim block, several anomalies were classified as being caused by cultural surveys. The general trend of the conductors is northwest.

There are two northwest striking anomalous em horizons near the Southeast Grid. Both anomalous trends are about 5000 - 6000 m long. The northern trend is along the lower, southwesterly flank of a magnetic anomaly. Similarly, the southern trend, composed of multiple em anomalies is situated on the flank of a magnetic anomaly to the south; some of the em anomalies may have local magnetic association.

2.3 Northwest Grid

2.3.1 Magnetic Map

There are two generally northwest trending magnetic domains, north and south of the Base Line (azimuth: 115°) enclosing increased magnetic activity. The amplitude of the anomalies vary from 25 nT to 75 nT suggesting weakly magnetic rocks, excepting the two, about 250 - 300 nT amplitude magnetic lows, centred about St. 2+75N/L-200E and St. 3+00N/L-400E. These are single observation features and should be treated accordingly; the magnetic lows can show the effects of remanent magnetization, but cultural sources cannot be ruled out. The zones are believed to be underlain by intermediate and felsic composition volcanics.

The central part of the grid is characterized by gently varying magnetic field and is suggested to be underlain by felsic volcanics. In the east central part of the unit, a narrow trend may signify intermediate volcanics. Immediately south of the central unit, the magnetic activity increases marginally, which is interpreted to show somewhat more magnetic felsic volcanics. An extensive, lower magnetic background zone in the south of the grid once again indicate felsic volcanics, which may be bordered on the south by volcanics of intermediate composition (unit V_i?).

The apparent disruption of the magnetic contours afforded the delineation of north-south and east-west striking interpreted faults and/or shear zones.

2.3.2 The Conductors

There are three conductive features: NWC1, NWC2 and NWC3 (NWC3-1 and NWC3-2).

2.3.2.1 Conductor NWC1

(L-200E/3+00S, L-300E/3+15S)

The southerly (grid) dipping NWC1 is detected on Lines 200E and 300E, but the incomplete data along Lines 100E and 400E hint the possible extensions towards the northwest and southeast. The feature is non-magnetic and is within a magnetic unit representing felsic volcanics. The well defined 444 Hz anomaly along L-300E indicate a narrow conductor at a computed depth of about 20 m with a conductance of 18 S. The higher frequency data would suggest a shallower feature with diminished conductance.

The more complex anomaly along L-200E demarks a wider conductor (15 m?) at about the same depth as computed from the L-300E, 444 Hz data. The conductance computed from 444 Hz data is 25 S (siemens, conductivity-thickness). Once again, the high frequency data implies a shallower depth (8 m?) and a conductance of 17 S. Non-magnetic sulphide or graphite source is suggested.

2.3.2.2 Conductor NWC2

(L-100E/1+40N, L-200E/1+10N)

Conductor NWC2 is well defined along Lines 100E and 200E, an extension towards L-0+00 is clearly indicated by the incomplete anomaly on L-0+00. Computations from the 444 Hz data of L-100E imply a 24 S conductance feature at a depth of about 20 m. The 1760 Hz data along L-200E describes a more complex situation, possibly wider or multiple conductors, than the data obtained using the deeper penetrating 444 Hz frequency. The low frequency data suggest a depth of 50 m with a conductance of 15 S. Poorer conduction (3 S) and shallower depth (11 m) resulted from the high frequency results. The above estimates of depth and conductance would suggest vertical variations and the possible effects more conductive overburden. The feature is non-magnetic, located within interpreted felsic volcanics and could be caused by non-magnetic sulphides or graphite.

2.3.2.3 Conductors NWC3-1 and NWC3-2

(L-500E/2+15N, L-600E/2+10N and L-300E/2+80N, L-400E/2+50N)

The two parts of NWC3 are indeed weak anomalies. The responses improve somewhat from L-600E to L-300E. The anomalies of NWC3-1 along Lines 600E and 500E describe a very poor, shallow feature with possible width. There is no further interest attached to this feature.

Conductor NWC3-2 is delineated from incomplete features, which are open towards the northeast. The location of the conductor axis is uncertain and questionable.

2.4 Southwest Grid

2.4.1 Magnetic Map

The variations of the magnetic field over the grid are considerably larger than those over the Northwest Grid, several thousand nanotesla amplitude anomalies occur. The more rapid magnetic variations are restricted to magnetic units which are outlined on the Interpretation Map.

The large amplitude (5100 nT from peak-to through) anomaly in the southwest corner may describe mafic volcanics or iron formation. The asymmetric anomaly shape (pronounced magnetic low to the north) on L-400E suggests a southerly dipping body or rocks with local remanent magnetization (opposing the present day field) may have caused the prominent low. Magnetic anomalies M1 and M2, located north of the Base Line along Lines 400E and 1500E respectively exhibit similar characteristics as the anomaly discussed above, but the pronounced lows are to the south.

Anomaly M1 is well defined on one line only, but there are at least two observations describing the low. The magnetic low of M2 is also well defined on L-1500E and there are indications of subdued lows to the west and east along Lines 1400E and 1600E. Northerly dipping magnetic body or remanent magnetization are the suspected sources, but cultural effects should not be ruled out.

Gently varying magnetic field in the southcentral grid depicts felsic volcanics (V_f), which surround increased magnetic activity showing possible intermediate volcanics and felsic volcanics (V_i+V_f). The magnetic contour map over nearly the entire northern half of the grid show gently varying field with minor anomalies, except the previously discussed M1 and M2. It is suggested that the area is underlain by felsic volcanics, interbedded with minor intermediate volcanics (V_f+mV_i).

2.4.2 The Conductors

2.4.2.1 Conductor SEC1

(L-1400E/0+80N, L-1500E/0+90N, L-1600E/0+65N, L-1700E/0+40N, L-18800E/0+40N,L-1900E/0+60N, L-2000E/1+10N)

The 600 long conductor is the major event, which extends to at least L-1400E. It is vertical,except on Lines 1900 and 2000E where southerly dip is indicated. The narrow conductor attains a width of about 3 m on Lines 1500E and 1600E. The non-magnetic conductor is within interpreted felsic volcanics with minor intermediate volcanics, however from L-1600E to L-1800E it is on the southern flank of low amplitude magnetic anomaly.

The computed depths vary from less than 3 m on L-1900E (1760 Hz data) to 30 m on L-1600E (444 Hz data). The depths obtained from the high frequency data range from less than 3 m to 12 m; the low frequency data consistently yielding deeper depths (4 m to 30 m). The best conductance is associated with L-2000E (444 Hz: 50 S; 1760 Hz: 27 S at depths of 15 m and 12 m respectively). The conductance remains reasonably uniform between Lines 1600E and 1900E (averaging about 14 S at 444 Hz and 5 S at 1760 Hz). The conductor improves substantially along Lines 1400E and 1500E. It is shallow and the computed conductance is 70 S on L-1400E. The source of the conduction is believed to be non-magnetic sulphides and/or graphite.

2.4.2.2 Conductor SEC2

(L-1400E/1+70S)

The single line feature is the most easterly part of a conductive trend consisting of SEC2,SEC3 and SEC4. The incomplete data along L-1300E suggest continuity between Lines 1400E and 1200E. The reversal of the quadrature component at the 1760 Hz frequency hints that the overburden is conductive, however, computations from the 444 Hz data give a depth of 25 m and a conductance of 120 S. Since the conductor is narrow, the high conductance may reflect a very good conductor. But a word of caution is in order. If the effects conductive overburden displayed at the high frequency are real, the 444 Hz quadrature data may also have been altered (diminished quadrature component) resulting computed depth and conductance which are larger than the true depth and conductance.

2.4.2.3 Conductor SEC3

(L-100E/0+95S, L-1100E/1+00S, L-1200E/0+70S)

Although the conductor is non-magnetic, it is within a magnetic domain describing interbedded intermediate and felsic volcanics. As noted earlier it is believed that conductor is the westerly continuation SEC2. SEC3 is a narrow feature on L-1200E, but widths of 10 m and 3 m are implied on Lines 1100E and 1000E respectively. The average conductances are 20 S (444 Hz) and 10 S (1760 Hz): considering the indicated thicknesses, the quality of the conductor needs to be downgraded. Shallow depths (less than 10 m) are suggested. Exception is the 30 m depth obtained from the 444 Hz data on L-1200E.

2.4.2.4 Conductor SEC4

(L-800E/1+85S, L-900E/1+70S)

It is not unreasonable to assume that SEC4 is the displaced westerly extension of SEC3. The average of the computed depths to this narrow, non-magnetic conductor is 15 m and the conductance is about 8 S, excepting the 22 S conductance obtained from the 444 Hz data on L-900E.

It is suggested that the conductors demark a conductive horizon containing non-magnetic sulphides; the somewhat lower conductances may reflect lack graphite in the horizon.

2.4.2.5 Conductor SEC5

(L-800E/2+00N, L-900E/1+70N, L-1000E/1+50N)

SEC5 is a poor conductor characterised by low amplitudes and quadrature components which are larger than the in-phase anomalies. The 444 Hz responses are discernable only on L-900E, but the components are clearly detected at the high frequency. Further work is not anticipated at this conductor.

2.4.2.6 Conductor SEC6

(L-400E/0+10S, L-500E/0+75S)

The distance between the two axis is about 65 m but they may represent the displaced parts of the same conductor. The responses are stronger on L-400E, where the 444 Hz data yielded a depth of 15 m and a conductance of 15 S; the corresponding parameters from the

1760 Hz data are: depth less than 3 m and a conductance of 5 S. Only the high frequency data could be used for computation on L-500E, because of the lack of measurable in-phase at 444 Hz; the computed parameters are: depth of 12 m and conductance of 3 S.

The conductors are non-magnetic and the interpreted sources are sulphides and /or graphite.

2.4.2.7 Conductor SEC7

(L-300E)

The anomalous sample was collected along L-300E at St. 1+25N, which is near the northern end of a wide conductive zone, centred about the Base Line. The distance between the zero crossings is 250 m, implying that there may be at least two conductors within the zone, one of them is the continuation of SEC6. Further work with shorter coil separation will be needed to outline the individual conductors.

2.4.2.8 Conductive Zone SEC8

(Lines 1500E, 1600E, 1700E and 1800E)

The commencement of anomalous situations at the southern ends of these line indicate the presence of a multiconductor zone to the south.

3. CONCLUSIONS AND RECOMMENDATIONS

The ground magnetic surveys established that large parts of both grids are underlain by felsic volcanic rocks. Zones of increased magnetic activity were also outlined over the grids, delineating parts of the underlying rocks where intermediate to mafic volcanics are interbedded with the felsic volcanics. Prominent magnetic lows were detected on both grids which may indicate shallow dipping sources or local remanent magnetization opposing induced magnetic field.

The anomaly amplitudes over the Northwest Grid (25 nT to 75 nT) are subdued in comparison with the more than one thousand nanotesla amplitude anomaly in the southwest corner of the Southeast Grid. The magnetic activity, albeit low amplitude, over the Northwest Grid allowed the outlining of interpreted faults striking north-south and east-west.

It is recommended that as the first stage of the follow-up both grids should be prospected and mapped with special attention paid to the vicinity of the conductors.

There are two conductors of interest on the Northwest Grid, NWC1, open towards northwest and southeast and NWC2 which is open to the northwest. Both conductors are non-magnetic and are within interpreted felsic volcanics. The fair conductors deserve further testing: (a) as noted above prospecting and mapping in the vicinity of the conductors, (b) the three lines (Lines 100E, 200E and 300E) along which the conductors occur should be surveyed with a HLEM system using a coil separation of 50 m to define more accurately the location and other parameters of the conductors prior to drilling and (c) drilling: if the detail work confirms the dip of NWC1, it should be drilled from the south; NWC2 could be tested

The incomplete and complex SEC7 is the target of importance of the Southeast Grid, where the anomalous sample was collected. It is recommended that Lines 300E, 400E and 500E should be surveyed again with a HELM system employing a coil separation of 50 m to define the location of the individual conductors. The location of the drill testing of SEC6 and SEC7 will depend on the results of the detail survey.

There are two other conductors of interest. The longest event of the Southeast Grid is SEC1; the best conductances were obtained along L-2000E where SEC1 could be tested from the south, but drilling along L-1600E should also be considered because of the association of SEC1 with a magnetic anomaly. Other possible site for testing SEC1 is L-1400E.

The location of SEC3 within a magnetic unit describing interpreted interbedded intermediate and felsic volcanics enhances its significance. The conductor could be drilled along L-1100E but prior surveying with 50 m coil separation HLEM system is recommended to define the location and width of the feature.

Respectfully submitted

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REPORT ON THE 1991 WORK PROGRAM IN THE ADRIAN TOWNSHIP AREA, THUNDER BAY MINING DIVISION

A program funded by the 1991 Ontario Prospectór's Assistance Program

D. Laderoute/A. Murdy

January, 1992

1.0 INTRODUCTION

This report describes the work program conducted by, and on behalf of, the authors during the 1991 OPAP program. This work was carried out intermittently during the period 30 May to 31 November 1991, with final report preparation being done during December 1991 and early January 1992.

2.0 LOCATION AND ACCESS

The work program was conducted within Adrian Township, located in the Thunder Bay Mining Division, approximately 60 km west of Thunder Bay, Ontario. Access to the area is by means of the Adrian Lake road, a loose-surfaced, all-weather road which traverses the township from southeast to northwest; this road intersects Ontario secondary provincial highway 590 approximately 25 km west of the town of Kakabeka Falls, Ontario, which is in turn located approximately 30 km west of Thunder Bay on Trans-Canada Highway 11-17.

3.0 CHANGES TO THE PROPOSED PROJECT

As originally proposed, D. Laderoute's project was to cover the northern third of Adrian Township and certain portions of Oliver Township (specifically, Concession VIII, Lots 10 south half, 14 and 15 south half, and Concession VI, Lot 15 south half), also located in the Thunder Bay Mining Division approximately 40 km west-northwest of Thunder Bay. A. Murdy's program was to have covered the southern two-thirds of Adrian Township and the southern third of Horne Township (located immediately north of Adrian Township). The main thrust of both programs was to have been detailed prospecting and sampling to attempt to locate favourable target areas for volcanogenic massive base metal sulphide mineralization related to coarse-grained felsic pyroclastic rocks thought to be underlying these areas.

The program, as carried out, involved several changes to the above, made in consultation with the Incentives Office. Attempts to work on the various lots and half-lots in Oliver Township were abandoned when it became apparent that the private ownership of surface rights of surrounding lots made such work difficult and would limit the value of economically interesting discoveries. However, detailed prospecting work was conducted in Adrian Township during the period June-October. The results of this work, combined with examination of existing assessment data suggested the Adrian Township area warranted a concentration of effort by both D. Laderoute and A. Murdy (including the staking of several claims). Furthermore, the common occurrence of thick overburden indicated that conventional surface prospecting was of only local usefulness, so in October-November most of both parties' remaining OPAP funds were used for linecutting and geophysical surveys on the claims.

4.0 GEOLOGY

Based on field examination, the portion of Adrian Township covered by prospecting traverses is predominantly underlain by coarse-grained felsic pyroclastic rocks and lesser amounts of intercalated ultramafic to mafic volcanic rocks. Reference should be made to Map 1, which depicts sample and traverse locations, and Table 1 (Sample Descriptions) and Appendix A (Geochemical and Assay Results), when reading the following sections.

4.1 FELSIC VOLCANICS

Felsic fragmentals, generally ranging from lapilli tuff to agglomerate, underlie most of the area covered during the subject program. In general, these rocks contain intermediate to felsic (i.e. dacite through rhyodacite to rhyolite) fragments ranging from coarse ash to bomb size, with coarse lapilli to small bomb sized fragments being most common. The matrix is fine to coarse ash tuff of more intermediate composition than the fragments i.e. probably ranging from andesite to dacite. Thurston (1985) suggests that these rocks are relatively proximal, and that the Adrian Township area represents a felsic volcanic center.

Chlorite and carbonate are common alteration types observed, generally affecting the matrix more than the fragments. According to Thurston (1985), chlorite alteration may be metasomatic in origin; certainly, some of the samples collected during the subject program contain more MgO than would be indicated by other oxides (e.g. CaO, TiO2), suggesting that this component has been added subsequent to their formation (e.g. sample 207852, a felsic fragmental, contains 4.24% MgO; this is an enrichment by a factor of 2 relative to the average dacite of Cox et al (1979). This assumes that its protolithic composition is that of a dacite, based on its by other oxide values). The only other potential chemical alteration trend observed is a slight but widespread K2O depletion (however, see 5.2). Generally, K2O values in felsic fragmentals are below the values given for average intermediate to felsic volcanics by Cox et al (1979); it is not clear, however, if this is actually a function of alteration, or of primary rock chemistry.

4.2 ULTRAMAFIC TO MAFIC VOLCANICS

Generally, these rocks occur at the western end of the work area, near the intersection of the Horne-Adrian-Laurie-Sackville Township boundaries, at the eastern end of the work area, in the vicinity of Adrian Lake, and in the middle of the work area, along the road where it was covered by traverse #3. A single, very small outcrop (or possibly a boulder) of massive mafic volcanics was also observed on the south claim boundary of claim TB1194623. The ultramafic composition of two occurrences (samples 207855 and 207857), both along traverse #3, is only clear from geochemical analyses since macroscopically these closely resemble mafic volcanics. These samples contain 19.5% and 13.2% MgO, 2480 ppm and 1230 ppm Cr, and 779 ppm and 423 ppm Ni respectively. It is suggested that this may be a thin ultramafic sill rather than an actual extrusive volcanic unit; this is not unreasonable, given the occurrence of ultramafic intrusives in the vicinity of Peridotite Lake in the northeastern corner of Adrian Township.

4.3 OTHER LITHOLOGIES

While not directly observed during the subject program, two other lithologies in the vicinity of the work area are worthy of note:

a) Magnetite Iron Formation- the presence of this unit is well documented, based on assessment data and airborne magnetic surveys (OGS, 1991). The most extensive unit forms a thick horizon which is folded such that the hinge zone is to the east of Adrian Township; the limbs as a result lie both north and south of the work area. Therefore, this unit serves to outline the gross structure of the area i.e. a fold structure whose axis strikes approximately southeast, and whose closure lies to the east of the work area. Otherwise, the volcanic stratigraphy underlying the work area appears relatively free of magnetite iron formation, given that the area between the limbs is magnetically "flat" (although sample 207877 appears to represent a magnetite-free chert unit in the northwest central portion of claim TB 1194216, and a unit of magnetite or pyrrhotite-bearing iron formation appears to have been detected by its magnetic response in the southwestern portion of claim TB 1194623) The importance of the large iron formation enclosing the work area is indicated by Sangster (1972), who points out that many Precambrian volcanogenic massive base metal sulphide occurrences are closely associated spatially with iron formation units, which may represent the waning stages of submarine exhalative volcano-hydrothermal activity.

b) Graphitic-Pyritic Interflows- this type of unit was detected in the late 1960's by Noranda both during diamond drilling and surface prospecting of the Adrian Township area; this company's locations of this material correlate well with the strong formational EM conductor traversing Adrian Township from northwest to southeast (OGS, 1991). The presence of such material in the volcanic stratigraphy serves to complicate the EM picture of the work area, but it again it is not unusual to find such material near, or even within, the favourable horizons of Precambrian base metal camps (Sangster, 1972).

4.4 STRUCTURE

Generally, the dominant structural fabric is a pervasive foliation striking approximately southeast i.e. at 100 to 135 degrees. This is generally parallel to the proposed fold axis defined by the large iron formation (see 4.3 (a)) and to the dominant topographic lineations in the area (e.g. the course of the Weigand River); this may therefore represent an axial planar fabric. There is some variation from this, notably in the vicinity of Adrian Lake, where some outcrops exhibit foliations striking nearly north. This may be related to a prominent north-northeast striking topographic lineament and related offset of the magnetic expression of the iron formation in this area, suggesting that a transverse fault cross-cuts the stratigraphy in this area. Smaller, parallel offsets are observed elsewhere in the magnetic expression of the iron formation, but there is no evidence that these propogate all the way through the volcanic stratigraphy.

4.5 MINERALIZATION

The most common mineralization type observed in the work area is pyrite; this mineral commonly occurs as fine to medium grained subhedral disseminated grains and fine grained aggregates in the felsic volcanics and, to a lesser extent, in the ultramafic and mafic units. Abundance rarely exceeds 1 to 3%, and no significant economic mineralization was detected in such material. However, in several locations, pyrite occurs in significant quantities:

a) At the beginning of traverse 9 near the road, and again at the "dog-leg" in traverse 9;

b) At the end of traverse 6 (i.e. sample 207869); and

c) In an old pit adjacent to the baseline at 550E on claim 1194216.

In each case, pyrite occurs as fine-grained stringers and aggregates in felsic fragmental rocks ranging from 10% by volume to a nearly massive character (in the case of the occurrence at the "dog-leg" in traverse 9); in cases b and c above it is also accompanied by traces of chalcopyrite. Note that cases b and c also exhibit the most significant economic mineralization detected during the work program. Case b (i.e. sample 207869) contains only 0.03% Cu, but also contains 0.15% Zn (note that no sphalerite was observed in this sample). Case c contains Cu values ranging from a few ppm to 0.42%, and Zn values ranging from a few ppm to 0.03%; this range in values suggests that Cu-Zn mineralization is erratically distributed in the pyrite. The mineralization encountered on traverse 9 returned no significant Cu or Zn values.

No significant Au, Ag or Pb mineralization was detected in any of the samples collected.

5.0 WORK DONE

The following work was performed during the subject work program.

5.1 PROSPECTING

A total of seventeen prospecting traverses were conducted during the work program (see Map 1). These traverses were intended to cover what was identified as a potential favourable horizon from previous work. Specifically, Noranda Explorations, in the late 1960's, conducted an extensive program of ground geophysics (EM) in Adrian Township. This identified a series of long, intense formational conductors which Noranda identified from the drilling of two holes and surface examination to be a graphitic horizon (probably an interflow sediment). However, examination of Noranda's data showed that a series of short (i.e. 600m or less), conformable, weak to strong conductors occurred on the north side of this graphitic zone, essentially paralleling the road along the Weigand River. An attempt was made to locate the approximate positions of these conductors and prospect around them; further prospecting concentrated on the intervening ground, and on exposure along the road, between the northwestern corner of the township and Adrian Lake. Observations are summarized in 4.0.

5.2 LITHOGEOCHEMCIAL SAMPLING

Concurrent with the above prospecting, a program of reconnaisance lithogeochemical sampling was carried out. The aim of this program was to attempt to locate zones of favourable alteration and anomalous concentrations of base and precious metals in bedrock, that may reflect nearby economic base metal mineralization. Unfortunately, due to common thick overburden cover, only 29 samples were collected; furthermore, these tend to be clustered on traverses with better exposure, so that some traverses yielded no bedrock samples at all. As a result, this does not represent a statistically significant sampling of the work area's bedrock, so that trends and generalizations cannot be extracted from this database. However, individual samples have yielded worthwhile information. (see Table 1, and 4.0 and 6.0). It should be noted that with the exception of the three samples taken from the old pit on claim TB 1194216, samples have not been tied into the grid, since this was cut in the late fall after the traverses had been completed. Therefore, all sample locations are arbitrarily assumed to have a circular error of 10% (i.e. a sample collected 300 m along a traverse will have a circular location error of 30 m).

Samples were collected so as to minimize the inclusion of weathered material, quartz veinlets, etc. i.e. material that may reduce their degree of representation. At least 0.5 kg of material was collected for each sample. Samples were analyzed by Accurassay/Barringer Laboratories for a suite of major and minor element oxides and trace elements (see certificates in Appendix A) by ICP spectroscopy; some were also analyzed for Au by fire assay pre-concentration and AA spectrophotometry finish. Results are discussed in 4.0 and 6.0.

5.3 LINECUTTING AND GEOPHYSICS

When it became clear that overburden cover was going to severely limit access to bedrock, it was proposed to the Incentives Office that most of the grant money remaining to D. Laderoute and A. Murdy as of the end of October be used to conduct geophysical surveys over the claims staked by these parties (these claims being staked on the basis of what information had been obtained from the prospecting/sampling, and study of assessment data). The claims are depicted on Map 1.

A total of 22.7 km of line was cut over the 16 claim units (one claim of 4 units and two contiguous claims of 6 units each), with base lines oriented at 115 degrees relative to true north. Initially, 13.74 km was cut by Norm MacBride of Notre Dame du Nord, PQ, using a 200m line spacing. It was subsequently decided that a 100m line spacing would give much better coverage, so Northwest Geophysics of Thunder Bay, Ontario, was contracted to fill-in the additional 10km of line, and carry out the geophysical surveys.

Two surveys were conducted over the grid- a ground magnetometer survey, and a Max-Min survey (note that baselines were not surveyed, so total distance for each survey type is 19.3 line km). Survey parameters are as follows:

a) The ground magnetometer survey made use of an OMNI IV magnetometer, reading the total magnetic field at 25m station intervals. Diurnal variation was compensated for by means of the tie-line method, a function built-into the instrument. Data were posted as values in nanoteslas (nT) above or below a background datum of 58000 nT; they were subsequently contoured (see Maps 2 and 3 for claim 1194216, and Maps 4 and 5 for claims 1118424/1194623).

b) The Max-Min survey was conducted using a MaxMin 1 instrument with a 150m coil spacing, with readings taken at 25m station intervals. Two frequencies- 444 Hz and 1760 Hz- were read. Quadrature and in-phase data were posted and profiled for each frequency (see Maps 6 and 7 for claim 1194216, and Maps 8 and 9 for claims 1118424/1194623).

Results are summarized as follows:

a) Claim TB 1194216 (see Maps 2, 3, 6 and 7) exhibits a relatively flat magnetic topography, with only two pronounced, single station lows in the northern portion of the claim. These are quite likely artifacts of some sort, perhaps due to discarded metallic debris (e.g. old skidder cables or other scrap metal related to the old cutting in the area). EM responses are confined to approximately the western third of the claim; they comprise broad, weak to moderate flexures in both in-phase and quadrature components. The degree of parallelism in the responses of these two components suggests that they may be at least in part due to an overburden effect, but more detailed interpretation by an experienced geophysicist is required to determine this conclusively. Whatever their sources may be, it appears that the claim only covers their eastern extremity. The remainder of the claim exhibits no significant EM response. Note that the old pit on the baseline at 550E is in this area. This suggests that this sulphide occurrence is of very limited volumetric extent i.e. is more likely to be stringer or podiform mineralization as opposed to massive mineralization; and

b) Claims TB 1118424/1194623 (see Maps 4, 5, 8 and 9) also exhibit a relatively flat magnetic topography, albeit with more response than that described above. A number of isolated, single station peaks greater than 1000 nT above background occur, most notably north of the baseline on lines 4E and 15E, and at the southern end of L15E. The two northerly ones exhibit pronounced magnetic depressions on their southern sides, which may indicative of a shallow southerly dip. What they represent is unknown. Podiform masses of magnetic material, such as massive pyrrhotite or discontinuous lenses of chert-magnetite iron formation are possibilities. The other significant magnetic reponse is between 300S and 500S on lines 3E through 8E inclusive (note that there is an apparent break on L6E). This is likely a response related to a pyrrhotite-bearing unit, or a unit of oxide-facies iron formation (the latter is more likely, given the lack of a clearly associated EM response) which strikes at approximately 150 degrees (i.e. parallel to the dominant stratigraphic direction). The presence of a depression north of the peak on L4E suggests a nearly vertical or steep northerly dip, at least in that area.

This claim block exhibits a complex EM response. Numerous weak to strong anomalies are detected, which generally strike from 130 to 150 degrees (i.e. again generally parallel to the stratigraphy). Some responses, such as the one immediately north of the baseline between lines 14E and 20E inclusive, appear to be composite in nature i.e. reflecting a series of sub-parallel sources each of which is narrower than the overall response. Again, evaluation of the data by an experienced geophysicist is required. It should be pointed out, however, that there is a definite, complex response in the vicinity of sample 207859, which contained anomalous Zn and Cu mineralization; this is on lines 2E and 3E in the vicinity of the baseline. Note that this anomaly does not extend past 4E, suggesting that it is limited in strike length and not formational in nature (although it does extend off of the surveyed area to the west, and possibly off of the claim altogether).

6.0 RESULTS AND RECOMMENDATIONS

The work program was successful in delineating several areas of interest. These include:

a) The area of sample 207859, which returned 0.15% Zn and 0.03% Cu from a felsic fragmental containing 20% stringer and aggregate pyrite and trace chalcopyrite. The potential of this area is further enchanced by the presence of a moderately strong, conformable Max-min anomaly of relatively (i.e. non-formational) strike length;

b) The area of the old pit at the baseline, 550E on claim TB 1194216, where grab samples of felsic fragmental material containing up to 20% pyrite returned up to 0.42% Cu and 0.03% Zn. Note, however, that there is no significant geophysical response in this area, indicating that there are no shallow conductors of significant size. It is possible that this material represents stringer and disseminated mineralization as opposed to a massive occurrence. If so, then the area has little intrinsic economic value; however, it may be significant in the context of the overall economic potential of the work area. Specifically, if this does represent stringer mineralization, then it is quite possibly related to massive mineralization elsewhere in the nearby stratigraphy.

c) The balance of TB 1118424/1194623, and the western and northernmost portions of TB 1194216, where significant geophysical responses were detected, but where overburden cover prevents direct evaluation of the bedrock and any contained mineralization and alteration.

Accordingly, the following recommendations, listed in order of priority, are made:

a) Additional claims should be staked:

i) On the northern and western end of the existing block defined by TB 1118424/1194623, in order to provide strike and dip protection for the favourable area defined by sample 207859 and the related EM anomaly;

ii) Between the existing blocks defined by TB 1194216, and TB1118424/1194623, in order to join them together into a contiguous block and cover the intervening section of the postulated favourable horizon; and

iii) To the north and west of TB 1194216, and to the east of TB 1118424/1194623, to provide strike protection for EM anomalies that appear to trend off of the existing blocks in those directions;

b) The existing grid should be extended to cover new ground staked as described above;

c) The entire grid should be covered by geophysics i.e. Max-min and ground magnetometer surveys. If financial resources allow, deeper penetrating methods such as pulse EM should be considered over select, higher potential areas (e.g. the area of sample 207859);

d) The entire grid should be mapped in detail (i.e. at no more than 1:2500), with particular effort being directed at examining areas of significant geophysical response, and to determining stratigraphic orientation and to locating potential marker horizons. At the same time, a comprehensive program of lithogeochemical sampling should be conducted in order to locate any more bedrock base or precious metal geochemical anomalies, and in order to further attempt to locate and define potential alteration patterns;

e) Targets identified by the above work should be tested by means of stripping, trenching and diamond drilling (although it is acknowledged that in practical terms, such work in general, and diamond drilling in particular, will likely require the involvement of a mining company with available exploration funding).

REFERENCES

OGS, 1991. Airborne Electromagnetic and Total Intensity Magnetic Survey, Shebandowan Area; OGS Maps 81578-579, 81590-591, Scale 1:20000.

Thurston, P.C., 1985. Atikokan-Lakehead Compilation Project, pp. 54-59, in Summary of Field Work, 1985, OGS Miscellaneous Paper 126.

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42860 **Certificate of Analysis**

Dave Laderoute
46 Taylor Drive
THUNDER BAY, ON
P7C 4T9

August 7 91

Work Order # : T910530
Project :

SAMPLE NUMBERS		Gold	Gold
Accurassay	Customer	ppb	Oz/T
548346	207852		
548347	207853		
548348	207854	<5	<0.001
548349	207855		
548350	207856	5	<0.001
548351	207857		
548352	207858		
548353	207859	<5	<0.001
548354	207860	<5	<0.001
548355	207861		
548356	207862	7	<0.001
548357	207863	<5	<0.001
548358	207864		
548359	207865		
548360	207866	25	0.001
548361	207867		
548362	207868		
548363	207869	43	0.001
548364	207870	7	<0.001
548364	207870	Check	
548365	207871		
548366	207872		
548367	207873		
548368	207874	7	<0.001
548369	207875	47	0.001
548370	207876	22	0.001
548371	207877		
548371	207877	Check	

Per: [signature]

LF-30

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41482 Certificate of Analysis

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Page #1
August 22, 1991

Work Order: T910530

SAMPLE NUMBER Accurassay	Customer	Al2O3 %	Fe2O3 %	MgO %	CaO %
548346	207852	23.00	8.58	4.24	2.97
548347	207853	12.50	8.05	11.40	8.93
548349	207855	11.50	10.60	19.50	7.47
548350	207856	16.80	5.91	2.90	2.91
548351	207857	9.73	9.41	13.20	5.83
548352	207858	15.10	4.10	1.28	2.64
548353	207859	11.40	31.30	1.69	1.27
548354	207860	9.46	24.10	2.11	2.97
548355	207861	16.40	8.75	4.51	4.07
548356	207862	15.50	7.14	0.99	2.53
548358	207864	13.30	9.44	2.44	0.51
548359	207865	18.10	5.21	1.62	1.78
548360	207866	2.12	8.19	0.55	0.11
548361	207867	14.70	10.20	3.90	5.12
548362	207868	14.30	11.40	5.64	5.53
548363	207869	2.15	7.56	1.81	3.51
548364	207870	12.50	14.80	2.06	4.02
548365	207871	14.80	3.73	1.14	3.61
548366	207872	15.00	4.68	0.83	3.86
548367	207873	15.50	3.17	0.73	1.71
548368	207874	15.70	22.00	2.77	3.13
548369	207875	2.57	49.30	0.84	0.12
548370	207876	4.97	43.30	2.17	0.55
548371	207877	0.28	3.36	0.11	0.06

PARAMETERS

Al2O3	Alumina
Fe2O3	Ferric Oxide
MgO	Magnesium Oxide
CaO	Calcium Oxide

Per: ____________________

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41483 Certificate of Analysis

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Page #2
August 22, 1991

Work Order: T910530

SAMPLE NUMBER Accurassay	Customer	Na20 %	K20 %	Ti02 %	MnO %
548346	207852	4.29	2.42	0.961	0.087
548347	207853	3.44	0.68	0.412	0.254
548349	207855	0.54	0.22	0.430	0.245
548350	207856	2.91	3.49	0.816	0.109
548351	207857	1.11	0.03	0.636	0.148
548352	207858	2.97	2.19	0.907	0.112
548353	207859	1.22	0.85	0.430	0.573
548354	207860	2.09	0.71	0.449	0.726
548355	207861	2.66	1.36	0.872	0.091
548356	207862	3.65	1.63	0.599	0.150
548358	207864	2.83	0.75	0.444	0.087
548659	207865	5.90	1.45	1.663	0.072
548360	207866	0.02	<0.02	0.073	0.204
548361	207867	2.25	0.92	1.361	0.167
548362	207868	2.99	0.02	0.879	0.163
548363	207869	0.08	<0.02	0.072	0.203
548364	207870	2.41	0.74	0.666	0.528
548365	207871	3.64	1.34	0.807	0.069
548366	207872	3.17	1.37	1.011	0.093
548367	207873	5.12	1.24	1.016	0.068
548368	207874	1.19	1.27	0.867	0.691
548369	207875	<0.02	0.02	0.082	0.179
548370	207876	<0.02	0.06	0.135	0.875
548371	207877	<0.02	<0.02	0.006	0.101

PARAMETERS

Na20	Sodium Monoxide
K20	Potassium Monoxide
Ti02	Titanium Dioxide
MnO	Manganese Oxide

LF-30

Per:

ORIGINAL

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Page #3
August 22, 1991

Work Order: T910530

SAMPLE NUMBER Accurassaay	Customer	Ag ppm	Be ppm	Cd ppm	Co ppm	Cr ppm	Cu ppm	Mo ppm
548346	207852	<1	1.1	<1	<5	264	17	<20
548347	207853	<1	1.3	<1	<5	950	130	<20
548349	207855	<1	1.4	<1	30	2480	113	<20
548350	207856	<1	1.4	<1	9	210	39	60
548351	207857	<1	1.4	<1	21	1230	61	<20
548352	207858	<1	1.4	<1	<5	362	49	<20
548353	207859	<1	1.1	<1	<5	28	43	<20
548354	207860	<1	0.9	<1	<5	135	34	<20
548355	207861	<1	1.3	<1	7	396	65	<20
548356	207862	<1	0.9	<1	7	402	38	<20
548358	207864	<1	1.0	<1	<5	773	70	<20
548659	207865	<1	1.3	<1	<5	374	59	<20
548360	207866	<1	0.2	<1	33	493	229	<20
548361	207867	<1	1.2	<1	<5	223	69	<20
548362	207868	<1	1.3	<1	7	228	17	<20
548363	207869	<1	0.4	5	60	761	273	<20
548364	207870	<1	1.0	<1	<5	206	43	<20
548365	207871	<1	1.0	<1	<5	279	37	<20
548366	207872	<1	1.4	<1	<5	251	48	<20
548367	207873	<1	1.2	<1	<5	691	60	<20
548368	207874	<1	1.3	<1	<5	27	21	<20
548369	207875	<1	0.4	<1	<5	120	38	<20
548370	207876	<1	0.6	<1	<5	85	19	<20
548371	207877	<1	0.2	<1	<5	1650	30	<20

Per: [signature]

LF-30

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Page #4
August 22, 1991

Work Order: T910530

Results are as follows:

SAMPLE NUMBER Accurassay	Customer	Ni ppm	Pb ppm	Sr ppm	Th ppm	V ppm	Zn ppm	Zr ppm
548346	207852	106	19	385	38	119	87	193
548347	207853	240	13	813	25	152	37	64
548349	207855	779	6	354	28	174	67	59
548350	207856	97	41	173	38	124	64	175
548351	207857	423	28	645	22	168	112	61
548352	207858	46	30	177	34	143	41	204
548353	207859	125	38	196	26	77	105	176
548354	207860	87	39	164	26	69	46	148
548355	207861	182	35	381	36	133	93	164
548356	207862	95	41	298	30	77	47	144
548358	207864	193	36	246	27	68	113	141
548659	207865	70	33	213	35	191	66	185
548360	207866	94	28	4	8	36	75	36
548361	207867	100	35	248	33	179	128	134
548362	207868	94	26	62	35	270	112	65
548363	207869	77	22	21	16	60	1510	33
548364	207870	102	27	199	31	89	71	179
548365	207871	46	32	328	30	104	78	168
548366	207872	54	30	344	33	136	158	212
548367	207873	56	29	259	33	143	43	216
548368	207874	42	35	204	34	93	90	275
548369	207875	95	43	6	10	31	32	45
548370	207876	78	49	8	13	38	36	89
548371	207877	83	<5	14	<5	45	2	8

Per: L.B.

LF-30

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48227

Certificate of Analysis

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November 22, 1991

W.O.#: T910914

SAMPLE NUMBERS Accurassay	Customer	Al2O3 %	Fe2O3 %	MgO %	CaO %
555114	207878	8.95	43.7	4.36	0.22
555115	207879	3.42	54.0	1.90	0.13
555116	207880	1.88	34.2	2.24	0.28

Accurassay	Customer	Na2O %	K2O %	TiO2 %	MnO %
555114	207878	<0.02	<0.02	0.158	1.23
555115	207879	0.02	<0.02	0.046	0.847
555116	207880	0.05	<0.02	0.023	1.05

Accurassay	Customer	Ag ppm	Be ppm	Cd ppm	Co ppm	Cr ppm
555114	207878	<1	0.4	<1	34	120
555115	207879	<1	0.3	<1	58	415
555116	207880	<1	0.4	<1	34	620

Accurassay	Customer	Cu ppm	Mo ppm	Ni ppm	Pb ppm	Sr ppm
555114	207878	8	<20	82	20	10
555115	207879	3590	<20	109	24	7
555116	207880	4160	<20	93	29	8

Accurassay	Customer	S %	V ppm	Zn ppm
555114	207878	8.16	53	89
555115	207879	24.5	39	96
555116	207880	7.78	29	315

Per: ____________

LF-30

ORIGINAL

Table 1- Sample Descriptions

Sample No.	Location	Description	Alteration/ Mineral'n	Significant Results
207852	T1, 100 m SE of rd jct	intermediate to felsic fragmental	chl, minor hem	High MgO
207853	T3, 1100m NW of bridge	mafic to intermediate volcanic	carb, minor hem, tr py	High MgO
207854	T3, 800 m NW of bridge	Similar to 855, but more altered	chl, carb, tr py	
207855	T3, 795 m NW of bridge	ultramafic rock (resembles mafic volcanic)	minor chl	Very high Cr, MgO, Ni
207856	T3, 790 m NW of bridge	intermediate to felsic volcanic	wispy chl, tr py	
207857	T3, 600 m NW of bridge	Similar to 855	minor chl	Very high Cr, MgO, Ni
207858	T9, 10 m N of road	felsic fragmental		
207859	T9, 12 m N of road	felsic fragmental	hem, 10%+ py	
207860	T9, 15 m N of road	felsic fragmental	hem, 10%+ py	
207861	T3, 175 m SE of bridge	felsic fragmental	minor ser (?), chl	High MgO
207862	T3, 175 m SE of bridge	felsic fragmental	3-5% py, minor po	
207863	T4, 350 m SE of bridge	felsic crystal tuff (or quartz porphyry?)	1-3% py	
207864	T4, 450 m SE of bridge	intermediate to felsic volcanic	chl, minor hem	Low CaO
207865	T4, 1200 m SE of bridge	felsic fragmental	minor hem, chl, ser (?), py	
207866	T4, 1450 m SE of bridge	intermediate to felsic volcanic	abundant hem	Depleted in most oxides, 0.02% Cu*
207867	T5b, 16m S of road	felsic fragmental	minor chl, bi, carb	Low K2O

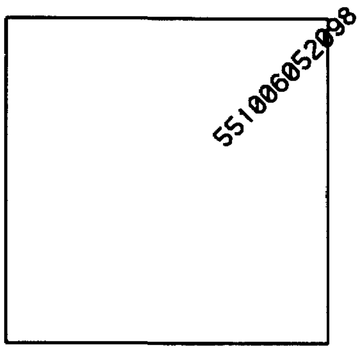
Table 1- Sample Descriptions (Continued)

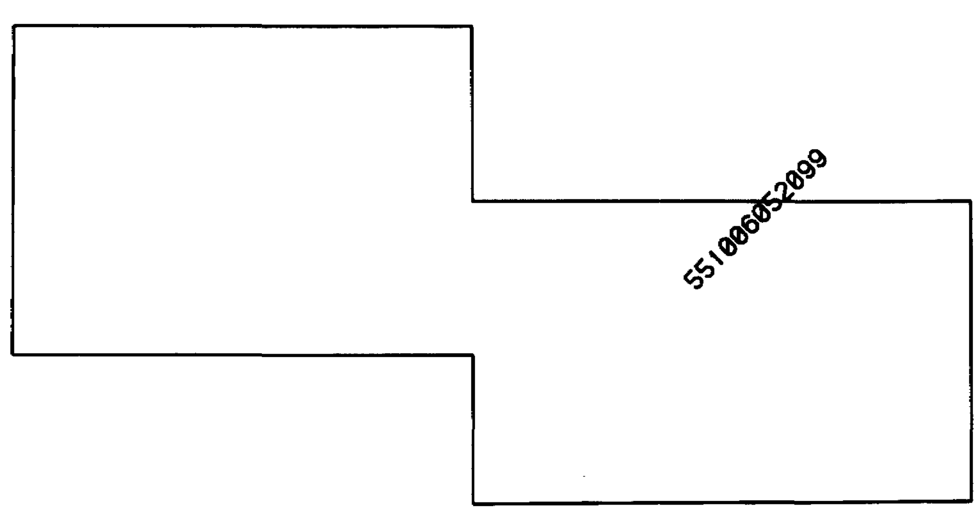
Sample No.	Location	Description	Alteration/ Mineral'n	Significant Results
207868	T6, 300m W of road	intermediate to felsic volcanic	wispy chl, carb	High MgO, Low K_2O
207869	T6, 15m W of 868	felsic volcanic	carb, hem, 5-10% py, tr cpy	0.15% Zn, 0.03% Cu
207870	T9, 100m N of road	felsic fragmental	3-5% py	Low K_2O
207871	T9, 175m N of road	felsic fragmental	wispy bi, tr py	
207872	T9, 250m N of road	felsic fragmental	tr py	
207873	T9, 290m N of road	felsic fragmental	minor hem, unID'd grey mineral	
207874	T9, 315m N of road	intermediate volcanic	chl, hem, 1-3% py	High Fe_2O_3
207875	T9, 35 m W of 874	semi-massive to massive py	minor felsic frag's	Barren of metal values
207876	T9, 4 m E of 875	intermediate to felsic volcanic	20% py, hem	Barren of metal values
207877	T9, 50 m W of 874-875	siliceous rock (probably chert)	tr py	High Cr (?)
207878	Old Pit, Baseline at 550E, TB 1194216	felsic fragmental	20%+ py, tr cpy	Barren of metal values
207879	Old Pit, Baseline at 550E, TB 1194216	felsic fragmental	20%+ py, tr cpy	0.36% Cu
207880	Old Pit, Baseline at 550E, TB 1194216	felsic fragmental	20%+ py, tr cpy	0.42% Cu, 0.03% Zn

Abbreviations

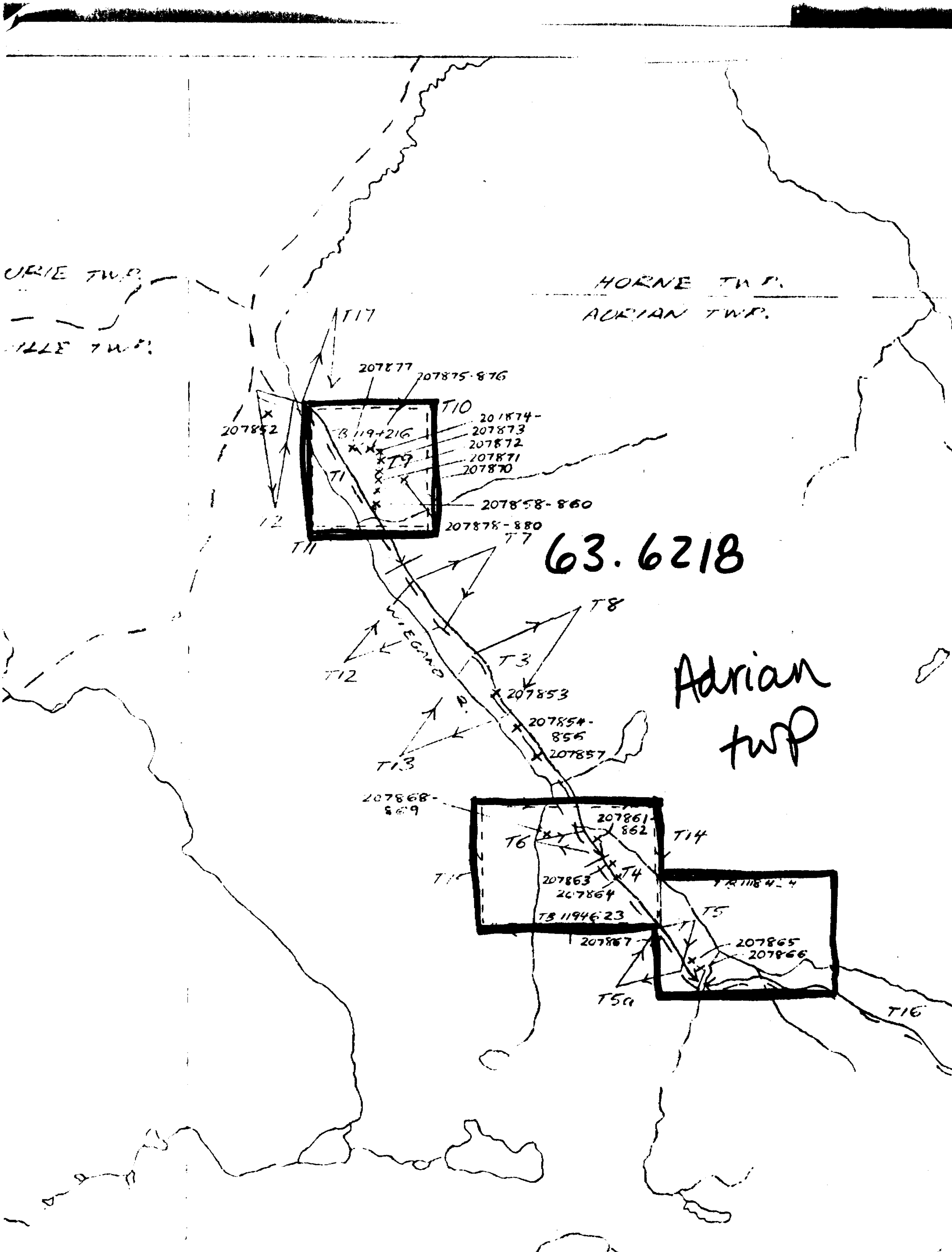
chl	chlorite	cpy	chalcopyrite
carb	carbonate	T#	traverse w number
hem	hematite		
ser	sericite		

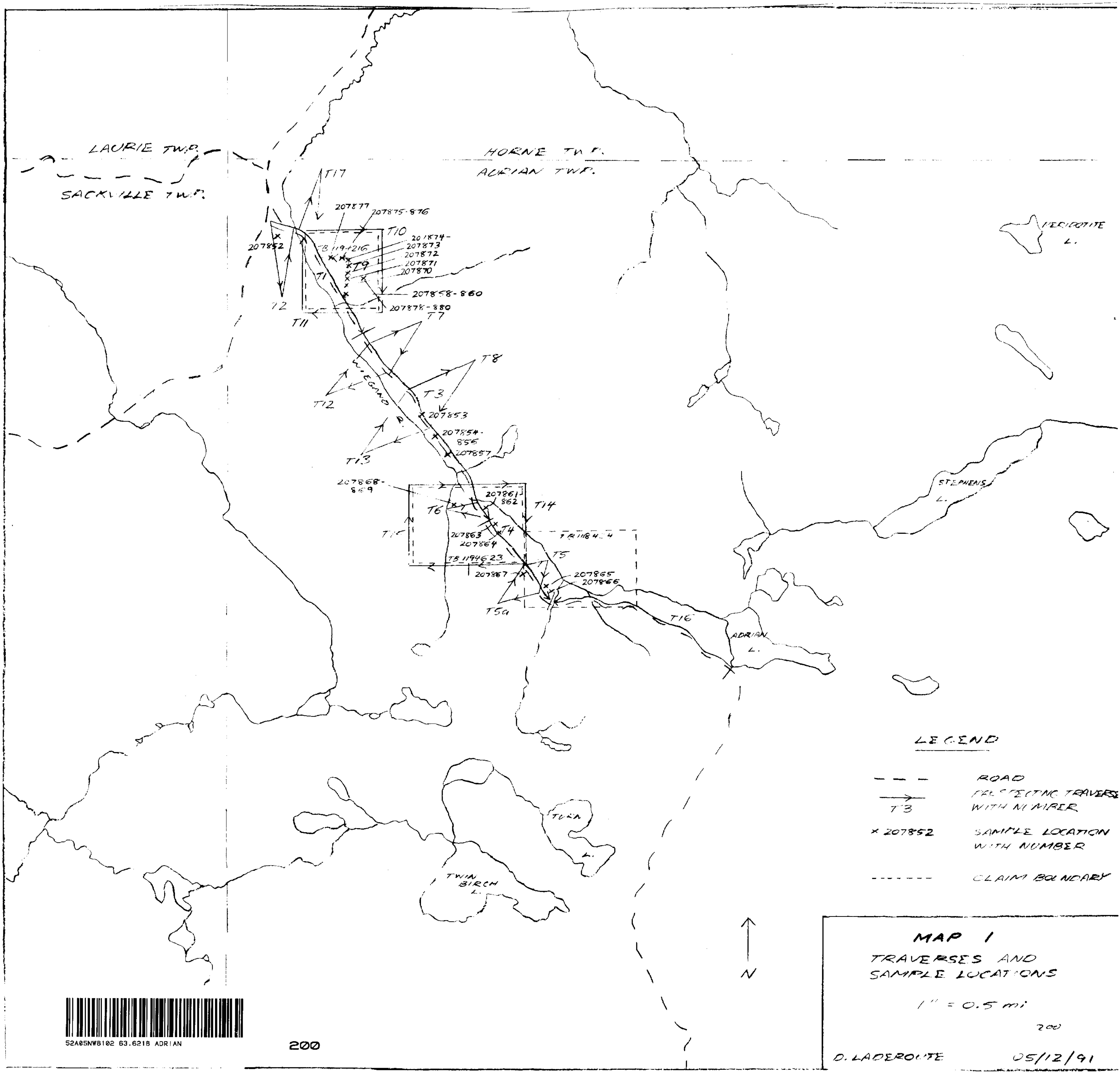
04/7B

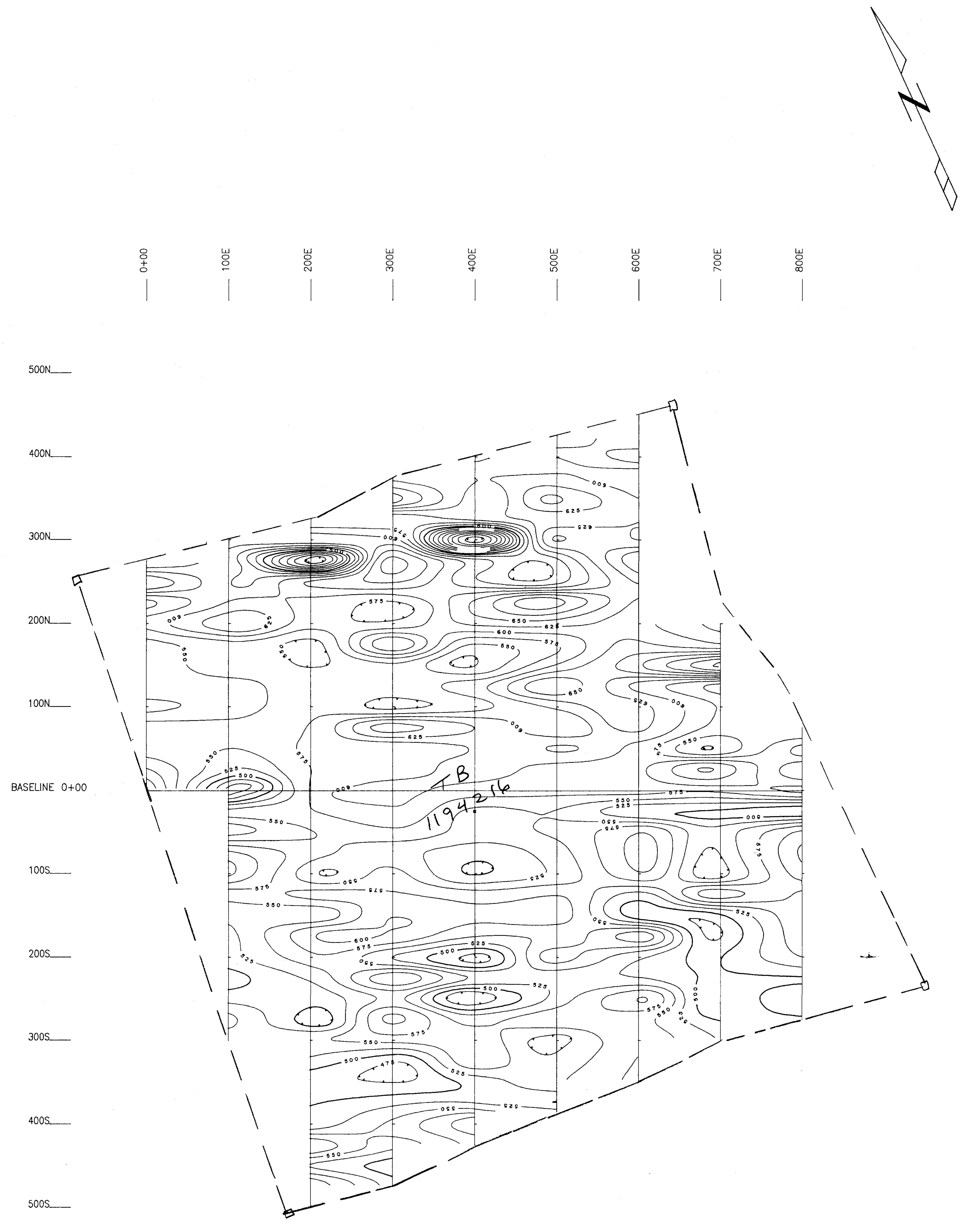




ADRIAN 63.6218 52A05NW8102


HORNE TWP.
ADRIAN TWP.
T17
207877
207875-876
T10
207852
TB 119+216
201874-
207873
207872
207871
207870
T9
T1
207858-860
T2
207878-880
T11
T7
63.6218
T8
T3
T12
WIEGAND R.
207853
207854-
856
207857
T13
Adrian twp
207868-
869
207861-
862
T14
T6
T4
207863
207864
TB 1194623
T5
207867
207865
207866
T5a
T16


LAURIE TWP.
SACKVILLE TWP.
HORNE TWP.
ADRIAN TWP.
PERIDOTITE L.
STEPHENS L.
ADRIAN L.
TWIN BIRCH L.
WEGAND R.
T1
T2
T3
T4
T5
T5a
T6
T7
T8
T9
T10
T11
T12
T13
T14
T16
T17
207852
207853
207854-856
207857
207858-860
207861-862
207863
207864
207865
207866
207867
207868-869
207870
207871
207872
207873
207874-
207875-876
207877
207878-880
TB 1194623
LEGEND
ROAD
PROSPECTING TRAVERSE WITH NUMBER
× 207852 SAMPLE LOCATION WITH NUMBER
CLAIM BOUNDARY
N
MAP 1
TRAVERSES AND SAMPLE LOCATIONS
1" = 0.5 mi
D. LADEROUTE
05/12/91
52A05NW8102 63.6218 ADRIAN
200



MAP 3

LADEROUTE/MURDY

MAGNETOMETER SURVEY

PROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.

SCALE = 1 : 2500 DATE : 11/14/91
SURVEY BY : NWG NTS : 52 A/5

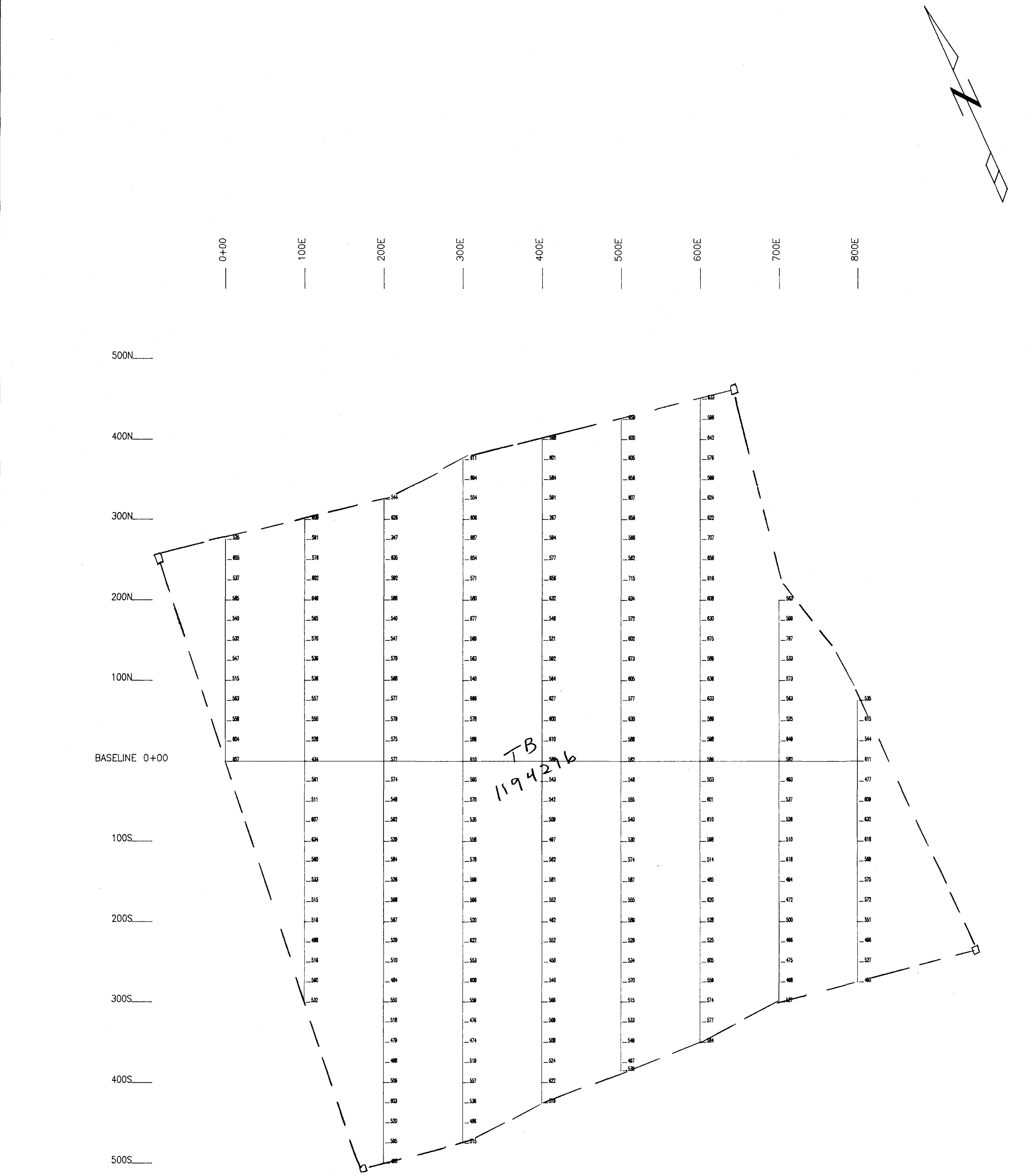
NORTHWEST GRID
NORTHWEST GEOPHYSICS LTD.

Instrument	: OMNI
Field	: TOTAL
Datum	: 58000.0 nT
Contour interval	: 25 nT
Conductor Axis	:

50m 25m 0m 50m 100m

52A05NW8102 03.6218 ADRIAN

210



Instrument : OMNI
Field : TOTAL
Datum : 58000.0 nT

Contour Interval :

Conductor Axis :

50m 25m 0m 50m 100m

MAP 2

LADEROUTE/MURDY

MAGNETOMETER SURVEY

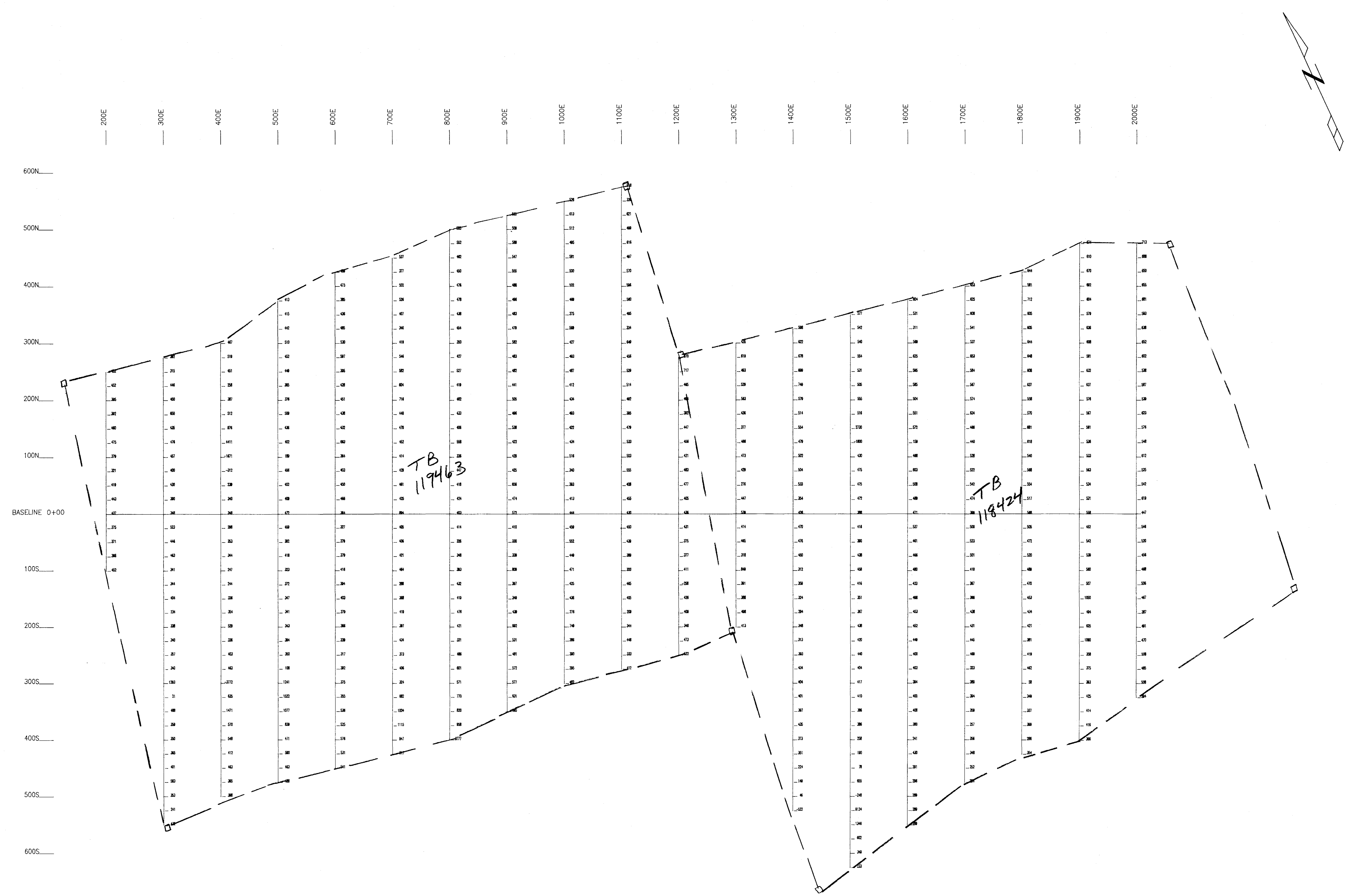
ROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.

SCALE = 1 : 2500 DATE : 11/14/91
SURVEY BY : NWG NTS : 52 A/5
NORTHWEST GRID

NORTHWEST GEOPHYSICS LTD.

52A05NW8182 63.6218 ADRIAN 220

220



MAP 4

LADEROUTE/MURDY

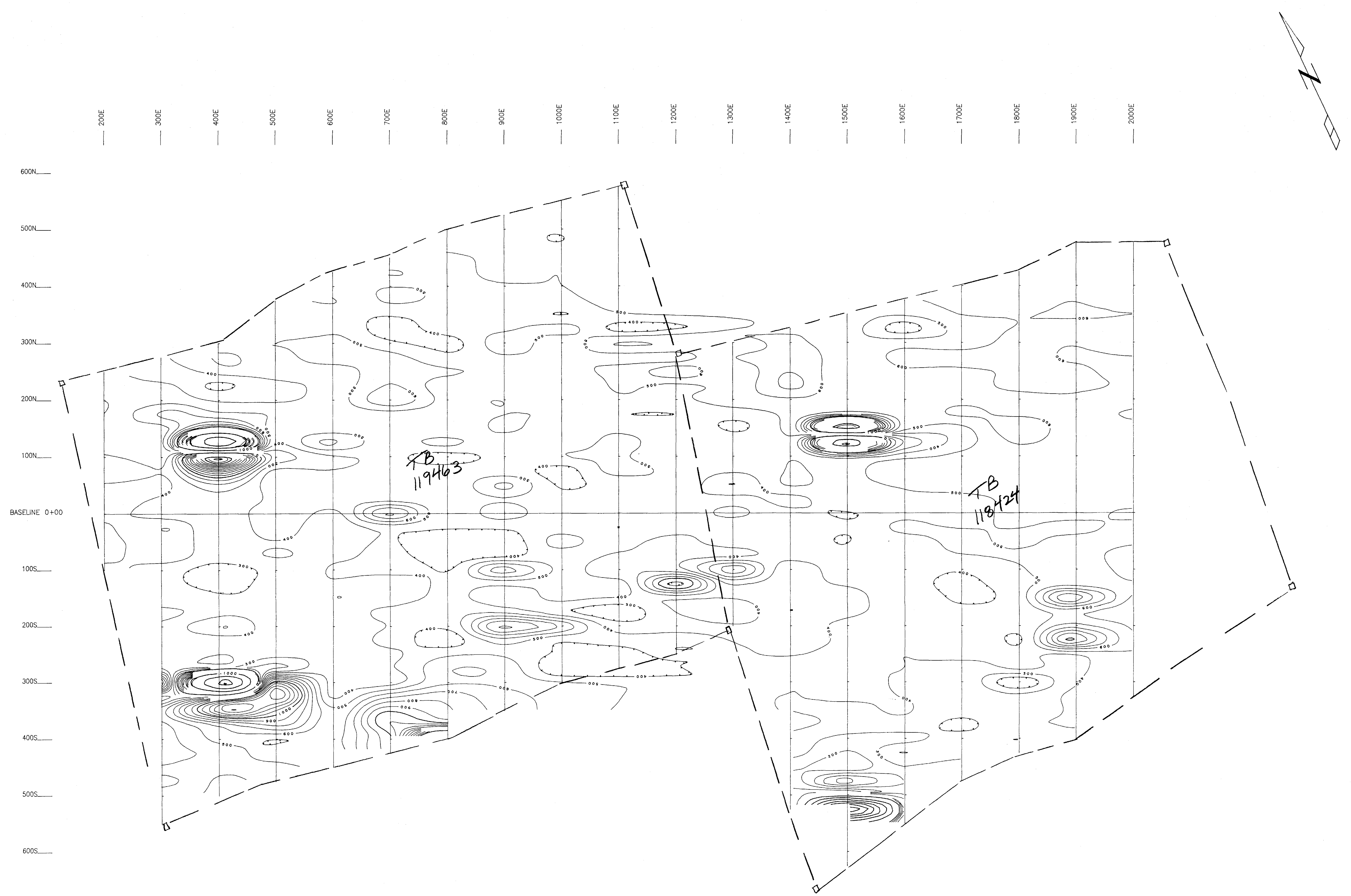
MAGNETOMETER SURVEY

PROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.

SCALE = 1 : 2500 DATE : 11/16/91
SURVEY BY : NWG NTS : 52 A/5
SOUTHWEST GRID

NORTHWEST GEOPHYSICS LTD.

230



MAP 5

LADEROUTE/MURDY

MAGNETOMETER SURVEY

PROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.

SCALE = 1 : 2500 DATE : 11/16/91
SURVEY BY : NWG NTS : 52 A/5
SOUTHWEST GRID
NORTHWEST GEOPHYSICS LTD.

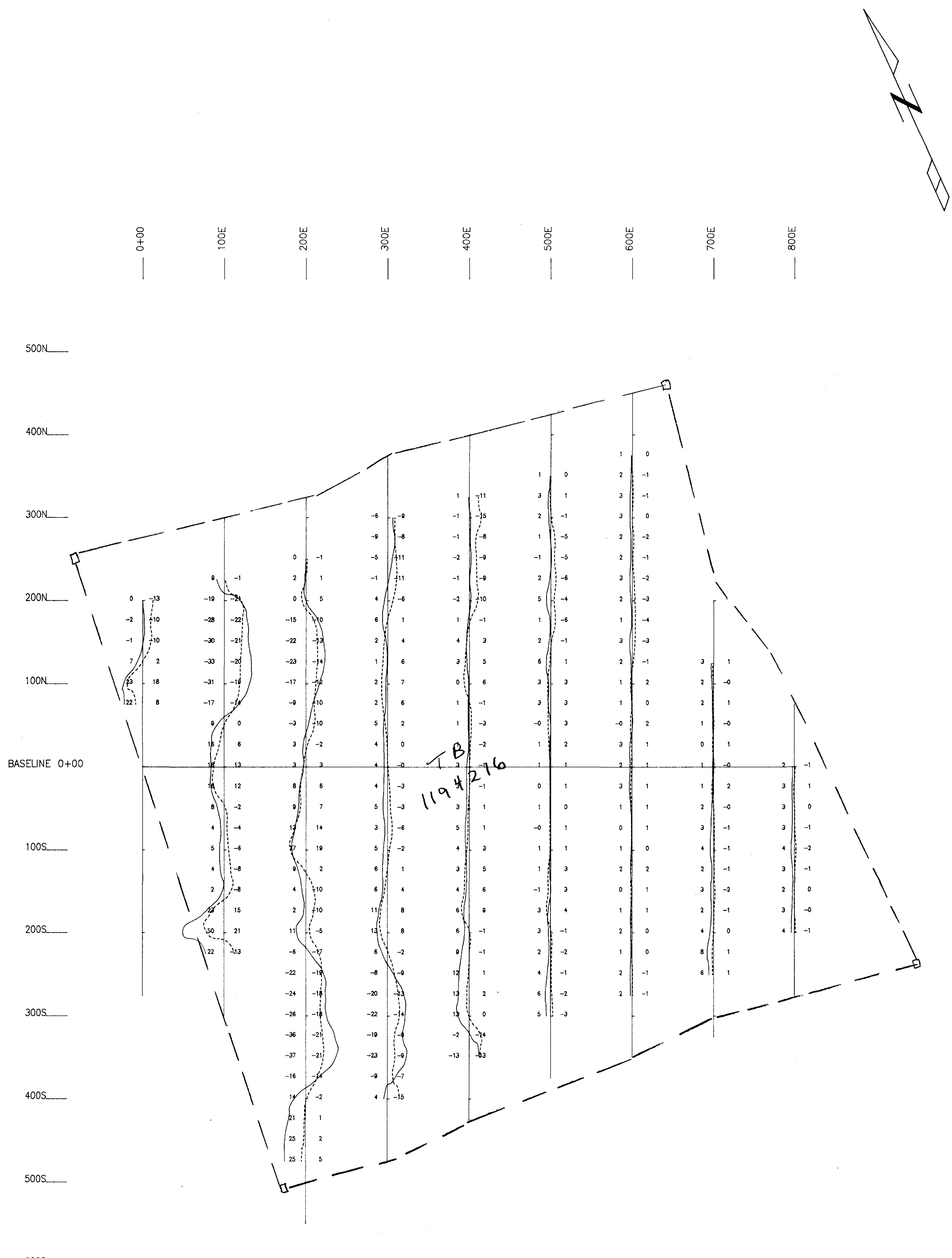
Instrument : OMNI
Field : TOTAL
Datum : 58000.0 nT

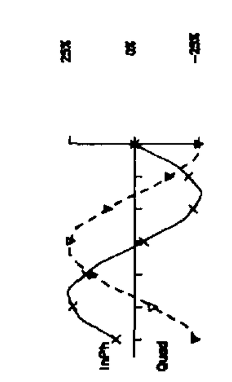
Contour Interval : 100 nT

Conductor Axis :

50m 25m 0m 50m 100m

240





Instrument : MAXMIN 1
Coil Spacing : 150m
Vertical Scale: 1 cm = 25%
Frequency : 440 Hz
In Phase
Quadrature

50m 25m 0m 50m 100m

MAP 6

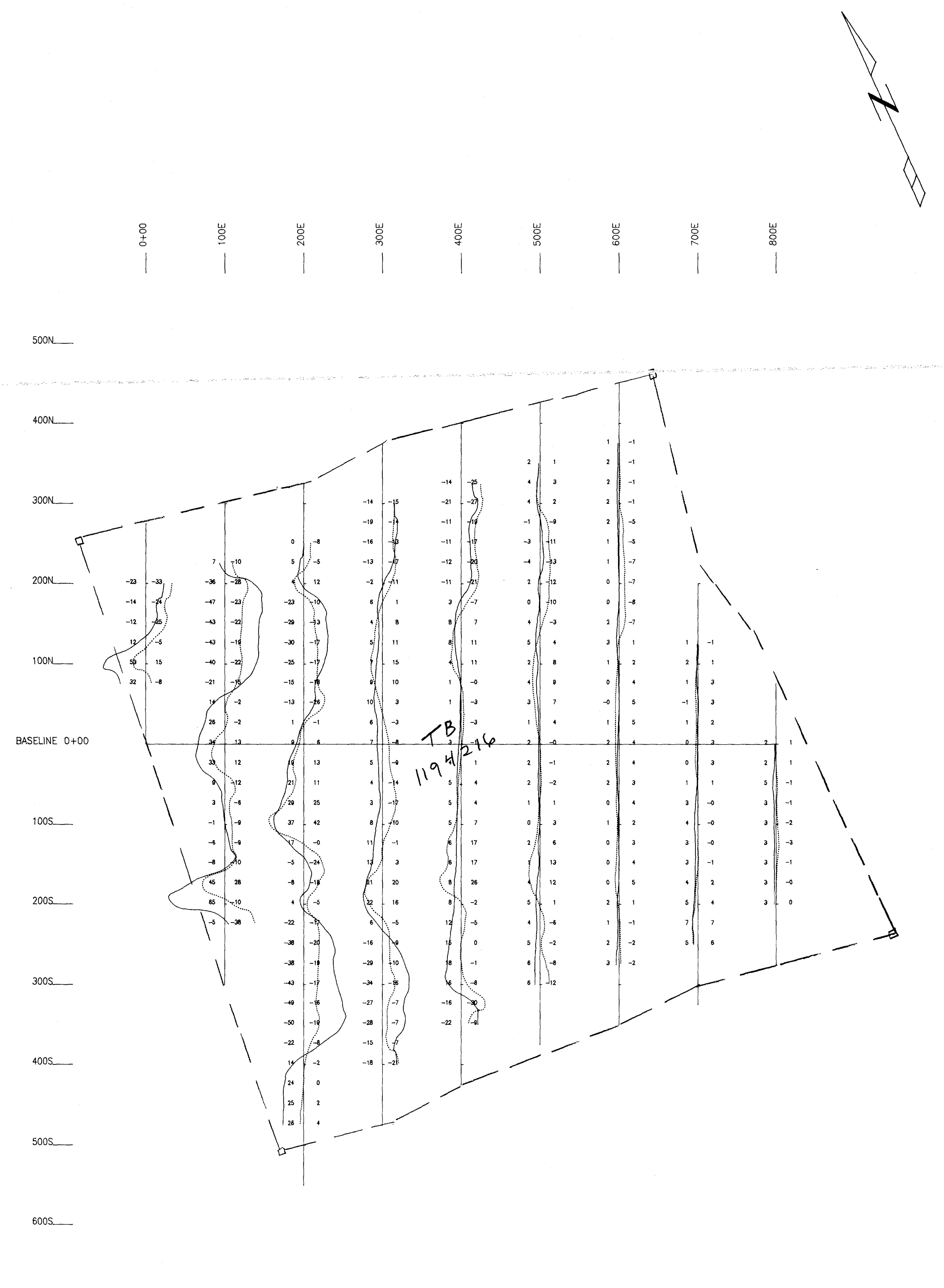
LADEROUTE/MURDY

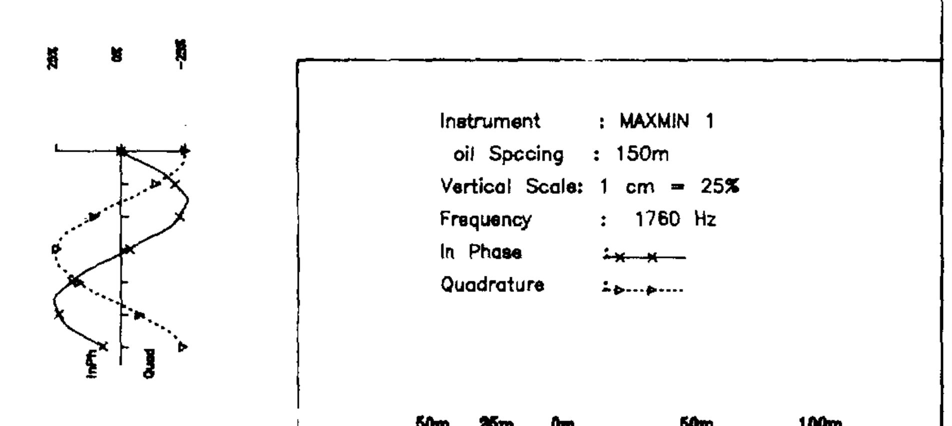
HLEM SURVEY
FREQ. 440 HERTZ
PROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.

SCALE = 1: 2500 DATE : 11/13/91
SURVEY BY : NWG NTS : 52 A/5
NORTHWEST GRID
NORTHWEST GEOPHYSICS LTD.

52A05NW8182 63.6218 ADRIAN 250

250





MAP 7

LADEROUTE/MURDY

HLEM SURVEY

FREQ. 1760 HERTZ

PROJECT: ADRIAN PROJECT # : 91-1

BASELINE AZIMUTH : 115 Deg.

SCALE = 1: 2500 DATE : 11/13/91

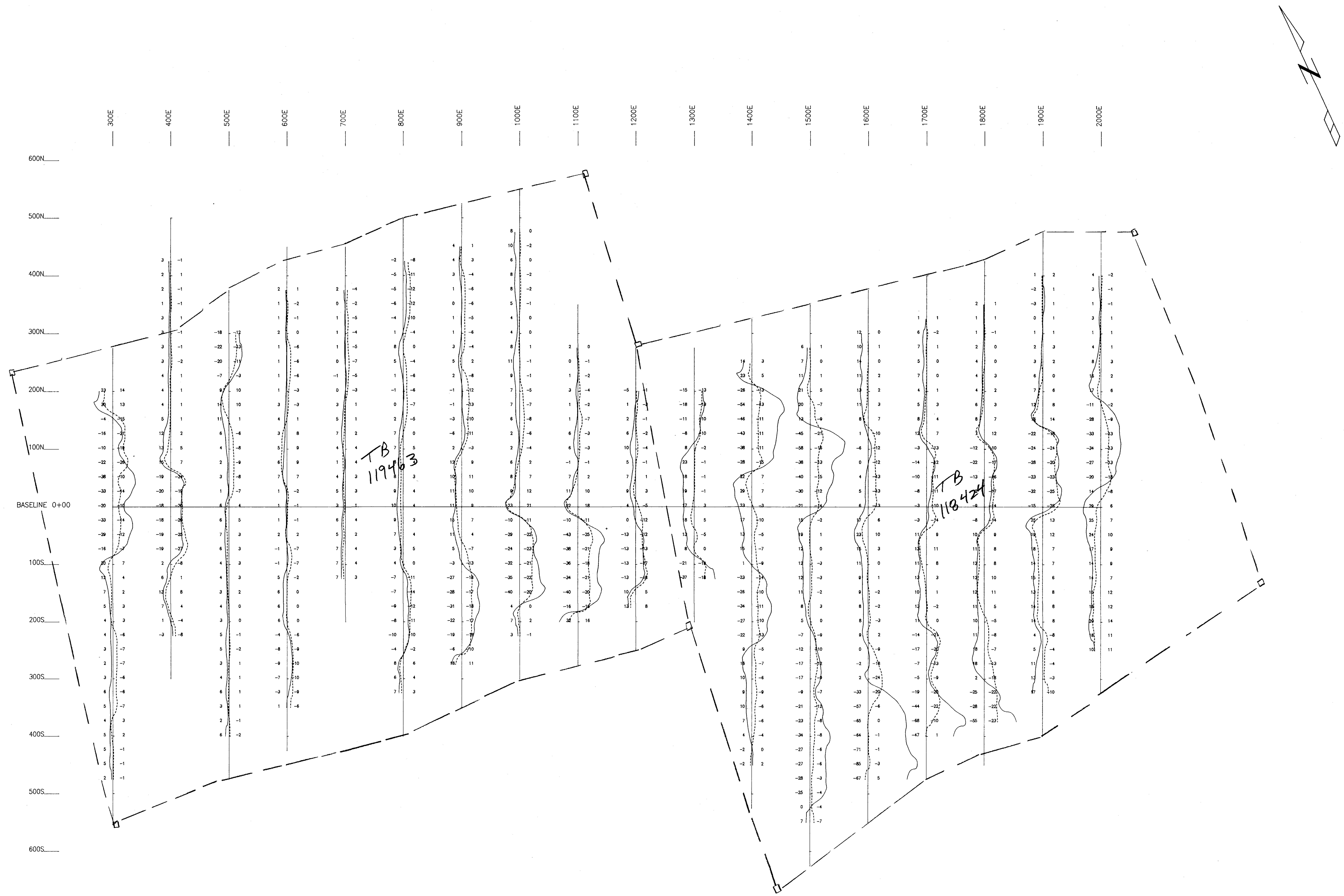
SURVEY BY : NWG NTS : 52 A/5

NORTHWEST GRID

NORTHWEST GEOPHYSICS LTD.

52A05NW8102 63.6218 ADRIAN

260



Instrument : MAXMIN 1
Coil Spacing : 150m
Vertical Scale: 1 cm = 25%
Frequency : 440 Hz
In Phase
Quadrature

50m 25m 0m 50m 100m

MAP 8

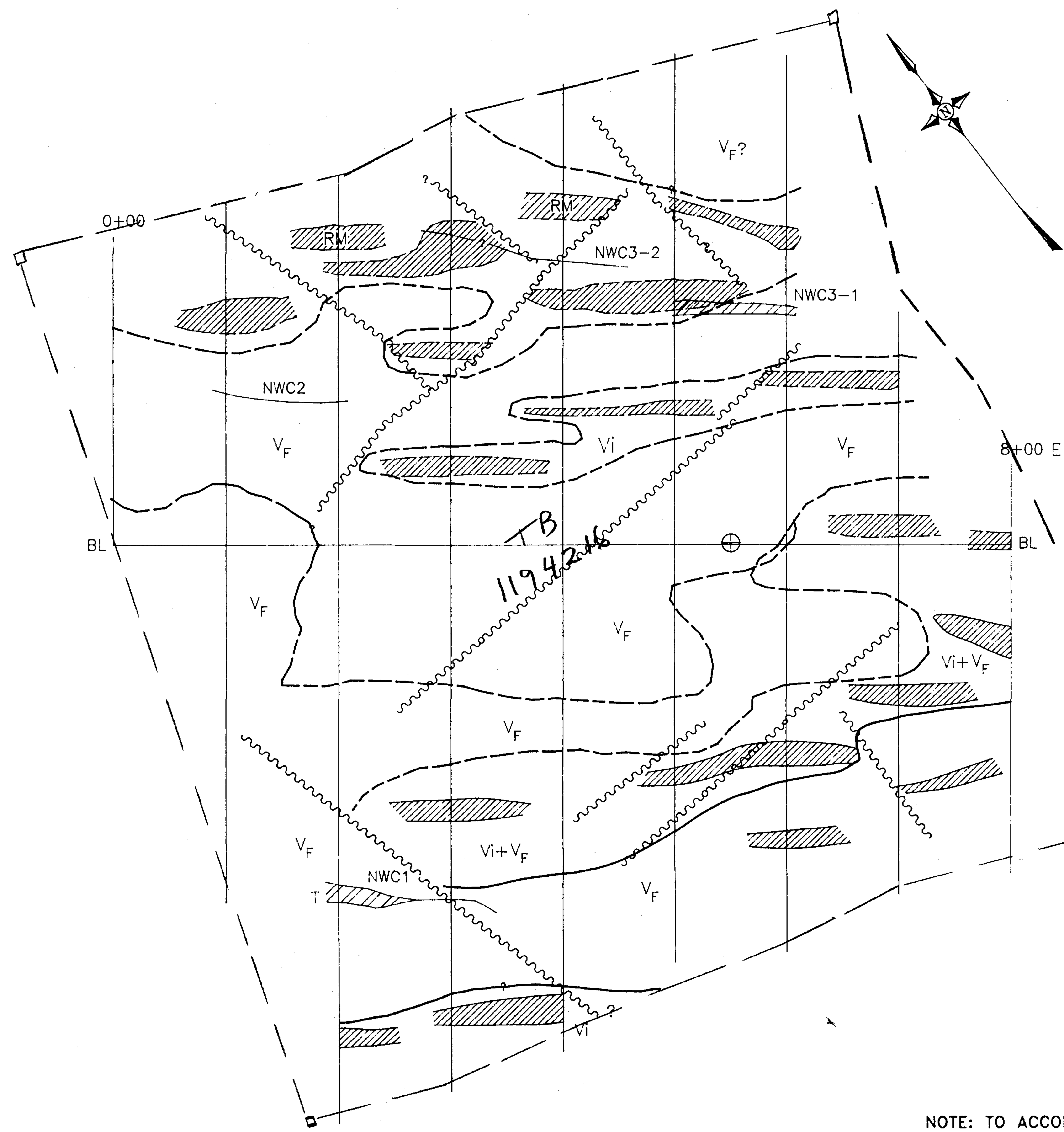
LADEROUTE/MURDY

HLEM SURVEY
FREQ. 440 HERTZ
PROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.

SCALE = 1: 2500 DATE : 11/16/91
SURVEY BY : MM NTS : 52 A/5
SOUTHEAST GRID
NORTHWEST GEOPHYSICS LTD.

270


300E
400E
500E
600E
700E
800E
900E
1000E
1100E
1200E
1300E
1400E
1500E
1600E
1700E
1800E
1900E
2000E
600N
500N
400N
300N
200N
100N
BASELINE 0+00
100S
200S
300S
400S
500S
600S
TB 119463
TB 118424
Instrument : MAXMIN 1
Coil Spacing : 150m
Vertical Scale: 1 cm = 25%
Frequency : 1760 Hz
In Phase
Quadrature
50m 25m 0m 50m 100m
MAP 9
LADEROUTE/MURDY
HLEM SURVEY
FREQ. 1760 HERTZ
PROJECT: ADRIAN PROJECT # : 91-1
BASELINE AZIMUTH : 115 Deg.
SCALE = 1: 2500
DATE : 11/16/91
SURVEY BY : MM
NTS : 52 A/5
SOUTHWEST GRID
NORTHWEST GEOPHYSICS LTD.
280



LEGEND

- OUTLINE OF MAGNETIC UNIT AND IDENTIFICATION (Vi)
- APPROXIMATE OUTLINE OF MAGNETIC BODY
- HORIZONTAL LOOP EM CONDUCTOR AXIS, WITH IDENTIFICATION, DIP AND WIDTH INDICATIONS (T, NWC1)
- INTERPRETED FAULT AND/OR SHEAR ZONE
- LOCATION OF ANOMALOUS SAMPLE

NOTE: TO ACCOMPANY REPORT BY FRANCIS L. JAGODITS, DIPL. ENG., P. ENG, CONSULTING GEOPHYSICIST JANUARY 1992.

LADEROUTE/MURDY PARTNERSHIP		
ADRIAN PROJECT		
ADRIAN-LAURIE PROPERTIES WIEGAND RIVER AREA ADRIAN TOWNSHIP, ONTARIO THUNDER BAY MINING DIVISION		
GROUND GEOPHYSICAL SURVEY INTERPRETATION MAP		
SCALE 1:2500	NTS 52 A/5	DATE JAN 1992

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