

GLENLYON PROJECT REPORT - 1969

by

Fred Chow

June, 1970

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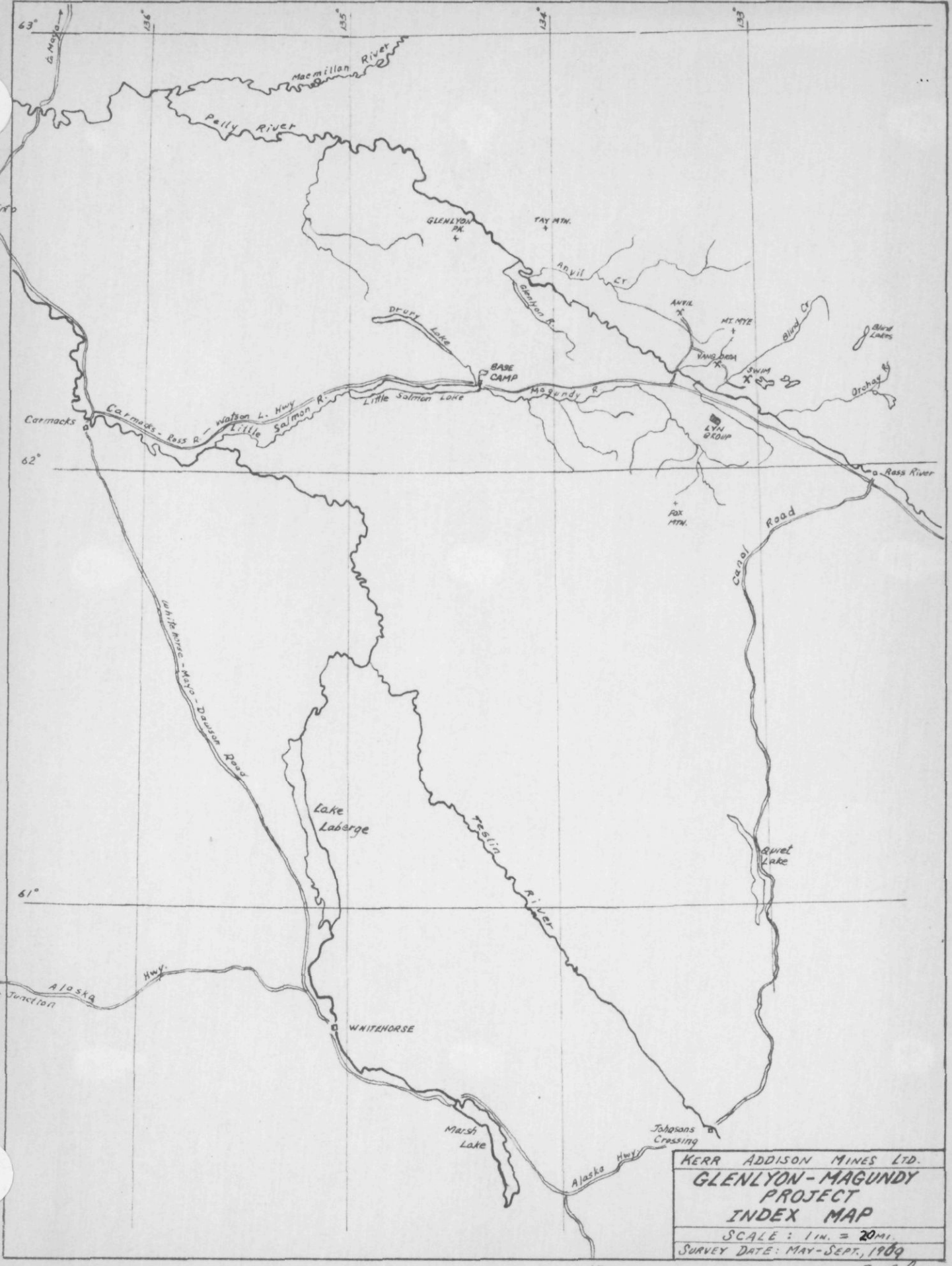
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KERR ADDISON MINES LTD.
**GLENLYON-MAGUNDY
 PROJECT
 INDEX MAP**
 SCALE: 1 IN. = 20 MI.
 SURVEY DATE: MAY-SEPT., 1969

J. Shaw

I SUMMARY AND CONCLUSIONS:

The search for lead-zinc base metals was initiated in early 1969 after new information regarding base metals in Lower Cambrian strata was published. After three months of research, the Glenlyon and Tay River map-area was chosen from a thorough study of the eastern part of the Cordilleran. This area was selected as the exploration project for the following main reasons: large areas of known Lower Cambrian rocks, access to transportation, viable to aeromagnetic survey, and proximity to known deposits.

The exploration area included all the Cambrian rocks lying southwest of the Pelly River within the Glenlyon Range and Magundy River system. This area is bounded by $62^{\circ}00'$ - $62^{\circ}47'$ latitude and $133^{\circ}07'$ - $135^{\circ}12'$ longitude.

Approximately 550 square miles were covered by reconnaissance mapping, silt and soil sampling, and prospecting. This area was also flown by an airborne magnetometer survey.

The Glenlyon Range is found to be poorly mineralized. Only one occurrence of economic mineral was noted. A skarn outcrop at $62^{\circ}25'$ latitude and $134^{\circ}15'$ longitude showed moderate sphalerite mineralization in an area $15' \times 40'$ long. Sample specimens assayed 5% Zn but only traces of other metals.

The Magundy River region is noted to show more mineral occurrences than the Glenlyon Range, although less time was spent prospecting.

Widespread lead-zinc mineralization was found on the north slope of a mountain ridge about 8 miles south of the Vangorda Creek deposit occurring in scattered outcrops along a strike length of 2 miles and across a width of 0.5 miles. The latter has a relief of about 700 feet. Two geochemical anomalies with values greater than 200 ppm Pb and 900 ppm Zn are outlined over an area 1600' x 3600' long. Other anomalous areas of lesser values are still to be investigated.

One hundred and thirty-four (134) mineral claims have been staked and recorded.

Reconnaissance traverses using magnetic, electromagnetic, and self-potential units did not reveal any anomalies over the predicted source of the high geochemical values. A co-incident E.M. and S.P. anomaly was observed downhill from the geochemical anomaly which is unexplained. Two trenches over the "source" of the high lead geochemical values did not uncover any mineralization.

RECOMMENDATION:

The Pb-Zn mineralization found to date is widespread though thinly bedded. More exploration work is recommended in the hope of finding a zone where the mineralized beds are sufficiently spaced to form an economic deposit. Work should also be directed towards finding a massive sulphide body which could occur within a widening of the favourable horizon or by replacement within a structural break in a fold or fault.

In the search for the massive type, a gravity survey to cover the main area outlined by the 100 ppm Pb contour is proposed.

Trenching for the source of the 300 ppm Pb geochemical anomalies near Line 118W at 34N is desirable. This work may disclose lower sulphide mineralization which is not observed by the gravity method. Extension of Trench No's 2 and 3 is also recommended.

If the above work should prove encouraging, then the other geochemical-high areas should be pursued further.

II INTRODUCTION:

The Glenlyon Project was initiated in 1969 in the search for economic mineral deposits within the Glenlyon Range and Magundy River drainage area in the Yukon Territory. Strata-bound deposits of lead and zinc minerals similar to the Vangorda, Swim and Faro type were the main targets. The area prospected lies in a northwesterly trending strata of sedimentary rocks of Early Palaeozoic age, wherein blocks of Lower Cambrian rocks are mapped by inference. Large masses of granitic rock of Jurassic and/or Cretaceous age, intrude the sedimentary strata. The exploration project covered the south side of the Pelly River, along a 14-mile wide belt which parallels the Tintina Fault, between longitudes $133^{\circ}07'$ to $134^{\circ}00'$ in the Tay River area and longitudes $134^{\circ}13'$ to $135^{\circ}12'$ in the Glenlyon Range map-area.

The 10-man crew included three 2-man student teams, a camp cook, a helicopter pilot plus engineer, and a party chief.

A base camp was located on the lakeshore at the east end of Little Salmon Lake near Truit Creek. It is midway between the two survey areas.

III

GENERAL CHARACTER OF THE DISTRICTSA) Climate and Vegetation:

The summers and fall are usually mild and pleasant. Annual precipitation is about 11 inches, though it is probably greater in the Glenlyon Range. Freeze-up begins in October and break-up starts in early May but the lakes generally remain frozen until early June. By mid-June, most of the snow on the mountains has melted.

Exceptionally hot and/or wintery weather does occur in the summer months. Extremes of this nature were experienced during the past field season.

Timber growth is light but widespread, denser on the south facing slopes and along the banks of steep creek channels. Trees are sparse above the 4,000' elevation and non-existent above 4,500'.

Travel on foot is slow because of deep moss and spreading willows.

B) Topography:

The valley floors change from 2,000' elevation at Little Salmon Lake to about 2,500' in the Magundy River valley, and to 3,500' in the Glenlyon Range.

The Magundy River area is hilly with a mountainous terrain towards the south and the Pelly River basin on the north. The average relief is 2,000' and the maximum is 3,000'.

The Glenlyon Range stands out as a topographical feature of the map-area. Broad areas of the range rise above 5,000' in elevation, with sharp rugged peaks and ridges over much of the range exceeding 6,000'. The topography of the south side of the range shows more rounded features compared to the north side which exhibits an abrupt wall parallel to the Pelly River and with steep-sided valleys leading to as many mossy cirques.

C) Drainage:

The Magundy River drains most of the eastern surveyed area and the extension of this water system, the Little Salmon River, drains a small part of the Glenlyon Range. The Pelly River drains all the area towards the north.

Aside from the Magundy River, most streams in that area occupy shallow channels.

IV TRANSPORTATION AND COMMUNICATION:

An all-weather gravel road traverses east-west through the southern section of both map-areas. The road crosses the Canol Road near Ross River and connects with the Alaska Highway further east at Watson Lake, Y.T., westerly it joins the Whitehorse to Mayo road. The base camp is about 200 miles by road and 108 miles by air to Whitehorse, Y.T.

Truck freight lines maintain a weekly schedule (likely to increase) on the route from Whitehorse to Faro City, Ross River and Watson Lake. Great Northern Airways is presently flying a daily run to the Anvil mine.

Canadian National Telecommunications' micro-wave system is linked to Faro City. They also maintain continuous SSB radio communication for the area.

V EXPLORATION PROCEDURE:

A combined program of magnetic anomaly evaluation, prospecting, and geochemistry was employed. One or more methods were used on selected areas chosen for their favourable geology.

Normally, an airborne magnetometer survey is conducted during the early part of the program, then crews are immediately dispatched to selected targets for ground examination. Due to helicopter breakdowns, forest fires, and poor weather conditions during the first half of the season, the magnetic survey was delayed and prolonged.

Our exploration program was mainly one of traversing the drainage area of favourable rocks and also their contacts with granitic intrusives. Routine procedures included prospecting, outcrop examination, mapping, geochemical sampling and spot-testing. Silt samples were collected from all drainages at 1500-foot intervals along the streams to within one mile of their source when possible. Soil samples were collected in areas devoid of drainages. The silt samples were tested on the spot for copper and heavy metal^{**} content. These samples were analyzed for Cu, Pb, and Zn at the Barringer Research Laboratory in Whitehorse, Y.T. Copper analyses were discontinued during the last half of the season. The pH of the water at each silt location was tested.

During the early part of the season when the helicopter was grounded, the crews traversed the immediate area around the base camp surrounding Little Salmon Lake and along the highway. After this, each

** used now and then because original test solution oxidizes readily. New method used extensively during September.

2-man team operated from fly camps.

A helicopter based at the main camp serviced and moved each fly camp every three to five days. Optimum use of the helicopter coupled with maximum coverage of the area, with the least effort by the field crews, was achieved by ferrying the other parties to more distant and rugged areas when a camp was to be moved.

Each crew was equipped with a Holman field kit for copper testing and a Rubenic test kit for checks on anomalous copper samples. Total Heavy Metals (T.H.M.) kits were also supplied.

Claim maps on a scale of one inch equals one-half mile with 500-foot contour intervals were used for field mapping and plotting. The exploration area was divided into 15-foot latitude by 30-foot longitude quadrangles and each party was assigned to one of these divisions. Some overlapping of boundaries were dictated by easier access to the survey areas by another crew.

VI AIRBORNE MAGNETOMETER SURVEY AND ANOMALY EVALUATION:

The airborne Elsec magnetometer survey was flown with the use of the 3G3 Bell helicopter at 1500-foot line intervals and/or 500-foot contour intervals over mountainous terrain. This survey covered about 300 square miles in the Glenlyon Range plus 250 square miles in the Tay River area; a total of 550 square miles amounting to approximately 2700 line-miles of flying.

The survey was conducted during the period between June 28th to July 13th. Flying time in eleven days averaged 5.4 hours per day plus ferrying time of about 40 minutes each day.

The magnetic survey was successful in locating targets, defining the sedimentary-intrusive contacts, and outlining the Tertiary basalts. Only a few anomalies were detected in both areas which are not shown on the G.S.C. aeromagnetic maps. Generally, these were small isolated ones. Some of the latter were not readily readable on the chart when the recorder was not working properly. In general, the granitic intrusives showed moderate to high magnetic response.

1) Area 105-L/7:

A small (250 - 600 gamma) magnetic anomaly located near the top of a hill, 2.5 miles north of Moraine Mountain, checked out to be pyrrhotite associated with quartz-biotite schist. No economic minerals were noted. Silt and soil samples showed normal background values. No magnetic anomalies

were noted in the remaining area except within the granitic mass.

2) Area 105-L/8:

Two 600 gamma, broad anomalies occurred near the junction of Pass and Jar Creeks. One broad (500+ gamma) anomaly was located 6 miles southwest of the junction.

Three smaller anomalies (200 - 400 gammas) occurred on the mountain between Jar and Felix Creeks, and one along the southeast side of Felix Creek. Two small anomalies (150 - 200 gammas) lie on the mountain north of Pass Creek near the northwest corner of the map-area.

Anomaly #2 ($62^{\circ}25.2'$ lat/ $134^{\circ}15.1'$ long) trends northwest across the nose of the mountain between Jar and Felix Creeks. The area is underlain by Cambrian quartz-biotite schist, quartzite, and minor limestone, in contact with granodiorite on the east. The large anomaly is caused mainly by pyrrhotite finely disseminated in the quartzite with a lesser amount in the schist. The magnetic high of 600 gammas is caused by magnetite (1 - 10%) in skarn.

In this area, sphalerite was found associated with diopside skarn along an east-west limestone-quartz monzonite contact. The showing is located at $62^{\circ}25'N/134^{\circ}15'E$ on the 4400-foot elevation, and is about 15' x 40' long. Specimens gave assays of 5% Zn and traces of Pb, Cu, Au, and Ag.

A soil sample just below the showing gave 228 ppm Zn, others located 0.7 to 1.5 miles downslope showed 70 - 100 ppm Zn. Stream silts

assayed about 125 ppm Zn which is approximately 2 to 3 times background values. The samples did not show any significant values in Cu and Pb. Additional soil sampling along contour was planned but was not done because of bad weather and shortage of time.

The mineralization appears to be a local occurrence. No immediate follow-up work is recommended. One day could be spent soil sampling when a field party is near the area again.

Anomaly #3 ($62^{\circ}27.3'$ lat/ $134^{\circ}16.2'$ long) trends northwest along the nose of the mountain west of the junction of Pass and Jar Creeks. Blue-black phyllites occur in the anomalous area with older lime silicate rocks and quartz biotite schist on the south. The cause of the magnetic anomaly is not known. Minor disseminated pyrrhotite occurs with the older unit. Malachite stain was noted at a few spots but no copper minerals were found. Both silt and soil samples showed about twice background readings in Cu, Pb and Zn but no significant values.

Anomaly #4 ($62^{\circ}23'$ lat/ $134^{\circ}23'$ long) lies west of Felix Creek, within the Glenlyon Range granitic mass which is moderately to highly magnetic. On spot investigation was not made. Silt samples from the two main drainages showed low readings.

Anomalies #5, 6, and 7 ($62^{\circ}24.6'N/134^{\circ}19.7'E$), ($62^{\circ}24.7'N/134^{\circ}21.5'E$), ($62^{\circ}25'N/134^{\circ}24'E$) are located on the southern tributaries of Jar Creek. The first two are in quartz biotite schist and the latter in granodiorite just south of the schist contact. No evidence was found

to explain the magnetic anomalies. Since all occur near or at a turn in the flight line these anomalies may have been caused by banking of the aircraft. Drainages gave low geochemical values.

Anomaly #8 ($62^{\circ}24.3'N$ / $134^{\circ}14.6'E$) is located on a Cambrian roof pendant within the granitic mass. Quartzite and quartz-biotite schist comprise the sediments. The former, containing finely disseminated pyrrhotite was the cause of the magnetic high. No economic minerals were found. Silt assays showed normal background readings.

Anomaly #9 ($62^{\circ}29.7'N$ / $134^{\circ}21'E$) was located on the granodiorite mass near its contact with Cambrian sediments to the south. No valuable minerals were noted. Prospecting did not reveal the exact cause of the magnetic anomaly. A slight increase in magnetite in the composition of the granitic rock was the likely explanation. Geochemical samples taken on the downhill side (north) occupied by granodiorite showed negative results. Samples from the southern flank in sediments showed a slight increase in Cu, Pb, and Zn elements. This indicates minor Cu, Pb and Zn mineralization along the contact where disseminated pyrrhotite occurs in a belt of hornfels.

Anomaly #10 ($62^{\circ}29.9'N$ / $134^{\circ}26.3'E$) was located in gray phyllites which are low in magnetic response. The magnetic anomaly may have been caused by pyrrhotite within a quartzite member. The latter is prominent along the northwest intrusive contact about 0.7 miles northeast. Silt samples contained only background values.

3) Area 105-L/9:

Three small anomalies are outlined on the government aeromagnetic maps. These were also detected by our own survey. A +175 gamma anomaly was located just south of Mt. Hudder peak, the second one (+375 gammas) lies 1.7 miles northeast, and the third anomaly (+200 gammas) is situated 2.4 miles east of the mountain.

Anomaly #11 straddles the granodiorite and hornfels contact.

Anomaly #12 occurs over a narrow pendant of lime-silicate rocks. The cause of the magnetics was found to be pyrrhotite in the first and magnetite in the second. No economic minerals were noted. Silts showed no change from average values. Soil sample assays showed a slight increase in Cu and Zn and twice background values for Pb.

Anomaly #12 is situated in an area covered by overburden within the granitic mass. Geochemical sampling revealed the same pattern as that of anomaly #10 and #11, thus inferring a buried pendant.

4) Area 105-L/10:

A total of eight magnetic anomalies were investigated, seven (#13 - 19) within the southern half of the map-area and one (#20) in the northwest corner near the Pelly River.

Anomaly #13 (+350 gammas), ($62^{\circ}30'N$ / $134^{\circ}31.9'E$) was located on or near the granodiorite contact with interbedded quartzite and sericite schist. The granitic rock and nearby amphibolite contains minor amounts of magnetite. A concentration of magnetite may be the cause of the anomaly.

Silt and soil samples did not indicate any high geochemical values.

Anomaly #14 (+125 gammas) ($62^{\circ}34.4'N$ / $134^{\circ}34.2'E$) is a broad, elongated feature covering the northwest trend of the granitic mass. No examination was made of the anomaly centre. Prospecting along the granodiorite contact revealed no economic minerals in the slaty limestone, sericite schist and phyllites. Silt samples showed background readings.

Anomaly #15 (+875 gammas) ($62^{\circ}36.5'N$ / $134^{\circ}49.3'E$) is the largest and most magnetic of the anomalies in the map-area. It is centred on the west slope of a rounded mountain composed of slates, hornfels and minor slaty limestone intruded by granodiorite. A small amount of pyrrhotite was noted in the slates and a normal amount of magnetite in the intrusive. The high magnetic anomaly is best explained by a high magnetite concentration within the intrusive below the rock outcrop. The pH is slightly acidic compared to the basic readings from drainages of sedimentary rocks. Geochemical results indicate a minute increase in Cu, Pb and Zn elements.

Anomalies #16, 17 and 18 (+250 to +750 gammas) lie along a northwest trend of magnetic highs between Harvey Creek and North Tummel River. Rock outcrop is scarce. One outcrop of lime-silicate with minor pyrrhotite was found south of the big bend on Harvey Creek. Biotite schist, with minor pyrrhotite, occurs near the North Tummel River, about 2.5 miles southeast of the above mentioned outcrop. No rock exposures were seen west of Harvey Creek. Soil samples collected at 500 and 1000-foot intervals on traverses across these anomalies did not show anything of interest.

Anomaly #19 (+375 gammas) is located near the southwest corner of

the map sheet. It is part of an area of high magnetics which suggests an underlying granitic mass. One quartz diorite outcrop with magnetite was seen near the middle of the area. A broad area was soil sampled but these gave negative results.

Anomaly #20 (+750 gammas), ($62^{\circ}43.3'N$ / $134^{\circ}54.9'E$) is a 2.5 mile long but narrow anomaly, elongated along the presumed location of the Tintina Fault just south of the Pelly River. The fault divides the Cambrian rocks from the Mississippian sediments and volcanics on the north. The anomaly lies over ground which appears to be the old Pelly River flow basin. Argillite with minor pyrrhotite occurs on the immediate south. Reconnaissance geochemical sampling showed an area with 2 to 2.5 times background values in Pb and Zn. Follow-up soil sampling did not improve the values. Since no high geochemical readings were obtained, further interest in this area was dropped. Mississippian volcanic are suspected to be the cause of the magnetic anomaly. The geochemical values are likely legitimate as there are known occurrences of Pb-Zn mineralization near Detour Lakes, 3 miles to the southeast.

5) Area 105-L/11:

Four small anomalies (#21 to #24) were investigated near the eastern edge of the map-area. One large one on the southeast corner was interpreted to be a granitic mass but was not checked out by ground work.

Anomaly #21 (+170 gammas) ($62^{\circ}42.8'N$ / $135^{\circ}1.8'E$) is located on the northeast corner of the map-area within an intrusive near its contact

with Cambrian sediments. Prospecting located highly magnetic north-south basaltic dykes directly on the anomaly. These contained magnetite and pyrite. No valuable minerals were noted. Soil samples indicated negative values.

Anomalies #22 - 24 (150 to +250 gammas) represent isolated highs on a plateau between the Tummel River and the upper section of Harvey Creek. No rock outcrop was seen. Soil and silt sampling did not disclose significant geochemical values.

6) Area 105-K/3:

The magnetic anomalies in this map-area are in the +50 gamma to 250 gamma range except for one of +600 gammas. Twelve anomalies were detected by our aerosurvey. Follow-up ground work was not done on two because of lack of time.

Anomaly #1 (+225 gammas) ($62^{\circ}08'N$ / $133^{\circ}10'E$) lies on the southern slope of a hill immediately north of Buttle Creek (also Tintina Fault) in Cambrian sediments (lime-silicate rocks and quartzites). Minor pyrrhotite was observed. An increase in pyrrhotite with magnetite is the possible cause of the magnetic anomaly. Grid sampling over the anomalous area showed 25% of the samples with 2 times Zn background values. Cu and Pb assays showed a slight increase. The soil samples did not indicate mineralization of importance.

Anomaly #2 (+75 to 100 gammas) ($62^{\circ}9.7'N$ / $133^{\circ}15'E$) is broad and long, lying along the north side of Buttle Creek. The highway runs across

the centre of the anomaly. The Doe and Eye mineral claims (cancelled) occupied a small portion of the anomalous area towards the northwest. The rocks at Anomaly #1 extend northwest to this area. Geochemical results are similar to Anomaly #1 though lower in Zn.

Anomaly #3 (+75 to 250 gammas) (4 miles northwest of Anomaly #2 and 2 miles southeast of Anvil Mining bridge across Pelly River) was located mainly on the Jess M.C.'s (cancelled) but a small portion occurs on claims which are in good standing. This anomaly was not checked.

Anomaly #4 (+125 gammas) ($62^{\circ}13.1'N$ / $133^{\circ}27.5'E$) located near the northwest corner of the map-area lies between the Tintina and a branching fault. The anomalous area is covered by overburden and partly swampy. Favourable Cambrian rocks trend toward this area. Grid sampling over the target produced negative geochemical results.

Anomaly #5 (+50 gammas) (2 miles due south of Anomaly #4) lies across a large lake. This was not investigated.

Anomalies #6 - 9 (+50 to 400 gammas) are isolated magnetic highs situated along a 5-mile, $S60^{\circ}E$ line from Anomaly #4. A band of quartz-biotite and sericite schist plus quartzite extends along the belt and dips approximately 40° southwest. It forms a prominent ridge with a cliff facing northeast towards the highway. Soil sampling of this belt between Anomaly #6 to #9 disclosed moderate geochemical anomalies north of #6 ($62^{\circ}11.2'N$ / $133^{\circ}25.2'E$) and between #8 and #9 ($62^{\circ}8.8'N$ / $133^{\circ}22.2'E$) areas. No. 6 anomaly samples returned 68 - 750 ppm Pb and 43 - 553 ppm Zn, over an area 0.3 miles wide by 0.5 miles long (northwest). The next geochemical anomaly was located

midway but south of No. 8 and 9 magnetic anomalies. It is on another hillside south of the ridge but at approximately the same elevation. Soil assays ranged from 33 - 110 ppm Pb and 200 - 880 ppm Zn, over an area 0.4 miles wide by 0.7 miles long (northwest).

Follow-up sampling was conducted in one day near the close of the season; time did not permit other work to be performed. Additional work including prospecting, soil sampling and mapping is recommended for both areas.

The writer believes that these are the extensions of the Pb-Zn strata found on the Lyn Group claims located 4 miles S60°E.

Anomalies 10 - 12 (+600 gammas, +125 gammas, and 225 gammas) (62°5.4'N) / 133°12.6'E centre) consist of two isolated anomalies and one crescent-shaped one located around a rounded hill. The area is underlain by metamorphosed sediments composed mainly of a siliceous shaly rock, interbedded with limestone plus other limy and graphitic rocks. Quartz, biotite gneiss forms a N60°W contact on the northeast. A narrow band of limestone and quartz-biotite schist lie between the main rocks. The general strike and dip of the rocks is N60°W and 30° southwest.

A few spots of galena were found on a rock face along a creek (Lynda) west of the magnetic anomalies. Folding and sheering were noted.

Reconnaissance geochemical sampling showed two times lead and five times zinc background values.

A group of 134 mineral claims were staked to cover the anomalous area.

Further details on this area are discussed under "Lyn Group Mineral Claims".

7) Area 105-K/4:

The aeromagnetic survey outlined a 4-mile wide $N70^{\circ}W$ trending belt of magnetic highs, adjacent to the Cretaceous intrusive on the western edge of the map-area. The G.S.C. does not differentiate the age of this belt of volcanics and sediments. Two isolated magnetic anomalies occur near the northeast corner of the map-area.

Anomalous Belt ($62^{\circ}15'N / 134^{\circ}00'E$ to $62^{\circ}00'N / 133^{\circ}35'E$) was thoroughly traversed on the ground except for the western half between latitudes $62^{\circ}3'$ to $62^{\circ}6'$. Spot samples were collected from the drainages in the latter.

Quartzite containing 1 - 2% pyrrhotite was found to be the cause of a magnetic anomaly near the southern edge of the map-area. Although no valuable minerals were seen, the silt samples from the most southerly, west flowing creek indicated the presence of Pb and Zn. One sample near $62^{\circ}N / 133^{\circ}40'E$ assayed 117 Pb and 2160 Zn. Other silts within a mile of the drainage gave two times lead and zinc background readings. On the east side of the main northerly flowing stream (Gravel Creek), occasional copper minerals were found with quartz float. A small quartz vein with azurite, malachite and galena was found to occur in dolomite and siltstone. Other than the above mentioned area,

Geochemical samples from this region showed only an occasional value above normal.

Northwestward to latitude $62^{\circ}7'$, phyllite was the only rock seen. Magnetic properties were not observed. This section is geochemically negative.

From latitude $62^{\circ}7'$ to $62^{\circ}10'$ (Magundy River) the phyllites contain minor quartz veins mineralized occasionally with magnetite and copper minerals. These minerals are in the outcrops of phyllite along an east-west creek (Elijah) situated 1.5 miles south of Magundy River. Soil and silt samples within the area show scattered geochemical highs of four times to six times copper background and one and a half times to three times zinc background. The readings do not indicate any mineralization of interest. The narrow, discontinuous and occasional quartz veins bearing chalcopryrite do not suggest mineralization of importance.

Between Magundy River and the northwest corner of the map-area the magnetic anomalies may be caused by thin layers of basaltic rock underlying the phyllites which appear over most of the area. Minor slate and basalt occur and these were found to be magnetic. Zinc values showed a higher background reading but none of any significance.

Anomaly #2 (+150 gammas) ($62^{\circ}11.2'N$ / $133^{\circ}41.4'E$) is a broad magnetic anomaly lying south of the Magundy River in rocks of possibly Devonian and/or Mississippian age. Most of the area is overburden. Grid sampling shows normal lead and copper background on the east side of the anomaly. The results do not give any anomalous condition.

Anomaly #3 (+75 gammas) ($62^{\circ}15'N$ / $133^{\circ}34.5'E$) lies in overburdened terrain just south of the Tintina Fault. Geochemical readings indicate a slight increase in zinc values.

8) Area 105-K/5:

Two isolated and small 100 gamma anomalies were detected near the southeast corner of the map-area. These are located on areas mapped as Tertiary volcanics. No ground check was made.

VII DESCRIPTION OF AREAS TRAVERSED:

1) Area 105-L/1 and 2:

When the helicopter broke down during the beginning of the field season, the parties were dispatched by boat and hitch-hiked rides from base camp to prospect and collect silts. Eight miles of the north shore and 16 miles of the south shore of Little Salmon Lake plus 12 miles east along the highway north of the Magundy River were traversed.

Mississippian rocks of quartzite, mica schists, limestone and lime-silicates form a 16-mile belt trending $N45^{\circ}W$. It is separated from the Glenlyon Range by a fault running diagonally across the map-area.

No anomalous silt samples were obtained along the east-west traverses. A chalcopyrite showing on a mineral claim located on the north shore four miles west of the base camp was investigated. Mineralization is in mica schists interbedded with quartzite. Chalcopyrite occurs in minor

amounts associated with magnetite. It is judged to be a local occurrence and soil sampling did not prove otherwise.

A lenticular-shaped pendant of Cambrian mica schists and limestone located four miles northeast of base camp was checked by a ground crew. Skarn occurs at the contact with the granitic mass, but no scheelite was noted. Prospecting and silt sampling did not give evidence of base metal mineralization.

2) Areas 105-L/7, 8, 9 and 10:

The area explored was confined chiefly to the Harvey Group sediments which are tentatively classed as Cambrian age, plus the granitic intrusions within the prospected area. The latter is of Jurassic and/or Cretaceous age. Thus, the area is contained in a 12-mile wide by 34-mile long northwesterly belt, passing through the adjoining corners of the four map-areas.

This area lies along the centre of the Glenlyon Range which is an outstanding topographic feature with summit elevations exceeding 6,500 feet and with broad areas rising above 4,500 feet.

A) Structural Relations:

The Tintina Fault on the northeast and a parallel fault on the southwest side of the range isolates the younger and older Mississippian respectively. Many faults cut the Harvey Group. The majority of these faults strike northerly. They change from a north-south strike at the southeast end to a northwest strike at the northwest corner. South of

Glenlyon Peak these are offset by east-west faults. Many of these faults appear to be deep-seated as they cut across the sediments and granitic mass. The others may be due to stresses produced during the uplift of the sediments by the intrusive mass.

In general, the strike is westerly and the dip is northerly between 20° - 40° . On the southwest corner of the area, the dip is southerly and westerly which suggests arching by uplift and shifting of blocks by faulting.

B) Geology:

To aid in the search for Ag-Pb-Zn deposits of the Vangorda area type, the rocks of the Harvey Group were divided into two main units, 1 and 2, to relate them to what is believed to be similar to those rocks in the Tay River area. To further define the favourable horizons, a subdivision is made as follows:

Cambrian (?) to Lower Cambrian (?)

- 2a Slate, phyllite, spotted slate, hornfels;
- 2b thin-bedded argillite, slaty limestone, minor hornfels.
- 1c Mainly limestone; phyllite, lime-silicate gneiss, skarn, quartz-biotite schists, slate, hornfels.
- 1a Mainly quartzite and quartz-mica schist, minor amphibolite, lime-silicate rocks, marble;
- 1b Marble, lime-silicate rocks, amphibolite, skarn.

According to Mr. D. J. Templeman-Kluit of the G.S.C., the

favourable Pb-Zn strata is between the lower member of Unit 2 and the upper member of Unit 1.

Unit 1a is the most abundant rock of the Harvey Group and it consists of quartzite and quartz-mica schist mainly. The mica is chiefly biotite with minor muscovite. Calcareous rocks of 1b are interbedded with 1a and appears as widespread, small occurrences. Unit 1a lies on the south side of Glenlyon Range. Erosion is most severe, creating large and small pendants of this bottom unit.

Unit 1c, middle member of the Harvey Group is composed mainly of five, crystalline limestone with thin layers of argillaceous material. This unit is the least abundant rock of the group.

Unit 2a, the upper and most northerly unit, lies in contact with the northern part of the Glenlyon Batholith. It is composed mainly of phyllite and slate, and consists of quartz, chlorite and sericite. Unit 2b is found west and northwest of Front Mountain (northwest corner of 105-L/10).

Near the contacts of granitic rocks, the argillaceous rocks are converted to hornfels and the calcareous rocks metamorphosed to skarn.

C) Mineralogy:

The sphalerite occurrence described in Anomaly #2, of Area 105-L/B on page 11, is the only interesting mineralization in the Glenlyon exploration area. Base metal is scarce. Scheelite is rarely seen. Pyrrhotite is commonly found, finely disseminated in hornfels and quartzites.

3) Area 105-L/11:

This area was not traversed as thoroughly as the previous areas. Only the northeast and southeast corners were prospected. These are described under magnetic investigation.

4) Areas 105-K/3, 4 and 5:

Broadly speaking, the area to be explored encompasses all the Cambrian rocks (Unit 2) plus the undifferentiated unit (volcanic and sediments) southwest of the Tintina Fault (Pelly River), on the southwest corner of map-area 105-K. These rocks occur in two, separated northwest trending belts. Both are about six miles by 23 miles long, each striking diagonally across map-area 3 and 4 and terminated near the southern edge of map-area 5.

The Magundy River system drains almost the entire area, then flows west into Little Salmon Lake. Buttle Creek and smaller streams drain the northeast side along the Tintina Trench and empty into the Pelly River.

Both exploration areas were surveyed by our airborne Elsec Magnetometer. Due to delays, the season's project was behind schedule so prospecting was confined to magnetic targets only. Even this was not completed because the crews spent considerable time staking claims, geochemical sampling and mapping of the claim block. In all, the three field parties spent about two weeks on ground follow-up work on the other target areas.

The detail geology is described under Anomaly Evaluation of Area 105-K/3-5 on pages 10 to 22.

The general geology of the Magundy River area is comprised of two isolated bands of Cambrian rocks, separated by Silurian, Devonian and Mississippian sediments, and flanked by undifferentiated sediments and volcanics. Cretaceous granitic batholith borders the southwest and the Tintina Trench on the northeast side. The entire structure trends northwesterly and the strike generally follows the same direction. It appears that the Cambrian units form the two limbs of a geosyncline.

There is more evidence of Cu, Pb and Zn mineralization in the Magundy River area than the Glenlyon Range. Besides the strata-bound type of the Lynda Creek find, all the other occurrences in the Magundy River area are found to be associated with quartz veins.

VIII LYN GROUP MINERAL CLAIMS:

Attention was focused on the Lynda Creek area when reconnaissance geochemical samples returned interesting and near anomalous values. An outcrop on Lynda Creek showed a few cubic crystals of galena within a folded zone. Two select specimens assayed 0.80 Ag / 0.3 Pb and 0.26 Ag / 0.3 Pb.

1) Staking:

Immediate staking of a block of 80 mineral claims was commenced to protect the ground against competition (Cypress) who had sampled the creek in June and was now interested in the ground. Atlas Explorations had also moved their crews and field laboratory into the area. Later, as follow-up geochemical work enlarged the anomalous area, a total of 134 contiguous mineral claims were staked.

2) Geochemical Sampling-Mapping:

A) Work Done:

First phase of the program initiated on August 9th involved geochemical sampling at 700-foot intervals and mapping along the location lines. Sampling and mapping was extended northwesterly and southeasterly to delineate the geochemically anomalous area. One crew was conducting the sampling while the other two parties were staking.

The second phase commenced on September 1st and included a

regional geochemical survey plus closer sampling of the more interesting ground. Grid sampling was planned on 400-foot and 200-foot centres on lines 700 feet apart and at right angles to the location line. Geological mapping was neglected due to less personnel and time available.

B) Geochemical Results - Claim Block:

Barringer Research's assay results on all our September samples were found to be inaccurate. Consequently, about 75% of the Lyn Group samples were reanalyzed in January, 1970. Fortunately, subsequent ground work based on the earlier results was not mis-directed. The final geochemical contour map is more meaningful. Sample locations and assays were re-plotted on a 25-foot contour, topographical map prepared by Lockwood Survey Corporation.

i) Pb Anomalies:

The 100 ppm Pb anomalies form contours ranging from 1,000 feet to 7,700 feet in length and total 12,500 feet along a N60°W strike distance. They occupy the northwest corner of the claim group.

The 200 ppm and 300 ppm Pb contours showed two distinct anomalies near the southeast end of the above zone (Claim No's 90, 92, 94, 96, 99, 100 and 103). These are parallel, though isolated, anomalies measuring about 450 feet in width by 1,500 feet and 3,500 feet in length. They are elongated along a N30°W direction. The smaller anomaly follows the natural drainage, whereas the other is at 60° from the slope of the

steep hill. Soil samples showed values greater than 1,000 ppm Pb.

ii) Zn Anomalies:

The 200 ppm Zn contour embodies an area twice as wide as the 100 ppm Pb contours and open more on the ends.

The 900 ppm Zn contours form approximately the outline of the 200 and 300 ppm Pb anomalies. Soil samples showed values greater than 2,000 ppm Zn. The directional trend of the anomalies is similar to that of the Pb anomalies.

C) Geochemical Anomaly of Sphalerite Bed,
(Trench #1) Plus Magnetite Band.

A seven inch band of massive sphalerite with minor galena exhibits a 250-foot wide anomaly (100 ppm Pb) parallel to the structure. One sample assayed higher than 200 ppm Pb. The 600 ppm Zn contour is roughly equivalent to the 100 ppm Pb contour in shape. Soil samples showed values higher than 1,000 ppm Zn.

D) Other Areas of Interesting Geochemical Assays:

There are two areas which showed above average values in the soil samples. One straddles the southeast boundary of the claim block between 28N to 28S. It is mainly a zinc-high area with one zone (LOON/4W - 24W) of 400 ppm Zn showing two to three times Cu background (20 ppm) values. There are no significant Pb values and most of them are less than 60 ppm. The densities of the sample locations on the southeast boundary are: two per claim on lines 2800 feet apart within the claim group, and

1.4 per claim area on lines 2,800 feet apart east of the claim boundary. The hillsides slope about 10%.

The second area adjoins the northwest boundary of the claim group. Soil samples show a higher Pb/Zn ratio (one-half approximately) than those (one-quarter approximately) on the Lyn claims. Lead assays range from 9 - 182 ppm with 13% greater than 100 ppm Pb. Zinc assays range from 6 - 408 ppm with 50% higher than 200 ppm, though most of these are between 250 - 300 ppm Zn. One exceptionally high Zn assay of 2,210 ppm showed no significant value. A 100 ppm Pb contour, about 2,000 feet long is open on the southwest corner of the sampled area. The density of the sample locations is two per claim-area on lines 1,400 feet apart. The average slope of the surface is 10%.

Additional soil sampling, immediate to the location of higher geochemical values, is recommended for both areas. The work should be held in abeyance until a better understanding of the cause of the geochemical anomalies within the north central area of the claim group is known.

3) Prospecting and Mapping:

Our prospecting team of Wilf Christian and Cap Cornwell spent one month, between September and October, prospecting, mapping, and geochemically sampling the claim block. Most of the work was concentrated in the high geochemical area.

The region containing the possible source of the geochemical anomalies plus the ground towards the southwest is almost completely

covered by glacial till. Scattered outcrops occur on the steep faces of the bench terrain below.

The prospectors noted thirteen occurrences of low-grade Pb-Zn mineralization. One of these is located uphill (southwest) from the largest geochemical anomaly, two on the anomaly, and six at a distance downhill near the sediment-gneiss contact. Another three are situated towards the southeast. The last one is found downslope from the 100 ppm Pb contour, on the northwest part of the area.

Mr. Christian reported that the Pb-Zn mineralization near the gneiss contact was found in skarn zones and the others as replacement in limestone or limy rocks. The main rocks overlying the claims were found to be altered sediments comprising of shaly phyllites and limy phyllites with interbedded schists and limestone. The general strike is N50 - 60°W and the dip 25 - 45°SW.

Mineralized float containing galena with minor sphalerite was found along the lower section of Goodwin Creek. Similar float was dug out of the northwest bank of Goodwin Creek at L56N/171+75W. The galena occurred as clusters and/or lineated along quartz bands within phyllite rocks. Much of the float appeared to come from a shear. These showed angular phyllitic fragments healed by granular quartz. Selected specimens of the latter type assayed 42.8 Ag, 45 - 66 Pb and 0.36 Zn.

There are six known types of mineralization described as follows:

Galena, associated with quartz within the phyllite and limestone member near the gneiss contact (approximately 56N location line) at elevation 3,600 feet. Medium size galena crystals occur in blebs and clusters with gritty quartz. It is

somewhat similar to the float found on Goodwin Creek.

Galena and Sphalerite, associated with magnetite in metamorphosed limestone (skarn) at elevations 3,800 - 4,100 feet. Pb and Zn occur as fine-grained crystals, also in blebs.

Sphalerite (with minor galena), in limestone beds. Sphalerite is interbedded with limestone, often massive. Specimens show drag (?) folds.

Galena, in phyllite bedding and fracture planes, found near 40N/56W. Galena occurs as tiny thin plates.

Sphalerite (with low galena), associated with magnetite bands in quartz and carbonate at elevations 4,100 - 4,200 feet. The sphalerite occurs in bands and masses and the galena as isolated crystals.

Sphalerite (with minor galena), associated with quartz in limy phyllites at the 4,200-foot elevation. Sphalerite occurs in bands, often massive.

The sphalerite is dark brown, often black brown. Pyrite is seen occasionally, generally along the bedding. Findings to date show that galena occurs along the lower member, sphalerite along the upper member, and both Pb and Zn occur in the middle.

4) Geophysical Traverses:

The electromagnetic, magnetic, and self-potential methods were used to survey a number of lines for testing the ground during the month of October.

A) Southeast End:

Line 82W:

At station 27N near a seven inch sphalerite strata, there is no magnetic or S.P. response, and -5° E.M. is noted. At station 33N near a narrow magnetite bed with minor Pb-Zn, a 700 gamma reading corresponded with -10° on the E.M. and -475 m.v. on the S.P. Between stations 38N and 46N, there is no readable magnetics but a -20° E.M. corresponds to a small -50 m.v. S.P. dip.

Line 77W:

An S.P. survey was not carried out on this line. The continuation of the magnetite band was not detected by the magrometer though a -12° on the E.M. was recorded. The -20° E.M. on L82W becomes -30° on Line 77W.

Line 74+50W:

A short E.M. line was run to trace the large negative to a favourable location for trenching.

Results:

The two southerly anomalies are caused by known mineralization. Bulldozer trenching on L74+50W revealed heavy graphitic bands and minor pyrite interbedded with altered sediments and limestone. The graphite is the chief cause of the E.M. anomaly. The E.M. ratios are about one to one.

B) Northwest End:

Line 138W:

No magnetic anomalies were noted. A corresponding E.M. (-30°) and S.P. (-490 m.v.) anomaly occurred between stations 48N and 54N.

Line 133W:

No magnetic traverse was done. A corresponding E.M. (-30°) and S.P. (-575 m.v.) anomaly, similar to the one on Line 138W, was found between stations 49N to 56N.

Results:

No anomalous condition was noted near the possible source (28N) for the geochemical anomaly. Graphite and/or massive sulphides could have produced the coincident E.M. and S.P. anomaly. Geochemical assays were not indicative though inclined towards the negative side. Talus under moss cover and permafrost rendered it difficult to obtain proper samples. Better located samples, even from the "A" horizon, may be used for assessing the anomaly.

5) Trenching:

Ten days were spent during October to trench the possible source of the geochemical anomalies. A D-7 bulldozer with a single ripper tooth was used. The four trenches were layed out on a $N30^{\circ}E$ direction, at approximately 90° to the assumed strike of the rocks and to the topographical contours. The bedrock was found to form steep-faced benches with deep, frozen, glacial till below the faces. These two factors made ripping and blading difficult. Also, the bulldozer should have been equipped with ice lugs on its tracks to prevent slipping upon permafrost and greasy packed clay.

Trench #1; located on Line 81+50W/27+10N to 33+40N, was

designed to uncover the extent of mineralization found on a zinc-lead showing (28N) and a magnetite outcrop (34N). Sediments altered to phyllite and limy phyllite were the only rocks noted. A five inch to nine inch bed of massive sphalerite with quartz and carbonates was exposed. The weighted assay average across seven inches was 0.003 Au, 0.49 Pb, 0.07 Ag, and 11.92 Zn. No Pb-Zn was found in the other parts of the trench. The bulldozer was unable to strip to the magnetite outcrop because of the steepness of the hillside. The strike of the sediments is $N60^{\circ}W$ and the dip is $30^{\circ}SW$. A narrow geochemical anomaly was outlined along the location of the 2,400-foot long bed of magnetite, about 500 feet downhill (-25% grade) from the sphalerite band.

Trench #2, situated on Line 139W/26+55N to 30+25N, was stripped to trace the source of the geochemical anomaly. The top end of the trench was started on the 100 ppm Pb contour line. No sulphide mineralization was found. Interbedded schistose shales and limy phyllites were the only rocks exposed. The rock showed considerable shearing, strike and dip changes. Sericite was developed along the cleavage planes. The shales were rusty and often covered with hematite stain. The strikes varied between $N33^{\circ}W$ to $N15^{\circ}E$ and the dip changed from $58^{\circ}SW$ to $30^{\circ}NW$.

Trench #3, located 550 feet east of Trench #2 at Line 133+50W/26+50N to 28+75N, was another attempt to find the Pb-Zn mineralization. No sulphide mineralization was found. Rocks were similar to that in Trench #2. The strike and dip was $N23^{\circ}W$ and $26^{\circ}SW$.

Trench #4, on Line 74+50W/43N to 45N, was bulldozed to uncover the cause of an E.M. anomaly. This anomaly was traced from Line 82W (see page 34, 4-A) and was found to be graphitic phyllite with masses of graphite in a shear or fault. Slightly limy phyllite adjacent to the shear dips 40° easterly and strikes $N30^{\circ}W$. Phyllites on the southwest, 25 feet away, strike 24° west and strike $N2^{\circ}W$. Limestone occurs in contact with pyritized (0.5 - 1% pyrite) phyllite 150 feet to the northeast. The contact strikes $N60^{\circ}W$ and dips 28° southwest. The phyllite with abundant muscovite and sericite outcrops on a small rise 100 feet northeast.

6) Assessment of Lyn Mineral Claims:

The occurrence of widespread lead-zinc mineralization indicates a favourable mineralized belt which warrants further exploration. Whether this belt contains the Cambrian rock unit which has produced the Swim, Vangorda, and Faro orebodies is not definitely known. The rocks on the Lyn Group, which are common to the favourable ore horizon, are quartz-rich phyllites and graphitic quartz phyllites. The Lyn Group rocks are not known to contain the sericite and graphitic schists associated with the Vangorda and Swim orebodies, though sericite and chlorite is evident in the phyllites. Rocks are calcareous, but the Lyn member is more limy and also contains beds and lenses of limestone. According to recent re-mapping of the Tay River map-area, the new rock classification would place the Lyn Group horizon within the upper member of the Cambrian Unit 2. Mr. Tempelman-Kluit of the G.S.C. reports that sulphide bodies discovered to date occur in the lower member of this unit. Should there be only one

favourable horizon for the deposition of a Pb-Zn orebody and, if the surface occurrences could be interpreted as fringe mineralization, then the search should be directed towards "lower" horizons.

To date, the mineralization found on the Lyn Group differs in content and association to that at Vangorda Creek and Swim Lakes.

Sphalerite is the main mineral with galena in minor amounts. Pyrite and magnetite do not form a close association with the Pb-Zn. Pyrrhotite was not noted; chalcopyrite was scarce. Float containing galena bears no similarity to the above mentioned deposits and contains negligible sphalerite. It's high silver assays indicated a vein or fault replacement deposit. Mineralized specimens showed moderate brecciation of the phyllite and exhibited coarse, cubic galena. There are two or more types of lead-zinc mineralization on the property.

The Unit 2 on the Lyn Group appears to be the northeast limits of a regional syncline. Younger rocks occupy the central area and early proterozoic units form the flanks. This theory, places the sediments of the Lyn Group in the Cambrian Unit 1.

At present, the favourable aspects of this property are: the widespread occurrence of Pb-Zn mineralization; high geochemical values, and impressive geochemical anomalies. Trench No's 2 and 3 did not uncover the source of the geochemical anomaly; neither the E.M. nor the S.P. unit showed any response over the same target area, though the mineralization undoubtedly exists. One can conclude that the mineralization is spotty or occurs in narrow lenses. Co-incident E.M. and S.P. anomalies on Lines 138W

and 133W have yet to be investigated and the findings may add information to the geology and structure.

The possibility of an ore deposit at depth exists in the widening of the favourable strata or within a structural warp in this horizon. The stratabound type of Pb-Zn deposit must be fairly massive to be economic. Such a mass could be detected by the gravity method.

A gravity survey is proposed to cover the area of geochemical anomalies. Twenty-five lines totalling approximately 22 line miles are planned, covering an area about 1.4 miles by 2.2 miles long, located between Morley and Goodwin Creeks on the northeast section of the property. Two of these lines are located to check the co-incident E.M. and S.P. anomalies on Lines 138W.

If the gravity survey does not provide a target for further work, then Trench No's 2 and 3 should be extended uphill to trace the source of the geochemical anomaly. Two other trenches, located near Line 105W/34N and Line 125W/35N are recommended to seek the source of the 300 ppm Pb geochemical anomaly.

Fill-in soil samples across the two high geochemical anomalies are desirable for tracing and pin-pointing the target areas.

IX GEOCHEMISTRY:

The Holman method was used and found satisfactory for copper tests in the field work. A Rubeanic kit was issued to all parties for use in checking positive results obtained by the Holman method, and was often relied upon when the Holman solvent deteriorated.

"Dithizone Paper" supplied by Vancouver Geochemical Laboratories is much more appreciated for its ease in handling and less deterioration in storage than the use of dithizone powder.

The Cold Extractable Heavy Metal solution supplied by the same laboratory was not usable. It was found to turn a positive color upon mixing, immediately after preparation. Elaborate and cautious procedures were employed for its preparation but the results were no good. Chemicals returned to the laboratory were tested and proved to be in good condition.

Scintrex Morgenson's Total Heavy Metal Geochemical Kits were used later in the season and found to be satisfactory. With minimum experience, one can readily judge the quality of the color to give a close estimate of the p.p.m. total heavy metal in a sample.



Fred Chow.

FC/1k



LEGEND

- AREA EXPLORED
- AEROMAGNETIC SURVEY
- 4 AREA NUMBER.

TEN THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 8

MAP # 1A
KERR ADDISON MINES LTD.
GLENLYON PROJECT Y.T.
EXPLORATION AREA
AREA NUMBER 6
AEROMAGNETIC SURVEY AREA
DATE SURVEY: JUNE-SEPT. 1969

TO USE AS A STANDARD OF SCALE WITH THIS MAP, MEASURE THE DISTANCE BETWEEN THE MARKS ON THE SCALE IN THE MANNER SHOWN.

SCALE: 1:250,000

VERTICAL DATUM: MEANS 80
 HORIZONTAL DATUM: MEANS 80

VERTICAL DATUM DIFFERENCE: 80
 HORIZONTAL DATUM DIFFERENCE: 80

THE DECLINATION OF THE COMPASS NEEDLE 1950

The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the neighbouring red lines, thus at the place marked A, the declination is between 33° 30' E and 34° 00' E. The declination of the compass needle is decreasing at all places.

Surveys in 1947 and compilation in 1950 by the Topographical Survey from air photographs taken in 1949. Lithographed and printed by the Army Survey Establishment, R.C.E., Department of National Defence, 1951.

REFERENCE	More than 2 Lanes	2 Lanes or More	Less than 2 Lanes
Road, Hard Surface, All Weather	—	—	—
Road, Loose Surface, All Weather	—	—	—
Road, Special, etc.	—	—	—
Boundary, International	—	—	—
Boundary, Provincial	—	—	—
Boundary, County or District	—	—	—
Boundary, Township, Seigneurie or Parish	—	—	—
Boundary, Indian Reserves, Park	—	—	—
Sectional and Base Lines (Surveyed)	—	—	—
Railway, Standard Gauge	—	—	—
Main Electric Power Line	—	—	—
Boundary Mon.	—	—	—
Survey Mon.	—	—	—
Bench Mark	—	—	—
Triangulation Sta.	—	—	—
Spot Elevation (in feet)	—	—	—
Telephone, Trunk Route	—	—	—
Abandoned	—	—	—
Single Track	—	—	—
Station	—	—	—
Silo	—	—	—

Scale 1:250,000 or 1 inch = 4 miles (approximately)

Miles 0 5 10 15 20 25 30
 Kilometres 0 5 10 15 20 25 30

0 1 2
 0 1 2 3 4 5
 inches
 centimetres

YUKON GEOLOGICAL SURVEY

Price 25 Cents

Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa.

REFERENCE	Symbol
Building	—
School	—
Post Office	—
Church	—
Stream, Intermittent or Unimproved	—
Stream, in Dry River Bed	—
Braided Stream	—
Marsh or Swamp	—
Marsh or Swamp, in water	—
Glacier or Snowfield	—
Sand, Gravel or Mud	—
File Lockout Tower	—
Wireless Station	—
Mine	—
Contour, Elevation	—
Contour, Approximate	—
Contour, Depression	—
Canal	—
Wooded Areas	—
Navigable Canal	—
Rapids and Falls	—
Dam	—
Lighthouse	—
Aerodrome (Elevation in feet)	—
Seaplane Anchorage	—

Index to Adjoining Sheets



LEGEND

- AREA EXPLORED
- AEROMAGNETIC SURVEY
- AREA NUMBER

MAP # 1B

KERR ADDISON MINES LTD.
GLENLYON PROJECT Y.T.
EXPLORATION AREA
AREA NUMBER 4
AEROMAGNETIC SURVEY AREA
DATE SURVEY: JUNE-SEPT. 1969

GRID ZONE DESIGNATION: 8 V		TO GET A STANDARD REFERENCE ON THIS SHEET TO HAREST 1000 METRES	
100,000 M. SQUARE IDENTIFICATION		SAMPLE POINT: TRIANGULATION STATION	
NE	PE	PE	
690	ND PD	2	5
		60	
NOTE: THE SMALLER figures of any grid number, these are for reading the full coordinates. Use ONLY the LARGER figure of the grid number example: 630000		PE2514	
		8VPE2514	

TEN THOUSAND METRE
 UNIVERSAL TRANSVERSE MERCATOR GRID
 ZONE 8

THE DECLINATION OF THE COMPASS NEEDLE, 1950

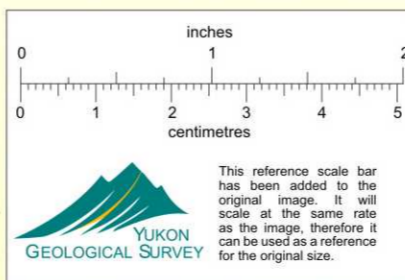
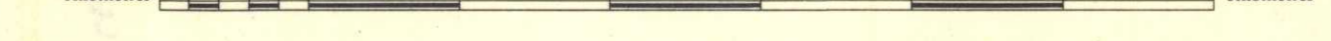


Surveyed, compiled, drawn and printed by the ARMY SURVEY ESTABLISHMENT R.C.E., 1949-51
 Aerial photography by the R.C.A.F. 1949. Published 1951.

REFERENCE

Road, Hard Surface, All Weather	More than 2 Lanes	Partially Completed
"	2 Lanes	Road No.
"	Less than 2 Lanes	
Road, Loose Surface, All Weather	More than 2 Lanes	
"	2 Lanes	
"	Less than 2 Lanes	
Road, Loose Surface, Less than 2 Lanes	All Weather	Dry Washes
Railway, Multiple Track		
"	Single Track	
Boundary, International		
"	Province or State	
"	County or District	
"	Reservations, Indian, Military, Park, etc.	

Scale 1 : 250,000
 Approximately 1 Inch to 4 Miles

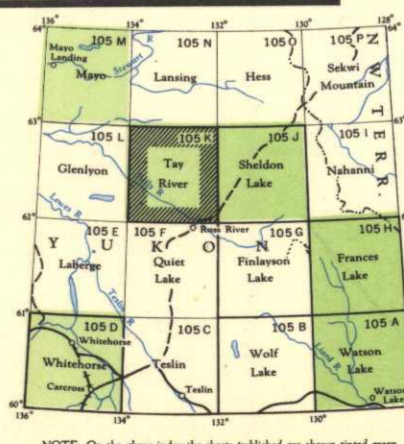


Contour Interval 500 Feet.

All Elevations in Feet above Mean Sea Level.
 Universal Transverse Mercator Projection

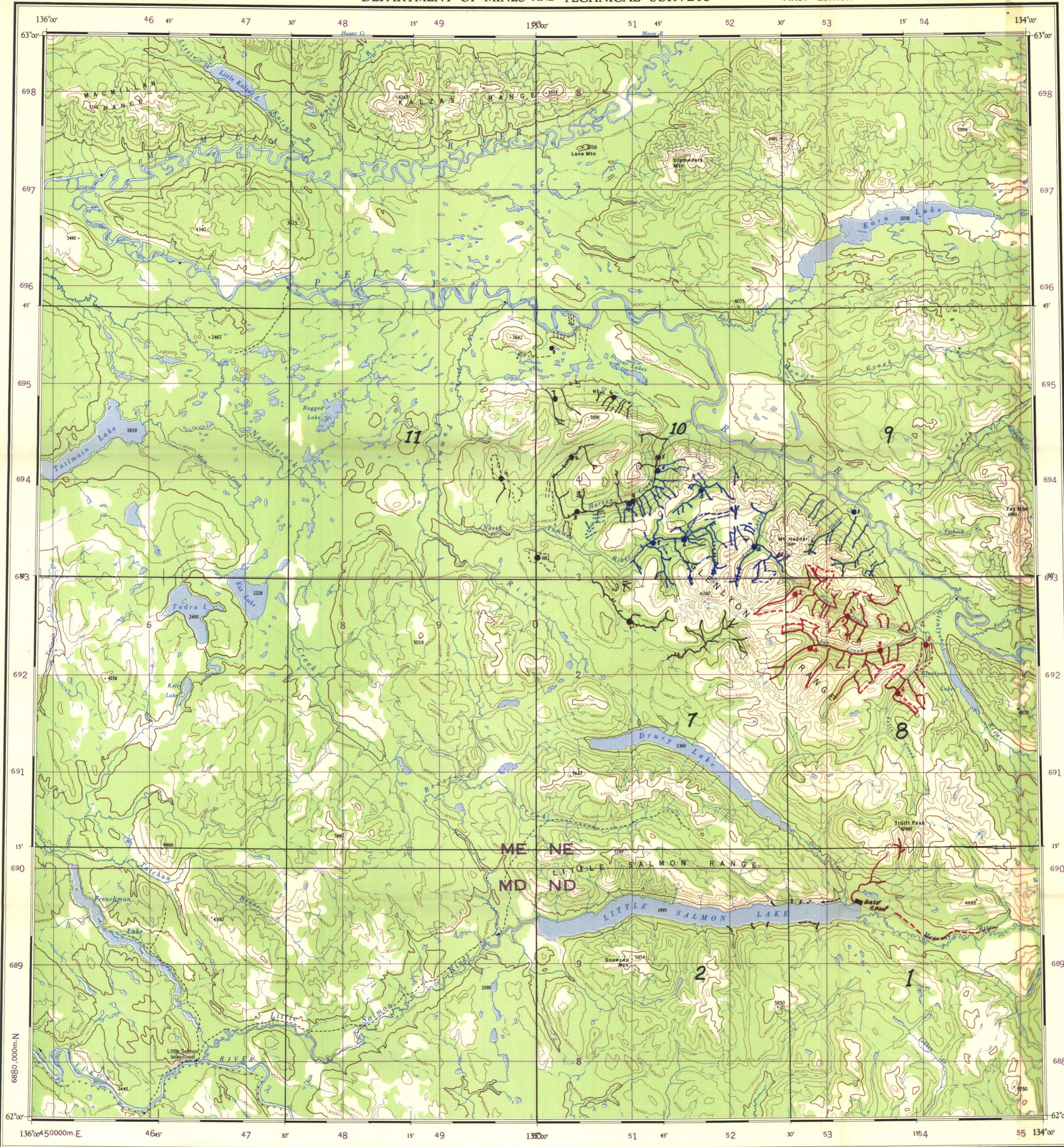
REFERENCE

Triangulation Station	Spot Elevation, in feet	257
Contours, Elevation	Woods Areas	
"	Depression	
"	Approximate	
Stream, Intermittent	Ferry	W.L. 241
"	Falls	
"	Archeological, on Land	Elevation in Feet 250
"	Main Electric Power Line	on Water
"	Navigation Light	
"	Mud	
"	Sand	



Note: Copies of this map required for official purposes may be obtained from the Army Survey Est. ASHQ, Ottawa.
 The general public may obtain copies from the Map Distribution Office, Dept. of Mines and Technical Surveys, Ottawa, at 25 cents per copy.

TAY RIVER
YUKON TERRITORY



- LEGEND**
- FLY CAMP LOCATIONS AND CAMP NO.**
- PARTY-3
 - PARTY-2
 - PARTY-1
- STREAMS SILTED
- TRAVERSES SOIL SAMPLED
- 8 AREA NUMBER

TEN THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 8

MAP #2A

KERR ADDISON MINES LTD.
GLENLYON PROJECT Y.T.
CAMPSITES
AND
STREAMS SILTED
DATE SURVEY: JUNE-SEPT. 1969

10. STATE OF YUKON TERRITORY
11. NAME OF SURVEYOR
12. NAME OF SURVEY
13. NAME OF PROJECT
14. NAME OF SHEET
15. NAME OF MAP

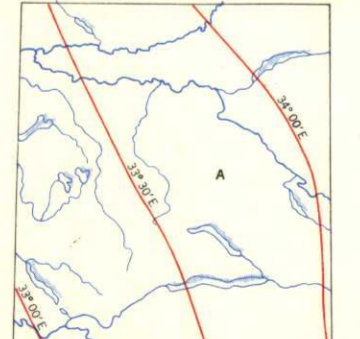
1. Read above information and fill in the following information:
2. Name of project, location, and date of survey.
3. Name of sheet and map.
4. Name of surveyor and project.
5. Name of state or territory.

6. Name of project, location, and date of survey.
7. Name of sheet and map.
8. Name of surveyor and project.
9. Name of state or territory.

10. Name of project, location, and date of survey.
11. Name of sheet and map.
12. Name of surveyor and project.
13. Name of state or territory.

14. Name of project, location, and date of survey.
15. Name of sheet and map.
16. Name of surveyor and project.
17. Name of state or territory.

THE DECLINATION OF THE COMPASS NEEDLE 1950



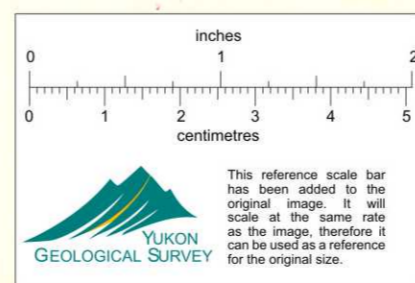
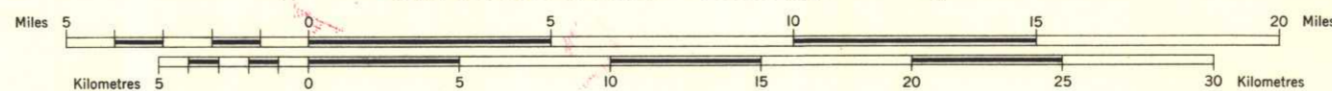
The declination of the compass needle at any place along a red line is the declination given on that red line. At other places the declination is between those given on the adjoining red lines; thus at the place marked A, the declination is between 33° 30' E and 34° 02' E. The declination of the compass needle is decreasing 4' annually.

Surveys in 1947 and compilation in 1950 by the Topographical Survey from air photographs taken in 1945. Lithographed and printed by the Army Survey Establishment, R.C.E., Department of National Defence, 1951.

REFERENCE

Road, Hard Surface, All Weather	More than 2 Lanes	2 Lanes	Route No.	Less than 2 Lanes
Road, Loose Surface, All Weather	2 Lanes or More	Less than 2 Lanes	Open	Dry Weather
Road, Special, etc.	Stone Road, Pack Road	Cart Road	Parade or Trail	
Boundary, International	Survey Mon.	Boundary Mon.		
Boundary, Provincial	Survey Mon.	Bench Mark	BM	
Boundary, County or District	Triangulation Sta.	1514		
Boundary, Township, Seignior or Parish	Spot Elevation (in feet)	4590		
Boundary, Indian Reserves, Park	Telephone, Trunk Route	Single Track		
Sectional and Base Lines (Surveyed)	Abandoned	Single Track		
Railway, Standard Gauge	Mutiple Track	Abandoned	Single Track	
Main Electric Power Line	Wireless	Radio		

Scale 1:250,000 or 1 inch = 4 miles (approximately)



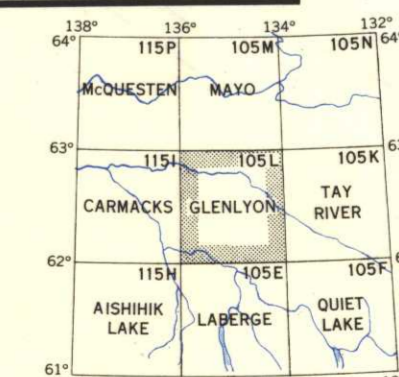
YUKON GEOLOGICAL SURVEY

Price 25 Cents

Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa.

REFERENCE

Building	Fire Lookout Tower	Contours, Elevation
School	Wireless Station	Contours, Approximate
Post Office	Mine	Contours, Depression
Church	Coff	Water
Stream, Indefinite or Unsurveyed	Wooded Area	Navigable
Stream, in Dry River Bed	Navigable Canal	Rapids and Falls
Braided Stream	Ferry	Dam
Marsh or Swamp	Lighthouse	Aerodrome (Elevation in feet)
Marsh or Swamp, in water	Seaplane Anchorage	
Glacier or Snowfield		
Sand, Gravel or Mud		



GLENLYON
YUKON TERRITORY

SHEET 105L
FIRST EDITION



LEGEND
FLY CAMP LOCATIONS & CAMP NO.

- PARTY-3
- PARTY-2
- PARTY-1

--- STREAMS SILTED
 --- TRAVERSES SOIL SAMPLED
 3 AREA NO.

MAP # 28
KERR ADDISON MINES LTD.
GLENLYON PROJECT Y.T.
CAMP SITES
AND
STREAMS SILTED
DATE SURVEY: JUNE - SEPT. 1969

GRID ZONE DESIGNATION: 2 V	TO GIVE A STANDARD REFERENCE ON THIS SHEET TO NEAREST 1000 METRES
100,000 M. SQUARE IDENTIFICATION	SAMPLE POINT: TRIANGULATION STATION
NE PE ND PD	PE 2 5 1 4
6900000	60
6300000	PE2514
	SVPE2514

TEN THOUSAND METRE
 UNIVERSAL TRANSVERSE MERCATOR GRID
 ZONE 8

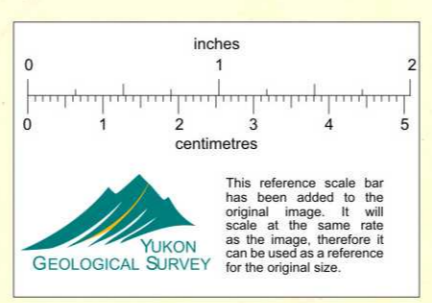
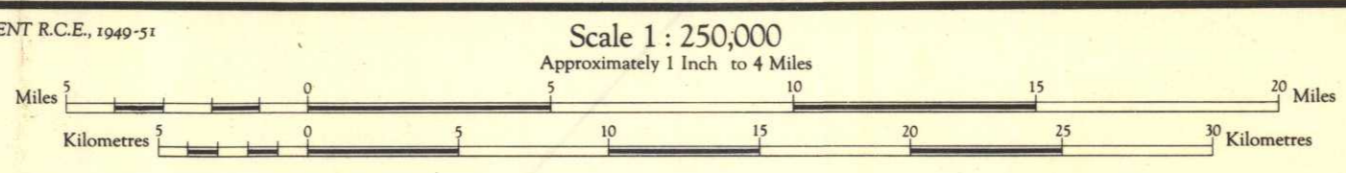
THE DECLINATION OF THE COMPASS NEEDLE, 1950

The declination of the compass needle at any place along a red line in the declination given on that red line. At other places the declination is between those given on the neighboring red lines. At the place marked A, the declination is between N. 3° E. and N. 5° E. The nearby declinations of the compass needle are decreasing 4 minutes annually.

Surveyed, compiled, drawn and printed by the ARMY SURVEY ESTABLISHMENT R.C.E., 1049-51
 Aerial photography by the R.C.A.F. 1949. Published 1951.

REFERENCE

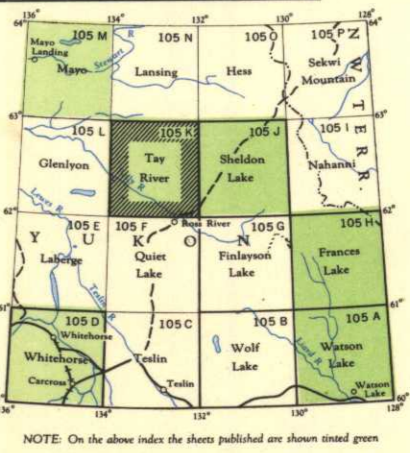
Road, Hard Surface, All Weather	More than 2 Lanes	Partially Completed
Hard Surface, All Weather	2 Lanes	Minor No.
Loose Surface, All Weather	More than 2 Lanes	Less than 2 Lanes
Loose Surface, All Weather	2 Lanes	Minor No.
Loose Surface, Less than 2 Lanes	All Weather	Dry Weather
Railway, Multiple Track		
Single Track		
Boundary, International		
Province or State		
County or District		
Nearness, Indian, Military, Park, etc.		



Contour interval 500 Feet.
 All Elevations in Feet above Mean Sea Level.
 Universal Transverse Mercator Projection

REFERENCE

Triangulation Station	Spot Elevation, in feet	257
Contours, Elevation	Woods	
Depression	Swamp or Marsh	
Approximate		
Stream, Intermittent	Ferry	W.L. 241
Dam	Falls	
Arched, on Land	Elevation in Feet 250	on Water
Main Electric Power Line	Navigation Light	
	Sand	



Note: Copies of this map required for official purposes may be obtained from the Army Survey Est. AFHQ, Ottawa. The general public may obtain copies from the Map Distribution Office, Dept. of Mines and Technical Surveys, Ottawa, at 25 cents per copy.

TAY RIVER
 YUKON TERRITORY



LEGEND

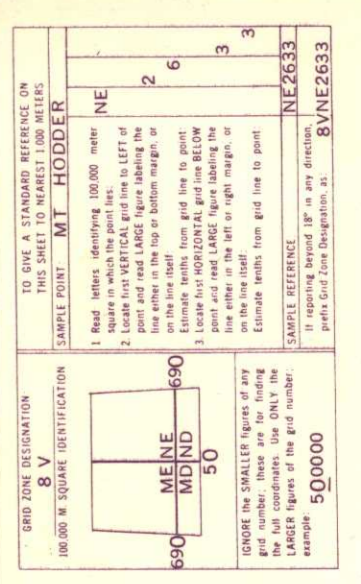
- 74 750 Grandiorite, Quartz & Feldspar Porphyry
- 74 748 Medium to Fine-grained equigranular Muscovite Biotite
- 720 743 Medium-grained porphyritic (K-feldspar) Biotite Quartz Monzonite.
- 74 749 Sediments: Slate, arg. quartz, limestone, chert, ls, minor greenstone.
- 74 757 Quartzite, Dolomitic Quartzite, Slate, Argillite.
- 74 759 Slate, Phyllite, Spotted Slate, Hornfels.
- 74 764 Thin Bedded Argillite, Slat. Limestone, Slate Hornfels.
- 74 765 Quartzite and Quartz-Mica Schist, Locally Garnetiferous; Minor Amphibolite, Limestone Quartzite.
- 74 767 Mainly Limestone, Phyllite, Limestone Gneiss Schist, Quartz-Biotite Schist, Slate, Hornfels.

2. AREA NUMBER

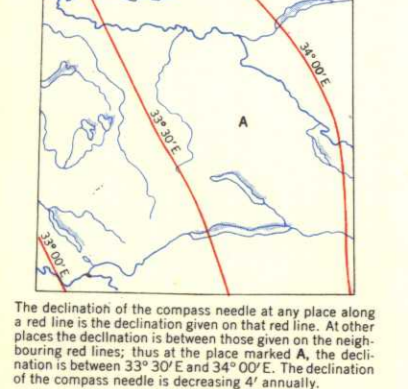
TEN THOUSAND METRE
UNIVERSAL TRANSVERSE MERCATOR GRID
ZONE 8

MAP # 3A

MERR ADAMSON MINES LTD.
GLENLYON PROJECT Y.T.
OUTCROP GEOLOGY
SURVEY DATE: JUNE - SEPT 1969



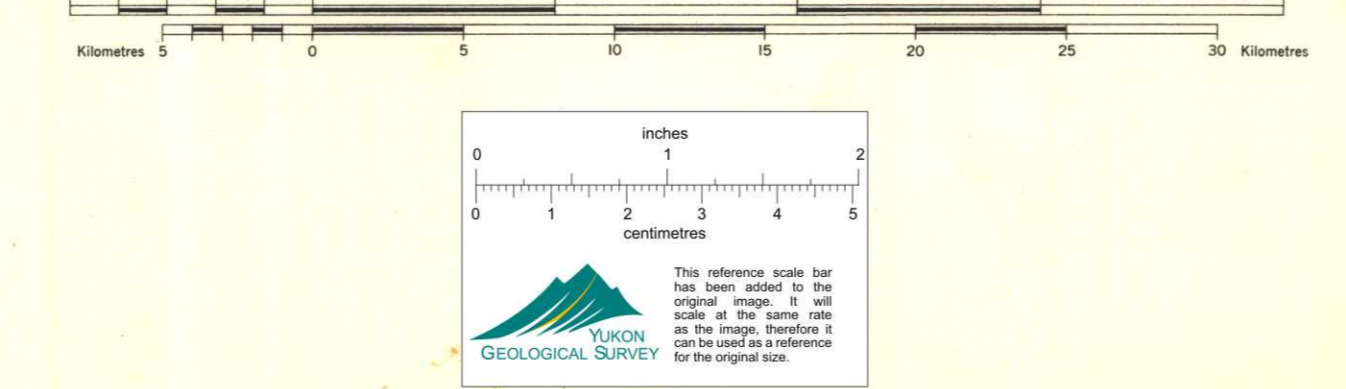
THE DECLINATION OF THE COMPASS NEEDLE 1950



Surveys in 1947 and compilation in 1950 by the Topographical Survey from air photographs taken in 1949. Lithographed and printed by the Army Survey Establishment, R.C.E., Department of National Defence, 1951.

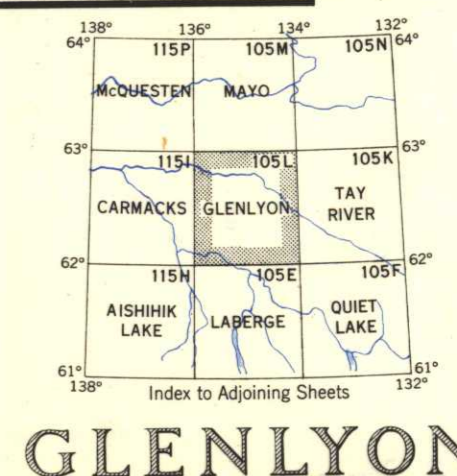
Symbol	Description
—	Road, Hard Surface, All Weather
- - -	Road, Loose Surface, All Weather
—	Road, Special, etc.
—	Boundary, International
—	Boundary, County or District
—	Boundary, Township, Seignior or Parish
—	Boundary, Indian Reserves, Park
—	Sectional and Base Lines (Surveyed)
—	Railway, Standard Gauge
—	Main Electric Power Line
—	Boundary Mon.
—	Survey Mon.
—	Bench Mark
—	Triangulation Sta.
—	Spot Elevation (in feet)
—	Telephone, Trunk Route
—	Abandoned
—	Single Track
—	Two

Scale 1:250,000 or 1 inch = 4 miles (approximately)



Copies may be obtained from the Map Distribution Office, Department of Mines and Technical Surveys, Ottawa.

Symbol	Description
—	Building
—	School
—	Post Office
—	Church
—	Stream, Indefinite or Unsurveyed
—	Stream, Intermittent
—	Stream, in Dry River Bed
—	Braided Stream
—	Marsh or Swamp
—	Marsh or Swamp, in water
—	Glacier or Snowfield
—	Sand, Gravel or Mud
—	Fire Lookout Tower
—	Wireless Station
—	Mine
—	Clim
—	Esker
—	Wooded Area
—	Navigable Canal
—	Rapids and Falls
—	Ferr
—	Dam
—	Lighthouse
—	Aerodrome (Elevation in feet)
—	Seaplane Anchorage
—	Contours, Elevation
—	Contours, Approximate
—	Contours, Depression
—	Light
—	2154



GLENLYON
YUKON TERRITORY

SHEET 105 L
FIRST EDITION

Price 25 Cents

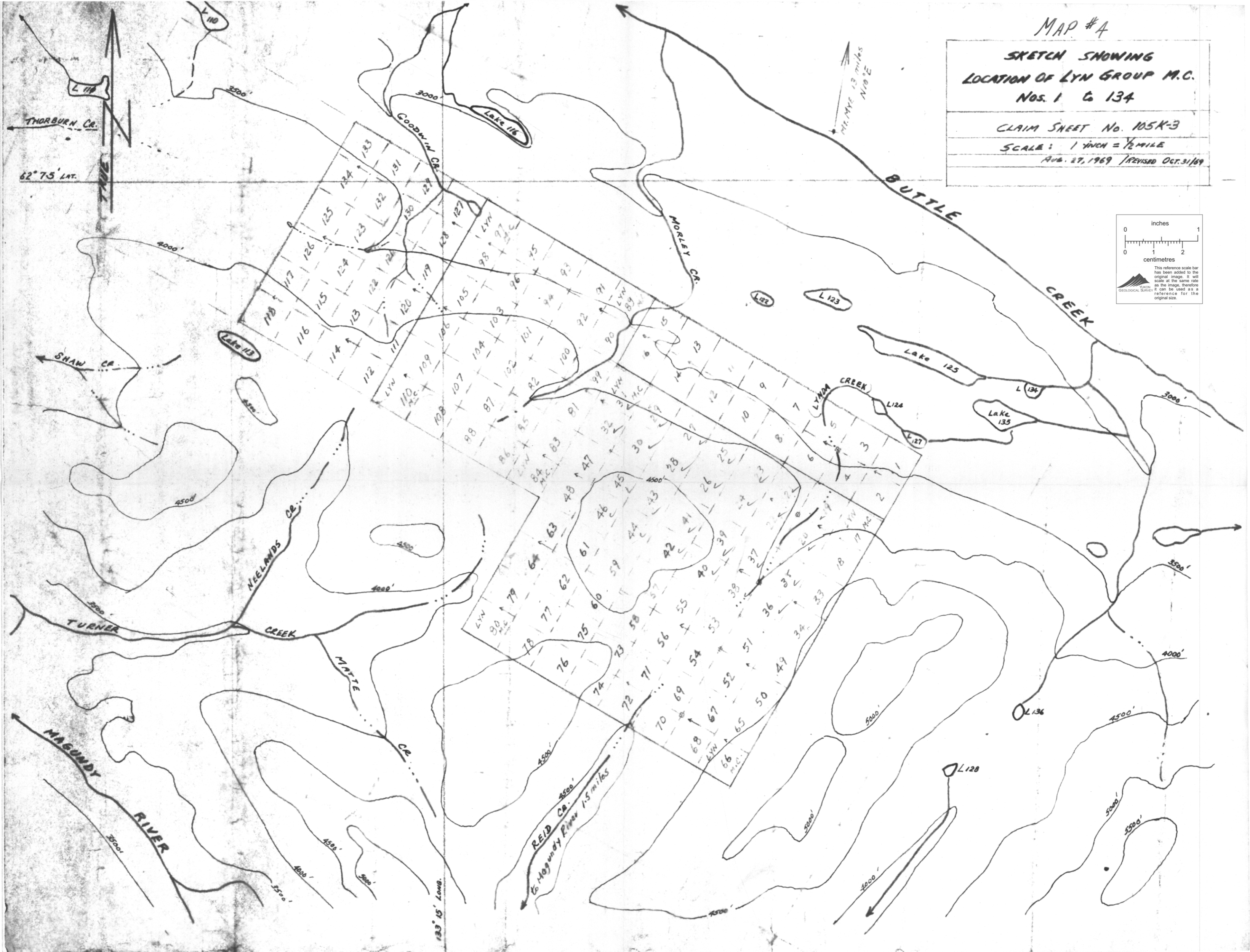
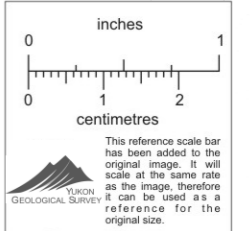
MAP #4

SKETCH SHOWING
LOCATION OF LYN GROUP M.C.
Nos. 1 to 134

CLAIM SHEET No. 105K-3

SCALE: 1 INCH = 1/2 MILE

Apr. 27, 1969 / REVISED Oct. 31/69



THORBURN CR.

62° 75' LAT.

Goodwin Cr.

Lake 118

1/2 MILE 13 miles
N10° E

BUTTLE CREEK

MORLEY CR.

SHAW CR.

Lake 119

L 122

L 123

Lake 125

L 134

Lake 135

LYNDA CREEK

L 124

L 127

2500'

NEELANDS CR.

4000'

TURNER CREEK

NEELANDS CR.

MATE CR.

4000'

MAGUINDY RIVER

REID CR.
to Maguindy River 1.5 miles

3500'

2000'

4000'

L 128

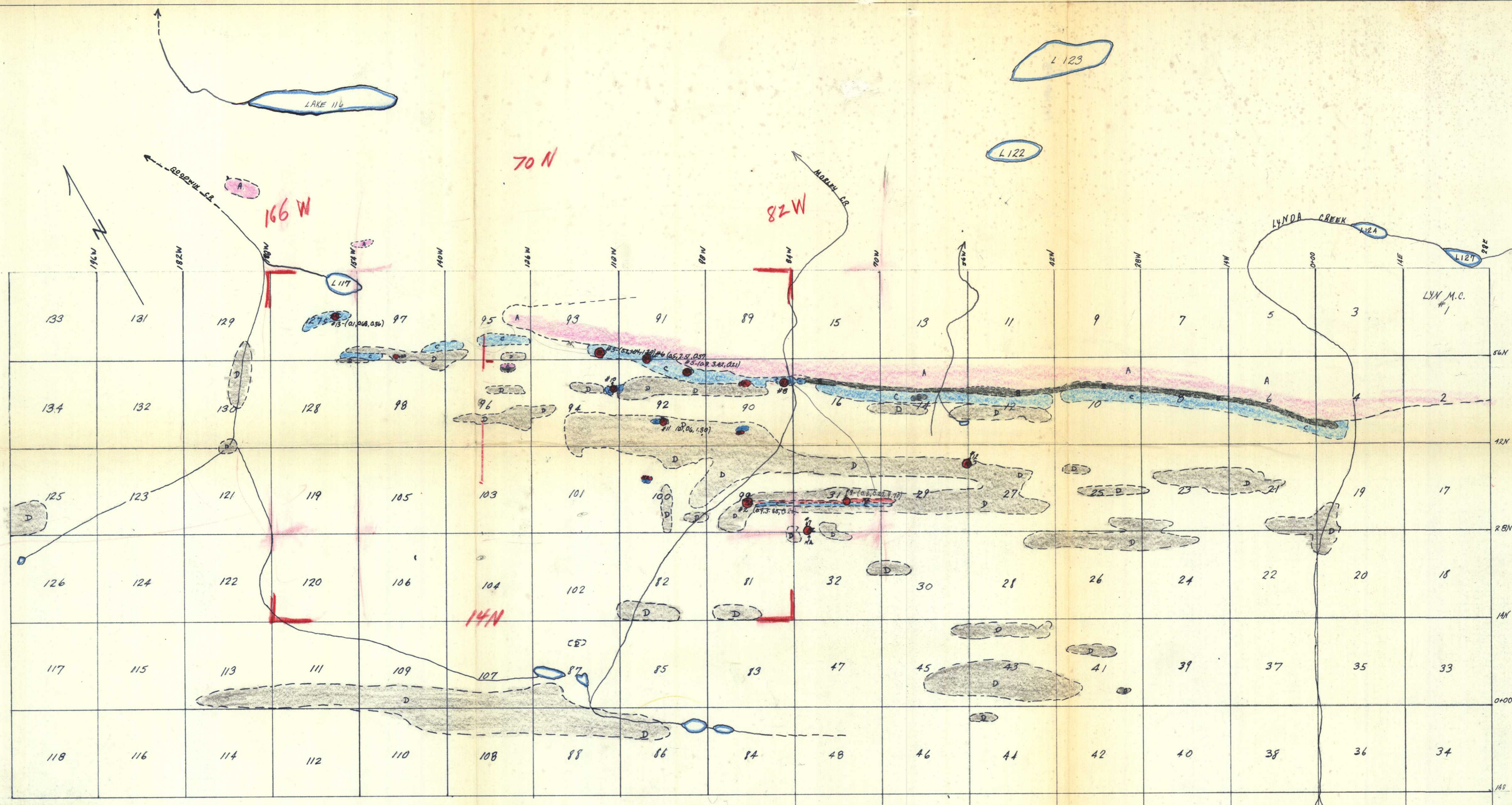
L 136

4500'

5000'

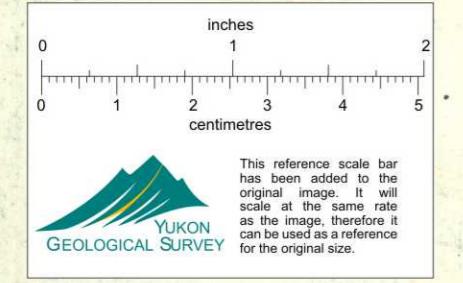
5000'

133° 15' Long.

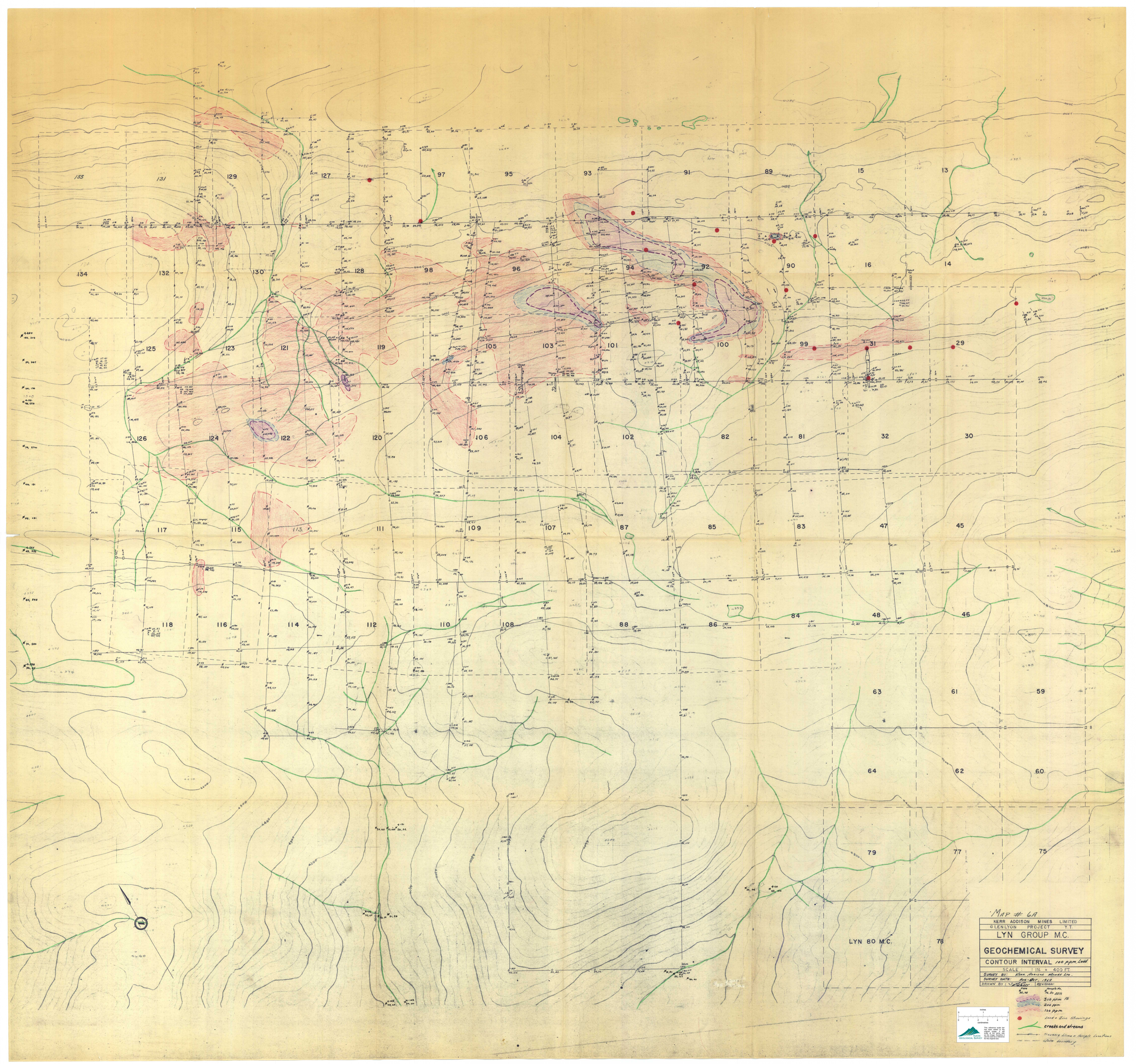


MAP #5
 KERR ADDISON MINES LIMITED
 GLENLYON PROJECT Y.T.
 LYN GROUP M.C.
GEOLOGY PLAN
 SCALE 1 IN. = 1000 FT.
 SURVEY BY:
 SURVEY DATE:
 DRAWN BY: W. G. WENDEL REVISION:

LEGEND
 VERITHIN
 [Symbol] DRIFT - VOL. ASH - MOSS COVERED FAIRLY SHALLOW IN PARTS (PERMIAPEST AREA)
 "A" [Symbol] GNEISS
 "B" [Symbol] MAINLY QUARTZ BIOTITE SCHIST ALONG CONTACT WITH "A" & "C"
 "C" [Symbol] MASSIVE LIMESTONE - IN PART CRYSTALLINE INCLUDES "D"
 "D" [Symbol] MAINLY SHALES - IN PART ALTERED TO HORNFELS, PHYLITES ALSO LIMESTONE "C" SCHIST - GRAPHIC SHALES & LIMY ROCKS
 M.A. - MINERALIZED ZONES (195) •



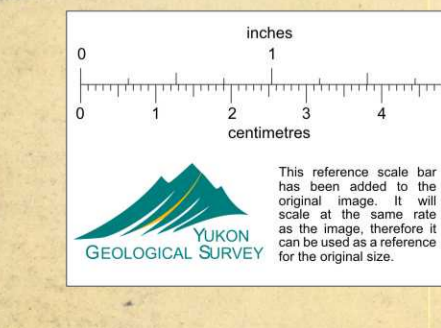
63	61	59	57	55	53	51	49
64	62	60	58	56	54	52	50
79	77	75	73	71	69	67	65
80	78	76	74	72	70	68	66

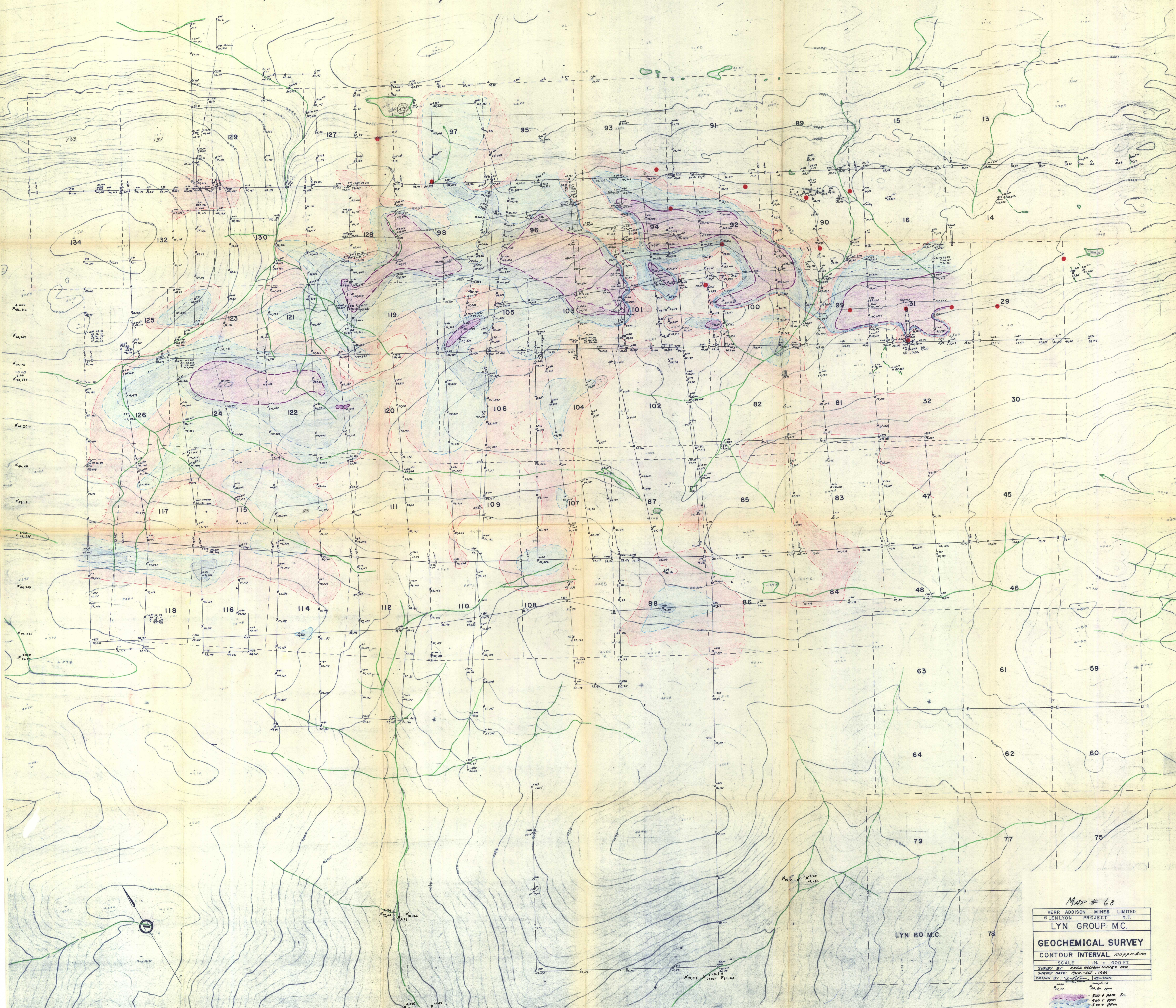


MAP # 6A
KERR ADDISON MINES LIMITED
GLENLYON PROJECT
LYN GROUP M.C.
GEOCHEMICAL SURVEY
CONTOUR INTERVAL 100 ppm Lead
SCALE 1 IN. = 400 FT.
SURVEY BY: Ken Dennis, Michael Liu
SURVEY DATE: Aug 20, 2008
DRAWN BY: [Signature] REVISION:
6/18
6/18
500 ppm Pb
250 ppm
100 ppm

LYN 80 M.C. 78

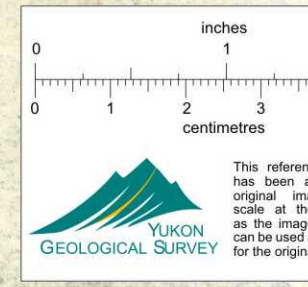
Lead & Zinc Showings
Creeks and streams
Traverse Lines & Sample Locations
Site boundary





MAP # 68
 KERR ADDISON MINES LIMITED
 GLENLYON PROJECT
 LYN GROUP M.C.
GEOCHEMICAL SURVEY
 CONTOUR INTERVAL 100 ft ± 2 ft
 SCALE 1 IN. = 400 FT
 SURVEY BY: KERR ADDISON MINES LTD
 SURVEY DATE: AUG - OCT. 1969
 DRAWN BY: J. S. ...

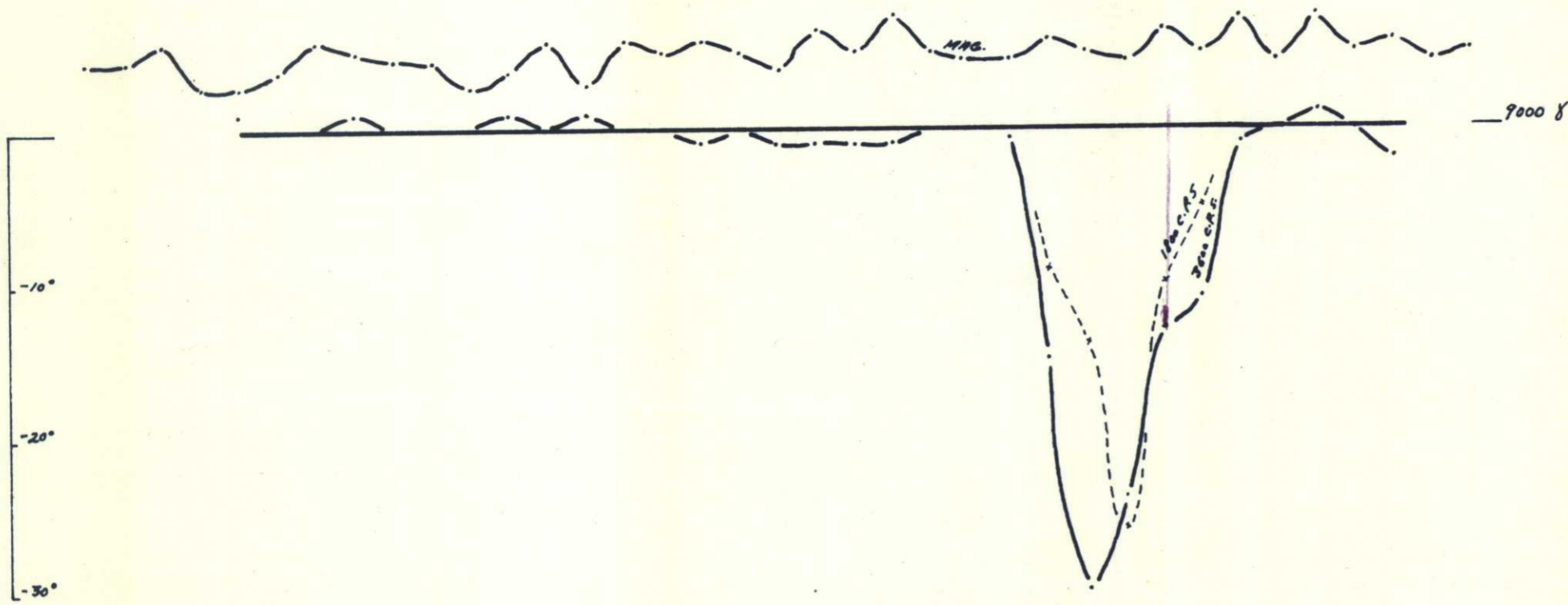
- 500 + ppm Zn
- 300 + ppm Pb
- 200 + ppm
- Pb, Zn showings
- streams and creeks
- Boundary line and sample locations
- Contour interval



34N 38N 42N 46N 50N 54N 58N

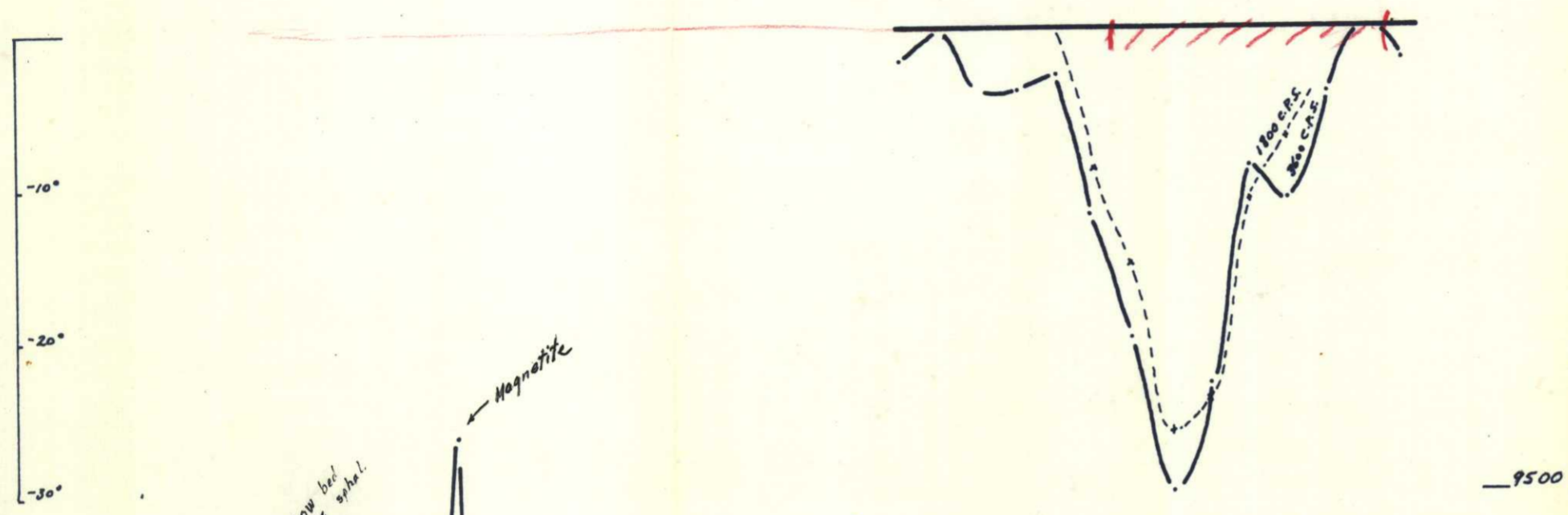
9500 y

L-138 W



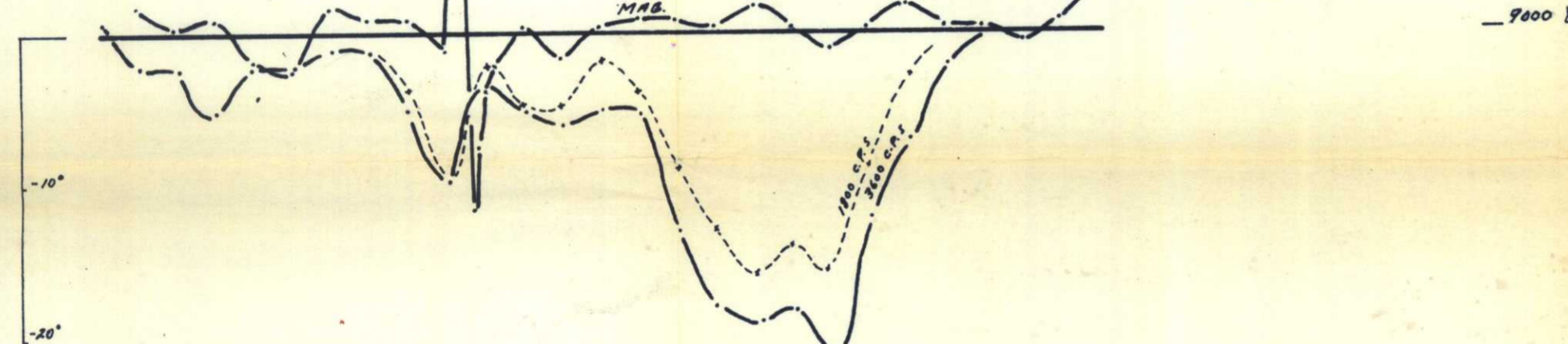
North 30° EAST

L-133 W



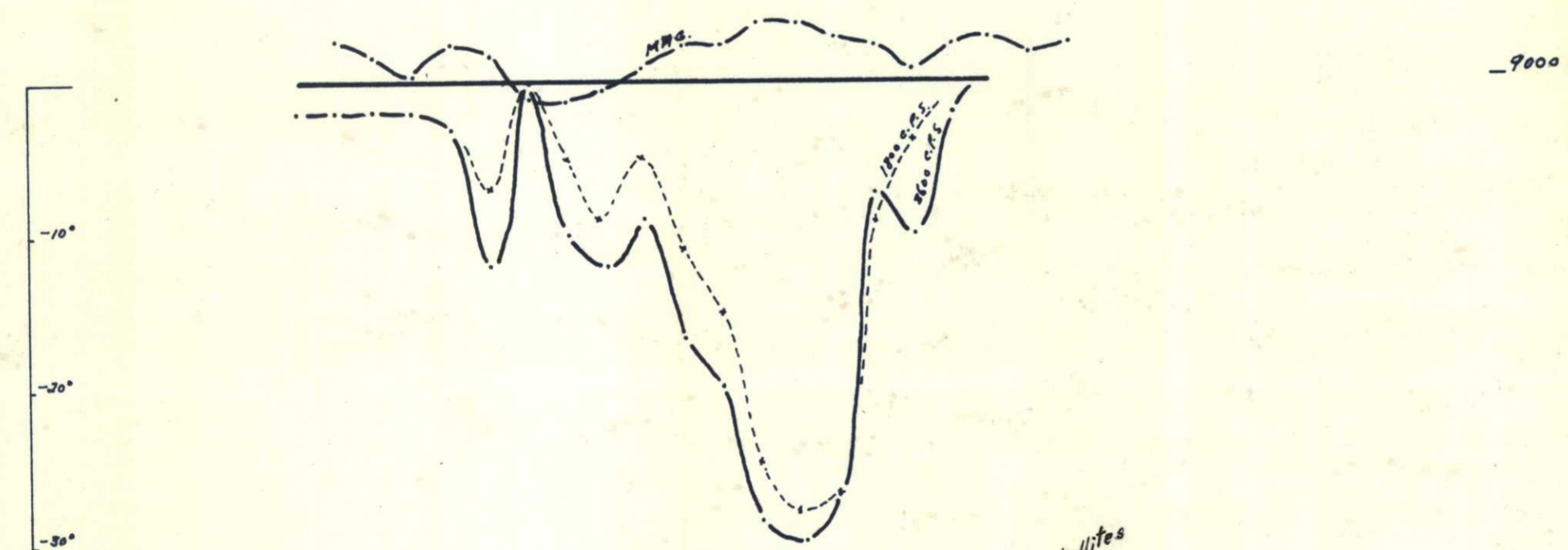
9500 y

L-82 W

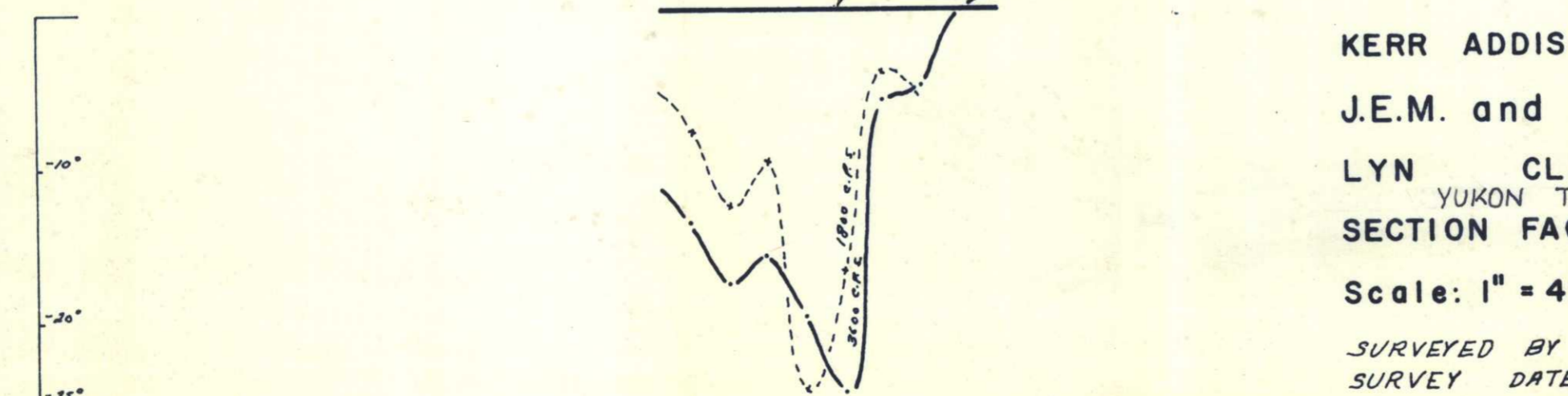


9500 y

L-77 W



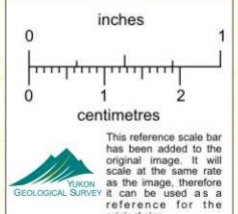
Trench #4
Graphite + graphitic phyllites



MAP # 7

L-74+50N

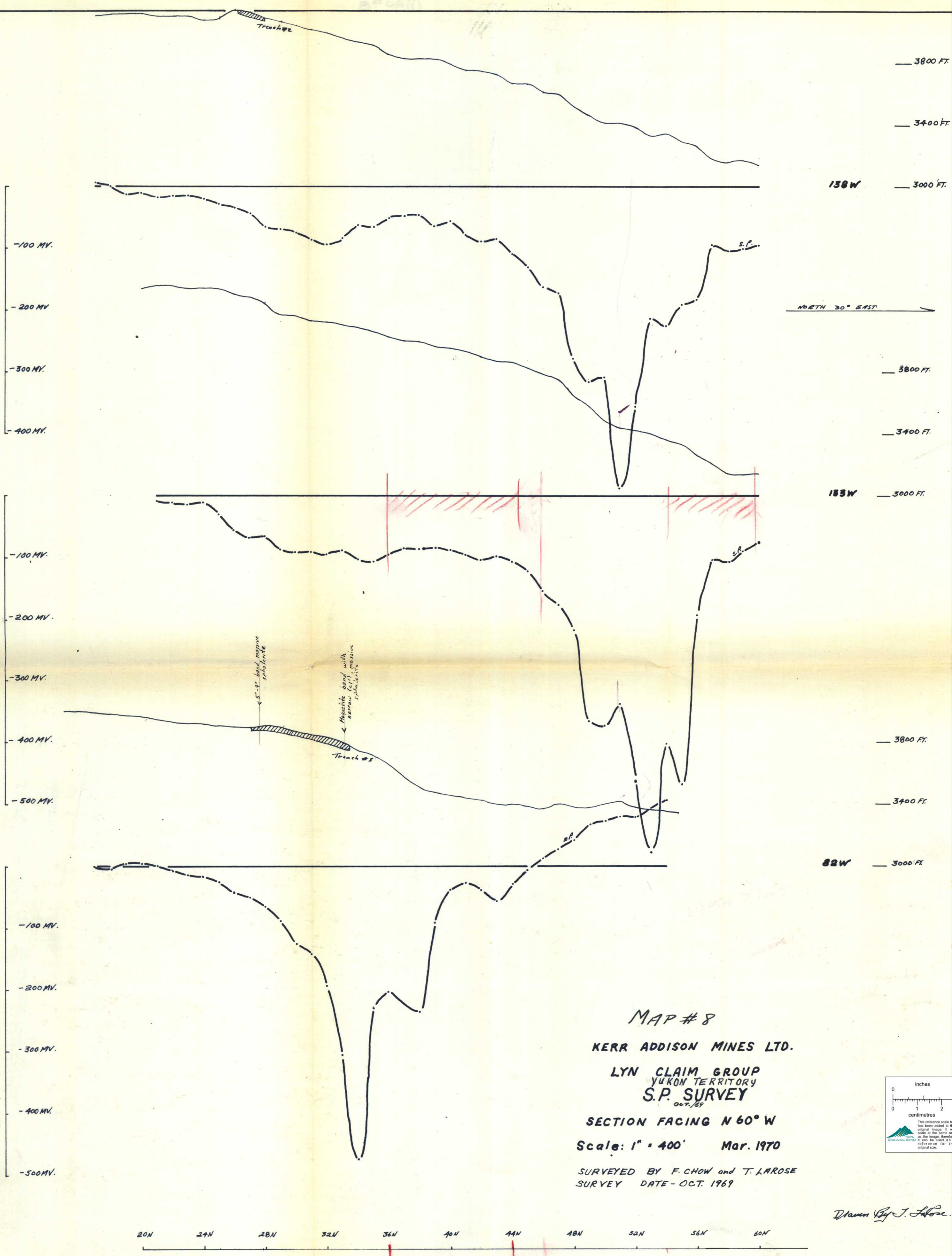
KERR ADDISON MINES LTD.
 J.E.M. and MAG SURVEY
 LYN CLAIM GROUP
 YUKON TERRITORY
 SECTION FACING N60° W
 Scale: 1" = 400' Mar. 1970



SURVEYED BY F. CHOW and T. LAROSE
 SURVEY DATE - OCT. 1969

J.E.M. Spacing 200 ft.

Drawn By J. LaRue.



MAP # 8

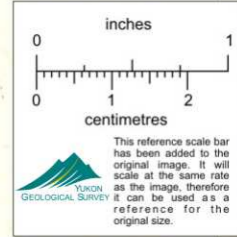
KERR ADDISON MINES LTD.

LYN CLAIM GROUP
YUKON TERRITORY
S.P. SURVEY
OCT. 69

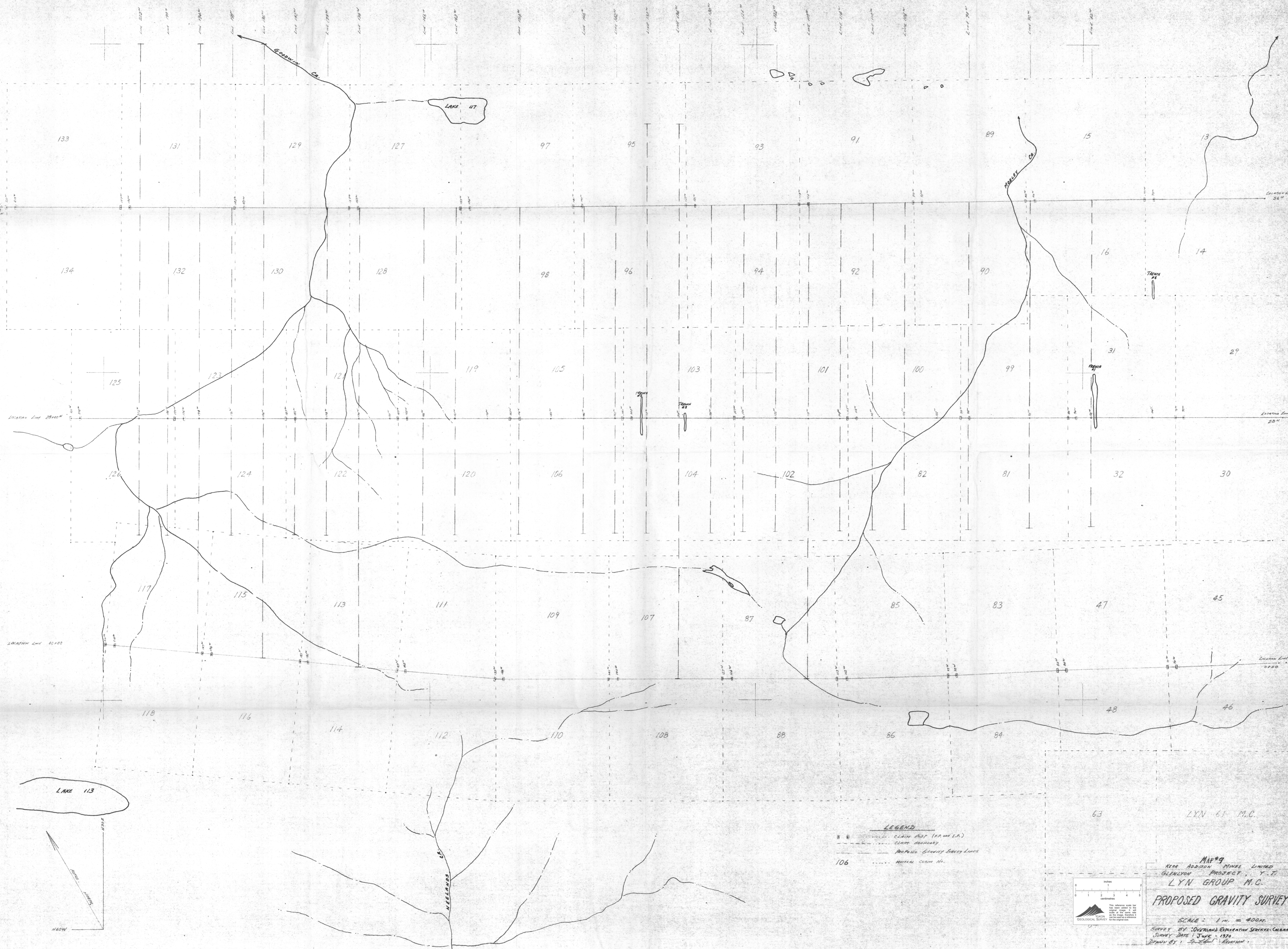
SECTION FACING N 60° W

Scale: 1" = 400' Mar. 1970

SURVEYED BY F. CHOW and T. LAROSE
SURVEY DATE - OCT. 1969

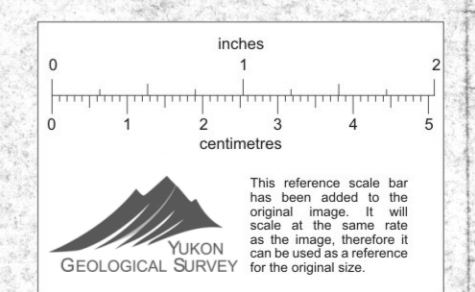


Drawn By J. Larose.



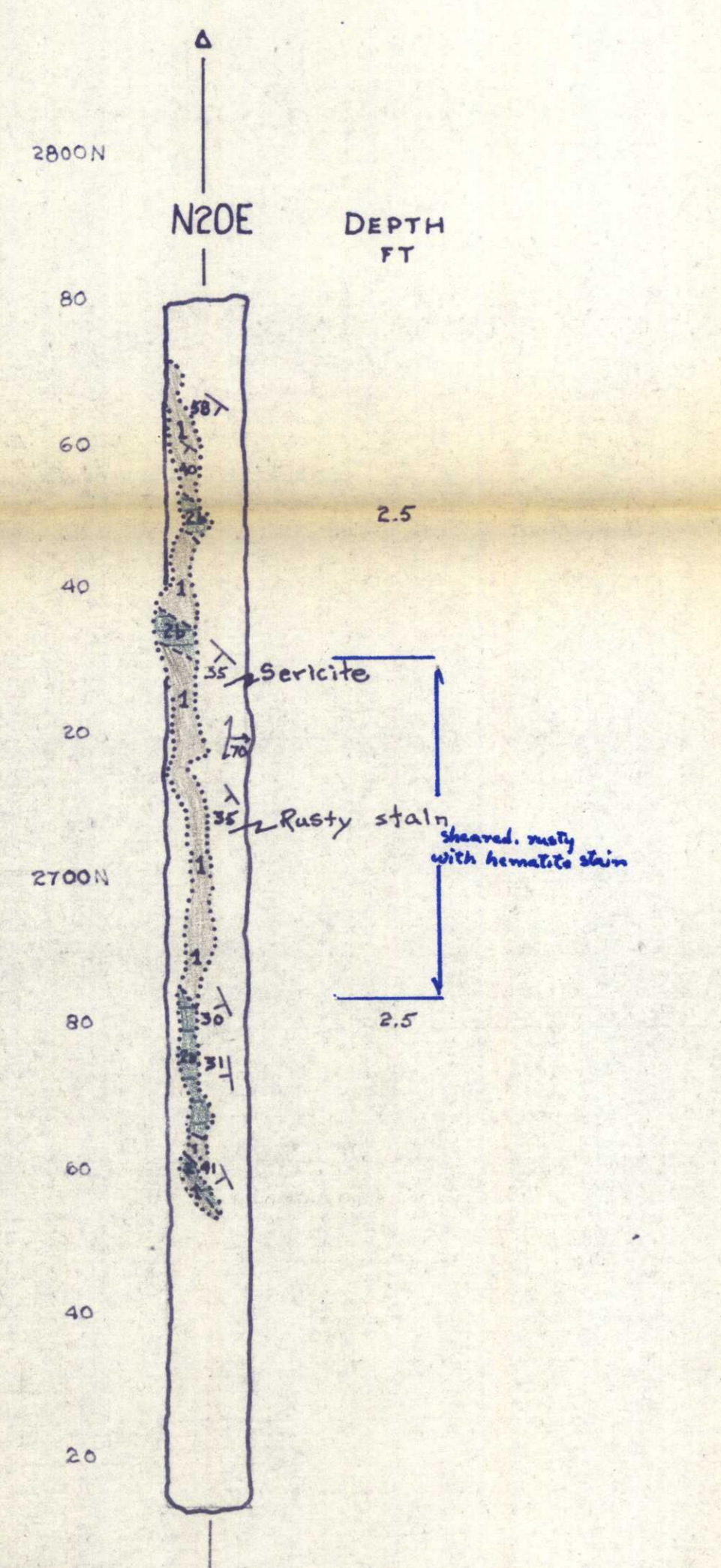
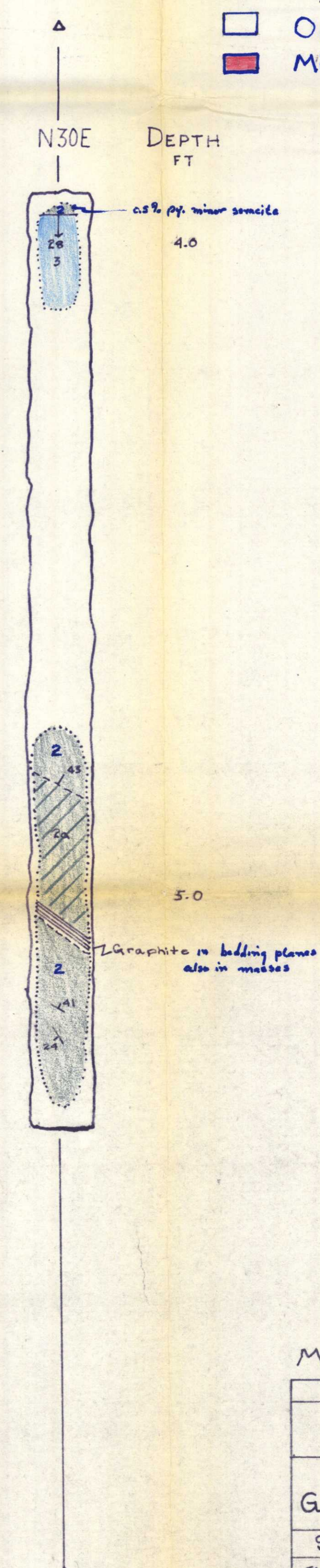
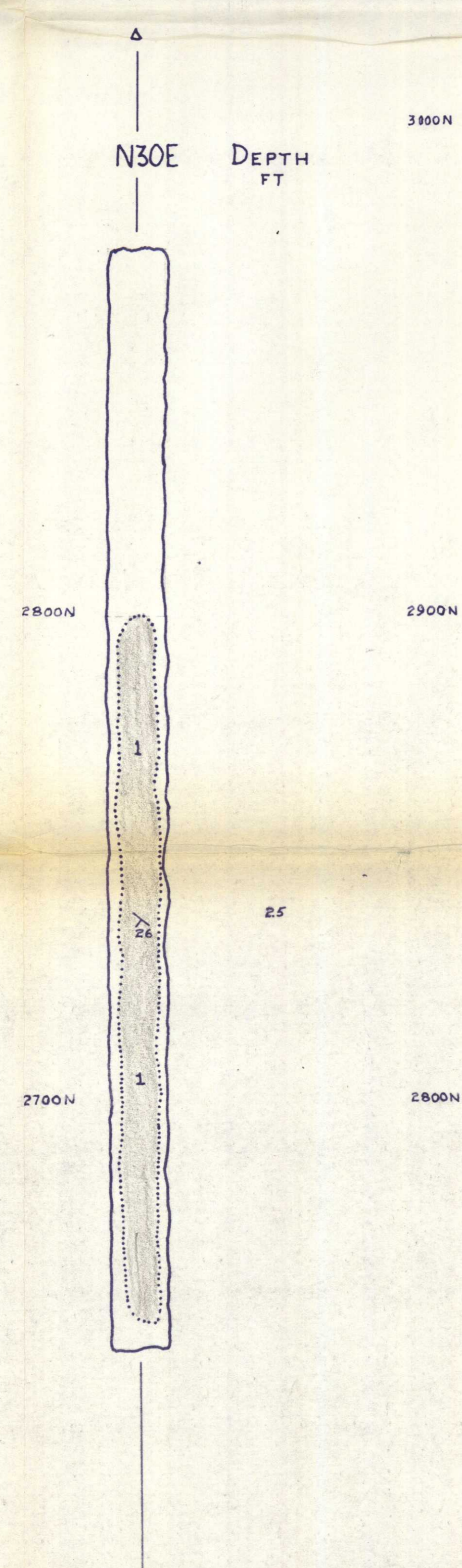
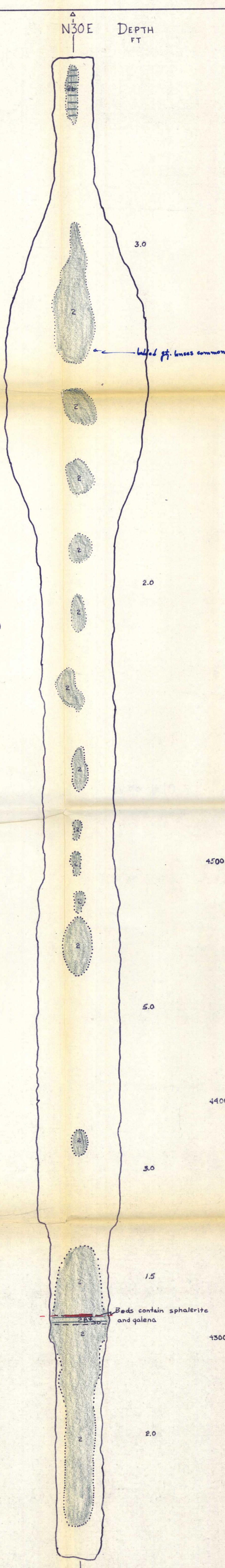
LEGEND

- ▣ CLAIM B.P. (P.M. I.A.)
- ▣ CLAIM BOUNDARY
- PROPOSED GRAVITY SURVEY LINES
- 106 MINERAL CLAIM NO.

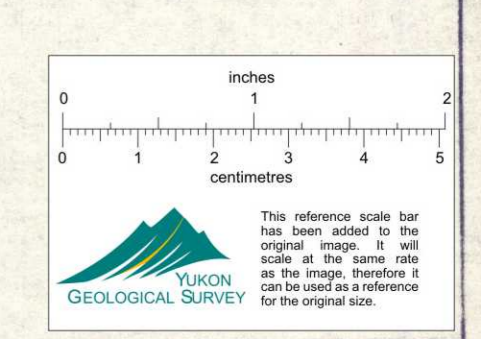


MAP #9
 NEAR ADDISON MINES LIMITED
 GLENLYON PROJECT, Y.T.
 LYN GROUP M.C.
PROPOSED GRAVITY SURVEY
 SCALE: 1 in. = 400 ft.
 SURVEY BY: OVERLAND ESTIMATION SERVICES-CANADA
 SURVEY DATE: JUNE - 1970
 DRAWN BY: J. L. REIDSON

LYN 61 M.C.



- LEGEND**
- 1 Shistose and shaley altered sediments
 - 2 Phyllite
 - 2a Graphitic phyllite
 - 2b Limey phyllite
 - 3 Crystalline limestone
 - OB (Overburden)
 - Mineralization



MAP 10
 KERR ADDISON MINES LIMITED
 LYN GROUP Y.T.
 GEOLOGY OF TRENCHES
 SCALE: 1 IN. = 20 FT
 SURVEY BY: KERR ADDISON MINES LTD
 SURVEY DATE: TRENCHING DURING 11 TO 20, 1969
 DRAWN BY: [Signature]