



31M13NE9800 2.15158 MULLIGAN

010

MULLIGAN IWR.

CLAIMS 1150621 AND 1186542

CONTENTS OF REPORT

PAGE

1. AUTHOR
1. BEGINNING HISTORY OF ABOVE CLAIMS
2. LOCATION
3. DEPOSIT TYPE
4. PREVIOUS WORK AND GEOLOGY
5. RATIONALE FOR INTEREST
6. COMPLETED AND PROPOSED WORK
7. INTERPRETATION 1993 a) EM. and
9. b) MAGNETICS
10. SUMMARY
11. RECOMMENDATIONS
11. EXPLANATION OF VERTICAL COIL EM.
16. PRESENT PROPERTY STATUS
17. ASSAY RESULT
18. APPLICATION TO RECORD STAKED CLAIMS

2.15158

SEPT. 1993

REPORT ON CLAIM GROUP 11550621 & 1186542
MULLIGAN TWP LARDER LAKE MIN DIV

INTRODUCTION:

I AM THE REGISTERED OWNER AND VENDOR OF THE ABOVE NOTED PROPERTY. MY ADDRESS IS 17 NIVEN STREET, P.O. BOX 241 NEW LISKEARD ONTARIO, P0J 1P0 PHONE (705) 647 8307

I GRADUATED FROM THE UNIVERSITY OF MANITOBA IN 1952 WITH A B.SC WITH OPTIONS IN PHYSICS AND GEOLOGY. SOME POSITIONS I HAVE HELD IN EXPLORATION INCLUDE SENIOR GEOPHYSICIST WITH INTERNATIONAL NICKEL, CHIEF GEOPHYSICIST WITH CONSOLIDATED TORONTO DEVELOPMENT CORPORATION, EXPLORATION MANAGER WITH KARL SPRINGER GROUP AND MACKENZIE SYNDICATE AND FIELD GEOLOGIST WITH CONSULTANTS DERRY, MICHENER AND BOOTH OF TORONTO.

I AM A REGISTERED PROFESSIONAL ENGINEER IN THE PROVINCE OF ONTARIO AND ALSO IN THE PROVINCE OF NOVA SCOTIA.

CURRENTLY I AM RETIRED BUT CONTINUING WITH EXPLORATION FOR MY OWN ACCOUNT.

HISTORY OF MULLIGAN TWP. CLAIM GROUP 1150621 AND 1186542
LOCATION OF PROPERTY:

MINING DIVISION: LARDER LAKE, DISTRICT OF TIMISKAMING
RESIDENT GEOLOGIST: GERHARD MEYER AT KIRKLAND LAKE
TOWNSHIP: MULLIGAN
NTS NUMBER: 31 M 13
LATITUDE AND LONGITUDE: 47 51 30" N BY 79 31' 30" W



LOCATION MAPS:

- A) SEE OUR LOCATION MAP No. 1 SCALE 1" TO 120 MILES SHOWING LOCATION OF TOWNSHIP IN ONTARIO.
- B) SEE LOCATION MAP No. 2 SCALE 1" TO 16 MILES SHOWING LOCATION RELATIVE TO ADJACENT TOWNSHIPS.
- C) SEE LOCATION MAP No. 3 SCALE 1 CM TO 1 KM SHOWING ROAD ACCESS FROM HIGHWAY No. 11

LOCATION VERBALLY:

MULLIGAN TOWNSHIP IS 23 KMS IN A STRAIGHT LINE ENE FROM THE TOWN OF ENGLEHART AND ON THE QUEBEC BORDER.

COMMENCING AT ENGLEHART ON HIGHWAY 11 PROCEED SOUTH A DISTANCE OF 6 KMS TO THE JUNCTION WITH HIGHWAY 569. PROCEED EAST ALONG 569 FOR 9.6 KMS AT WHICH POINT 569 TURNS SOUTH, HOWEVER CONTINUE DUE EAST FOR ANOTHER 2.2 KMS TO A CROSSROAD. AT THIS POINT TURN LEFT (NORTH) FOR A DISTANCE OF 3.2 KMS TO A "T" JUNCTION. AT THIS POINT TURN RIGHT (EAST) AND AS THE ROAD CROSSES THE INGRAM-PENSE BOUNDARY IT DETERIORATES SOMEWHAT INTO A FOREST ACCESS ROAD. FROM THE ABOVE "T" JUNCTION CONTINUE EAST AND THE ROAD WILL SWING NORTHERLY, FOR A DISTANCE OF 11.4 KMS. AT THIS POINT, THERE IS A SELDOM USED TIMBER TRAIL ON THE RIGHT HAND SIDE. PROCEED ON FOOT OR BY ATV ALONG THIS TRAIL IN A SE DIRECTION FOR ABOUT 1 KM WHERE IT CROSSED A FLOWING CREEK, THEN PASSES A HUNT CAMP AND REACHES OUR BASELINE AT 20 N (2000 METERS).

CLAIM MAP:

ENCLOSED FIND A RECENT CLAIM MAP OF MULLIGAN TOWNSHIP. PLAN No. M-373 SHOWING THE CLAIMS REFERRED TO, THIS BEING OUR MAP No. 4 INSERT.

PROSPECTING TARGETS AND DEPOSIT TYPE:

WE WERE INITIALLY LOOKING FOR BASE METALS BUT WERE ALSO AWARE OF THE POSSIBILITIES OF GOLD, AND OF SILVER AND COBALT NEAR THE DIABASE.

OUR ATTENTION WAS ON A NNW BREAK CROSSING THE QUEBEC BORDER INTO MULLIGAN TWP. THE BREAK FOLLOWS A LINEAMENT THAT SHOWS UP AS WEAKLY MAGNETIC BUT BEING MOST NOTICEABLE AT MULLIGAN LAKE. THIS BREAK IS SHOWN ON THE TIMMINS-KIRKLAND LAKE GEOLOGICAL COMPILATION MAP NO 2205 ODM.

SEE OUR MAP No. 5 BEING A PORTION OF GSC AEROMAGNETIC MAP 1494 G ENGLEHART SHEET WHICH SHOWS THE LINEAMENT WITH THE MAGNETIC COVERING MULLIGAN LAKE. THE ANOMALY APPEARS TO BE A DYKE, THE MAGNETIC EXPRESSION OF WHICH FADES AWAY TO THE NNW.

SEE OUR MAP No. 6 WHICH IS A COPY OF AIR MAG WORK DONE FOR SUDBURY CONTACT MINES, BY QUESTOR SURVEY AND HUBACHECK CONSULTANTS. THE AREAS SHOWN COVER THE NNW PROJECTION OF THE MAGNETIC ANOMALY AT MULLIGAN LAKE AND SHOWS THAT THE SURMISED DYKE ACTUALLY DOES EXIST AND DOES NOT FADE AWAY TO THE NNW AS SHOWN ON THE GSC AEROMAG MAP.

IT WILL BE NOTICED THAT OUR CLAIMS FALL ABOUT HALF WAY IN-BETWEEN THE MAGNETIC ANOMALY AT MULLIGAN LAKE AND THE TERMINATION OF THE AIR MAG COVERAGE SHOWING THE DYKE ON THE SUDBURY CONTACT MINES PROPERTY. WE ANTICIPATED THE PRESENCE OF THE DYKE ON OUR PROPERTY AND UNDERTOOK AN EM SURVEY TO LOCATE A SULPHIDE CONDUCTOR, POSSIBLY HAVING BASE METALS OR Py-Au MINERALIZATION.

GEOLOGY

THE GEOLOGY OF MULLIGAN TOWNSHIP HAS NOT BEEN MAPPED IN DETAIL, BUT SHOWN ON ODM COMPILATION MAP 2205 THERE ARE METASEDIMENTS (UNIT 5) WITHIN A GRANITIC BATHOLITH (UNIT 10) OVERLAIN BY HURONIAN SEDIMENTS-COLEMAN MEMBERS (UNIT 12) WHICH ARE IN TURN INTRUDED BY THE NIPPISSING DIABASE SILL (UNIT 14).

MINERALIZATION THAT CAN BE EXPECTED WOULD BE: CHALCOPYRITE IN UNIT 5 AS SEEN ACROSS THE BORDER IN QUEBEC, PYRITE AND GOLD AS SEEN ASSOCIATED WITH OTHER GRANITIC INTRUSIONS (UNIT 10), SILVER AND COBALT ARSENIDES ASSOCIATED WITH THE HURONIAN AND NIPPISSING DIABASE AS IN THE NEARBY COBALT CAMP , (UNITS 12 AND 14).

TO DATE PROSPECTING OF OUR CLAIMS HAS ONLY REVEALED RUSTY FRACTURING IN THE HURONIAN EAST OF OUR BASELINE WITH PYRITE AND MINOR CHALCOPYRITE.

SOME ENCOURAGEMENT CAN BE DERIVED FROM THIS SINCE OUR CONDUCTOR, WHICH IS ONLY ABOUT 200 FEET TO THE WEST OF THIS OBSERVED MINERALIZATION, DIPS UNDERNEATH IT.

PREVIOUS WORK

SEE OUR MAP No. 6 AGAIN WHICH SHOWS A PORTION OF THE ADJACENT LARGE BLOCK OF CLAIMS HELD BY SUDBURY CONTACT MINES OVER WHICH THERE HAS BEEN FLOWN AIRMAG AND AIR EM, AS WELL AS VERY EXTENSIVE GROUND GEOPHYSICS AND GEOLOGIC MAPPING.

BRIEFLY, THE AIR MAG SHOWS A NARROW MAGNETIC DYKE STRIKING DIAGONALLY NNW ACROSS THEIR PROPERTY. THE SE EXTENSION OF WHICH PROJECTS THROUGH OUR CLAIM GROUP TOWARDS MULLIGAN LAKE. THE AIR EM SHOWS SEVERAL DISCONNECTED CONDUCTIVE RESPONSES WHICH GROUND FOLLOW-UP INDICATES TO BE UNINTERESTING. THE DRILLING RESULTS HAVE NOT YET BEEN RELEASED AS DRILLING IS STILL UNDERWAY.

SEE OUR MAP No. 7 WHICH IS A COPY OF THE LOCATION OF ALL CREDITED ASSESSMENT WORK ON FILE AT THE MINING RECORDERS OFFICE IN KIRKLAND LAKE . IT CAN BE SEEN THAT NO WORK HAS BEEN CREDITED TO THE AREA WE HAVE STAKED. OUR PERUSAL OF OLD CLAIM MAPS BACK TO THE 1960'S SHOWS THAT OUR PROPERTY HAS NEVER EVER BEEN STAKED.

MAP No. 7 ALSO SHOWS THAT AT KIRKLAND LAKE THERE ARE DATA FILES NUMBERED KL 3004 AND KL 3049 ON FILE SUBMITTED BY SUDBURY CONTACT MINES COVERING THEIR STAKED GROUND BUT NOT OURS.

REASON/RATIONALE FOR INTEREST:

OUR INITIAL INTEREST IN 1990 WAS AROUSED BY THE MAGNETIC ANOMALY STRIKING THROUGH MULLIGAN LAKE LYING WITHIN A LINEAMENT THAT COULD REPRESENT A FAULT OR GEOLOGICAL BREAK.

WE CONSIDERED THE POSSIBILITY OF A PERIDOTITE INTRUSIVE SIMILAR TO THE NEARBY ONE IN THE SE CORNER OF ADJACENT PENSE TWP. WITH THIS INTRUSIVE OCCURRING WITHIN A FAULT ZONE, WE SHOULD BE LOOKING FOR COPPER, NICKEL AND PRECIOUS METALS IN SULPHIDE BODIES. SUCH SULPHIDE BODIES COULD BE CONDUCTIVE AND LOCATE-ABLE WITH VERTICAL COIL EM SURVEYS. IT WAS OUR INTENTION TO FOLLOW THIS STRATEGY.

IN 1991, WE BECAME AWARE OF ACTIVITY BY SUDBURY CONTACT MINES AND OBTAINED COPIES OF THEIR WORK SUBMITTED FOR ASSESSMENT CREDITS. THESE REPORTS ONLY COVERED THE CLAIMS THEY HELD AND SHOWED A DYKE WHERE WE HAD PREDICTED. NEVERTHELESS WE ENTERED CROWN LAND ON THE SE PROJECTION OF THEIR DYKE WHICH SEEMED TO STRIKE INTO MULLIGAN LAKE, AND UNDERTOOK EXPLORATORY EM IN A GRASSY MEADOW BETWEEN TWO MAJOR TOPOGRAPHIC HIGHS. WE FELT THAT AEM MIGHT HAVE MISSED CONDUCTORS IN THIS VALLEY, BECAUSE OF THE CHANGES IN ELEVATION EXPERIENCED BY THEIR AIRCRAFT. SEE OUR MAP No. 8 WHICH SHOWS THAT THE RAPID TOPOGRAPHIC RELIEF EXCEEDS SOME 80 METRES AT THIS LOCATION.

PROPOSED AND COMPLETED WORK:

IN 1991 WE ENTERED THE GRASSY MEADOW SET UP OUR VERTICAL COIL EM EQUIPMENT AND IMMEDIATELY LOCATED A CONDUCTOR OVER A DISTANCE IN EXCESS OF 1000 FEET. WE TEMPORARILY DISCONTINUED OUR EM AND STAKED A BLOCK OF 4 CLAIMS, No. 1150621.

WE THEN LAID OUT A CHAINED BASELINE HAVING AN AZIMUTH OF 330 TRUE AND READ CROSSLINES AT 200 METRE INTERVALS. THE CONDUCTOR CONTINUED COMPLETELY ACROSS THE CLAIM GROUP FROM BOUNDARY TO BOUNDARY FOR A DISTANCE IN EXCESS OF 900 METRES (3000 FEET). SEE OUR MAP No. 9 SHOWING THE EM RESULTS.

IN 1992 WE RETURNED TO DO A MORE DETAILED SURVEY AND CUT A GRID SYSTEM HAVING TRAVERSE LINES NOT AT 200 METRES OR SOME 650 FEET APART AS PREVIOUSLY BUT AT INTERVALS OF 200 FEET FOR GREATER DELINEATION. THE RESULTING EM SURVEY IS SHOWN ON OUR MAP No. 10.

THE VERTICAL LOOP EM RESULTS:

- A) PROVIDED ONLY SMALL SURFACE DIP ANGLES AT THE SPACINGS WE CHOSE BETWEEN TRANSMITTER AND RECEIVER.
- B) SHOWED THAT THE CONDUCTOR IS POORLY OUTLINED AT DISTANCE OF LESS THAN 800 FEET FROM THE TRANSMITTER. WE CONCLUDED THAT THE CONDUCTOR WAS DEEPER THAN ANTICIPATED, BUT WE WERE UNABLE TO PROBE DEEPER WITH THE EQUIPMENT WE WERE USING.

THIS EM SURVEY WAS THEN FOLLOWED BY A TOTAL FIELD MAGNETIC SURVEY USING A PROTON MAGNOMETER. THE RESULTS ARE PLOTTED ON OUR MAP No. 11 HOWEVER THE SURVEY WAS NOT COMPLETED BECAUSE WE WERE BOTHERED BY LARGE DIURNAL MAGNETIC CHANGES NECESSITATING MANY CORRECTIONS.

TO SUM UP, IN 1992 WE PERFORMED TWO GEOPHYSICAL SURVEYS NEITHER OF WHICH GAVE US ANY CONFIDENCE AND LEFT US WITH A DESIRE TO REPEAT THE WORK WITH MORE POWERFUL EM EQUIPMENT AND TO DO A REPEAT MAGNETOMETER SURVEY ON A QUIETER DAY.

IN NOVEMBER, AFTER FREEZE-UP WE RETURNED TO THE PROPERTY WITH A BACKHOE AND DUG A TRENCH ON LINE 10 W AT 2+50 E BECAUSE OF THE MAG HIGH AT THIS LOCATION. THE SEDIMENTS SHOWED CONSIDERABLE VARIETY AT THE NARROW MAG HIGH VARYING FROM QUARTZITE, LITHIFIED VARVES, MUDSTONE AND ARKOSE IN CONTACT WITH A VERY RUSTY SAND. WE OBTAINED A MAGNETIC ROCK SAMPLE AND SOME OF THE RUSTY SAND. THE COMBINED SAMPLE ASSAYED 0.088 OZ Au/Ton. SEE SKETCH No. 12 SHOWING THE TRENCH.

IN APRIL AND MAY 1993 WE RETURNED TO THE PROPERTY , SEE MAP 13 FOR THE DEFINITIVE EM SURVEY AND MAP No. 14 FOR THE FINAL MAG SURVEY. INTERPRETATION OF THE GEOPHYSICAL SURVEYS ARE ATTACHED:
MULLIGAN TWP. 4 CLAIM GROUP # 1150621

INTERPRETATION 1993

EM: LARGE COIL VERTICAL LOOP.

EARLIER WORK UNDERTAKEN IN 1992, USING EM EQUIPMENT OF RATHER LIMITED RANGE, LOCATED A CONDUCTOR THAT WAS EITHER DEEPLY BURIED, OR HAD POOR CONDUCTIVITY.

THIS YEAR WE EMPLOYED EQUIPMENT HAVING A USABLE RANGE OF OVER 2600 FEET, BEING DRIVEN BY A GASOLINE ENGINE FOR MAXIMUM POWER. THIS GAVE GREATER DEPTH PENETRATION AND ALLOWED OBSERVATION OF THE SECONDARY FIELD AT GREATER DISTANCES FROM THE TRANSMITTER.

IT WILL BE NOTICED THAT TRANSMITTERS T1 TO T5 INCLUSIVE WERE ALWAYS POSITIONED IMMEDIATELY OVER THE CROSSOVER/CONDUCTOR THIS GIVING MAXIMUM COUPLING.

NO LINES WERE READ CLOSER THAN 1000 FEET FORM THE TRANSMITTER. IN GENERAL LINES WERE READ AT 1000, 1200 AND 1400 FEET AWAY, AND IN ONE INSTANCE (LINE 20N) AT 2000 FEET AWAY. THE PURPOSE OF THIS WAS TO ENHANCE THE SIGNAL RESPONSE TO HELP IN INTERPRETATION OF CONDUCTOR -

DIP, STRIKE DIRECTION AND CONDUCTIVITY OR DEPTH. THEREFORE:

1. THE CONDUCTOR DOES NOT APPEAR TO BE DUE TO ANY GEOLOGIC FORMATION OR CONTACT ZONE. THIS MIGHT HAVE BEEN SUSPECTED AT ITS NORTHERN END BECAUSE THE CONDUCTOR FAVOURS THE VALLEY BETWEEN THE RAPIDLY RISING OUTCROPS ALONG ITS EAST AND WEST FLANK. HOWEVER AS THE CONDUCTOR CONTINUES SOUTHWARD AND INCREASE IN CONDUCTIVITY THE HURONIAN SEDIMENTS (COLEMAN MEMBER) RECEDE ON BOTH SIDES AND THE CONDUCTOR CONTINUES SOUTHWARD THROUGH A LOWLAND BOUNDED ON BOTH SIDES BY GRANITE.

THIS GRANITE IS THE BASEMENT ROCK THROUGHOUT THE AREA, AND SHOWS LARGER FELDSPAR PHENOCRYSTS AS WELL AS SEDIMENT-XENOLITHS ON THE CREST OF NEARBY RIDGES. A NON-CONFORMITY EXISTS BETWEEN THIS GRANITE AND THE OVERLAYING HURONIAN SEDIMENTS.

2. THE CONDUCTOR IS NOT DUE TO A CONDUCTIVE SHEAR ZONE. IF SUCH WERE THE CASE THERE WOULD BE GREATER LINEARITY ALONG ITS LENGTH AND THE DIP ANGLES WOULD BE WEAKER, ALSO THEY WOULD NOT INCREASE WITH DISTANCE FROM THE TRANSMITTER. INSTEAD THEY WOULD QUICKLY REACH A LOW MAXIMUM VALUE AND CONTINUE VIRTUALLY UNCHANGED ALONG ITS ENTIRE LENGTH.

3. INVESTIGATORS OF THIS CONDUCTOR SHOULD EXERCISE SOME CAUTION AT LINE 10 S. IT IS NOT CLEAR THAT THE CONDUCTOR ACTUALLY CONTINUES FROM LINE 8 S OVER TO 10 S AS SHOWN. IN FACT THERE IS A STRONG INDICATION THAT THERE ARE TWO CONDUCTORS PRESENT HERE, ONE AT 1+75 W AND ONE AT 4 W.

OTHER THAN THAT, THE CONDUCTOR RESPONSES ARE FAIRLY STRAIGHT FORWARD INDICATING A SHALLOW DIP OF POSSIBLY LESS THAN 30 DEGREES (CONJECTURE) TO THE EAST. GREATER CONDUCTIVITY IS SHOWN ON LINES 00 TO 8 S INCLUSIVE AND GOOD CONDUCTIVITY ON LINES 14 N TO 4 N INCLUSIVE.

THE SHORT LINES, DUE TO ROUGH TOPOGRAPHY, AT THE EXTREME NORTH END PREVENT EXHAUSTIVE INTERPRETATION, BUT SOME DIMINUTION OF CONDUCTIVITY SEEMS APPARENT.

MAGNETICS:

AN EARLIER SURVEY IN 1992 SUFFERED FROM LARGE DIURNAL CORRECTIONS. THE SURVEY WAS REPEATED IN ITS ENTIRETY IN 1993 AS SHOWN.

THE CONTOUR INTERVAL USED WAS 50 nT. BECAUSE OF HIGH MAGNETICS ALONG THE NORTH HALF OF THE GRID DUE TO GEOLOGIC NOISE WITHIN THE HURONIAN SEDIMENTS FROM 8 N TO 20 N. THE SOUTH HALF OF THE GRID AREA LOOKS MORE INTERESTING, PERHAPS, IF A CONTOUR INTERVAL OF 25 nT. WERE USED FROM 14 S TO 4 N INCLUSIVE.

THERE APPEARS TO BE A MAGNETIC ZONE WITHIN THE GRANITE LOWLAND AREA AT THE SOUTH END OF THE GRID STARTING AT 14 S, AND CONTINUING NORTHWARD. THIS ZONE COULD BE DUE TO A WEAKLY MAGNETIC INTRUSIVE. THE DYKE, IF THAT IS WHAT IT IS, DIPS TOWARD THE EAST AND HAS A NON MAGNETIC CONDUCTOR ALONG ITS UPPER CONTACT.

THE NORTH HALF OF THE GRID AREA FROM 6 N TO 20 N APPEARS TO BE AFFECTED BY A MAGNETIC GREYWACKE PHASE WITHIN THE SEDIMENT. BECAUSE OF THIS GEOLOGIC NOISE, INTERPRETATION DISAGREES COMPLETELY WITH THE EARLIER INTERPRETATION ABOVE, AND BECOMES UNRELIABLE IN ITSELF.

GEOLOGY:

VERY LITTLE PROSPECTING HAS BEEN DONE OFF THE GRID SYSTEM AREA. ROCKS SEEN DURING VARIOUS TRAVERSES AND WHILE STAKING WERE SINGULARLY UNINTERESTING, BEING EITHER GRANITE OR HURONIAN SEDIMENTS OF THE COLEMAN SERIES AND MOSTLY TILLITE WITH GRANITE CLASTS.

THE CONDUCTOR ITSELF DOES NOT OCCUR AT OUTCROP AND EVEN SEEMS TO AVOID THE NARROW TOPOGRAPHIC LINEAMENT THAT CONTAINS THE CREEK AND ITS NEARBY WATERFALL TO THE NORTH, AND PROMINENT ROCK

FRACTURES.

A TRENCH EXCAVATED IN LINE 10N+2+50E REVEALED MAGNETIC GREYWACKE IN CONTACT WITH A LOCALIZED LAYER OF RUSTY SAND. A COMBINED SAMPLE OF THE ROCK AND SAND GAVE AN ASSAY OF 0.088 Au. MORE AND A BETTER SAMPLING SHOULD BE UNDERTAKEN HERE, ALSO WITHIN THE TRENCH BUT 10 FEET MORE TO THE EAST OF THE ABOVE ASSAY, FRACTURES WITHIN THE SEDIMENT SHOWED MINOR RUSTY FRACTURES HAVING SMEARS OF CHALCOPYRITE AND PYRITE. THIS MIGHT BE AN INDICATOR THAT ENRICHMENT OCCURRED DURING EMPLACEMENT OF THE UNDERLYING DYKE AND CONDUCTOR ?

SUMMARY

1. A CONDUCTOR HAS BEEN LOCATED BY USING LARGE COIL VERTICAL LOOP EM.

THE CONDUCTOR IS THOUGHT TO BE:

- A) 3400 FEET LONG AND STRIKING APPROXIMATELY N-S.
- B) NON MAGNETIC
- C) NON LINEAR, SHOWING SOME CURVATURE
- D) NOT DUE TO FAULTING, CONTACT ZONES OR ROCK FRACTURING
- E) DIPPING TO THE EAST, POSSIBLY AS FLAT AS 30 DEGREES
- F) STRONGLY CONDUCTIVE, DIP ANGLES REPRESENTATIVE OF SULFIDES
- G) AT A DEPTH OF ABOUT 100 FEET
- H) CUTS DIAGONALLY ACROSS THE INTRUSIVE DYKE.

2. A WEAK SOMEWHAT LINEAR MAGNETIC ANOMALY HAS BEEN LOCATED WITHIN THE ARCHEAN GRANITES AT THE SOUTH END OF THE GRID SYSTEM AND CONTINUES NORTHWARD BENEATH THE HURONIAN SEDIMENTS. THERE IT STRENGTHENS DUE TO MAGNETIC HORIZONS WITHIN THE SEDIMENTS THEMSELVES.

THE MAGNETIC ANOMALY DIPS TO THE EAST, AS THE CONDUCTOR DOES,

BUT IT IS NOT DUE TO THE CONDUCTOR, BEING MUCH WIDER.

IT APPEARS TO BE INTRUSIVE INTO THE GRANITE, BUT NOT INTO THE SEDIMENTS.

See: - " QUANTITATIVE INTERPRETATION OF ELECTROMAGNETIC PROSPECTING METHODS "
GORDON F. WEST 1960

CONDUCTOR MODEL STUDIES IN A U. OF T THESIS BY G.F. WEST NEARLY MIRROR THE EM RESPONSE SHOWN ON OUR 00 LINE. THIS RESPONSE IS TYPICAL OF A GOOD CONDUCTOR IN WHICH THE RATIO OF

$$\frac{\text{DEPTH OF BURIAL OF A GOOD CONDUCTOR}}{\text{DISTANCE BETWEEN TRAVERSE LINE AND TRANSMITTER}} = 0.1$$

THE DIP-ANGLE RESPONSES ALSO IDENTIFY CONDUCTOR DIP BY SHOWING THAT THE DIP-ANGLES ON THE FOOTWALL SIDE OF THE DIPPING CONDUCTOR ARE CHARACTERISTICALLY DIFFERENT THAN THOSE ON THE HANGING WALL SIDE OF THE CONDUCTOR AND ALSO THAT THEIR MAGNITUDES VARY WITH CONDUCTOR DIP AND CONDUCTOR DEPTH AND CONDUCTIVITY.

RECOMMENDATIONS:

IT WOULD BE PREFERABLE TO HAVE A SECOND EM SURVEY PERFORMED USING A FREQUENCY OF ABOUT 300 HERTZ. IF THIS SECOND SURVEY, AT THE LOWER FREQUENCY, PRODUCED SUBSTANTIALLY SIMILAR RESULTS AS THOSE OBTAINED FROM THE 1000 HERTZ SURVEY THEN IT MAY BE SAID WITH GREATER CERTITUDE THAT THE CONDUCTOR IS DUE TO SULPHIDES. IN ANY EVENT, WE HAVE ENOUGH ENCOURAGEMENT AT THE MOMENT TO CONSIDER DRILLING, A SUGGEST LOCATION BEING LINE 00, DRILLING WESTERLY AS SHOWN, **MAP 16.**

VERTICAL LOOP ELECTROMAGNETIC SYSTEMS AND GENERAL METHOD

THE TRANSMITTER CONSISTS OF A VERTICALLY HANGING OR STANDING

COIL OF WIRE ACTING AS THE RADIATING ANTENNA AND DRIVEN BY AN OSCILLATOR OPERATING IN THE AUDIO RANGE. SOME ANTENNA LOOPS ARE HUNG IN THE FORM OF A TRIANGLE, FOR CONVENIENCE, AND MEASURE ABOUT 15 FEET TO A SIDE. SMALLER COILS ARE USUALLY WOUND AS A HOOP AND MEASURE ABOUT 1.5 FEET IN DIAMETER.

POWER IS OBTAINED FROM A GAS ENGINE-DRIVEN ALTERNATOR, OR A BATTERY-PACK WHICH USUALLY PROVIDES A PULSED SIGNAL TO CONSERVE BATTERY LIFE.

WITH THIS METHOD THE TRANSMITTER LOCATION IS FIXED AND THE VERTICAL PLANE OF THE TRANSMITTER COIL IS ALWAYS ORIENTED AT THE MOBILE RECEIVER.

RECEIVER:

THE RECEIVER IS A COIL OF WIRE MEASURING ABOUT 1.5 FEET IN DIAMETER CONNECTED TO AN AUDIO AMPLIFIER CIRCUIT WHICH DRIVES A SET OF EARPHONES, OR A METER, TO INDICATE SIGNAL AMPLITUDE. THE COIL IS NORMALLY HELD IN THE HORIZONTAL PLANE AND PROVIDED WITH A INCLINOMETER CALIBRATED IN DEGREES OF TILT.

THEORY:

THE ANTENNA RADIATES A PRIMARY FIELD HORIZONTALLY OUT THE AXIS OF THE VERTICAL HANGING LOOP.

SHOULD A SUBSURFACE CONDUCTIVE BODY IN THE SHAPE OF A VEIN OR VERTICAL SHEET BE PRESENT, THEN THIS SIMPLE HORIZONTAL FIELD WILL BE DISTORTED.

THE PRIMARY FIELD WILL INDUCE A SIGNAL INTO THE CONDUCTIVE MATERIAL WHICH WILL THEN RETRANSMIT THE SIGNAL IN THE FORM OF A SECONDARY FIELD.

THE COMBINED FIELD DISTORTION IS WHAT IS MEASURED IN THE

ELECTROMAGNETIC SYSTEM.

TECHNIQUE

IN THE ABSENCE OF NEARBY MATERIAL CONDUCTIVE TO THE FREQUENCY BEING USED, THE FIELD RADIATING FROM THE TRIANGULAR VERTICAL ANTENNA WILL BE HORIZONTAL THROUGH THE CENTRE OF THE LOOP.

A SECOND COIL, CALLED THE RECEIVER COIL, WHEN HELD VERTICALLY IN A PLANE PARALLEL TO THAT OF THE TRANSMITTER LOOP WILL BE IN A POSITION OF MAXIMUM COUPLING. THIS SIGNAL WHEN AMPLIFIED WILL RESULT IN A STRONG AUDITORY RESPONSE OBSERVABLE BY THE RECEIVER OPERATOR.

WHEN THE RECEIVER OPERATOR TILTS THE RECEIVER COIL OUT OF THE VERTICAL PLANE THE SIGNAL INDUCED WILL DECREASE. AT MINIMUM COUPLING BETWEEN THE TWO COILS, THAT IS WHEN THE TRANSMITTER COIL IS VERTICAL AND THE RECEIVER COIL IS HORIZONTAL, THERE WILL BE NEGLIGIBLE SIGNAL BEING PICKED UP AND THE OPERATOR WILL NO LONGER HEAR THE PRIMARY FIELD.

AT THIS TIME THE RECEIVER OPERATOR WOULD RECORD A READING OF ZERO DEGREES TILT OF THE RECEIVER COIL AWAY FROM THE HORIZONTAL PLANE (IN ORDER TO GET A NULL READING IN HIS EARPHONES). IT IS EASIER TO HEAR A NULL OR ZERO READING THAN IT IS TO HEAR A LOUD OR MAXIMUM READING. FOR THIS REASON THE NULL READINGS ARE RECORDED AS DEGREES OF TILT OFF THE HORIZONTAL PLANE. HOWEVER, SHOULD THERE BE MATERIAL PRESENT ABLE TO CONDUCT THE PRIMARY SIGNAL AND CONSEQUENTLY RE-RADIATE IT AS A SECONDARY FIELD, THEN THERE WILL BE FIELD DISTORTION BECAUSE OF THESE TWO DIFFERING VECTORS.

THE RESULTANT FIELD WILL NO LONGER BE IN A HORIZONTAL MODE BUT TILTED DEPENDING ON HOW STRONG THE DISTURBING OR SECONDARY FIELD IS. THE RECEIVER COIL IS AGAIN MOVED ABOUT UNTIL MINIMUM SIGNAL IS HEARD AND AGAIN THE CLINOMETER WILL INDICATE THE NUMBER OF DEGREES

OFF HORIZONTAL THE COIL MUST BE TILTED TO OBTAIN A NULL.

THE DEGREES OF TILT AND THE DIRECTION AWAY FROM THE HORIZONTAL IN ORDER TO OBTAIN A NULL OR MINIMUM SIGNAL, ARE THE READINGS THAT ARE RECORDED AND PLOTTED.

APPLICATION:

SUPPOSE A BASELINE HAS BEEN CUT WITH CROSSLINES FOR TRAVERSING, AT RIGHT ANGLES TO THE BASELINE, PRODUCING A GRID SYSTEM. SUPPOSE ALSO THAT FORTUITOUSLY THERE HAPPENS TO BE A CONDUCTIVE BODY OF SULFIDES LYING IMMEDIATELY BELOW THE BASELINE AND RUNNING ALONG ITS FULL LENGTH, AND SUPPOSE A TWO MAN CREW IS ABOUT TO UNDERTAKE A VERTICAL LOOP EM SURVEY OVER THIS GRID SYSTEM WITH THE TRANSMITTER STATIONED ON THE BASELINE AND THE RECEIVER OPERATOR STANDING ON A DISTANT CROSSLINE BUT AT THE FAR END OF THAT CROSSLINE.

WHEN BOTH OPERATORS ARE IN PLACE, THE RECEIVER OPERATOR WILL SIGNAL TO THE TRANSMITTER OPERATOR HIS POSITION ON THE GRID AND WAIT FOR THE TRANSMITTER TO BE TURNED ON.

THE TRANSMITTER OPERATOR WILL POINT THE PLANE OF THE TRANSMITTER LOOP AT THE STATION BEING OCCUPIED BY THE RECEIVER OPERATOR AND THEN TURN ON THE POWER.

THE RECEIVER OPERATOR WILL POSITION HIMSELF IN SUCH A WAY THAT HE IS FACING THE POINTED TRANSMITTER LOOP. HE WILL TURN ON HIS AMPLIFIER AND PLACE THE RECEIVER COIL IN THE HORIZONTAL POSITION. HAD THERE BEEN NO CONDUCTOR PRESENT HE WOULD FIND THAT IN ORDER TO OBTAIN A NULL OR MINIMUM SIGNAL, HIS RECEIVER COIL WOULD BE HORIZONTAL AND READING ZERO DEGREES OF TILT ON THE CLINOMETER.

WHEN THERE IS A CONDUCTOR PRESENT AND THE TOTAL FIELD IS DISTORTED DUE TO THE COMBINED PRIMARY AND SECONDARY, THE RECEIVER OPERATOR WILL FIND THAT A NULL READING CAN NOT BE OBTAINED WITH THE RECEIVER COIL HORIZONTAL. THE NULL WILL BE OBSERVED TO OCCUR WHEN

THE COIL IS TILTED IN SUCH A WAY THAT THE AXIS OF THE COIL WILL BE SLANTED TOWARDS THE CONDUCTIVE BODY UNDER THE BASELINE. THE DIRECTION AND AMOUNT OF TILT WILL BE RECORDED BY THE RECEIVER OPERATOR WHO WILL THEN INDICATE TO THE TRANSMITTER OPERATOR THAT THE READING HAS BEEN RECORDED.

UPON MOVING TO A NEW STATION THE RECEIVER OPERATOR WILL REPEAT THE ENTIRE SET OF MANOEUVRES DESCRIBED ABOVE.

THE RECEIVER OPERATOR WILL NOTICE THAT THE DEGREES OF TILT ALONG THE TRAVERSE LINE SLOWLY BECOME ZERO AS THE BASELINE OR CONDUCTOR IS APPROACHED AND THAT THE DIRECTION OF TILT WILL REVERSE AS THE CONDUCTOR IS CROSSED AND THE TRAVERSE AGAIN CONTINUED AWAY FROM THE BASELINE. THE POINT AT WHICH THE DIRECTION OF TILT CHANGES FROM LEFT TO RIGHT OR VICE VERSA IS CALLED THE CROSSOVER POINT. IN THE CASE JUST DESCRIBED, THE CROSSOVER POINT, THE ZERO NULL LOCATION, AND THE VERTICAL PROJECTION OF THE CONDUCTOR ARE ALL CO-INCIDENT.

THE RECEIVER OPERATOR WILL THEN PROCEED TO THE NEXT TRAVERSE OR CROSSLINE, AND SO ON, UNTIL THE ENTIRE GRID SYSTEM HAS BEEN COVERED.

INTERPRETATION GIVES THE LOCATION OF THE CONDUCTOR AS WELL AS ITS STRIKE AND LENGTH, ALL BEING OBVIOUS FROM THE LINE JOINING THE CROSSOVER POINTS. HOWEVER, EXPERIENCE IS REQUIRED WHEN DETERMINING CONDUCTOR DIP, CONDUCTOR DEPTH AND CONDUCTIVITY, AND THE EFFECTS AND INDICATIONS OF OTHER CONDUCTIVE ZONES ON OR ADJACENT TO THE GRID SYSTEM.

NO ONE SHOULD ATTEMPT EXHAUSTIVE INTERPRETATION WITHOUT BEING CONVERSANT WITH THE VERTICAL LOOP EM DATA AVAILABLE IN THE DOCTORAL THESIS BY G.F. WEST AT THE UNIVERSITY OF TORONTO DATED 1960 AND ENTITLED "QUANTITATIVE INTERPRETATION OF ELECTROMAGNETIC PROSPECTING MEASUREMENTS;

EQUIPMENT WE EMPLOY AND HAVE AVAILABLE FOR USE WAS ORIGINALLY DESIGNED BY INCO OF SUDBURY AND INCLUDES BOTH BATTERY

OPERATED UNITS AND GAS ENGINE ALTERNATOR DRIVEN UNITS. AUDIO FREQUENCIES AVAILABLE ARE: 300 Hz, 600 Hz, 985 Hz, 1000 Hz, 1800 Hz, & 5000 Hz.

PRESENT PROPERTY STATUS:

CLAIM BLOCKS 1150621 AND 1186542 ARE PRESENTLY BEING OPTIONED TO SUDBURY CONTACT MINES.

Fred H. Ellgring, P.Eng.

August 1993

F. H. Ellgring



1.

GEOLOGY

CLAIM GROUPS 1150621 AND 1186542.....MULLIGAN TWP.

THIS REPORT IS TO BE READ IN CONJUNCTION WITH OUR REPORT ON THE ABOVE CLAIM GROUPS SUBMITTED FOR ASSESSMENT WORK CREDITS.

MULLIGAN TWP. LIES NORTH EAST OF THE TOWN OF ENGLEHART WHICH IS ON HWY NO.11, BY SOME 30 KM. AND ABUTTS THE QUEBEC - ONTARIO BORDER. OGS REPORT 204 BY Z.L. MANDZIUK, 1980, COVERS RATTRAY TWP. ON THE NORTH BOUNDARY; AND OGS MISC. PAPER 69 BY H.L. LOVELL, 1977 COVERS PENSE TWP. ON THE SOUTH BOUNDARY. MULLIGAN CONTAINS STRATIGRAPHIC UNITS COMMON TO THESE THREE TOWNSHIPS.

GENERAL

THE MAP AREA LIES AT THE BOUNDARY BETWEEN THE SOUTH CENTRAL PART OF THE SUPERIOR PROVINCE, AND THE COBALT EMBAYMENT OF THE SOUTHERN PROVINCE, SOME 130 KM. NORTH OF THE GRENVILLE FRONT. BEDROCK FORMATIONS CONSIST CHIEFLY OF EARLY PRECAMBRIAN (ARCHEAN) METAVOLCANICS, METASEDIMENTS, AND PLUTONIC ROCKS AND MIDDLE PRECAMBRIAN (HURONIAN) SEDIMENTARY ROCKS. (MANDZIUK)

TABLE 1 SUMMARIZES THE LITHOSTRATIGRAPHIC CLASSIFICATION SCHEME OCCURRING IN THE AREA AS SEEN BY THE AUTHOR.

TABLE 1

Lithologic Units North West of Mulligan Lake, MULLIGAN TWP.

PHANEROZOICCENOZOIC

QUATERNARY; Swamp, peat, lacustrine clay and silt, stream sand and gravel, lodgement and ablation till, esker sand and gravel.

UNCONFORMITYPRECAMBRIAN

MIDDLE PRECAMBRIAN

MAFIC INTRUSIVE ROCKS (NIPISSING) ; Diabase and varied texture Diabase

INTRUSIVE CONTACT

HURONIAN SUPERGROUP (COBALT - COLEMAN MEMBER -GOWGANDA;

a) Diamictite lithosome, poorly sorted, matrix supported paraconglomerate with felsic intrusive pebble to cobble size clasts indurated matrix of poorly sorted fine sand, rock flour and mud-silt, generally dark grey to greenish or black.

b) Rhythmite lithosome, argillite, wacke, layered, graded arkose, quartzite, usually dull grey.

UNCONFORMITYEARLY PRECAMBRIAN

FELSIC INTRUSIVE ROCKS (ALGOMAN); Granite and Granitic rocks generally pink with feldspar phenocrysts.

UNCONFORMITY

METASEDIMENTS (PONTIAC); Altered quartz - biotite schist.

DESCRIPTIVE

EARLY PRECAMBRIAN:

PONTIAC GROUP of metasediments are poorly displayed in the map area, and appear as xenolithic inclusions within the intruding Algoman granitic rocks, or as relict ghosts of assimilated schists.

One large xenolith whose dimensions could not be ascertained because of overburden cover lies along the western slope of a prominent granite knoll northeast of the southwest corner of claim group 1186542 on the east side of a small seasonal stream.

Two smaller xenoliths, measuring 2m. by 3m., lie within the granite on the hill 200 m. north of No. 2 Post of gr. 1150621.

These metasediments are highly metamorphosed, exhibiting foliated structure, parallelism of interstitial platy minerals, and by compositional layering. There are alternating layers of of variable thickness from 0.5 cm. to 1 cm. consisting of concentrations of biotite and hornblende-rich layers which alternate regularly with greater thicknesses of quartz and plagioclase-rich layers. Sparse Pyrite mineralization occurs in rusty streaks within the biotitic layers.

ALGOMAN FELSIC INTRUSIVE rocks represent a large granitic batholith or massif (Chagnon 1968, Wilson 1912) crossing over from the Quebec border. They outcrop along the east side of our claim groups, and also within Gr. 1186542. This unit appears to be the basement rock type for the map area.

The granite is pink and notable for an abundance of large 1 to 1.5 cm. pale pink phenocrysts. There is a major exposure striking north-south along our eastern border with some outcrop central in Gr. 1186542 and near its northwest corner.

The latter outcropping has fewer phenocrysts, is somewhat darker in colour possibly representing a phase containing digested or assimilated more basic rocks.

MIDDLE PRECAMBRIAN

 HURONIAN SEDIMENTS unconformably overlie the granite batholith. The series appearing here is the Coleman Member of the Gowganda Formation. These unmetamorphosed rocks form two groups a lower Rhythmic Unit separated by a widespread disconformity from an upper or overlying Diamictite or glacial tillite. (MANDZIUK)

The only evidence of the above occurs within the lower levels of the trench on line 10N (1000 feet North of 00) on our cut and chained grid system. The trench terminates here in highly fractured rocks including a lower rusty incompetent sandstone overlain by a varved quartzite which is again overlain by a massive featureless tillite.

The lower level of the trench was in a water making seam in fractured and incompetent rock. A grab sample of the sandstone and adjacent crumbled rusty sand was taken and yielded a gold assay of 0.088 oz./ton. The presence of the unusual layers only seen here appears to indicate the above mentioned Rhythmite.

The bottom of the Diamictite or tillite is black and gritty and forms a thin magnetic layer probably due to fine magnetite, the extent of which shows up in the covering magnetic survey.

Upper levels and lateral extensions of this tillite contain occasional granite pebbles and small rounded to oblong felsic boulders, but always as scattered and rare clasts. This Diamictite varies from siltstone to fine grained wacke, the

predominant colour being a greyish green with occasional specks of Pyrite. Some basal conglomerate sections contain mudstone clasts measuring 10 cm. by 25 cm. and are horizontally oriented. These may be siltstone clasts from the underlying Rhythmite. Near vertical fracturing creates cliff faces 2 to 3 metres high in places and have a north-south strike. Fresh fracture faces were seen having Pyrite and in several instances, Chalcopyrite growths. This was observed intermittently over a distance of 500 metres northward but were not explored beyond this.

In contrast, the Diamictite along the west side of our claims is darker in colour, weathers a light tan but has no visible mineralization. The fracturing also exhibits a north-south strike creating attendant cliff faces or scarps. The rocks are usually massive, sometimes with indistinct bedding or layers and small dropstones. Thin short bands argillaceous pebbles were also noted being 2 to 3 cm. thick.

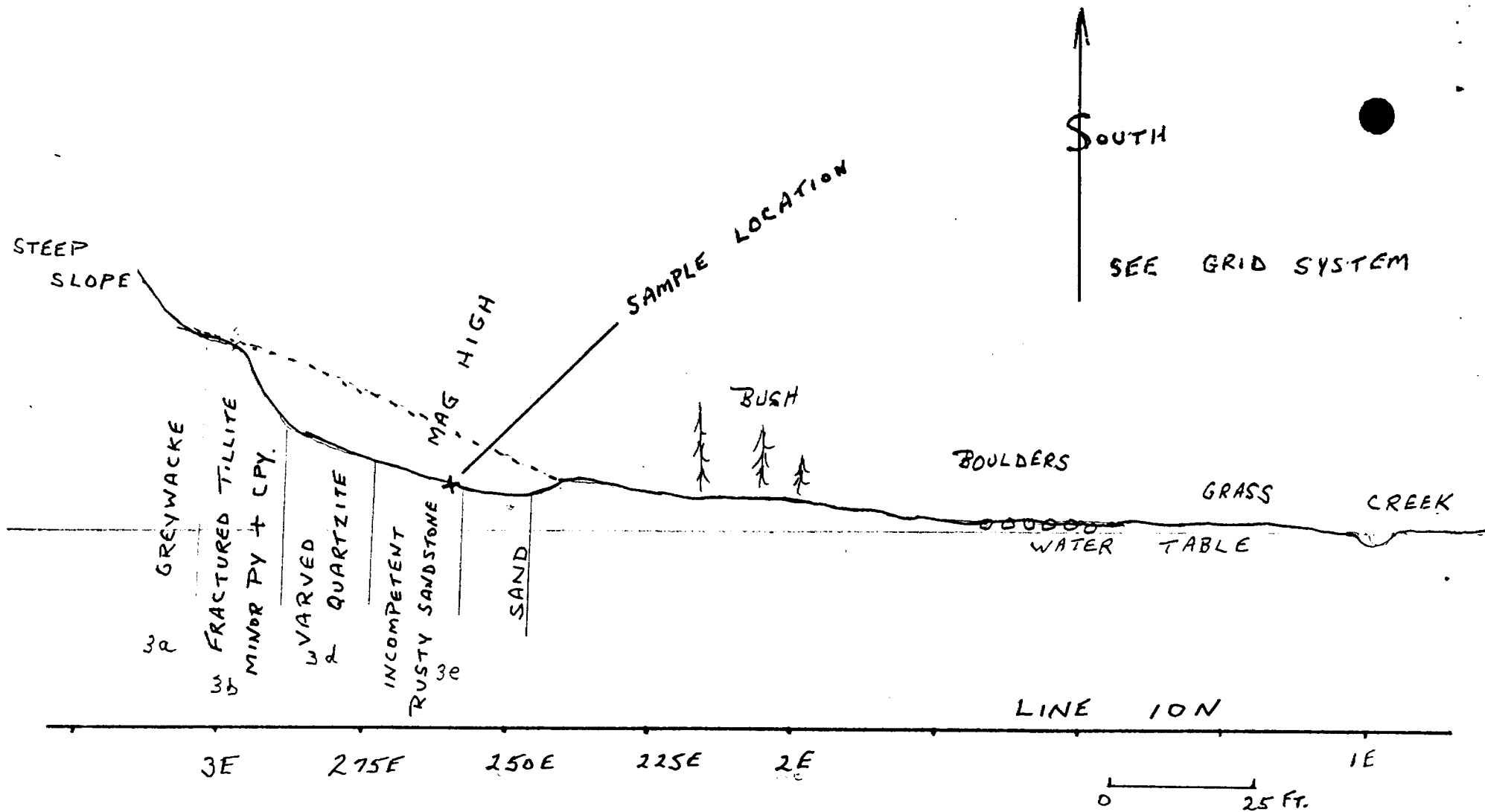
Contact between the lower granite and the overlying sediments was not actually seen but it is believed to be easily accessible at several localities. Primarily in the vicinity of Post No. 1 claim 1150621; also Post No. 3 claim 1186542 and just west of its west boundary.

NIPISSING MAFIC INTRUSIVES intrude the Huronian Supergroup. No such Diabase occurs nearby although prominent hills occur a few km. to the south-west along the road access to the area. In the Cobalt Camp these rocks are associated with strong cobalt silver mineralization.

SEE ACCOMPANYING GEOLOGICAL MAP ^{No. 17} ON SCALE 1 inch TO 400 ft.)

23 December 1993

F. H. Ellgring, geologist



SKETCH MAP No. 12

SCALE 1 INCH TO 25 FT.
 TRENCH DUG BY BACKHOE
 PROFILE, FACING SOUTH
 ASSAY 0.088 OZ. AU/T

GEOLOGY - TRENCH 50' LONG 6' WIDE 8' DEEP

NOV. 1992



Ontario

Ministry of Northern Development
Mines

Temiskaming Testing Laboratories

P.O. Box 799
Presley St.
Cobalt, Ontario
P0J 1C0
(705) 679-8313

Report Number

CB 12293

Laboratory Report

Date Dec. 4, 1992.

Issued To: Fred Ellgring

Sample Number	Gold Oz. Per Ton	Silver Oz. Per Ton	Cu Ppm	Pb Ppm
#1 MULLIGAN	0.088	Nil		
2 BAYLY	Trace	Nil	246	41

Fees Received

J. Ireland
A/ Manager

Except by special permission, reproduction of these results must include any qualifying remarks made by this ministry with reference to any sample.



Ministry of Northern Development and Mines

DOCUMENT NO. R9180 05146

Application to Record Staked Mining Claim(s) Mining Act

18

Part A

Received: Stamp LAKE DIVISION

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and will be used for serving notices. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar St., Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

SEP 16 PM 3 41

Please Print Using Ink or Type

RECEIVED

Name of Applicant

FRED H. ELLGRING

Transaction No.

R9180 05146

Address: Street, City/Town/Village, Province, Postal Code

28 HICKORY LANE
DARTMOUTH N.S. B2V 2A2

Licence No.

A 50897

Telephone No.

1 902 435 1953

Name and Address for Service in Ontario: (Required if Applicant Resides Outside of Ontario)

9 WILLAMERE DRIVE

SCARBOROUGH ON M1M

Name of Recorded Holder:

Same as above or:

Telephone No.

902 435 1953

Client No.

129312

Address: Street, City/Town/Village, Province, Postal Code

Name and Address for Service in Ontario: (Required if Recorded Holder Resides Outside of Ontario)

Mining Division

LARDER LAKE

Township(s) or Area(s) (Show Plan No.)

MULLIGAN

M 373

Group Claim Number	Tag Number	No. of 16 Ha. Units Per Claim	Description if Staking in Subdivided Township (Lot No., Concession No., Section of Lot)	Staking			Office Use
				Post No.	Date	Time	
2	1150621	4		Commenced	1991		5
				4	SEPT. 14	11:00 AM	
				Completed	1991		
				2	SEPT. 14	6:20 PM	
				Commenced			
				Completed			
				Commenced			
				Completed			
				Commenced			
				Completed			
				Commenced			
				Completed			

Office Use Only:

RECORDED

SEP 16 1991

09-16-91 4CL1002

CASH

40.00

Complete Sketch in Ink

MULLIGAN TWP.

47°

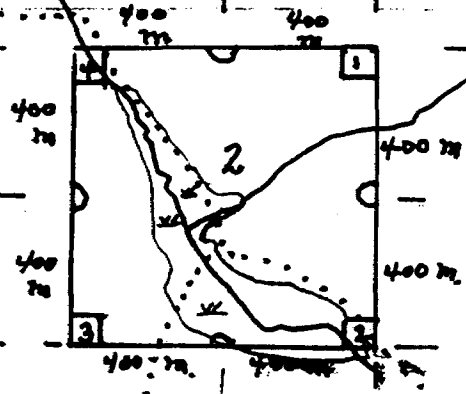
Group sketch of claims issued by the
Sketch or plan of the mining claim (a) must show the corner posts, witness posts, and
the posts and the distances between the posts in meters.

Include topographic features such as roads, rivers, creeks, ponds, etc. and
developments such as hydro lines, telephone lines, railways, pipelines, buildings, etc.

Group sketch on Part I

LITTLE
SKELETON
CREEK

Astronomic
NORTH



SUDBURY CONTACT MINES

CLAIM GROUP

SKELETON CREEK

SCALE 1:20,000

1000 ft.

1000 m.

MULLIGAN LAKE
47°52'

79°32'

Application to Record Staked Mining Claim(s)
Mining Act

LAKE
Received Stamp
APR 11 84
19
Part A

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and will be used for serving notices. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar St., Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

Please Print Using Ink or Type

Name of Applicant: **FRED H. ELLGRING** ^{CF} 129312
 Address: Street, City/Town/Village, Province, Postal Code
28 HICKORY LANE
DARTMOUTH N.S. B2V2A2

Transaction No.
 Licence No. **A50897**
 Telephone No.

Name and Address for Service in Ontario: (Required if Applicant Resides Outside of Ontario)
c/o JOHN T. WARD 9 WILLAMERE DR.
SCARBOROUGH ON M1M (416 261 8477)

Name of Recorded Holder:
 same as above or:
 Address: Street, City/Town/Village, Province, Postal Code

Telephone No. **902 435 1953**
 Client No. **129312**

Name and Address for Service in Ontario: (Required if Recorded Holder Resides Outside of Ontario)

Mining Division: **LARDER LAKE**
 Township(s) or Area(s) (Show Plan No.): **MULLIGAN TWP. M 373**

Map Number	Tag Number	No. of 16 Ha. Units Per Claim	Description if Staking in Subdivided Township (Lot No., Concession No., Section of Lot)	Staking			Office Use
				Post No.	Date	Time	
D	1186542	4		Commenced	#1	30 MAY '92	9 AM
				Completed			
				Commenced			
				Completed			
				Commenced			
				Completed			
				Commenced			
				Completed			
				Commenced			
				Completed			

Office Use Only:

06-01-92 4CL3669 CASH 40.00

Please Complete Sketch in Ink

Part D

Magnetic Declination Used.

10° W

Scale:

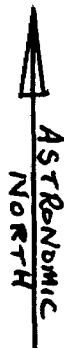
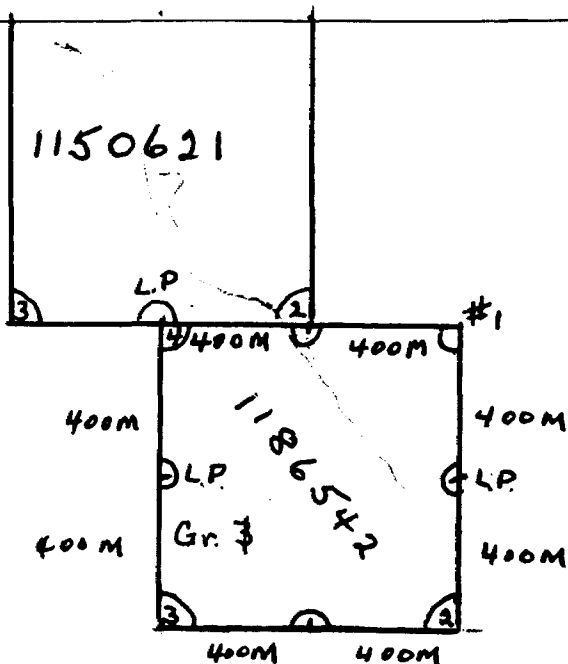
1:20,000.

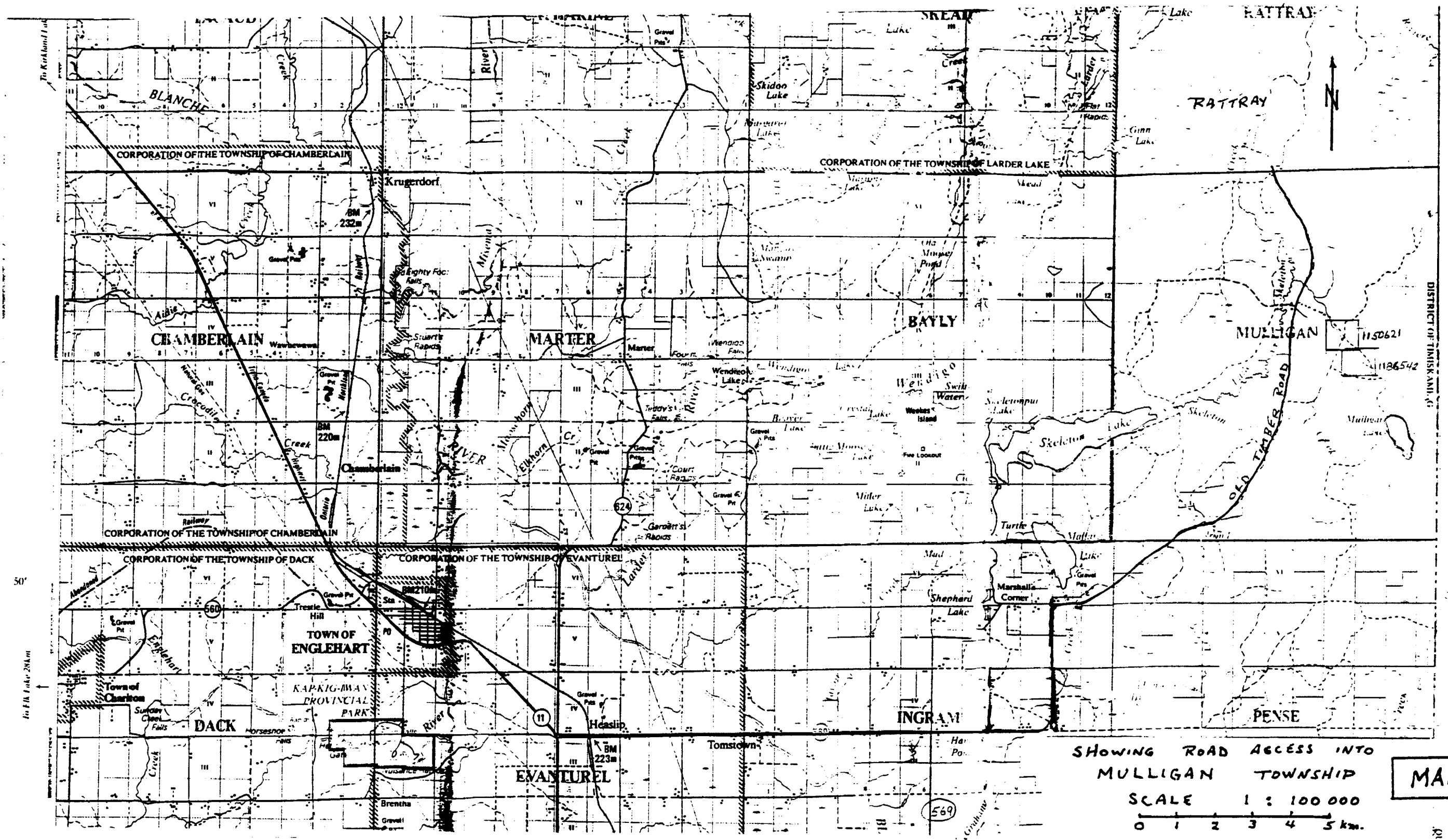
Group Sketch of claims listed on Part A.

Sketch or plan of the mining claim(s) must show the corner posts, witness posts, and line posts and the distances between the posts in metres.

Include topographic features such as lakes, rivers, creeks, ponds, etc. and developments such as hydro lines, highways, railways, pipelines, buildings, etc.

Refer to sample sketch on Part C.





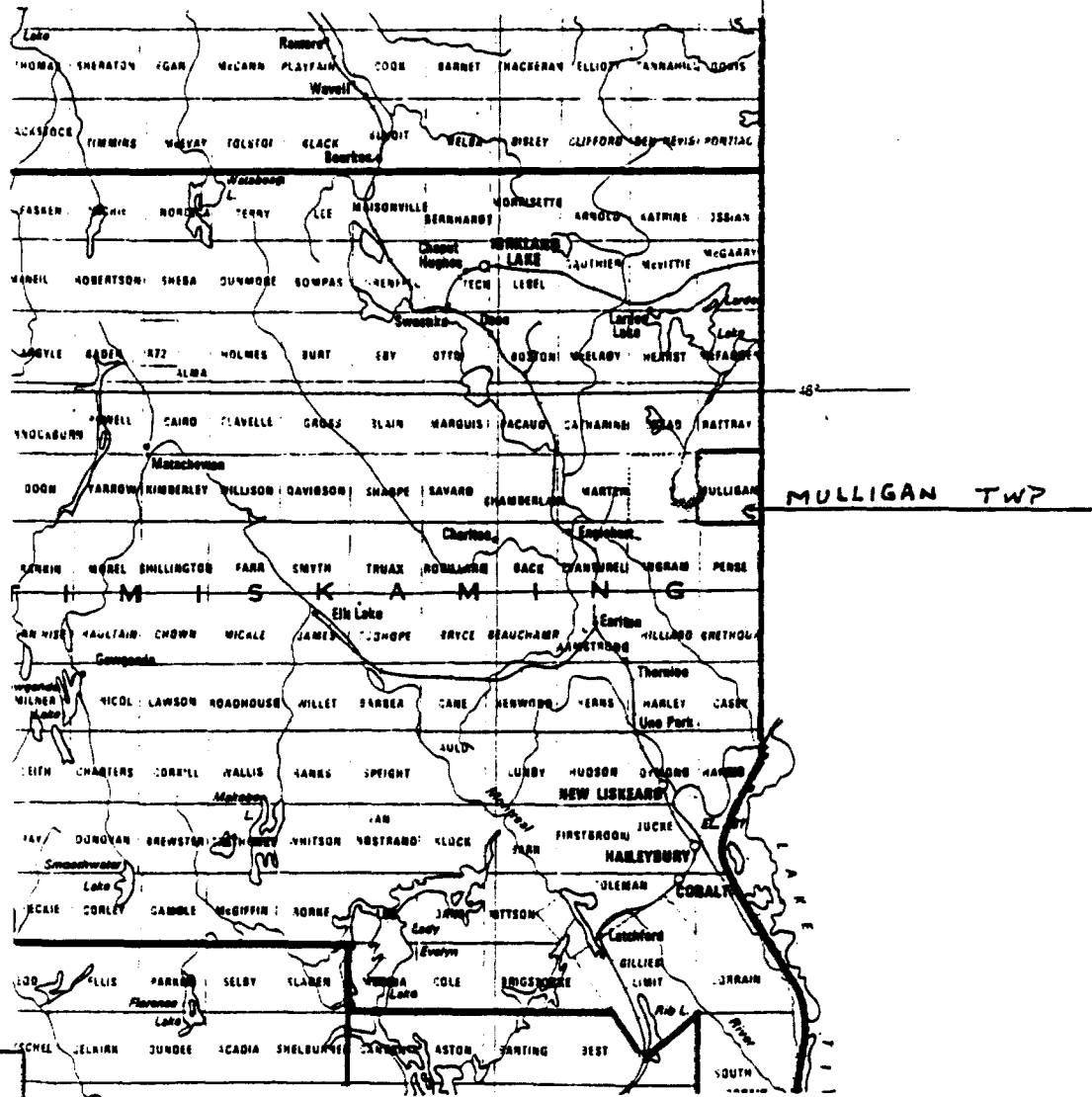
DISTRICT OF TIMISKAMING
QUEBEC

SHOWING ROAD ACCESS INTO
MULLIGAN TOWNSHIP
SCALE 1 : 100 000
0 1 2 3 4 5 km.

MAP # 3

2.15158

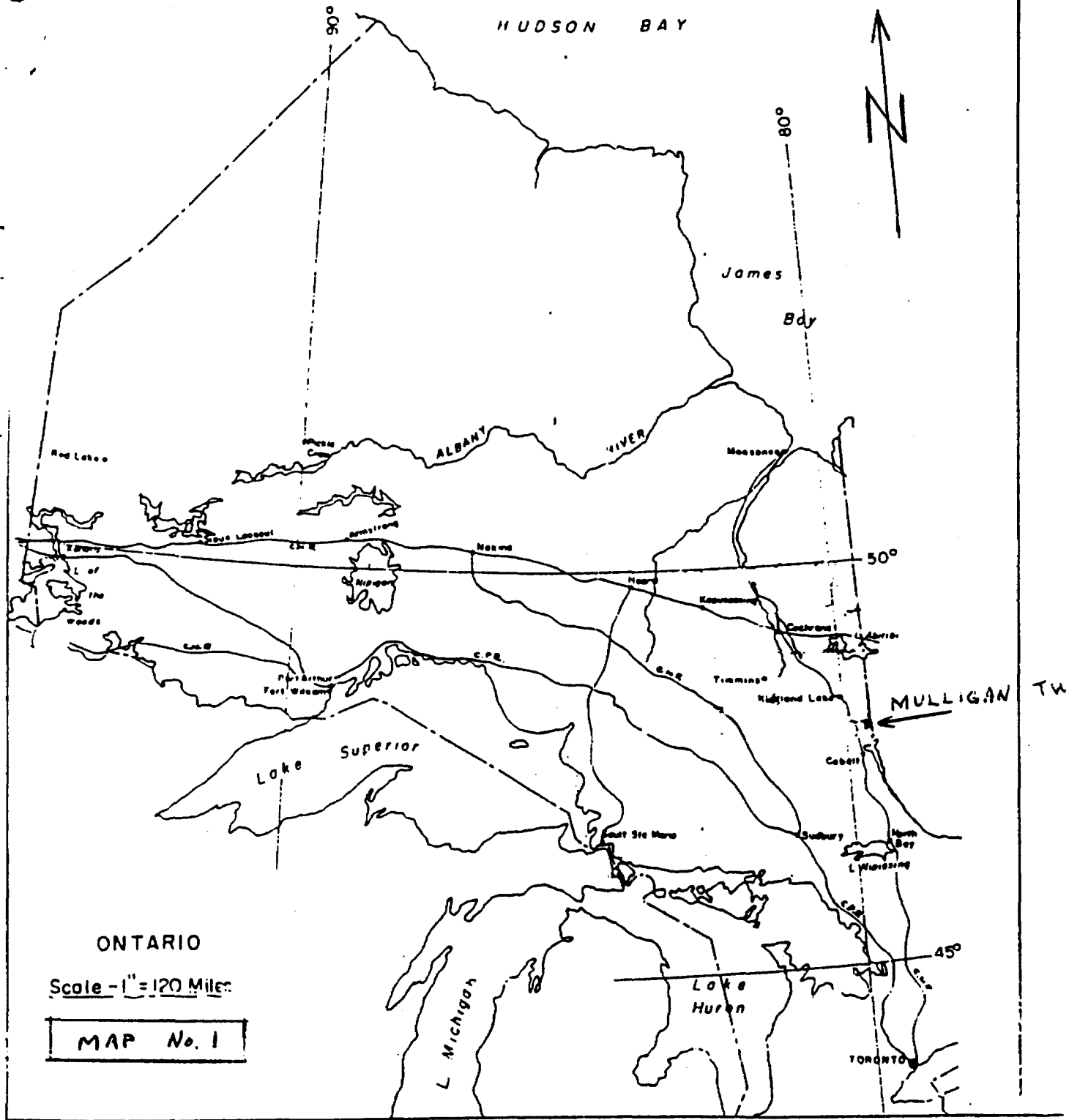
MULLIGAN Township is located about 14 km east-northeast of the Town of Englehart and is 24 km directly south of the community of Larder Lake in the District of Timiskaming.



MAP No. 2

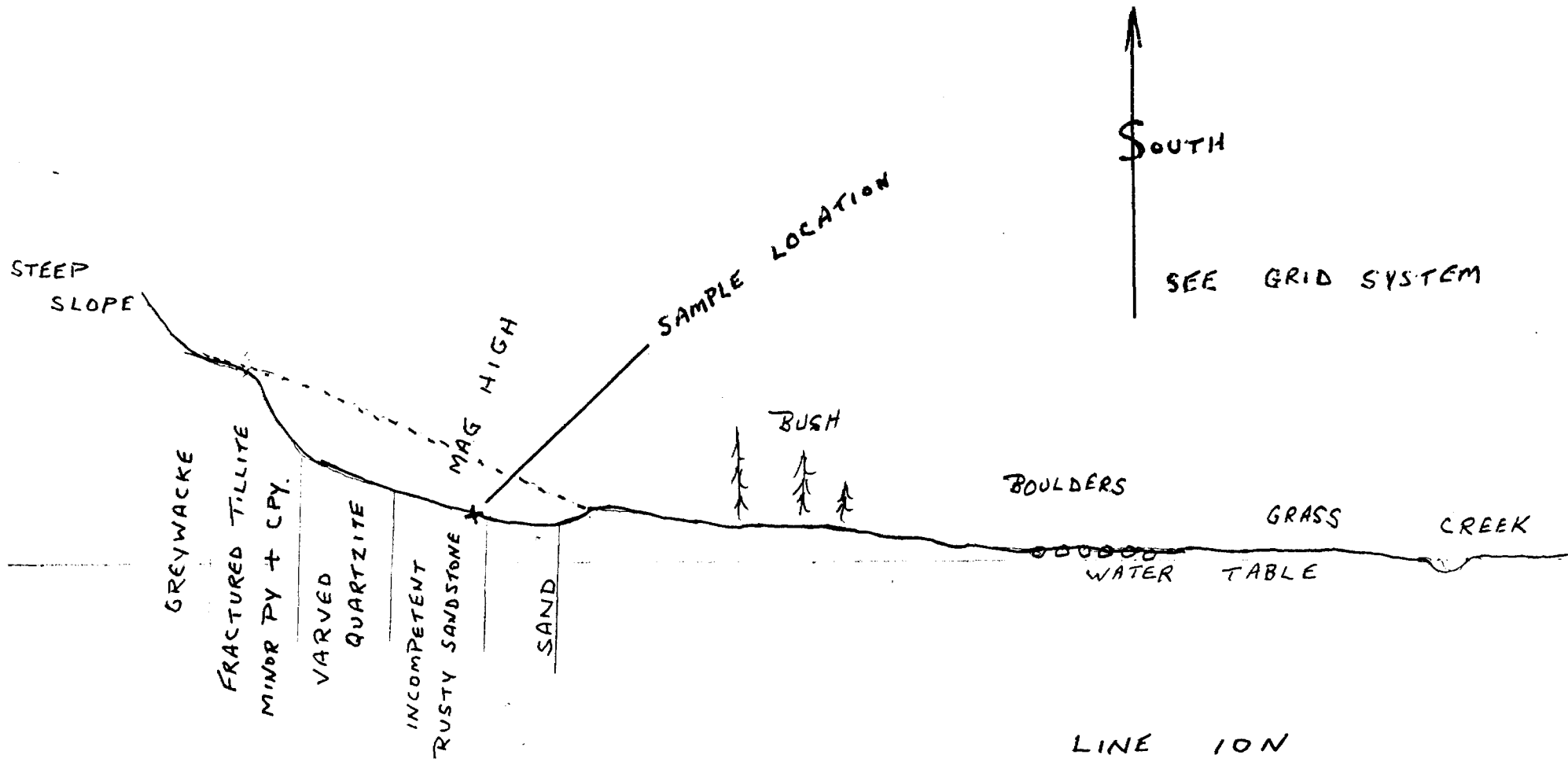
Location map for MULLIGAN TWP. The scale is 1:1 013 760 (1 inch to 16 miles).
IN RESPECT TO ADJACENT TOWNSHIPS.

2.15158



POSITION OF MULLIGAN TWP IN ONTARIO

2.15158

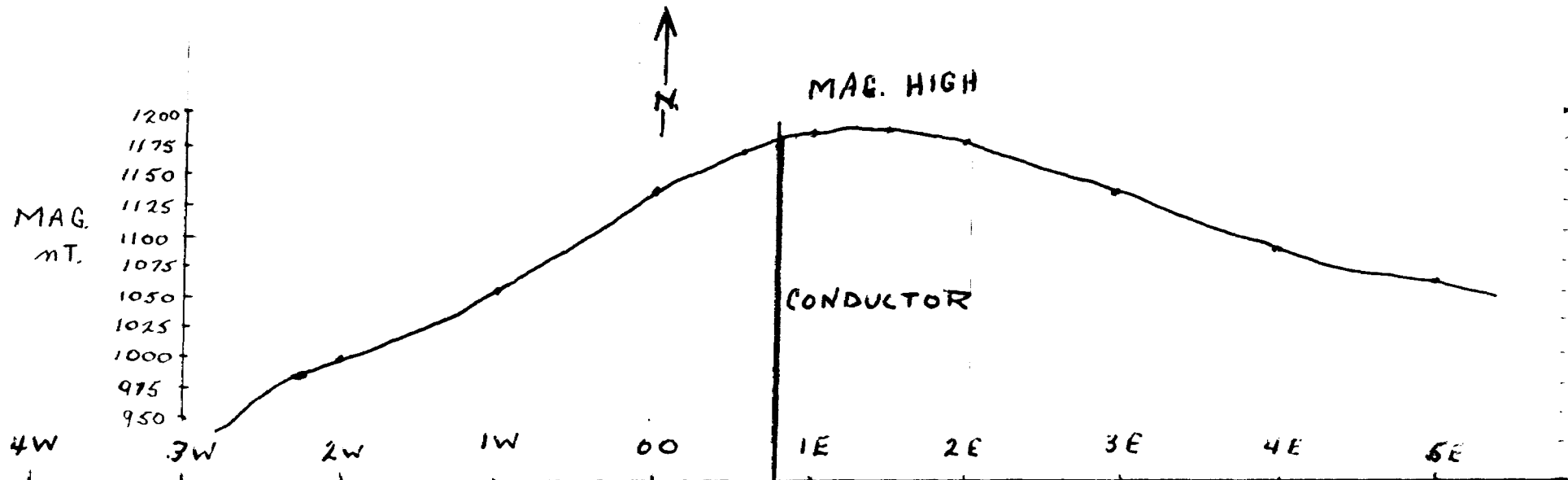


SKETCH MAP No. 12

SCALE 1 INCH TO 25 FT.
 TRENCH DUG BY BACKHOE
 PROFILE, FACING SOUTH
 ASSAY 0.088 OZ. AU/T

TRENCH 50' LONG 6' WIDE 8' DEEP

NOV. 1992



LINE 00

OVERBURDEN

HURONIAN SED.

DYKE

GRANITE

GRANITE

SUGGESTED DRILL HOLE LOCATION

SCALE 1 INCH TO 100 FT.

MULLIGAN TWP. CLAIMS 1150621

CONDUCTOR

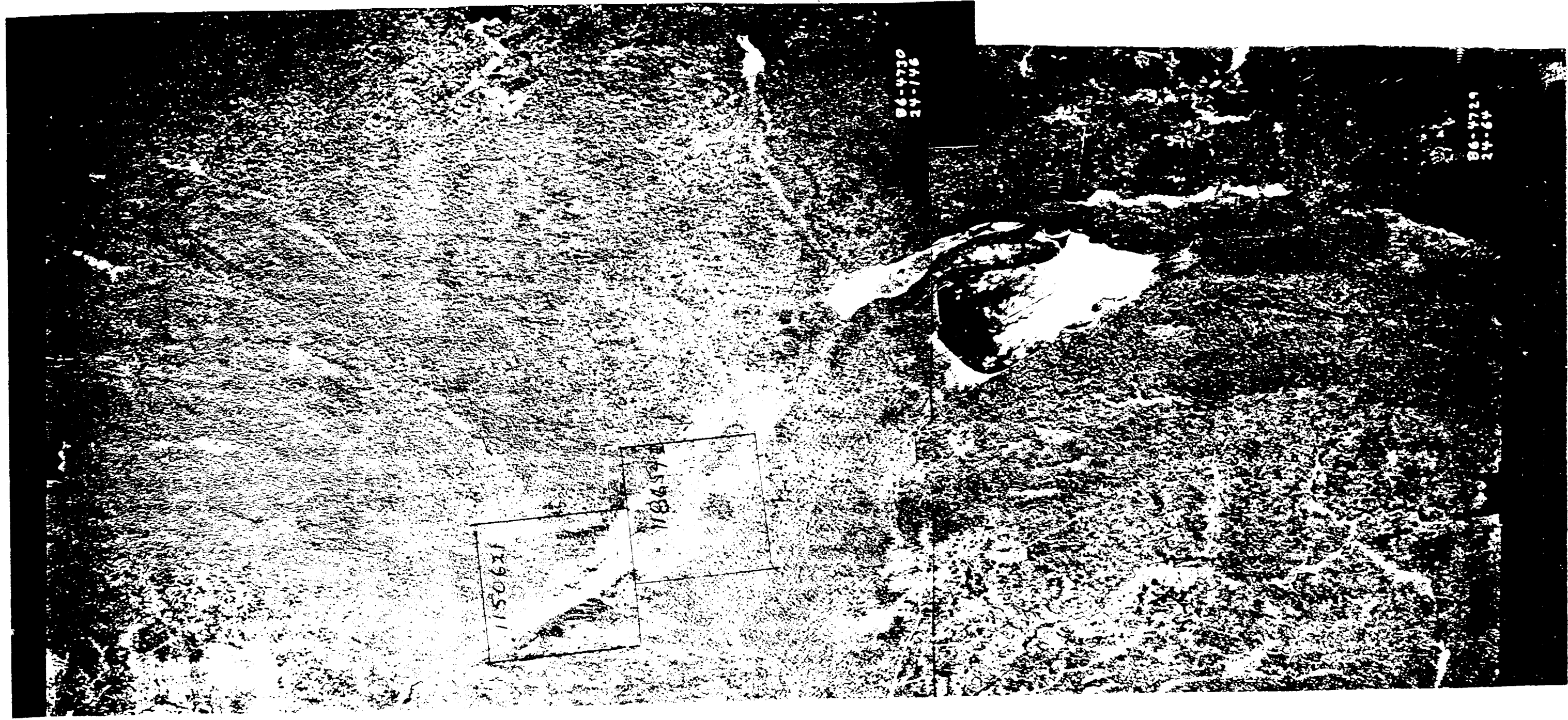
DDH.

500'

60°

COLLAR

SKETCH MAP No. 16



86-4730
24-746

86-4729
24-64

115061
118459

ASTRO NORTH
MAG. NORTH

MAP # 5
AERO MAGNETIC 1494G

SCALE 1 : 63 350



SUDBURY CONTRACT
MINES



CLAIM GROUP
1150/621

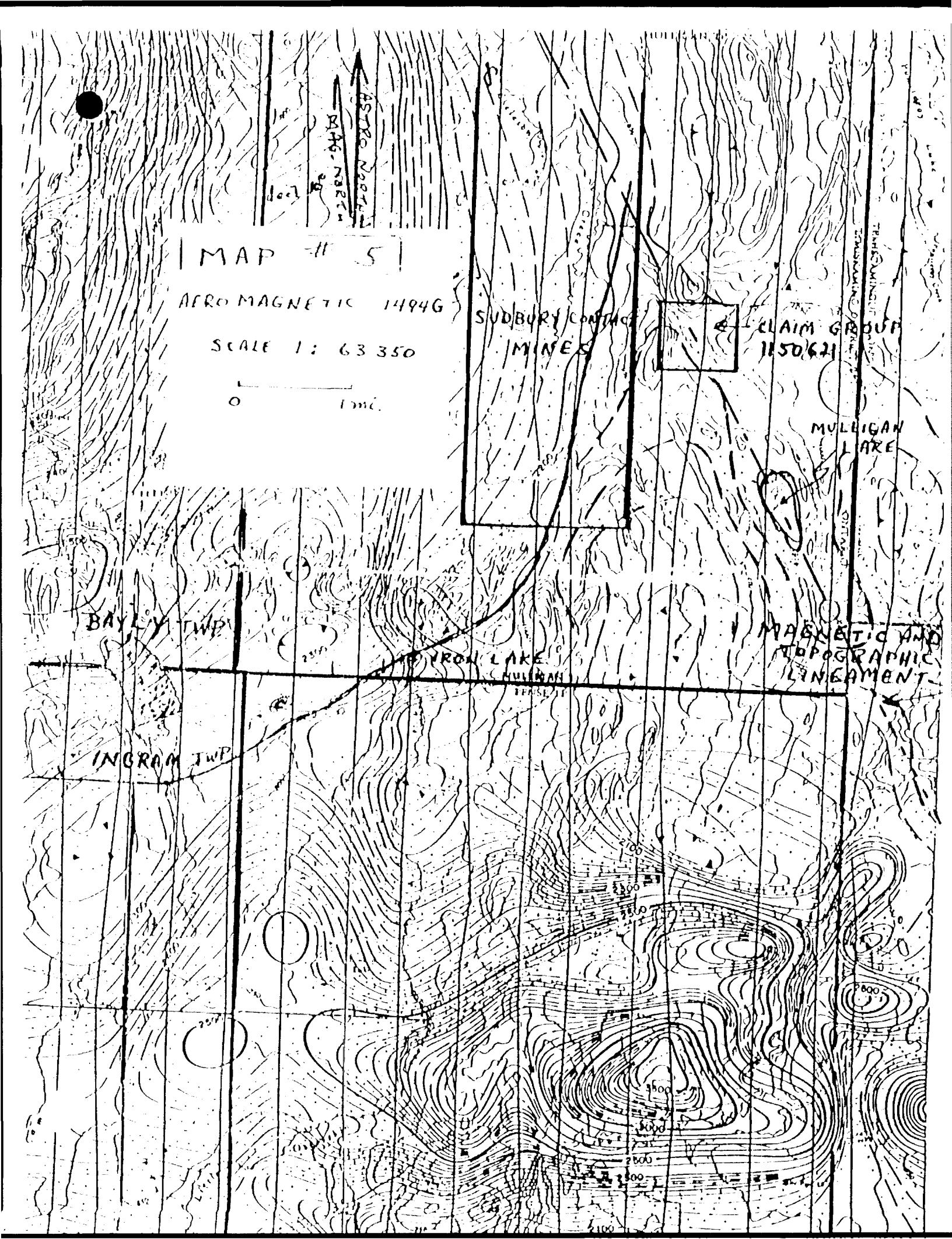
MULLIGAN LAKE

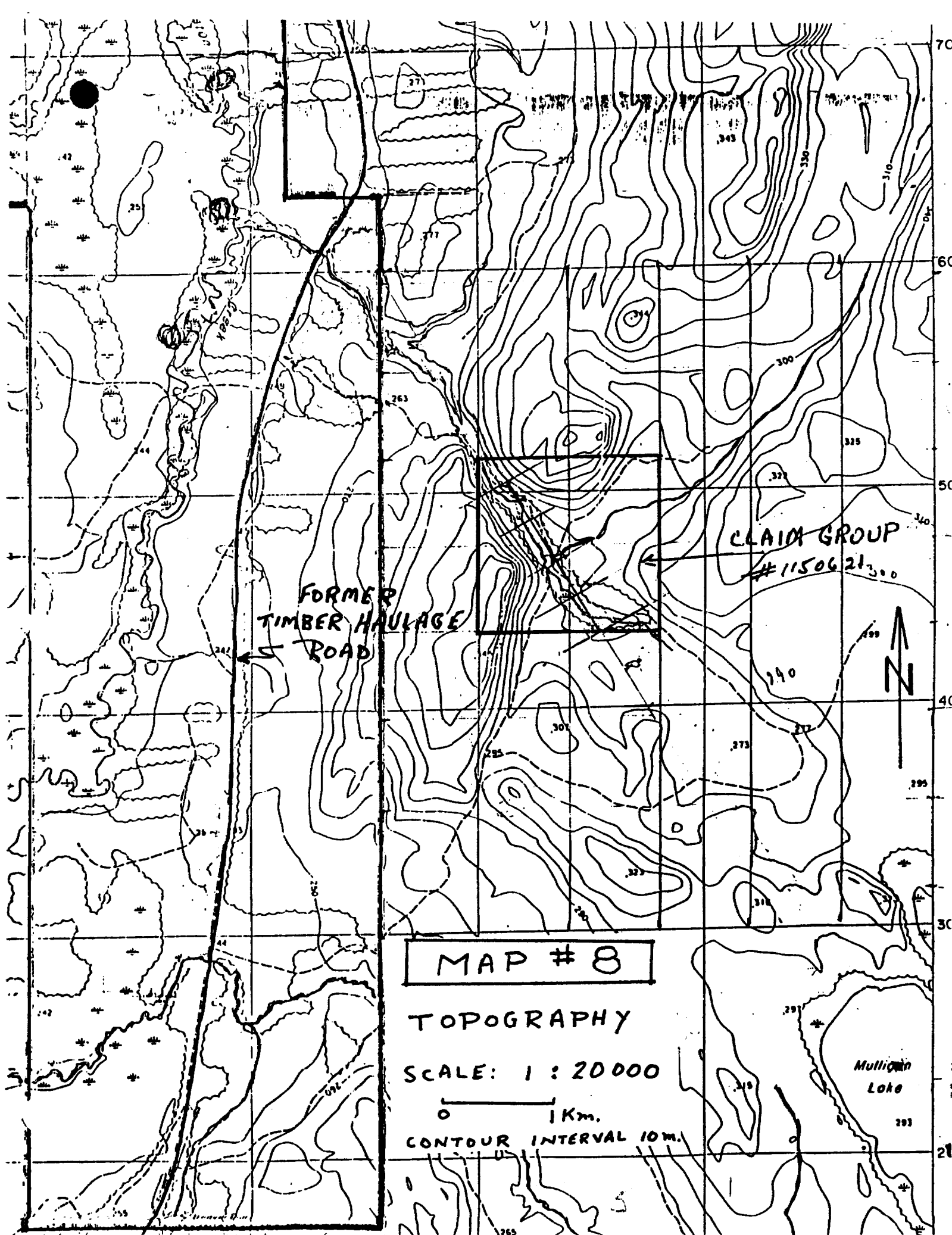
BAYLY TWP

INGRAM TWP

IRON LAKE
MULLIGAN
FRASER

MAGNETIC AND
TOPOGRAPHIC
LINEAMENT





FORMER
TIMBER HAULAGE
ROAD

CLAIM GROUP
#1150621300

MAP # 8

TOPOGRAPHY

SCALE: 1 : 20000

0 1 Km.

CONTOUR INTERVAL 10m.

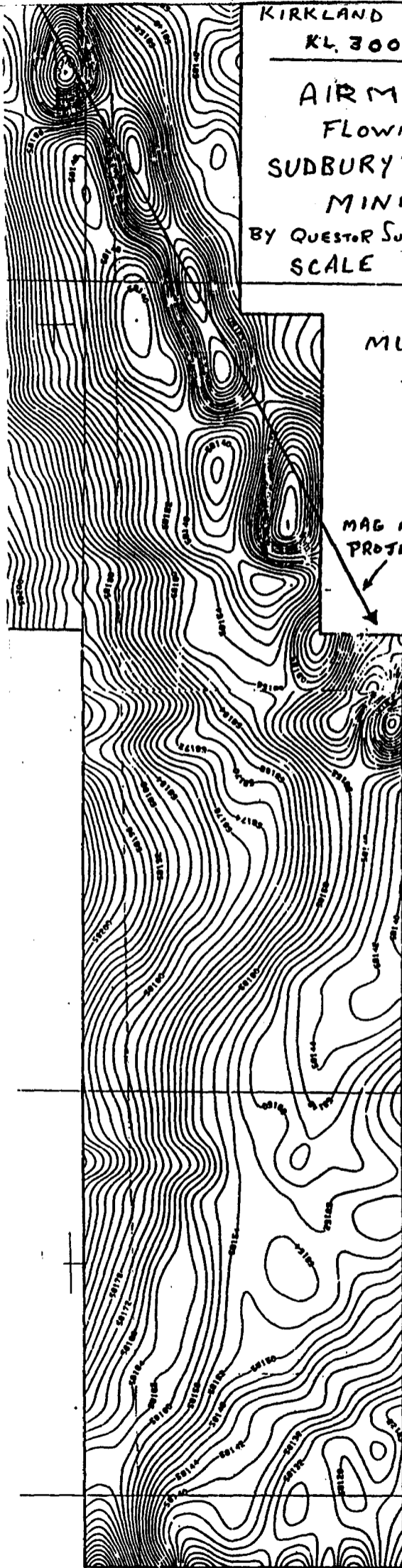
Mulligan
Lake

N

KIRKLAND LAKE FILE
KL. 3004

AIR MAG. + EM.
FLOWN FOR
SUDBURY CONTACT
MINES

BY QUESTOR SURVEYS 1990
SCALE 1:20,000



MULLIGAN TWP.

2.15158

MAG ANOMALY
PROTECTION

CLAIM GROUP
(ELLGRING)
1150621

1186542
(ELLGRING)
MAG ANOMALY
PROTECTION

MULLIGAN TWP.

MULLIGAN
LAKE

SCALE 1:20,000

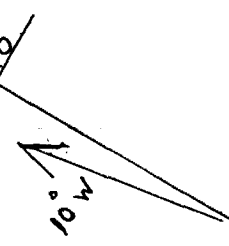
THE EAST BOUNDARY STAKING
OF THIS GROUP IS ACTUALLY
 $\frac{1}{2}$ A CLAIM CLOSER TO 1150621,
OUR GROUP, THAN THEY
HAVE SHOWN HERE!

05000

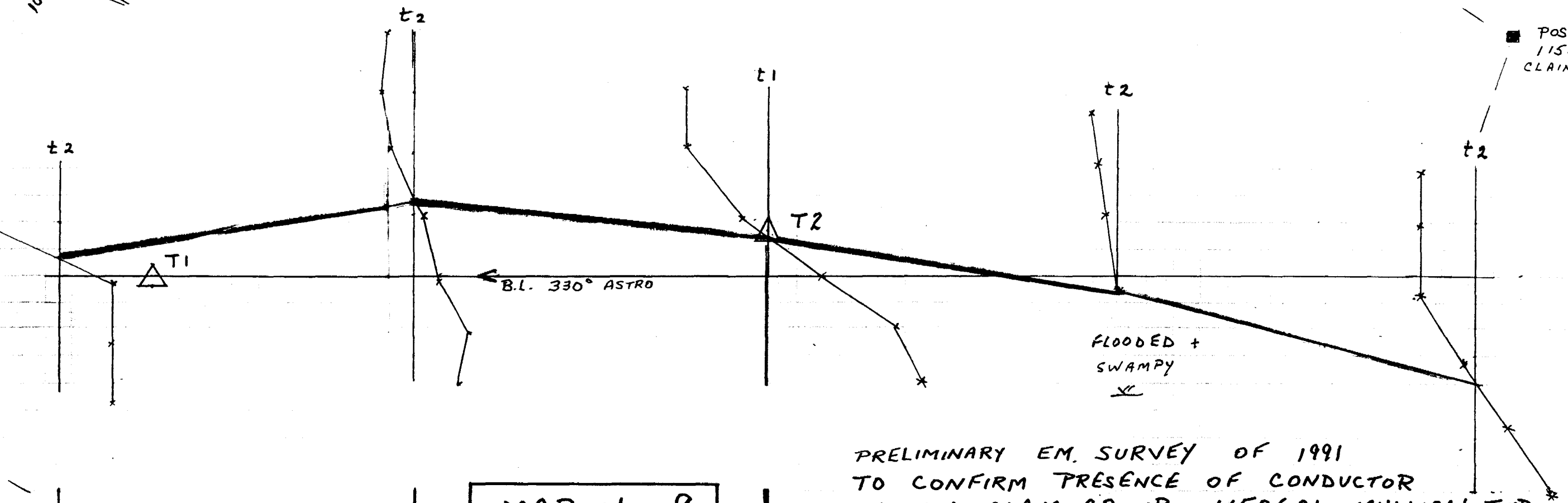
608000

MAP # 6

2.15158



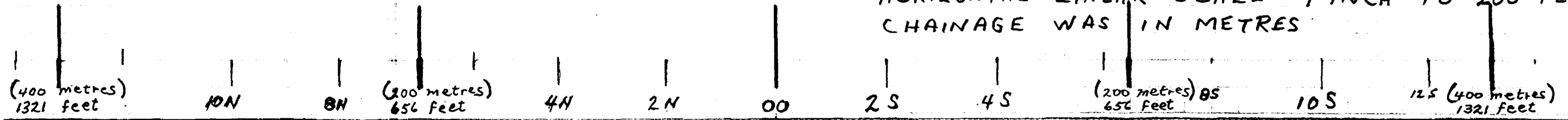
POST No. 2
1150621
CLAIM GROUP



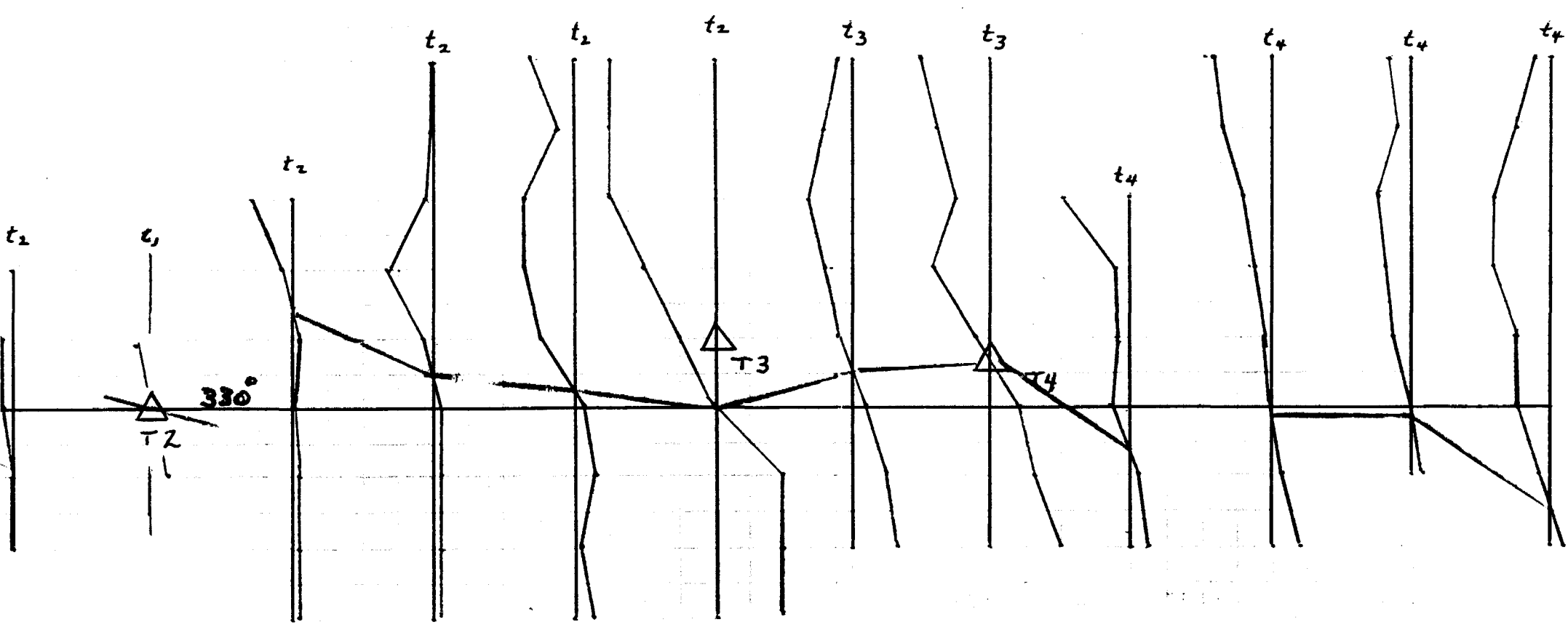
MAP No. 9



PRELIMINARY EM. SURVEY OF 1991
TO CONFIRM PRESENCE OF CONDUCTOR
WITHIN CLAIM GROUP 1150621 MULLIGAN TWP.
FREQUENCY OF LARGE LOOP VERTICAL COIL, 1000 Hz.
SCALE OF DIP ANGLES 1 INCH TO 20 DEGREES TILT
HORIZONTAL LINEAR SCALE 1 INCH TO 200 FEET
CHAINAGE WAS IN METRES



SEPT. 1991



2.15158

CLAIM GROUP 1150621 MULLIGAN TWP.
 1000 Hz VERTICAL COIL EM SURVEY
 SCALE 1 INCH TO 20 DEGREES TILT
 1 INCH TO 200 FEET.

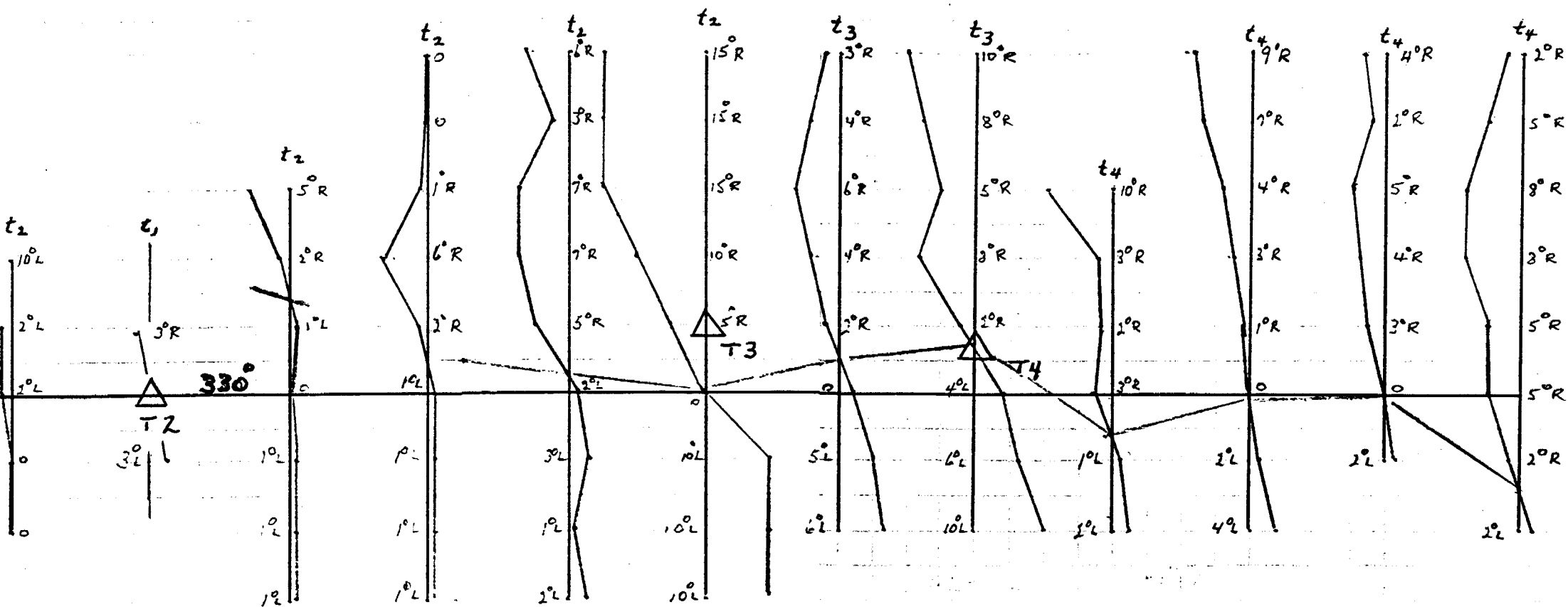


1992

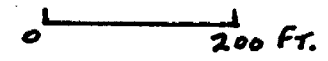
MAP No. 10

INDICATIONS ARE CONDUCTOR IS VERY DEEP
 NOTE SMALL DIP ANGLES,
 DUE TO INADEQUATE T_x VS. R_x DISTANCE
 SEE REPETITION ENCLOSED, MAP #13 (1993)

1 N 12 N 10 N 8 N 6 N 4 N 2 N 00 2 S 4 S 6 S 8 S



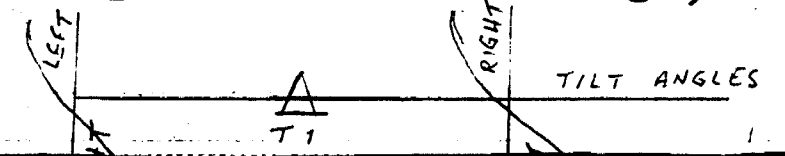
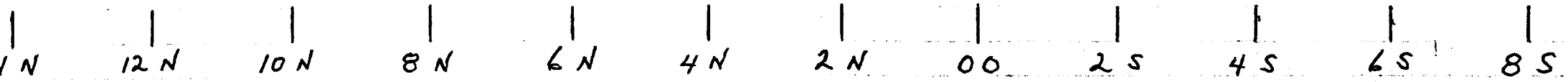
CLAIM GROUP 1150621 MULLIGAN TWP.
 1000 HZ VERTICAL COIL EM SURVEY
 SCALE 1 INCH TO 20 DEGREES TILT
 1 INCH TO 200 FEET.



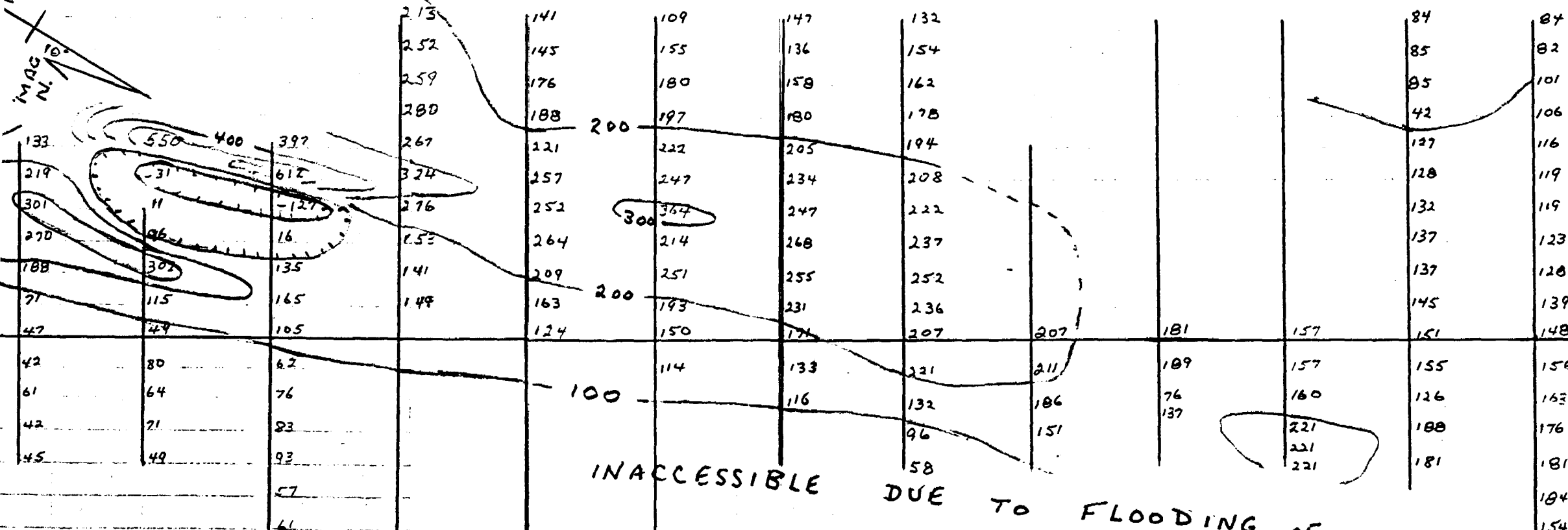
1992

MAP No. 10A

INDICATIONS ARE CONDUCTOR IS VERY DEEP
 NOTE SMALL DIP ANGLES,
 DUE TO INADEQUATE T_x VS. R_x DISTANCE.
 SEE REPETITION ENCLOSED, MAP #13 (1993)



TRD. NORTH
DECL. 10° W.



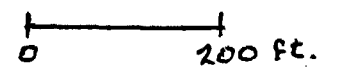
2.15158

SOUTH BOUNDARY

INACCESSIBLE DUE TO FLOODING OF CREEK

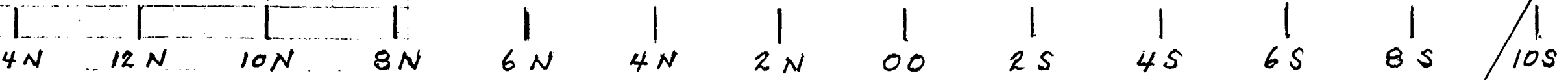
330° TRUE

MULLIGAN TWP.
4 CLAIM GROUP 1150621
SCALE 1 in. To 200 ft.



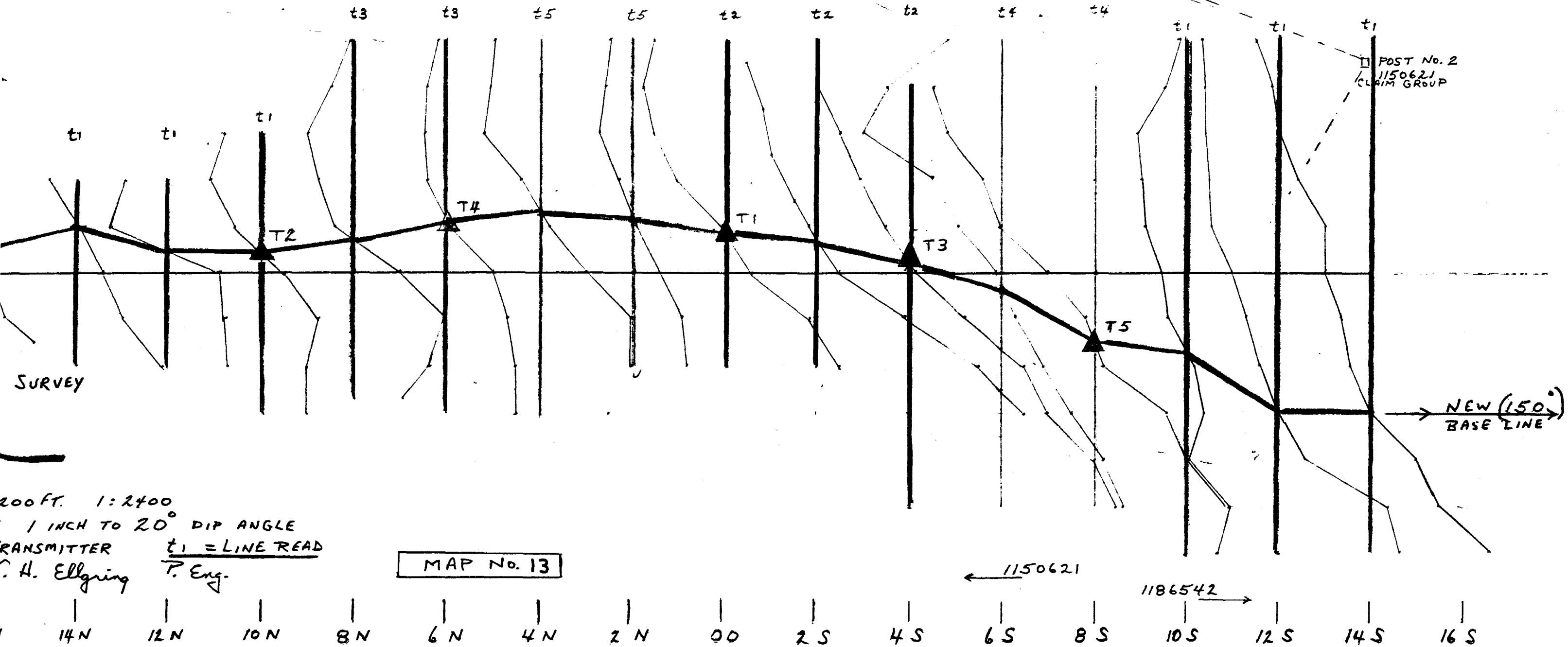
INITIAL MAG. SURVEY
CONTOUR INTERVAL 100'
FOR TOTAL FIELD ADD 58000'
DIURNAL CORRECTION SEVERE
INSTRUMENT: GEOMETRICS PROTON MA
MOD. G 816 SER. 487
SEPT. 1992

MAP # 11



SEE REPETITION ENCLOSED
MAP # 14 (1993)

2.15158



200 FT. 1:2400
 1 INCH TO 20° DIP ANGLE
 TRANSMITTER
 H. Ellgring P. Eng.

MAP No. 13

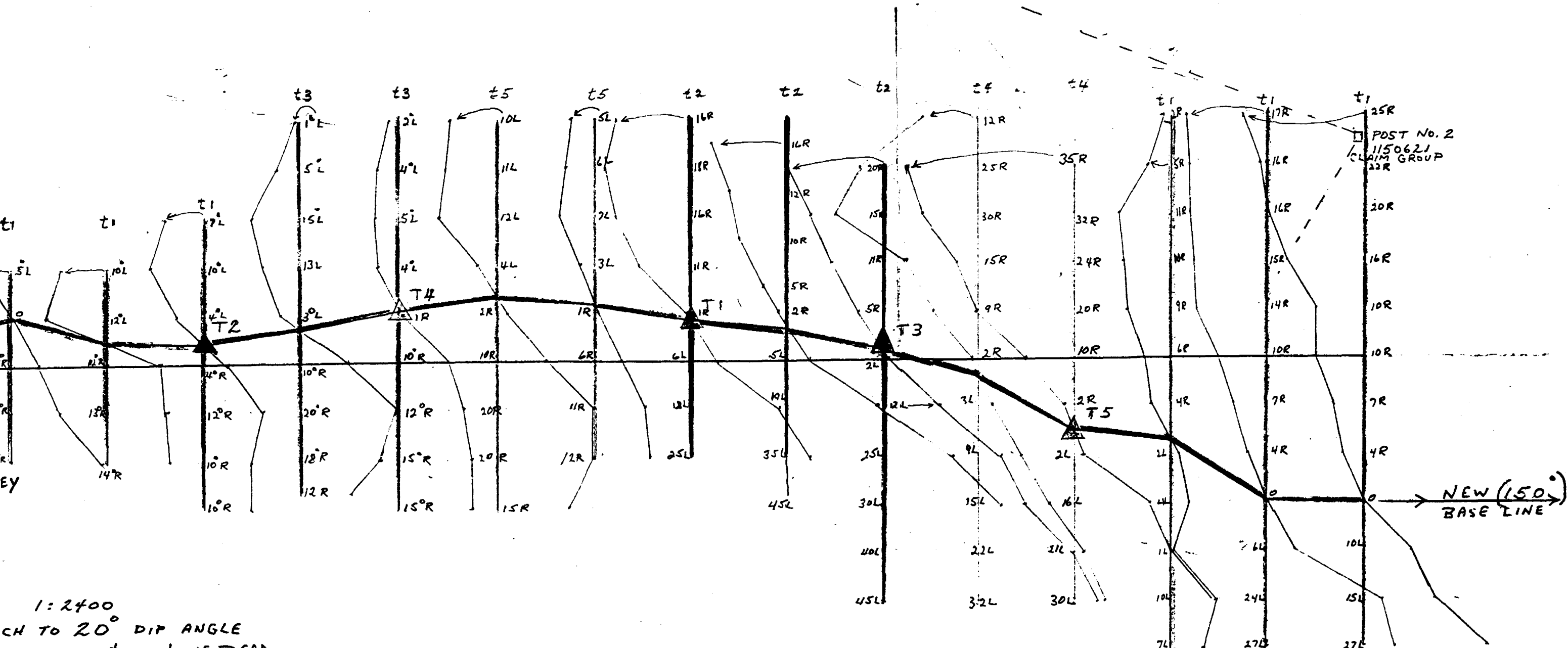
POST No. 2
 1150621
 CLAIM GROUP

NEW (150°)
 BASE LINE

← 1150621

1186542 →

14N 12N 10N 8N 6N 4N 2N 00 2S 4S 6S 8S 10S 12S 14S 16S



1:2400
 CH TO 20° DIP ANGLE
 TTER
 Blgring
 T. Eng.

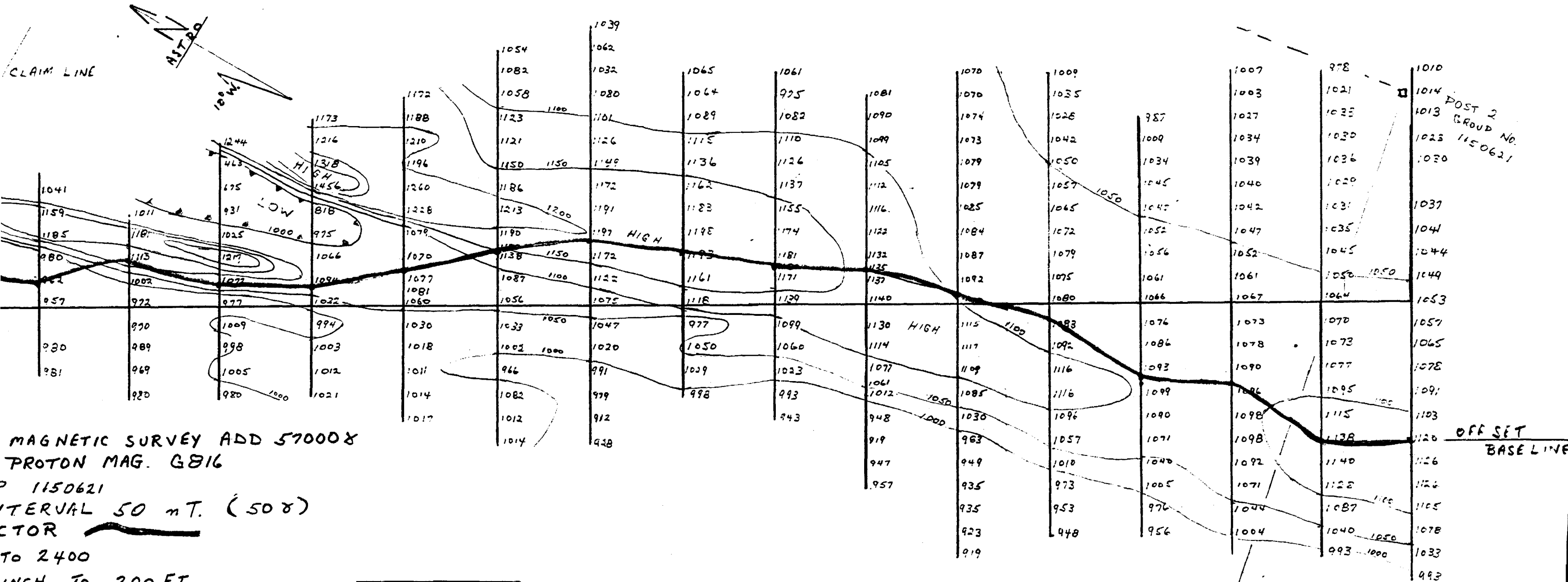
MAP No. 13A

1150621

1186542

4N | 12N | 10N | 8N | 6N | 4N | 2N | 00 | 2S | 4S | 6S | 8S | 10S | 12S | 14S | 16S

2.15158



MAGNETIC SURVEY ADD 570008
 PROTON MAG. GB16
 1150621
 INTERVAL 50 mT. (508)
 VECTOR

To 2400
 INCH TO 200 FT.
 AT $\Delta \text{ION} + 2+50^{\circ} \text{E}$
 F. H. Ellgring P. Eng.

MAP No. 14

← 1150621 CLAIM LINE 1186542 →

2.15158

"BASEMENT"

PORPHYRITIC - GRANITE

OCCASIONAL LARGE SEDIMENT XENOLITHS

GRANITE RIDGE

- HURONIAN SEDIMENTS -

TILLITE AND
BASAL CONGLOMERATE

F OUTCROP

STEEP SLOPE
TRENCH
1088 AU
02.

AND BOULDERS

SPRUCE

TRAIL

CEDAR

OUTCROP

PINE

POST NO. 2
CLAIM 1150621
AND
LINE POST
CLAIM 1186542

RUCE

TRAIL

330°

POND

GRASSY MEADOW

CREEK

BERS

SPRUCE

SPRUCE

F OUTCROP

CLIFF

STEEP SLOPE

150°
OFFSET BASELINE

BOULDERS

CLAIM LINE

HURONIAN SEDIMENTS

PRIMARY A LITHIFIED TILL = DIAMICTITE

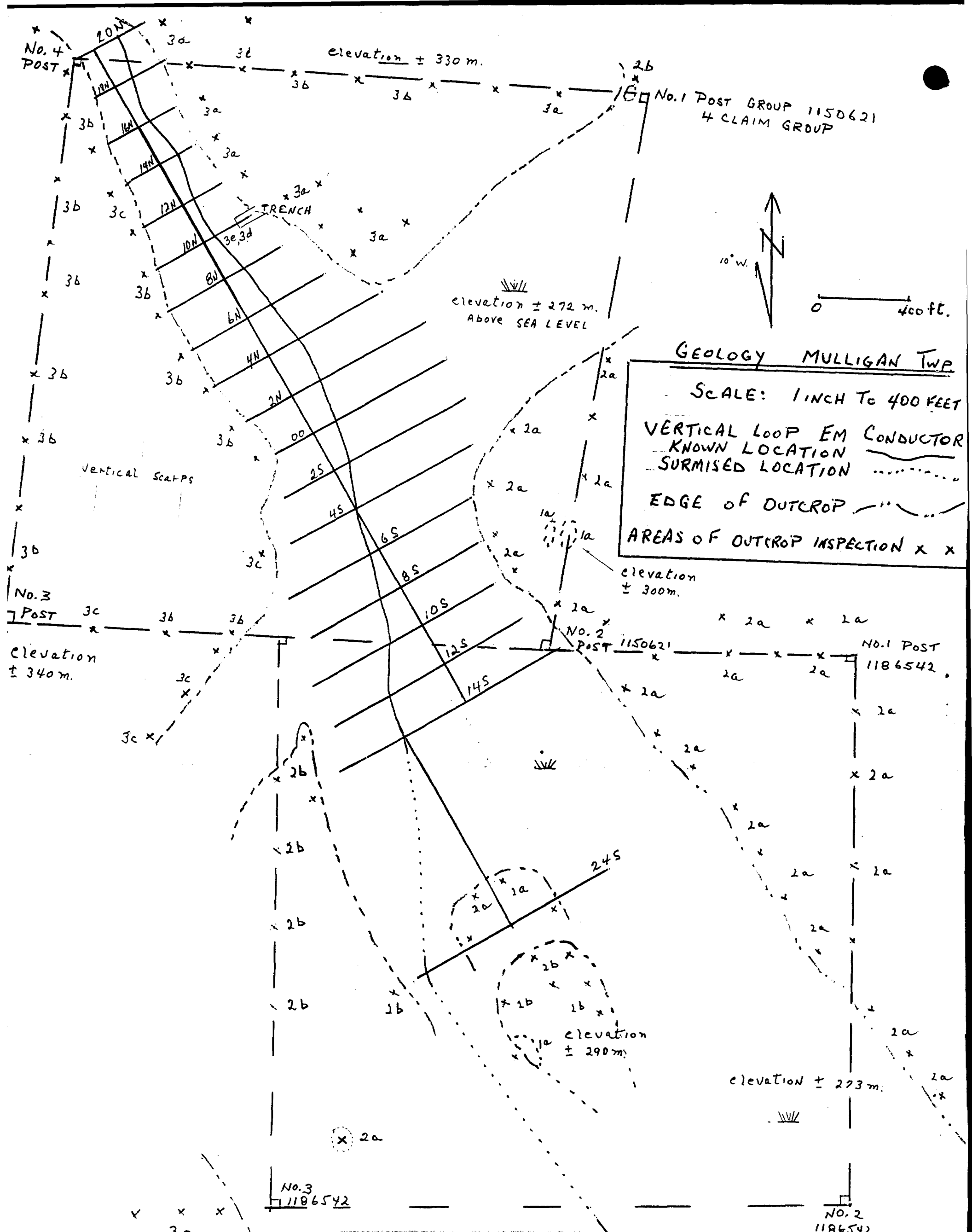
0 ft.

MAP No. 15

CLAIM 1150621

Ellying P. Eng.

14 N 12 N 10 N 8 N 6 N 4 N 2 N 00 2 S 4 S 6 S 8 S 10 S 12 S 14 S GRANITE RIDGE



GEOLOGY MULLIGAN TWP

SCALE: 1 INCH TO 400 FEET

VERTICAL LOOP EM CONDUCTOR
 KNOWN LOCATION
 SURMISED LOCATION

EDGE OF OUTCROP

AREAS OF OUTCROP INSPECTION

HURONIAN SEDIMENTS (COLEMAN)

- WACKE 3a
- SILTSTONE 3b
- ARGILLITE PEBBLY 3c
- QUARTZITE 3d
- SANDSTONE 3e

ALGOMAN TYPE GRANITE

- PINK WITH FELSPAR PHENOCRYSTS 2a
- FEWER PHENO'S, RICHER IN BIOTITE 2b

PONTIAC META SEDIMENTS

- AS GRANITIZED XENOLITHS 1a

MAP No. 17



31M13NE9800 2.15158 MULLIGAN

900

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

Mining Lands Section
Geoscience Approvals Section
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

Telephone: (705) 670-5853
Fax: (705) 670-5863

January 12, 1994

Our File: 2.15158
Transaction #: W9380.00214
.00215

Mining Recorder
Ministry of Northern
Development and Mines
4 Government Road East
Kirkland Lake, Ontario
P2N 1A2

Dear Sir/Madam:

**Subject: APPROVAL OF ASSESSMENT WORK CREDITS ON MINING CLAIMS
L1150621 AND 1186542 IN MULLIGAN TOWNSHIP**

The deficiencies in the original submission have been rectified.

The assessment work credits for Geology and Geophysics filed under Sections 12 and 14 of the Mining Act Regulations have been approved as outlined on the attached Assessment Work Credit Form.

The approval date is January 11, 1994.

If you have any questions regarding this correspondence, please contact Lucille Jerome at (705) 670-5855.

Yours sincerely,

Ron C. Gashinski
Senior Manager, Mining Lands Section
Mining and Land Management Branch
Mines and Minerals Division

LJ/ljs

cc: Resident Geologist
Kirkland Lake, Ontario

✓ Assessment Files Library
Toronto, Ontario

ASSESSMENT WORK CREDIT FORM

FILE NUMBER: 2.15158
DATE: January 11, 1994
RECORDER'S REPORT NUMBER: W9380.00214

RECORDED HOLDER: Fred Ellgring **CLIENT NUMBER:129312**

TOWNSHIP OR AREA: Mulligan Township

CLAIM	VALUE OF WORK DONE ON THIS CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED FROM THIS CLAIM	RESERVE
L1150621	5040	3270	1770	0
1186542	1500	3270	0	0
<hr/>				
	6540			0

RECORDER'S REPORT NUMBER:W9380.00215

RECORDED HOLDER: Fred Ellgring **CLIENT NUMBER:129312**

TOWNSHIP OR AREA: Mulligan Township

CLAIM	VALUE OF WORK DONE ON THIS CLAIM	VALUE APPLIED TO THIS CLAIM	VALUE ASSIGNED FROM THIS CLAIM	RESERVE
L1150621	2495	1848	648	0
1186542	1200	1847	0	0
<hr/>				
	3695			0

Report of Work Conducted After Recording Claim
 Mining Act

Transaction Number
DOCUMENT No.
 W 9380 - 00214

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

2.15158

- Instructions:**
- Please type or print and submit in duplicate.
 - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
 - A separate copy of this form must be completed for each Work Group.
 - Technical reports and maps must accompany this form in duplicate.
 - A sketch, showing the claims the work is assigned to, must accompany this form.
- 1992**

Recorded Holder(s) FRED H. ELLGRING		Client No. 129312
Address P.O. Box 241 NEW LISKEARD ON POTIPO		Telephone No. 705 647 8307
Mining Division LARGER LAKE	Township/Area MULLIGAN	M or G Plan No. M373
Dates Work Performed	From: AUG 29 1992	To: SEPT. 11 1992

Work Performed (Check One Work Group Only)

Work Group	Type
<input checked="" type="checkbox"/> Geotechnical Survey	PROSPECTING, LINE CUT, VERT COIL EM., MAG., REPORT
<input type="checkbox"/> Physical Work, including Drilling	
<input type="checkbox"/> Rehabilitation	
<input type="checkbox"/> Other Authorized Work	
<input type="checkbox"/> Assays	
<input type="checkbox"/> Assignment from Reserve	

D 203/13
RECEIVED
 SEP 28 1993
 MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs \$ 10936

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
FRED ELLGRING P. ENG (AUTHOR)	Box 241 NEW LISKEARD ON POTIPO
JOHN WARD P. ENG (ASSIST.)	9 WILLAMERE DR. SCARBOROUGH ON MIMIWS

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date 1 SEPT. 93	Recorded Holder or Agent (Signature) F. H. ELLGRING
--	---------------------------	---

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.		
Name and Address of Person Certifying FRED ELLGRING Box 241 NEW LISKEARD ON POTIPO		
Telephone No. 705 647 8307	Date 1 SEPT. 1993	Certified By (Signature) F. H. Ellgring P. Eng.

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder	Received Stamp
	Deemed Approval Date	Date Approved	RECEIVED LARGER LAKE MINE RECORDS
	Date Notice for Amendments Sent		

for Assessment Credit
État des coûts aux fins
du crédit d'évaluation

Transaction ID/Numéro de transaction

W 9380 • 00214

Mining Act/Loi sur les mines

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	1350	
	Field Supervision Supervision sur le terrain	1800	3150
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type CUT	389	
	EA. GEOPYS. MAG.	758	
	PROSPECT REPORT	900.	
		3600.	8405
Supplies Used Fournitures utilisées	Type Tapes	10	
	BATTERIES	66	
	ATV GAS	15	
			91
Equipment Rental Location de matériel	Type ATV	450.	
			450
Total Direct Costs Total des coûts directs		9555	9555

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work indirect costs are not allowable as assessment work. Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type GAS ONLY	120	
	Fuel		
			120
Food and Lodging Nourriture et hébergement	Food + Accom	720	720
Mobilization and Demobilization Mobilisation et démoblisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			840
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)			10936

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

- Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
- Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	x 0.50 =

Remises pour dépôt

- Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
- Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
	x 0,50 =

Certification Verifying Statement of Costs

I hereby certify that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown in the accompanying Report of Work form.

I, as RECORDED HOLDER I am authorized (Recorded Holder, Agent, Position in Company)

I make this certification

Attestation de l'état des coûts

J'atteste par la présente que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé (titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature F.H. Ellington Date 3 Sept. 93
F.H. Ellington 3 Sept 93



Ministry of
Northern Development
and Mines

Ontario

Report of Work Conducted After Recording Claim

Mining Act

Transaction Number
DOCUMENT No.
9380-00215

2.15158

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

- Instructions:**
- Please type or print and submit in duplicate.
 - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
 - A separate copy of this form must be completed for each Work Group.
 - Technical reports and maps must accompany this form in duplicate.
 - A sketch, showing the claims the work is assigned to, must accompany this form.

1993

Recorded Holder(s) FRED H. ELLGRING		Client No. 129312
Address Box 241 NEW LISKEARD ON POTIPO		Telephone No. 705 647 8307
Mining Division LARDER LAKE	Township/Area MULLIGAN	M or G Plan No. M 373
Dates Work Performed From: APRIL 15 1993		To: MAY 1 1993

Work Performed (Check One Work Group Only)

Work Group	Type
Geotechnical Survey	CUT + CHAIN, EM SURVEY + MAG. / REPORT WRITING
Physical Work, Including Drilling	
Rehabilitation	
Other Authorized Work	
Assays	
Assignment from Reserve	

Total Assessment Work Claimed on the Attached Statement of Costs \$ 7000

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
F. ELLGRING P. ENG. (AUTHOR)	Box 241 NEW LISKEARD ON POTIPO
DON BOUZANE (ASSIST.)	212 JOYAL DR. HAILEYBURY ON.

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date 1 SEPT '93	Recorded Holder or Agent (Signature) FRED ELLGRING
--	---------------------------	--

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying FRED ELLGRING Box 241 NEW LISKEARD ON POTIPO		
Telephone No. 705 647 8307	Date 1 SEPT. '93	Certified By (Signature) F. H. Ellgring P. Eng.

For Office Use Only

Total Value Cr. Recorded	Date Recorded	Mining Recorder <i>[Signature]</i>	Received Stamp RECEIVED LARDER LAKE MINE SEP 1 1993
	Deemed Approval Date	Date Approved	
	Date Notice for Amendments Sent		

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
1150621		4
1186542		4
Total Number of Claims		8

Value of Assessment Work Done on the Claim	Value Applied to the Claim	
7000.00	3500.	
0	3500	
Total Value Work Done		7000
Total Value Work Applied		7000.

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date	
3500.	0	
0	0	
Total Assigned From		3500
Total Reserve		0

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

1. Credits are to be cut back starting with the claim listed last, working backwards.
2. Credits are to be cut back equally over all claims contained in this report of work.
3. Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If work has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed	Signature	Date
--	-----------	------



Statement of Costs for Assessment Credit

État des coûts aux fins du crédit d'évaluation

Mining Act/Loi sur les mines

Transaction No./N° de transaction
DOCUMENT NO.
W 9380-00215

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre	1000.	
	Field Supervision Supervision sur le terrain	1000.	2000
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert-conseil	Type GÉOPHYS.	2000.	
	CUT	200.	
	REPORT	2000.	4200
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type ATV	500	
			500
Total Direct Costs Total des coûts directs		6700.	6700

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work Indirect costs are not allowable as assessment work. Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type GAS ONLY	100.	
			100
Food and Lodging Nourriture et hébergement		200	200
Mobilization and Demobilization Mobilisation et démoblisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			300
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			
Total Value of Assessment Credit (Total of Direct and Allowable Indirect costs) Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)			7000.
			6700 + 300

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note: Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

- Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
- Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	x 0.50 =

Remises pour dépôt

- Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
- Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
	x 0,50 =

Certification Verifying Statement of Costs

hereby certify: that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

at as RECORDED HOLDER I am authorized (Recorded Holder, Agent, Position in Company) to make this certification

Attestation de l'état des coûts

J'atteste par la présente: que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé (titulaire enregistré, représentant, poste occupé dans la compagnie) à faire cette attestation.

Signature F. H. Ellgving Date 3 Sept. 93
F. H. Ellgving 3 Sept '93

Report of Work Conducted After Recording Claim
Mining Act

Transaction Number
W9380.00216

A.F.R.O.

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used for correspondence. Questions about this collection should be directed to the Provincial Manager, Mining Lands, Ministry of Northern Development and Mines, Fourth Floor, 159 Cedar Street, Sudbury, Ontario, P3E 6A5, telephone (705) 670-7264.

- Instructions:**
- Please type or print and submit in duplicate.
 - Refer to the Mining Act and Regulations for requirements of filing assessment work or consult the Mining Recorder.
 - A separate copy of this form must be completed for each Work Group.
 - Technical reports and maps must accompany this form in duplicate.
 - A sketch, showing the claims the work is assigned to, must accompany this form.

1992

Recorded Holder(s) FRED H. ELLGRING P. ENG		Client No. 129312
Address P.O. Box 241 NEW LISKEARD ON		Telephone No. 705 647 8307
Mining Division LARDER LAKE	Township/Area MULLIGAN	M or G Plan No. M 373
Dates Work Performed From: Nov. 23 '92		To: Nov. 23 '92

Work Performed (Check One Work Group Only)

Work Group	Type
Geotechnical Survey	
Physical Work, Including Drilling	BACKHOE TRENCHING / ASSAYED ON 4 DEC '92
Rehabilitation	
Other Authorized Work	
Assays	
Assignment from Reserve	

D22112
RECEIVED
 OCT 20 1993
 MINING LANDS BRANCH

Total Assessment Work Claimed on the Attached Statement of Costs \$ _____

Note: The Minister may reject for assessment work credit all or part of the assessment work submitted if the recorded holder cannot verify expenditures claimed in the statement of costs within 30 days of a request for verification.

Persons and Survey Company Who Performed the Work (Give Name and Address of Author of Report)

Name	Address
BRYAN McLEAN BACKHOE SERVICES	CON. TIL INGRAM TWP. ENGLEHART
TEMISKAMING TESTING LABS.	P.O. Box 799 COBALT ON.

(attach a schedule if necessary)

Certification of Beneficial Interest * See Note No. 1 on reverse side

I certify that at the time the work was performed, the claims covered in this work report were recorded in the current holder's name or held under a beneficial interest by the current recorded holder.	Date 1 SEPT. '93	Recorded Holder or Agent (Signature) F. H. ELLGRING
--	----------------------------	---

Certification of Work Report

I certify that I have a personal knowledge of the facts set forth in this Work report, having performed the work or witnessed same during and/or after its completion and annexed report is true.

Name and Address of Person Certifying FRED ELLGRING P.O. Box 241 NEW LISKEARD ON POJIPO		
Telephone No. 705 647 8307	Date 1 SEPT. '93	Certified By (Signature) F. H. Ellgring P. Eng.

For Office Use Only

Total Value Cr. Recorded \$654,000	Date Recorded Sept. 3/93	Mining Recorder <i>[Signature]</i>	Received Stamp <i>[Stamp]</i>
	Deemed Approval Date Dec 2/93	Date Approved Oct 19/93	
	Date Notice for Amendments Sent		

Work Report Number for Applying Reserve	Claim Number (see Note 2)	Number of Claim Units
	1150621	4
	1186542	4
Total Number of Claims		8

Value of Assessment Work Done on this Claim	Value Applied to this Claim
654 654	327 327
0	327
Total Value Work Done	
654	654

Value Assigned from this Claim	Reserve: Work to be Claimed at a Future Date
327	0
0	0
Total Assigned From	
327	0

Credits you are claiming in this report may be cut back. In order to minimize the adverse effects of such deletions, please indicate from which claims you wish to prioritize the deletion of credits. Please mark (✓) one of the following:

1. Credits are to be cut back starting with the claim listed last, working backwards.
2. Credits are to be cut back equally over all claims contained in this report of work.
3. Credits are to be cut back as prioritized on the attached appendix.

In the event that you have not specified your choice of priority, option one will be implemented.

Note 1: Examples of beneficial interest are unrecorded transfers, option agreements, memorandum of agreements, etc., with respect to the mining claims.

Note 2: If has been performed on patented or leased land, please complete the following:

I certify that the recorded holder had a beneficial interest in the patented or leased land at the time the work was performed.	Signature	Date
---	-----------	------



Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des mines

**Statement of Costs
for Assessment Credit**

**État des coûts aux fins
du crédit d'évaluation**

Transaction No./N° de transaction

W9380.00216

Mining Act/Loi sur les mines

Personal information collected on this form is obtained under the authority of the Mining Act. This information will be used to maintain a record and ongoing status of the mining claim(s). Questions about this collection should be directed to the Provincial Manager, Minings Lands, Ministry of Northern Development and Mines, 4th Floor, 159 Cedar Street, Sudbury, Ontario P3E 6A5, telephone (705) 670-7264.

Les renseignements personnels contenus dans la présente formule sont recueillis en vertu de la Loi sur les mines et serviront à tenir à jour un registre des concessions minières. Adresser toute question sur la collecte de ces renseignements au chef provincial des terrains miniers, ministère du Développement du Nord et des Mines, 159, rue Cedar, 4^e étage, Sudbury (Ontario) P3E 6A5, téléphone (705) 670-7264.

1. Direct Costs/Coûts directs

Type	Description	Amount Montant	Totals Total global
Wages Salaires	Labour Main-d'oeuvre		
	Field Supervision Supervision sur le terrain		
Contractor's and Consultant's Fees Droits de l'entrepreneur et de l'expert- conseil	Type TRENCH	240	
	ASSAY	14	
	PART OF MAIN REPORT	400	654
Supplies Used Fournitures utilisées	Type		
Equipment Rental Location de matériel	Type		
Total Direct Costs Total des coûts directs			

2. Indirect Costs/Coûts indirects

** Note: When claiming Rehabilitation work Indirect costs are not allowable as assessment work.
Pour le remboursement des travaux de réhabilitation, les coûts indirects ne sont pas admissibles en tant que travaux d'évaluation.

Type	Description	Amount Montant	Totals Total global
Transportation Transport	Type		
Food and Lodging Nourriture et hébergement			
Mobilization and Demobilization Mobilisation et démobilisation			
Sub Total of Indirect Costs Total partiel des coûts indirects			
Amount Allowable (not greater than 20% of Direct Costs) Montant admissible (n'excédant pas 20 % des coûts directs)			
Total Value of Assessment Credit (Total of Direct and Allowable indirect costs)		Valeur totale du crédit d'évaluation (Total des coûts directs et indirects admissibles)	654

Note: The recorded holder will be required to verify expenditures claimed in this statement of costs within 30 days of a request for verification. If verification is not made, the Minister may reject for assessment work all or part of the assessment work submitted.

Note : Le titulaire enregistré sera tenu de vérifier les dépenses demandées dans le présent état des coûts dans les 30 jours suivant une demande à cet effet. Si la vérification n'est pas effectuée, le ministre peut rejeter tout ou une partie des travaux d'évaluation présentés.

Filing Discounts

1. Work filed within two years of completion is claimed at 100% of the above Total Value of Assessment Credit.
2. Work filed three, four or five years after completion is claimed at 50% of the above Total Value of Assessment Credit. See calculations below:

Total Value of Assessment Credit	Total Assessment Claimed
	x 0.50 =

Remises pour dépôt

1. Les travaux déposés dans les deux ans suivant leur achèvement sont remboursés à 100 % de la valeur totale susmentionnée du crédit d'évaluation.
2. Les travaux déposés trois, quatre ou cinq ans après leur achèvement sont remboursés à 50 % de la valeur totale du crédit d'évaluation susmentionné. Voir les calculs ci-dessous.

Valeur totale du crédit d'évaluation	Evaluation totale demandée
	x 0,50 =

Certification Verifying Statement of Costs

I hereby certify:
that the amounts shown are as accurate as possible and these costs were incurred while conducting assessment work on the lands shown on the accompanying Report of Work form.

that as FRED ELLGRING I am authorized
(Recorded Holder, Agent, Position in Company)
RECORDED HOLDER
to make this certification

Attestation de l'état des coûts

J'atteste par la présente :
que les montants indiqués sont le plus exact possible et que ces dépenses ont été engagées pour effectuer les travaux d'évaluation sur les terrains indiqués dans la formule de rapport de travail ci-joint.

Et qu'à titre de _____ je suis autorisé
(titulaire enregistré, représentant, poste occupé dans la compagnie)

à faire cette attestation.

Signature F. H. Ellgring Date 3 Sept 93
F. H. Ellgring 3 Sept 93

CALCULATION OF COSTS.

BACKHOE NOV. 23/92 240. - 8am to
4:30p.m

ASSAY DEC. 4 14.

SUPERVISION, REPORT-
WRITING, ETC. 1 DAY 400.

654.

Certified

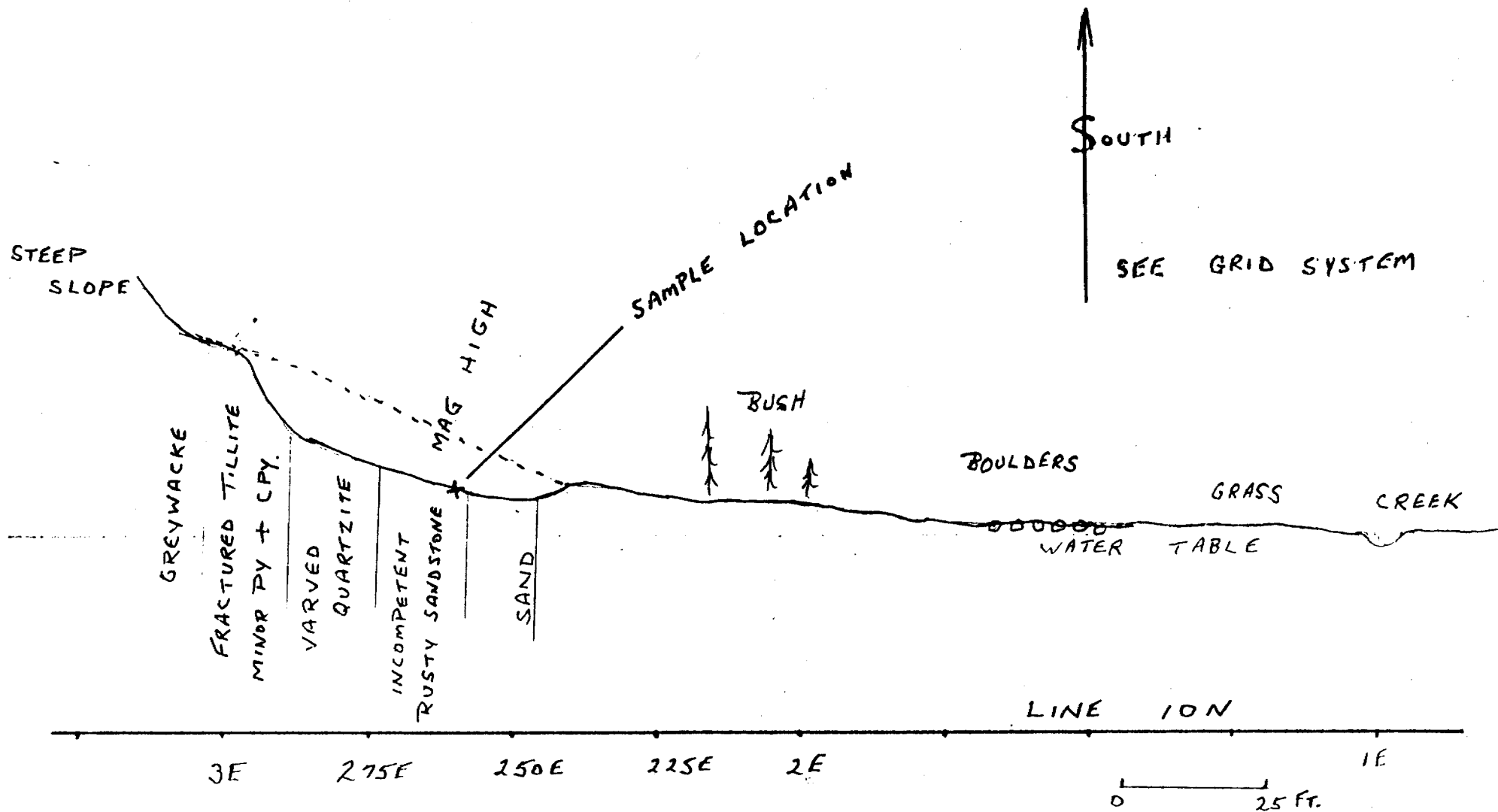
F. H. Ellgring

October 19, 1993

Mr. Ellgring has advised by telephone that the backhoe used had no front bucket.

There was no individual hourly rate - Bryan McLean Backhoe charged Mr. Ellgring for work done between the hours of 8:00 a.m. to 4:30 p.m. November 23, 1992. This works out to be 8 hours @ \$30.00 per hour for the equipment and the operator.

Linda

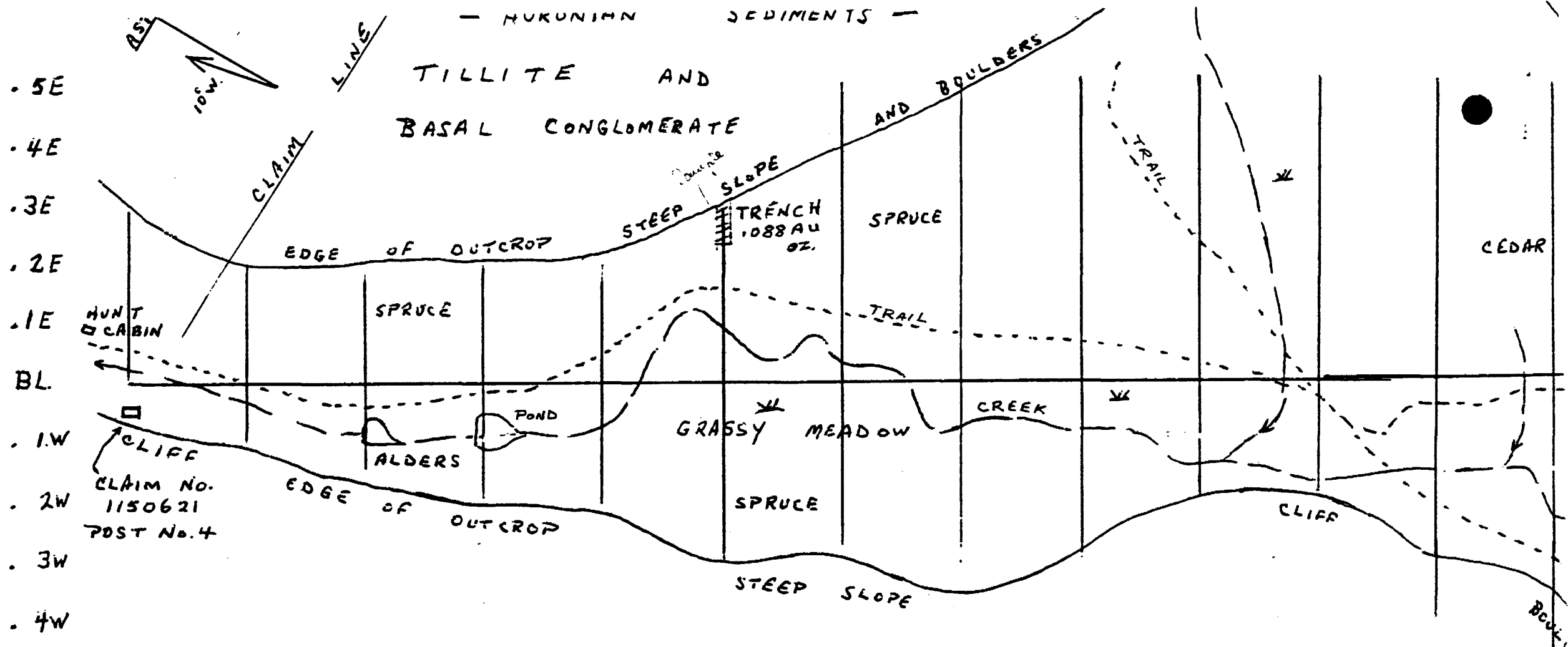


SKETCH MAP No. 12

SCALE 1 INCH TO 25 FT.
 TRENCH DUG BY BACKHOE
 PROFILE, FACING SOUTH
 ASSAY 0.088 OZ. AU/T

TRENCH 50' LONG 6' WIDE 8' DEEP

NOV. 1992



. 5E
 . 4E
 . 3E
 . 2E
 . 1E
 BL
 . 1W
 . 2W
 . 3W
 . 4W
 . 5W
 . 6W

HURONIAN SEDIMENTS
 SCALE 1 IN. TO 200 FT.
 TOPOGRAPHY AND
 GRID LINES CLAIM 1150621
 DEC. 1992 F. H. Ellgring P. Eng.

PRIMARILY A LITHIFIED TILL = DIAMICTITE
 MAP No. 15

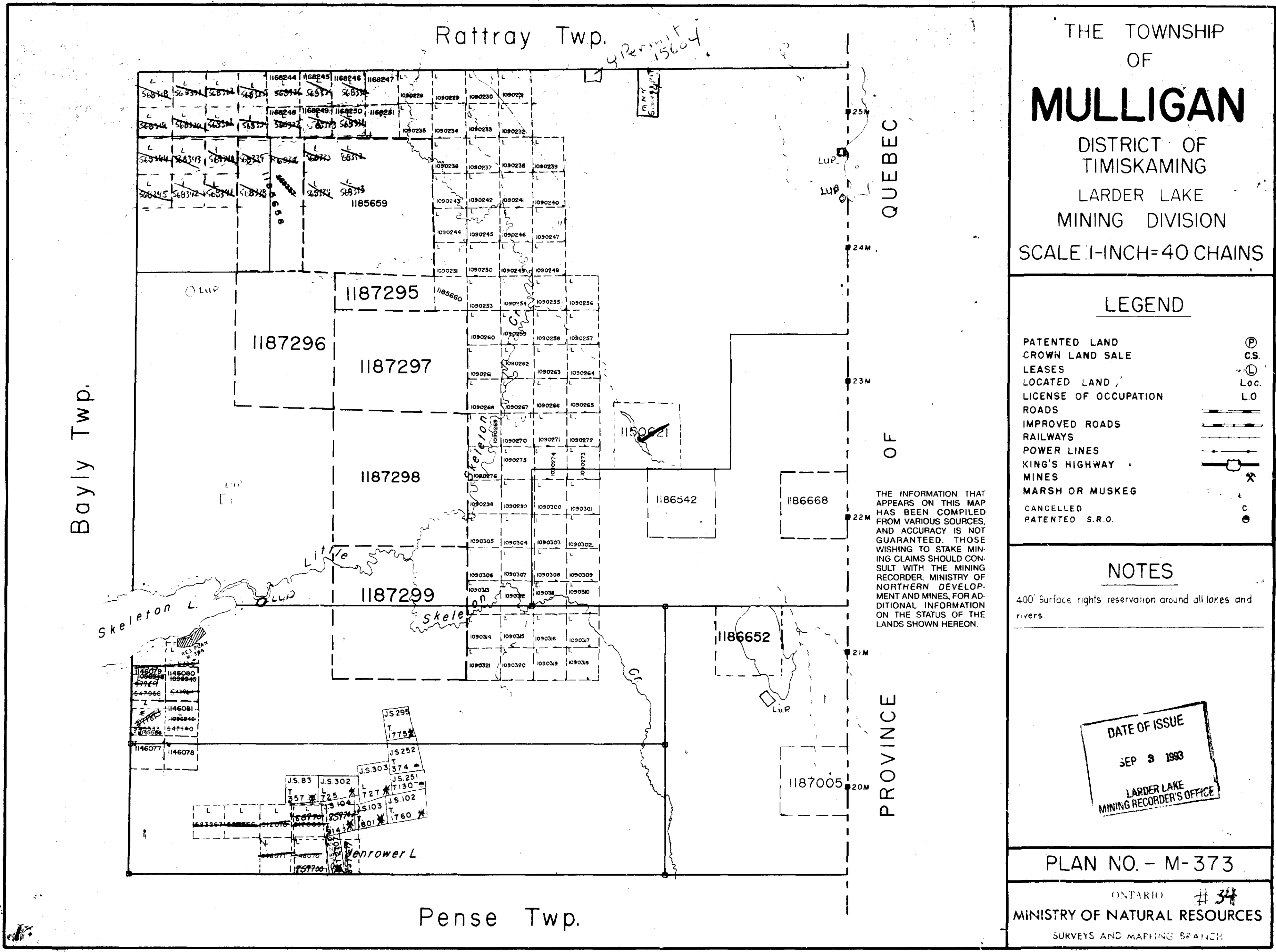
20N 18N 16N 14N 12N 10N 8N 6N 4N 2N 00 2S 4S

W-373-M

MULLIGAN TWP.

W-373-M

TRIM LINE



LEGEND

PATENTED LAND	⊙
CROWN LAND SALE	C.S.
LEASES	⊙
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
ROADS	—
IMPROVED ROADS	—
RAILWAYS	—
POWER LINES	—
KING'S HIGHWAY	—
MINES	⋈
MARSH OR MUSKEG	L
CANCELLED	C
PATENTED S.R.O.	⊙

NOTES

400' Surface rights reservation around all lakes and rivers.

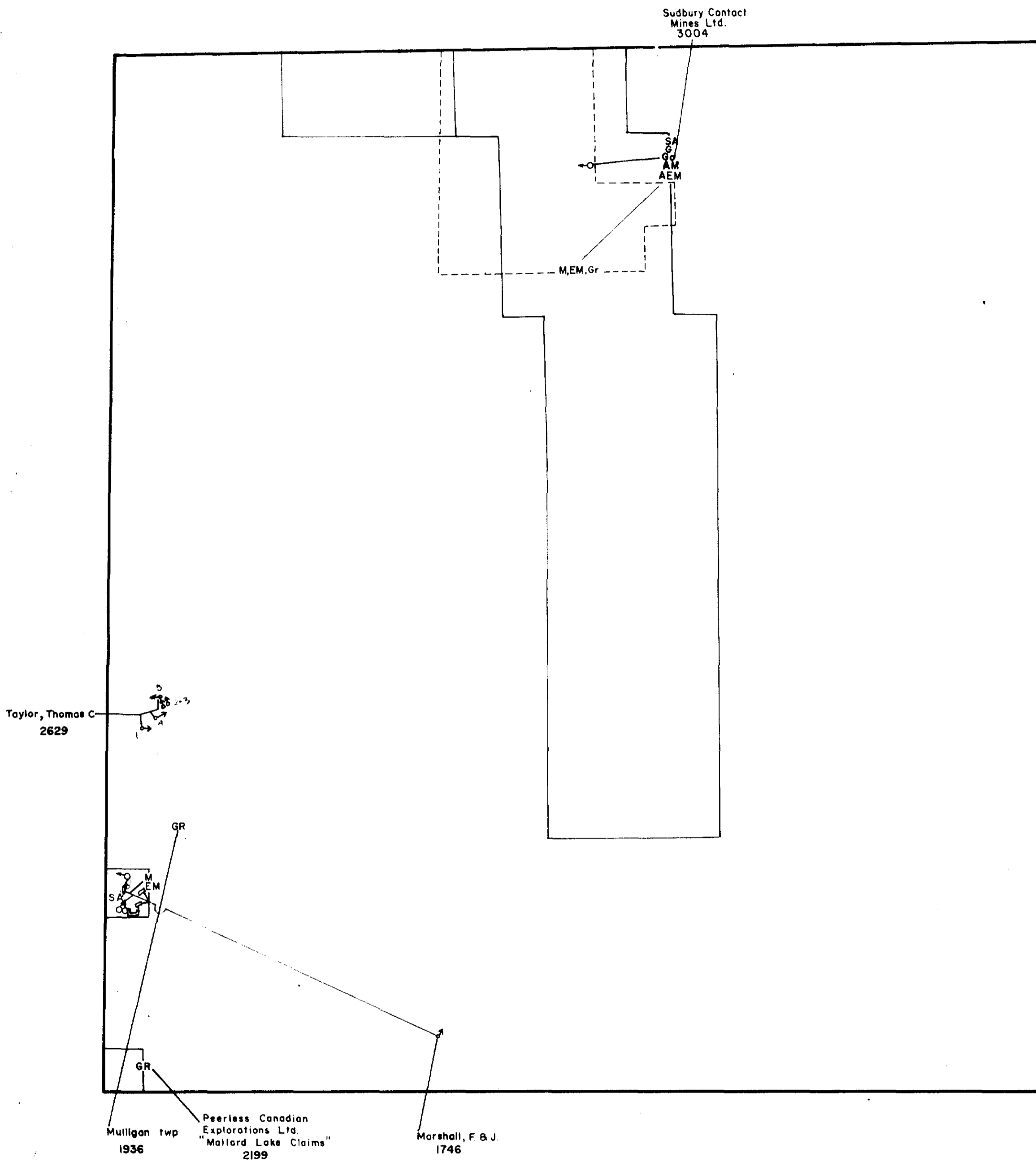
DATE OF ISSUE
SEP 3 1993
LARDER LAKE
MINING RECORDER'S OFFICE

PLAN NO. - M-373

ONTARIO #34
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



31M3NE9860 2.15156 MULLIGAN



Sogemines Development Ltd. KL - 3001(r)
Geol. Map - Entire Tp.

*Sudbury Contact Mines Ltd.
KL-3049
AM, AEM - Covers Entire Tp.

MULLIGAN

2.15158

MULLIGAN

98

MINING CLAIM ASSESSMENT CREDITS
ON FILE. MINING RECORDER'S OFFICE
KIRKLAND LAKE, 1993

MAP No. 7

