

Summary report - YMIP Grant # 02-001

Grassroots- prospecting of N- side of ITSI- Mtn. South of Fuller Lake, map sheet 105 J/16
coordinates: 130°15' w.L., 62°57' n.L.

Watson Lake Mining District

Dates of program: August 22nd - September 8th 2002

Grassroots- prospecting of Mtn. Range E of 15 mile River in southern Ogilvie-Mtn.,
coordinates: 139°20' w.L., 64°28' n.L.

Dawson City Mining District

Dates of program: September 12th - September 26th 2002

author: Heiko Mueller

Summary ITSI-Mtn.

Location and Access:

Foot hills and alpine Mtn-range N of ITSI-Mtn. Access by helicopter or float plane on Fuller Lk.

Previous Work:

None in prospected area

Details of evaluation:

Work consisted of conventional prospecting: breaking rocks supplemented by stream sediment geochemistry.

Work focused on granitic and syenitic intrusions. Two targets were identified: granitic dykes in vicinity of granitic plutons, and altered clastics in larger periphery of pluton

Methods:

The foothills and alpine Mtn- range N of ITSI- Mtn were prospected for granitic intrusions and their halo. Rock samples and stream sediment samples were taken.

Rock samples were obtained as grab samples of outcrop or float, placed in plastic bags and labeled for chemical analysis.

Stream sediment samples were collected from creeks and springs by digging holes in the stream bed with a shovel and running material thru 40 mesh sieve gathers the pass thru in a gold pan. Material was frequently watered to avoid losing fine material clinging to wasted pebbles and gravel. The sediment residues were placed in plastic bags and labeled.

At the time report is written none of the obtained sediment samples were further processed for chemical analyses due financial constrain. However, it is intended to submit an additional number of rock and stream sediment samples for chemical analyses.

Analytical Methods:

All samples collected were analyzed in one batch by ACME Analytical Laboratories Ltd. in Vancouver.

All shipped samples were analyzed by the Group 4B and Group 1DX. The procedure were as follows: 4B: analyzed for REE by LiB02 Fusion and ICP/MS.

1DX: 0.5 g sample leached with 3ml 2-2-2 HCL-HN03-H2O at 95°C for one hour, diluted to 10ml and analyzed b7y ICP-MS.

Rock samples were crushed, slit and pulverized to 250g of mesh -150 particle size.

Analytical results:

REE values obtained from rock samples correspond to values reported for stream sediment samples by the GSC for the region. The average value of light and heavy REE for all 10 rock samples taken, covering granitic intrusions and clastics is as follow in ppm:

Ce 45; Eu 0.9; Yb 2.0.

Cerium, Europium and Ytterbium were chosen to enable comparison with available data from geochemical reconnaissance for stream sediments carried out by the GSC in the 80's.

Rock sample 2 has the highest value for all REE, respectively Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu, and Y. This sample was collected from outcrop of slate, intercalated with qtz. Highest values for light REE Cerium and Lanthanum are reported for rock sample 4, composed of bt-hrnl-granite with disseminated marcasite. This sample run 85 ppm for Ce, 46 ppm for La and 20,9 ppm for Ga, 176 ppm for Rb and is enriched in Ba. (10004 ppm)

The highest overall values reported are: Ce 85.0 ppm, Eu 1.44 ppm and Yb 3.4 ppm and Cs 9.6ppm. Values for Cs are not particular high for sampled intrusions.

GSC stream sediment sample 1574 exhibits similar values for Ce, Eu and Yb as representatives for light and heavy REE compared to rock sample 23 obtained in the vicinity of 1574.

Besides targeted REE enhanced values for Au 521ppb, Sb > 2000ppm, As > 9999ppm and Pb 4152 ppm were identified in rock sample 30. (altered shale with hornblende)

Evaluation

The prospected area was investigated for evidence of pegmatite associated with a known Tombstone Suite pluton and other intrusion related dykes and sills in the halo of this pluton. Altered country rock composed of shale, slate and chert were checked for valuable metasomatic and hydrothermal alteration.

The contact zone between granitic pluton and clastic country rock is well defined by a seam of extreme high magnetic response along the periphery of the pluton to the N. The shape of the geophysical anomaly reflects well in the field observation of the distribution of clastics intensively stained with yellow and rusty brown Fe-hydroxid. The mainly hydrothermal altered clastics do not show any magnetic responds. Hydrothermal alteration consists of Fe-hydroxide enrichment at the bedding and foliation plane of slate and shale and of mostly dense qtz - filling of cracks and joints of chert.

Intrusives and clastics were probed for radioactive radiation by GM-counter. The average radiation is 24 μ Sv/h and assumed as background radiation. Some altered shale showed slightly higher radiation levels, granite was at background levels.

The mineral composition of sampled dykes consisted of bt-hrnl-granite with up to 20% macroscopically disseminated marcasite and minor pyrrhotite and bornite. Some dense

basalt or hornblende with finely disseminated pyrit and calcite on joint planes was observed in dykes.

The encountered shale showed some pyrite and cavities of lost pyrite or hematite and a usual strong manganese and Fe-hydroxide coating, sometimes iridescent in pink, blue and green color.

Considering the observed geological environment, depicted by a lack of pegmatites and bt-hrnbl-granites with homogenous texture and not elevated Th and U values, suggests a low potential for rich mineralization of REE.

Comparing the geochemical data for stream sediments (GSC) with the geochemical signature of collected rock samples shows similarity. This fact indicates the geochemical reconnaissance of stream sediments reflects the geochemistry of the rock in the prospected area. It also does not leave any room for the possibility of a concentration of REE-bearing minerals in stream sediments. Either such minerals do not exist in the drainage of sampled creeks or they have not arrived there.

The reported values of rock samples for REE are not economic and fairly homogenous distributed between different rock types. A remarkable higher value of REE in intrusions as expected compared to clastics is not observed.

The geochemistry of the prospected area in regard to REE is probably mainly determined by hydrothermal alteration, explaining the rather homogenous distribution of the REE in altered clastics.

The pluton itself could not be accessed since it's covered by the ice field or extremely steep terrain.

Conclusions and recommendations

No anomaly in REE's regarding location or geological environment could be identified so far. This situation could be due to the small number of analyzed samples (9) not disclosing any existing anomaly. The observed geological composition of the area is not encouraging, applying traditional REE-deposit type models.

Further, more detailed investigation of a staked X-shaped dyke at the periphery of the pluton is suggested.

The reported elevated value in gold, antimony, As and Pb of sample 30 in an area of intensively altered shale warrants further investigation.

Appendices

#1 traverses Aug.24th-Aug.27th 2002

#2 traverses Aug.28th-Aug.31st 2002

#3 traverses Sept.1st -Sept. 4th 2002

#4 traverses Sept. 5th-Sept. 8th 2002

#5 stream sediment samples

#6 rock samples

#7 geochemical analysis data

Summary Ogilvie- Mtn.

Location and Access:

Upper drainage of E-tributary to 15mile creek north of Chandindu-river in Southern Ogilvie-Mtn's. Access by helicopter from Dawson City.

Previous Work:

None in prospected area

Details of evaluation:

Work consisted of conventional prospecting: breaking rocks supplemented by stream sediment geochemistry.

Work focused mainly on basaltic volcanics and gabbro intrusions and to a lesser extend on syenite satellite pluton on the far edge of the prospeting area. Two targets were identified:

gabbro occurrence E of camp (sample 2) and
syenite dyke at NE margin of prospected area (sample 19).

Methods:

The alpine Mtn- range was prospected for alteration in mafic volcanics and gabbro intrusions. The syenite pluton was investigated by checking for mineralized dykes and country rock alteration. Rock samples and stream sediment samples were taken.

Rock samples were obtained as grab samples of outcrop or float, placed in plastic bags and labeled for chemical analysis.

Stream sediment samples were collected from creeks and springs by digging holes in the stream bed with a shovel and running material thru 40 mesh sieve gathers the pass thru in a gold pan. Material was frequently watered to avoid losing fine material clinging to wasted pebbles and gravel. The sediment residues were placed in plastic bags and labeled.

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1DX: 0.5 g sample leached with 3ml 2-2-2 HCL-HN03-H2O at 95°C for one hour, diluted to 10ml and analyzed b7y ICP-MS.

Rock samples were crushed, slit and pulverized to 250g of mesh -150 particle size.

Analytical results:

The variance of all REE - values of all analyzed rocks (9) is much higher than the ITSI-Mtn. target, providing an enhanced chance for the possible existence of REE-anomalies.

The average values of light and heavy REE for all 10 rock samples taken, covering volcanics, gabbro and one syenite occurrence are as follows in ppm:

Ce 129; Eu 3.2; Yb 2.0.

These values are presumably perceived as background level for prospected area and are similar to values obtained by the GSC geochemical stream sediment reconnaissance in the area.

Rock sample 2 has the highest value for all REE, respectively La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Lu, and Y. It also exhibits elevated values of Nb (169 ppm), Zr (628 ppm) and Sr (1339 ppm) and V (399 ppm). This sample was collected as float on Mtn-ridge composed of basalt and clastics and has a skarn like appearance.

Highest values for Ga is reported for rock sample 19, composed of grey syenite, containing spots of magnetite. This sample run 62 ppm for Ga and 823 ppm for Zr and 81 ppm Pd.

The highest overall values reported are: Ce 269 ppm, Eu 6.0 ppm and Yb 3.5 ppm and Cs 11.6 ppm.

Rock sample 22 comprised of Qtzite with galena, barite and calcite displayed a high Ba value of 76,300 ppm and 5312 ppm Pb respectively.

Evaluation

The prospected area was investigated for evidence of pegmatite associated with a known Tombstone Suite satellite pluton to the NE and other intrusion related dykes and sills in the halo of this pluton. Basalt and gabbro were checked for mineralization since it became clear, that those act as host rock for elevated levels of REE. The observed shale and chert featured either no alteration at all or only yellow FE-hydroxide coating at planes.

The geophysical anomaly of a magnetic high protruding into the target area from the SW as an extension of a surface exposed Tombstone Suite pluton does not transform in any remarkable field observations of altered country rock of basalt and minor clastics. No granitic dykes or sills were observed, except close to the satellite pluton to the NE. The volcanics composed of dense basalt, porphyritic basalt, basalt breccia and basalt tuff (minor) cover most of the prospected areas, followed by coarse gabbro and porphyritic hornblende-gabbro. Clastics are made up of shale and chert and show no significant mineralization. (A few were sampled but not analyzed yet.)

Basalt exhibits sometimes well developed rhombohedral white and black calcite on joint planes.

Numerous veins and smaller syenitic dykes penetrating shale were observed in the vicinity of the satellite pluton to the NE.

Intrusives and clastics and volcanics were probed for radioactive radiation by GM-counter. The average radiation is 20 μ Sv/h and assumed as background radiation. No anomalies were discovered.

The reported values of rock samples for REE are not economic, but vary between different phases of basalt and gabbro. The origin of the reported REE- values (in average 3 times of ITSI-Mtn) is not clear, since no feeder systems could be identified.

Conclusions and recommendations

No anomaly in REE's regarding location or geological environment could be recognized so far, despite the anomalous REE carrying sample 2. This situation could be due the small number of analyzed samples (10) not disclosing any existing anomaly.

Further, more detailed investigation of different phases of gabbro and basalt regarding REE enrichment is suggested.

The vicinity of the syenite pluton and the pluton it self at high elevation to the NE is intriguing, because of the elevated values for Ga, Th, U, Rb and Zr. This area could not be accessed at a degree it deserves.

Appendicies

#8 traverses Sept.13th-Sept. 15th 2002

#9 traverses Sept.16th-Sept. 18th 2002

#10 traverses Sept.19th-Sept. 21st 2002

#11 traverses Sept.22nd-Sept. 25th 2002

#12 stream sediment samples

#13 rock samples

7 geochemical analysis data

Prospecting Diary YMIP 02-001
by Heiko Mueller

Ogilvie

September 12th 02, overcast , windy

flight by helicopter (Trans North) from Dawson to target area in S- Ogilvie -Mtn., flying time ½ hour, originally targeted valley not accessible due to strong shear wind , arrive at alternative target to the W, set up camp and food cache, camp at tree line in valley plane

September 13th 02, overcast, windy, 4°C

hike up steep slope to Mtn.-ridge SW of camp, mostly composed of basalt

rock sample 1: pale morange calc-silicate rock, stringers of brown -orange color, bands of Qtz and greenish shale remnants

31 sheep on Mtn-slope to SE 2km away

September 14th 02, sunny, 7°C

prospecting along Mtn-chain S of camp creek extending to E, along ridge basalt, gabbro and clastics (shale+minor chert) alternating, clastics mostly but not always in depressions or saddle

rock sample 2: dark grey basalt with bluish tint, cleavage faces of hypersthene, heavy , overall skarn like appearance, no vesicles

at most S Mtn-peak (called S-Mtn) deep prominent NNE-SSW trending 20m wide alteration zone, basalt and orange chert

rock sample 3: grey hornfels with marcasite and calcite

2 sheep at ridge extending to NE

September 15th 02, frost in morning, sunny, later cloudy

hike upstream camp creek, ascend Mtn-peak (E-Mtn) N of creek, thick buck brush at S facing slopes, slope comprised of basalt tuff and breccia, E of E-Mtn-top trail of yellow coated rocks

rock sample 4: dark grey calcite rich basalt, vesicular, bands+pods of magnetite, yellow FE-hydroxide staining on surface

prospecting further E into saddle, trail of orange material outcropping on ridge and descending into valley to N

rock sample 5: grey porphyritic dacite? With 30% hornblende and pegmatitic plagioclase Feldspar

rock sample 6: grey porphyritic dacite?, tabular plagioclase feldspar up to 10cm in diameter flow alignment, disseminated pyrite

September 16th 02, cloudy with sunny breaks, calm

ascend slope NE of camp towards E-Mtn-ridge,,

rock sample 7: grey porphyritic dacite?, tabular plagioclase feldspar up to 5cm in diameter, flow alignment, spots of bornite, chalcopryite on plagioclase, hornblende

rock sample 8: pegmatitic rhombohedric white+black calcite on basalt, vesicular, some amygdales of calcite

prospect N-slope of E-Mtn arriving at saddle to E, graben like structure 30m wide NNW-SSE trending

rock sample 9: gabbro, hornblende up to 5 cm long

rock sample 10: porphyritic gabbro, miarolitic, phenocrysts of hornblende intertwined with calcite, chalcopryite on plagioclase

September 17th 02, sunny, later rain and snow showers

prospect upstream camp creek, mainly basalt +chert+shale

rock sample 11: greyish black gabbro+calcite

little pool above creek bed on N side fed by slightly mineralized springs, algae in water

stream sed. sample 12 → A

proceed to drainage bowl

September 18th 02, showers at night, light rain, later clearing

prospecting downstream camp creek, traverse wooded slope to the N, climb up to basalt cliff as a typical feature to the W, basalt cliff at shape of a cone comprised of green crumbly basalt with amygdales of calcite (mandelstein), ascend thru thick buck brush to Mtn-ridge to the N

rock sample 14: greenish black gabbro

Westerly extending Mtn-ridge comprised of dense gabbro of greenish tint, same Mtn-ridge to E more made up of clastics (sample 15)

September 19th 02, sunny

hike upstream camp creek to drainage bowl,

stream sed sample 16 at spring feeding water pool → B

ascend high crescent shaped Mtn-ridge to the NE from drainage bowl formed by basalt and gabbro boulders, tracks of 2 wolf in snow along ridge

rock sample 17: jointed basalt with calcite fillings, magnetite, hornblende, skarn like alteration at calcite

rock sample 18: greenish black gabbro with columnar hornblende up to 2cm long, along Mtn-ridge to the NW shale cut by monzonite or syenite veins, shale with brown coating, syenite intrusion according to map only 300m further to N along Mtn-ridge

rock sample 19: grey syenite with almost granodiorit appearance containing pods of magnetite, elevation 1847m

September 20th 02, sunny

hike up to bowl,

rock sample 20: basalt breccia, rhombohedral calcite, cement made up of calc-silicates
climb up to high Mtn. ridge

rock sample 21: black dense basalt, disseminated magnetite, pods of bornite, bands of
bright yellow FE-hydroxide and brown goethite

follow ridge to SE and descend S to lower connecting ridge

rock sample 22: Qtzite with galena and barite, some calcite

September 21st 02, -6°C in morning, sunny

prospecting steep Mtn. S of camp, hear howling of wolf, observe 2 wolf approaching camp
and then divert around camp,

rock sample 23: grey basalt with tuff like appearance, bluish network of calcite dissecting
basalt

3 sheep 200m away enjoying sun undisturbed

September 22nd 02, -8°C in morning, sunny

traverse along S side of S-Mtn.,

rock sample 24: crystalline limestone (marble) with yellow FE-hydroxide coating amongst
gabbro

arrive in saddle NE of S-Mtn., quite visible trail of orange stained rocks

Rock sample 25: black basalt, joints filled with black calcite, square vesicles, yellow-brown
coating

following Mtn-ridge to S later turning W

rock sample 26: dark brown shale with apple green bedding bands, and rhombohedral
black calcite on shale

September 23rd 02, warmer in morning than day before, sunny

prospect downstream camp creek, ascend thru woods petering out Mtn spur to the S to
finally climb up Mtn-peak S of camp, Mtn spur composed of calcite rich basalt, in some
locations white calcite sediments on fracture planes, encounter close up sheep with
offspring

September 24th 02, creek frozen dry at kitchen, sunny

ascend over Mtn-ridge to S, traverse along S extending Mtn-spur,

rock sample 27: bluish grey basalt, calcareous, pods of amphiboles (oolith like), calcite
amygdales, vesicles

descend to creek draining S, follow creek past tree line, climb W slope to Mtn-ridge
connecting to ridge S of camp, rock slide comprised of slate (maroon and apple green), run
in 2 bull moose at arrival at Mtn-ridge, try to pass by and mitigate, bulls very exited, takes
½ hour till ridge clear to proceed

September 25th 02 , drizzle, foggy

prospect downstream and along slope to N in woods, only outcrop of basalt, demob camp
take stream sed sample 28 at confluence main creek and tributary from N

↳ C

September 26th 02 , overcast, windy

helicopter supported stream sed sampling, compromised by gusty winds

stream sed sample B: upper drainage of main creek to SE

returning to Dawson in early afternoon

Prospecting Diary YMIP 02-001
by Heiko Mueller

ITSI-MTN.

August 22nd 02, overcast, windy, 18°C

departure by float plane from Finlayson Lk. at noon after one day waiting for weather to improve, one hour flight to Fuller Lk., high water level makes it difficult to beach, taxi for 20 min., land at S-shore in sediment fan of creek, creek delta swampy due to high water run off, dense bush at creek, typical boreal forest and somewhat more open further away, set up camp close to creek at 1121m elevation, initial target area 3km away

August 23rd 02, torrents of rain all day long

set up food cache and kitchen, organize gear, everything soaked wet, 50m upstream from kitchen, resurfacing water carries yellow sediment of Fe-hydroxide, out wait rain

August 24th 02, drizzle in morning, periods of sunshine in afternoon

hike up N-facing slope beyond camp in early afternoon, nearing first ridge of slope lots of rounded bolder up to 2m in diam., comprised of bt-granite and compact slate (hornfelsed), both mineralized by disseminated marcasite and pyrite, some bolder exhibit yellow-orange coating on surface, 1st ridge assembles moraine in composition and contour ,

rock sample 1: yellow-orange bolder, bt.-granite, rounded

yellow coated bolder of black competent shale with banded pyrite

August 25th 02, cloudy with periods of sunshine

heading up slope to 1st ridge, continue to Mtn-plateau in alpine, below N edge of alpine plateau creek carrying dissolved yellow sediment of Fe-hydroxide?, plateau composed mainly of slate (outcrop) and granite bolder

rock sample 2: yellowish-grey slate, jointed, intercalated qtz, manganese stained,

Radioactivity: 0,24µSv/h (slightly above expected background)

ascend high Mtn-ridge to the South, continue along ridge towards ice field, dominant fault SW-NE crossing ridge

rock sample 3: yellow to rusty brown banded chert, jointed, crumbly, clear qtz-crystals in

Cavities, up to 1cm long

high Mtn-ridge comprised of shale and chert

August 26th 02, sunny, later showers and hailing

hike up slope to 1st ridge , continue along moraine ridge to E, dense bush, little hump to E above moraine composed of shale and slate, turn into little canyon to S cut by creek draining E, fossilized black shale with worm like features, S of canyon on sliced through hill

rock sample 4: bolder of light grey bt-hrnl granite, macroscopically disseminated marcasite (Up to 20%), non magnetic, radioactivity at background level

August 27th 02, overcast, windy

hike up to alpine plateau S of camp, descent into mineralized creek draining N (parallel to camp creek but E of it), creek cut into shale (graptolitic), shale jointed, ocher sediment build

up alongside creek for 30m at tree line, radioactivity at background,

sediment sample 5: intensive yellow ocher, crumbly

To the E tributary of mineralized creek, ocher sediment at almost same elevation as sediment build up at mineralized creek

August 28th 02, heavy rain all day, sometimes torrent,
study air photos and alignment of ocher seepage, bush extremely wet and so I

August 29th 02, overcast, foggy, later rain, clearing in evening

ascent to alpine plateau, traverse along E slope of high mtn.-ridge, return on ridge, E slope composed of slate and chert in some areas intensively coated with rusty-brown FE-oxide and -hydroxide of yellow to pale green color,

rock sample 6: black shale, bedding planes with manganese stain and intensively yellow, smell of sulphur, although no indication of sulfide mineralization, elevated Radioactivity of 32 μ Sv/h

at NW-SE trending fault, 300m below ridge color coated zone

rock sample 7: black shale, jointed with dense qtz, yellow+brown ocher on foliation planes

August 30th 02, showers, condensation inside of tent, water dripping from flyer

prospecting in drainage area of mineralized creek and tributary, sample 8 taken at moraine but later discarded, slate in drainage incompetent, extremely jointed, favorable for mineralization on joint planes and its subsequent dissolution by percolating water

Rock sample 9: dark grey basalt or hornfels, joints filled with calcite, spots of finely disseminated pyrite

rock sample 10: shale with dense qtz filling in joints and tension gaps

water sample 11: lots of dissolved sediment of pale yellow color, taken directly from seepage

August 31st 02, overcast, showers ending in afternoon

move camp to alpine plateau closer to targeted area, 2km South and 400m elevation gain only able to move part of gear in one day, search for new camp location and set up food case in trees at tree line, return to Fuller Lk. camp in evening

September 1st 02, drizzle in early morning, later short clearing and rain again

attempt to move rest of camp, but opt for staying because of wet gear and soaked bush, being to exhausted from previous day

take stream sediment sample S1 at camp creek

September 2nd 02, light rain, later ending, rain thru the night

pack up rest of camp and move camp to creek at alpine plateau at tree line SE of Fuller Lk. camp

September 3rd 02, showers and sunshine

set up kitchen tent, prospecting at S and E- slope of alpine plateau including mineralized creek most E drainage, another mineralized creek E of 1st min. creek, cut thru incompetent shale and jointed chert, ocher sediment for 20m in creek bed till cut off by 3m high water

fall, ocher more of rusty brown color

rock sample 14: massive calcite on shale, shale coated with yellow ocher

September 4th 02, sunny

hike up high Mtn-ridge towards ITSI-peak, prospect along high Mtn-ridge, 1st Mtn. top to N
rock sample 17: black shale, jointed, soft tar like crack filling (chlorite?)

Continue along ridge past fault, alteration of slate and yellow coated chert, at Mtn-top past fault

rock sample 18: qtzite, yellow- brown, empty vesicles as remnants of hematite or pyrite
approach steep ascent to ITSI-Mtn.peak

rock sample 19: yellowish grey bt-syenite, fractionated in coarse, white plagioclase feldspar matrix and biotite, and fine mafic and felspar constituents, parallel and rectangular jointing
dyke 0.5m wide crossing ridge, trending 100°, disappears after 20 m in slope talus

rock sample 20: dark grey hornfels?, granoblastic, spots of magnetite, yellow-brownish surface

descent 200m down W-slope at corner to ITSI-Peak to X-shaped yellow dyke originating at face of ITSI-Mtn. and abruptly ending at W- slope, lower 2 lobes of X examined, width of both 15m

Rock sample 21: grey bt-granite, spots of pyrrhotite, weakly magnetic, some bornite
elevation 1884m

September 5th 02, calm, sunny

prospect main drainage W of High Mtn. Ridge, crossing alpine plateau to W encounter wolverine, W-plateau composed of shale and granite boulders, descent into main creek draining N, creek mineralized by yellow ocher, seepage at foot of plateau Mtn., coloration of creek impressive considering water carried, sample at seeping source and creek sediments further downstream

stream sed sample 22:

rock sample 23: dark grey hornfels with pods of bornite

Black shale with pyrite and rectangular vesicles;

drainage of main creek comprised of shale, in some areas heavily coated by manganese and Fe- hydroxide, sample 24, creek changes into canyon upstream

September 6th 02, calm, sunny

continue prospecting upstream where finished previous day, canyon has 10m high walls of shale and minor chert, upstream end of canyon closed up by thrust fault

rock sample 25: slate intensively iridescent pink, blue and green

further upstream laying anticline at W-wall of creek, rocks intensively coated

rock sample 27: shale coated with ocher and manganese, empty vesicles

rock sample 28: shale with banded marcasite, brwn-yellow stain and green pink iridescence on surface

second canyon starts resistant zone of shale and parallel running qtz-veins, qtz exhibits crystals

rock sample 29: shale similar as 28

rock sample 30: shale intensively reworked, hornblende, empty rectangular vesicles, yellow brown spotting

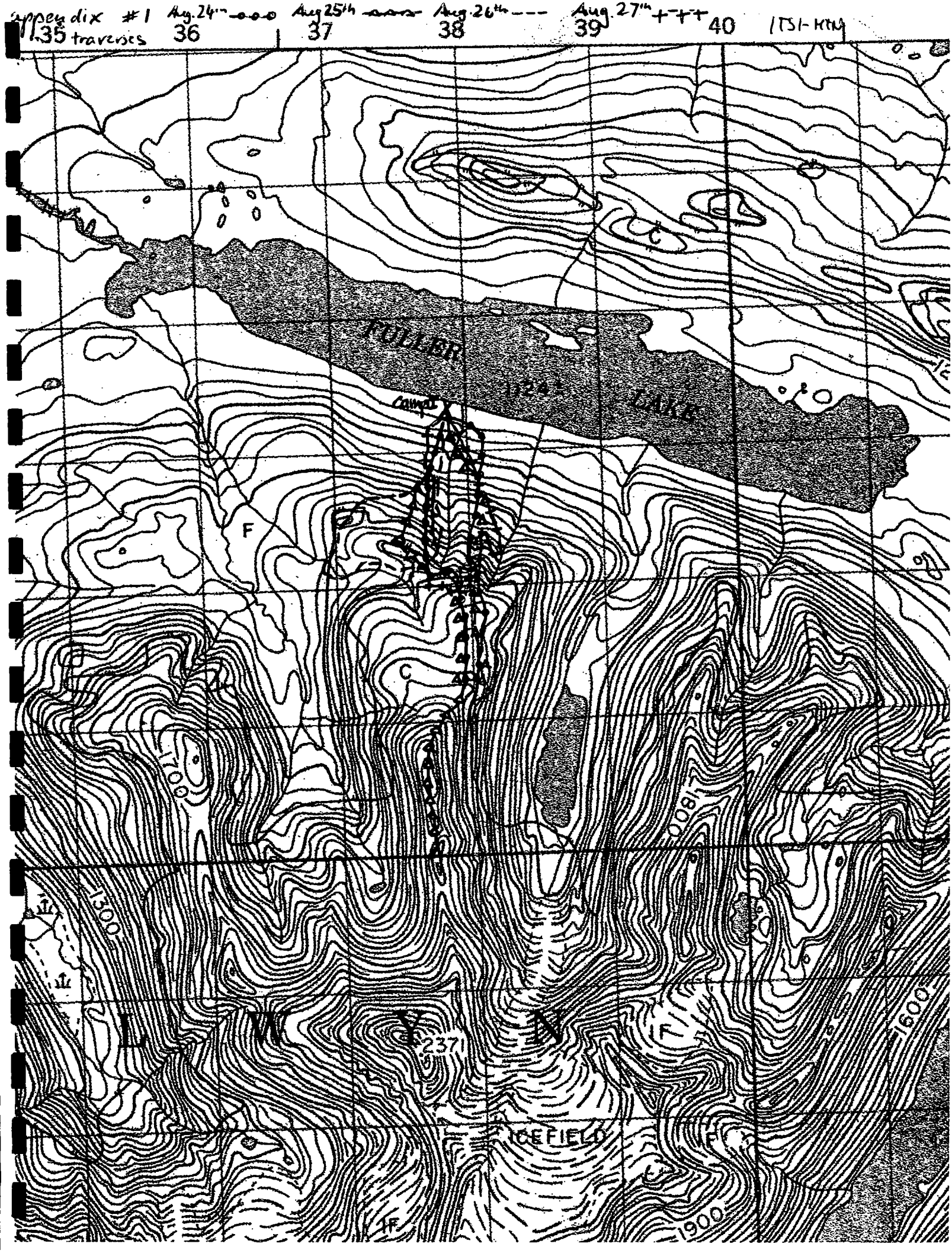
September 7th 02 , sunny

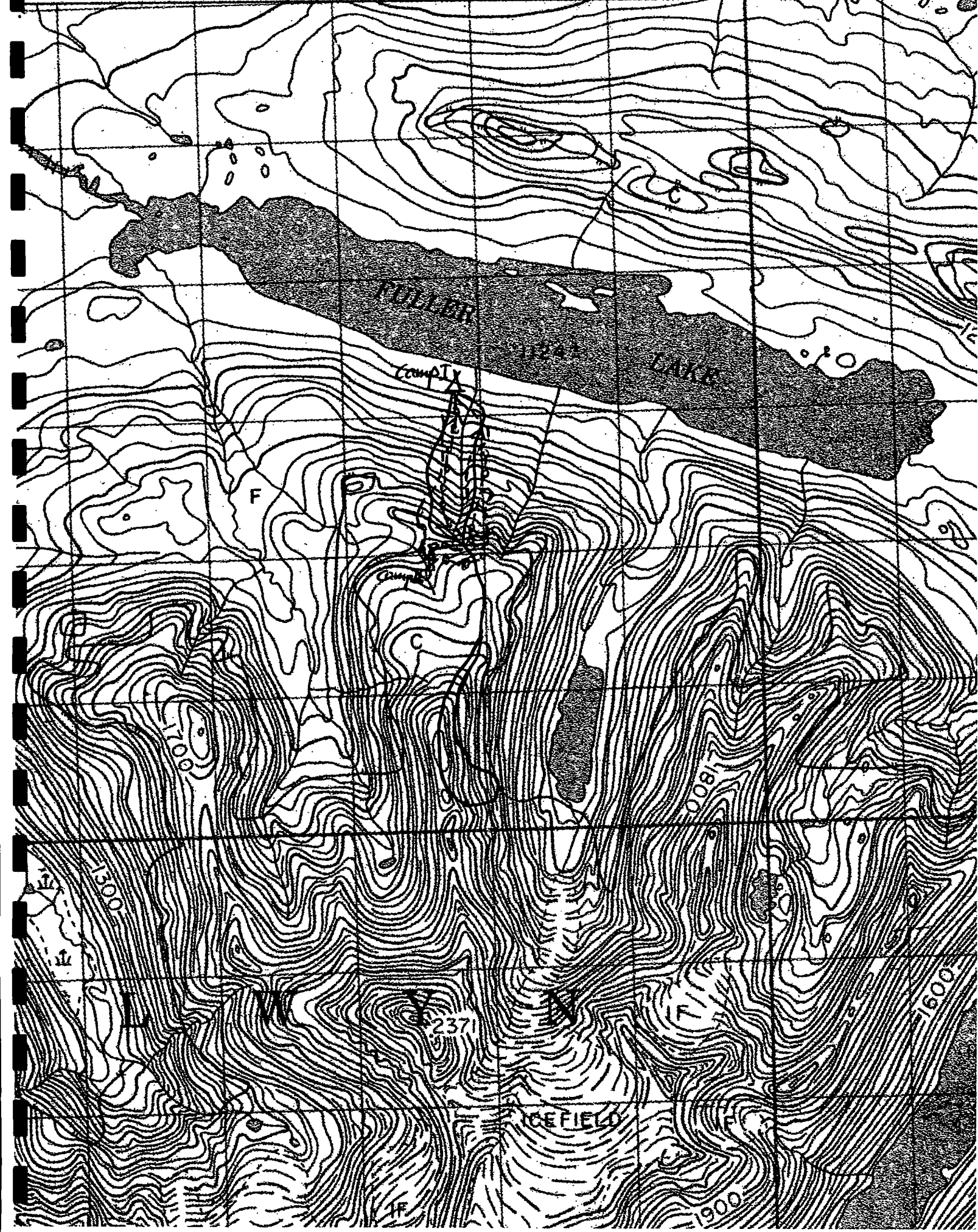
prospect granite bolder trail at N - slope of high Mtn ridge, granite of homogenous texture except few pods of finer grained texture, granite dyke crossing 1st Mtn. Of ridge to N
rock sample 31: dark grey coarse bt-granite with white feldspar matrix, 30% mafics , finer fraction with seemingly higher proportion of mafic components, miarolitic

September 8th 02, sunny

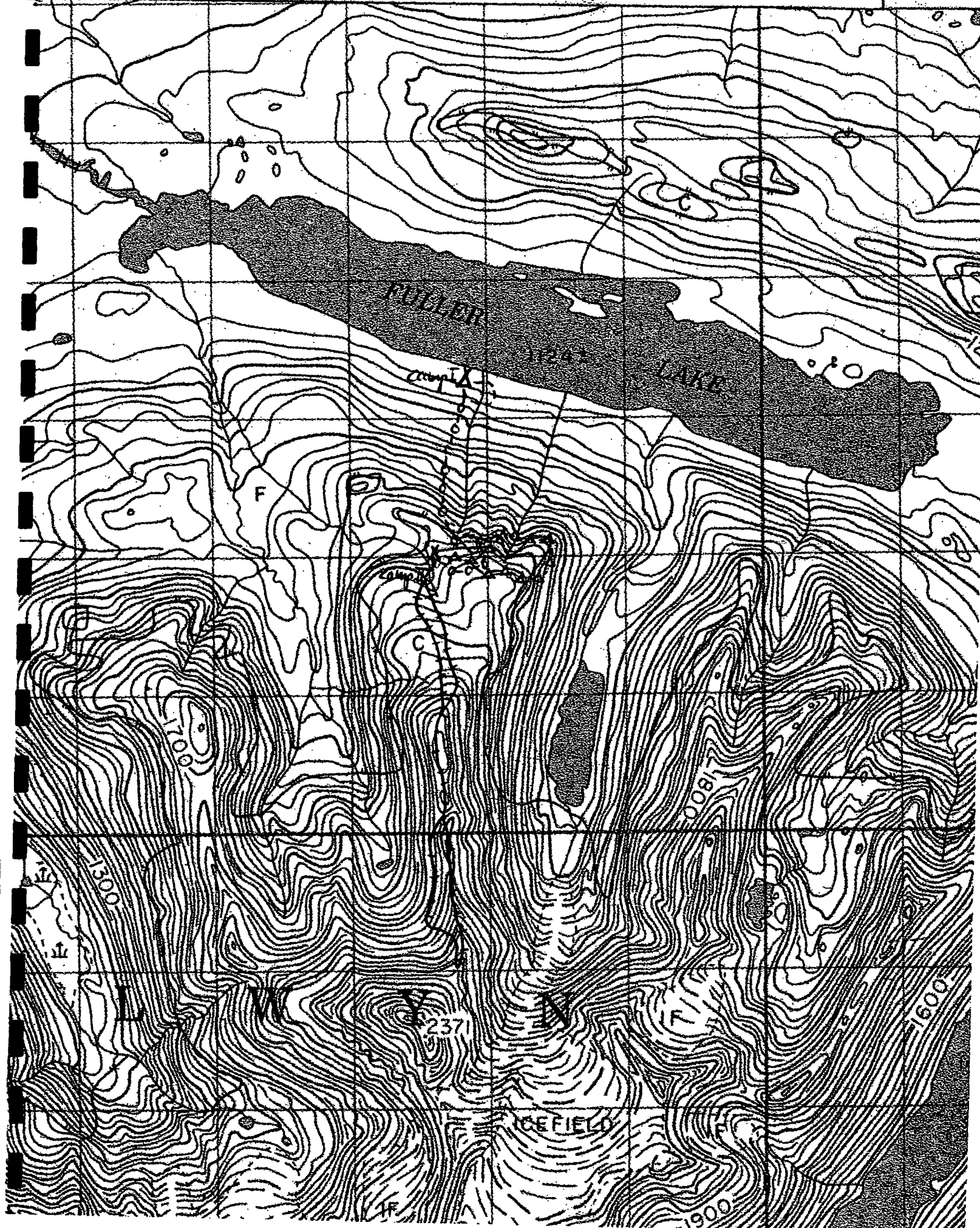
helicopter supported stream sediment sampling, staking of X-dyke at ITSI -MTN and upstream drainage of mineralized creek W of High Mtn. Ridge, demobilizing camp

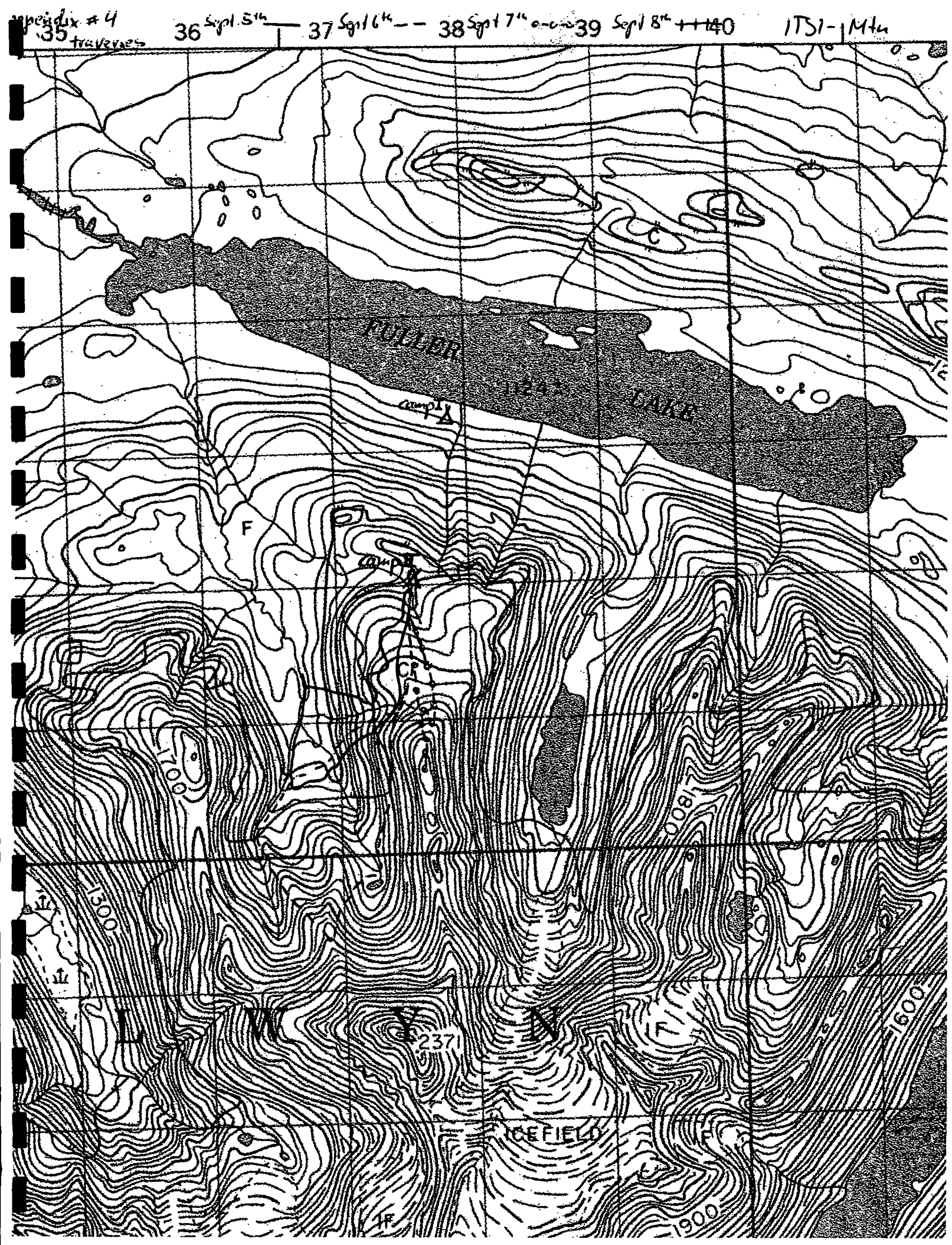
Appendix #1 Aug. 24th --- Aug. 25th --- Aug. 26th --- Aug. 27th + + + 40 1751-KM

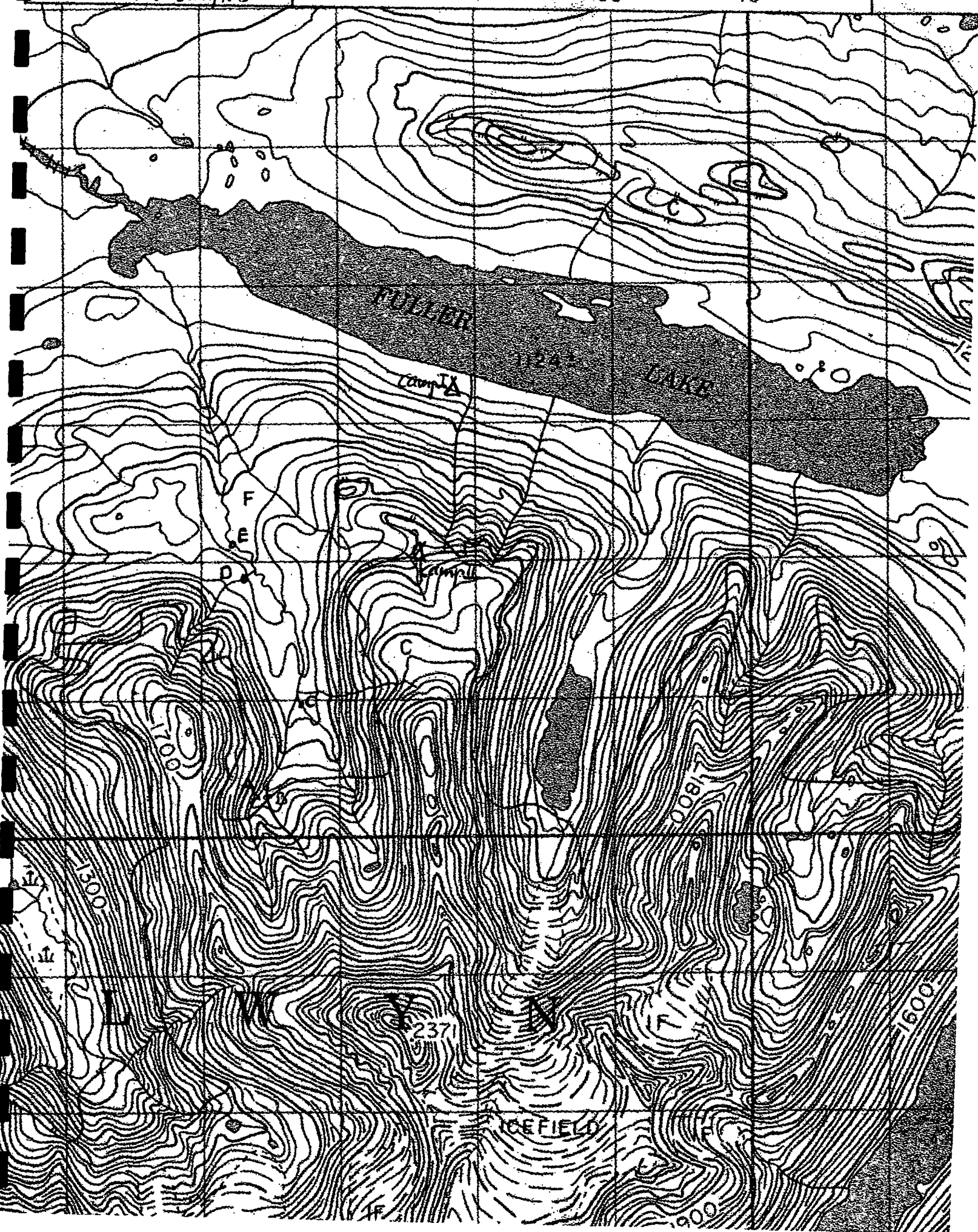


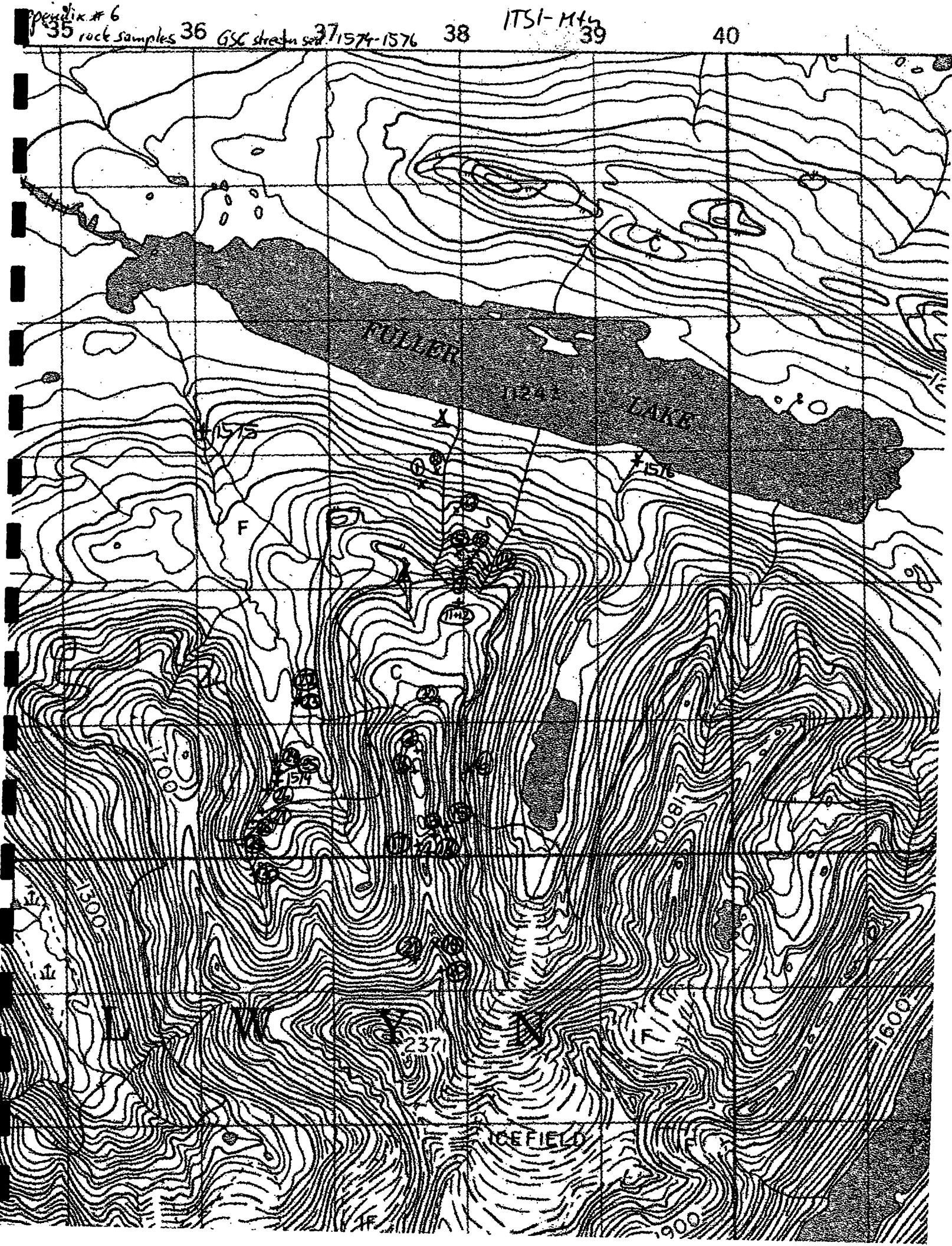


Geoch #3 Sept 1st --- Sept 2nd 0-0-0 Sept 3rd 4-4-4 Sept 4th + + + + 40 ITS1-M4
35 traverses 36 37 38 39









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GEOCHEMICAL ANALYSIS CERTIFICATE

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Mueller, Heiko PROJECT 02-001Y File # A204748 Page 1 (a)

Box 30014, Whitehorse YT Y1A 5M2 Submitted by: Heiko Mueller

SAMPLE#	Ba ppm	Co ppm	Ce ppm	Ga ppm	Hf ppm	Nb ppm	Rb ppm	Sn ppm	Sr ppm	Ta ppm	Th ppm	U ppm	V ppm	W ppm	Zr ppm	Y ppm	La ppm	Ce ppm	Pr ppm	Nd ppm	Sm ppm	Eu ppm	Gd ppm	Tb ppm	Dy ppm	Ho ppm	Er ppm	Tm ppm	Yb ppm	Lu ppm
27001 4	10004.8	13.5	4.2	20.9	6.2	12.4	175.8	7	425.9	1.2	21.3	4.9	69	9.5	183.0	22.6	46.3	85.0	9.58	35.8	7.6	1.40	4.96	.74	3.90	.70	1.99	.35	2.49	.36
27002 20	1760.1	10.2	5.2	19.3	4.3	12.4	163.6	7	233.4	1.1	23.3	4.7	73	12.7	161.2	20.6	43.7	81.3	8.98	34.2	6.5	1.20	4.40	.58	3.30	.65	1.76	.30	2.32	.27
27003 18	1747.0	11.0	.1	9.4	<.5	<.5	.9	3	88.8	<.1	.3	1.8	7	2.9	.5	4.5	14.7	20.4	2.27	7.8	1.3	2.33	1.16	.14	.78	.15	.37	.06	.46	.04
27004 18	170.3	.9	<.1	2.6	4.2	1.1	.6	2	16.3	<.1	1.5	.4	5	17.4	128.8	2.0	2.1	3.6	.34	1.0	.2	<.05	.34	.04	.26	.07	.15	<.05	.33	.05
27005 6	2575.7	37.7	2.3	11.2	5.8	8.0	38.3	2	318.5	.7	8.0	2.8	101	8.8	169.7	22.6	17.2	35.7	4.16	16.9	4.3	.99	4.15	.61	3.99	.79	2.22	.31	2.74	.35
27006 30	161.7	6.2	.2	1.6	<.5	<.5	.6	5	7.3	<.1	.6	.3	8	7.4	5.0	17.5	11.3	23.7	2.77	11.4	3.8	.76	3.29	.48	2.69	.52	1.76	.17	1.31	.13
27007 23	3547.0	10.6	8.9	20.2	3.6	12.6	150.5	2	48.6	.8	10.3	2.1	82	9.9	113.3	24.7	37.7	80.9	10.83	41.3	7.7	.98	3.97	.65	3.69	.78	2.12	.30	3.40	.43
27008 23	6495.6	3.7	9.6	20.1	3.3	12.3	108.5	8	169.8	.8	10.2	2.6	229	10.3	114.3	19.6	27.0	51.9	6.51	26.8	5.5	1.05	3.81	.55	3.51	.66	1.82	.32	2.27	.33
27009 15	1156.1	6.0	1.2	7.9	4.8	6.2	44.9	<1	442.8	.5	4.2	1.6	43	4.7	157.3	24.5	18.0	34.5	4.46	17.4	4.7	1.44	4.04	.64	3.75	.77	2.26	.31	2.25	.26
27010 A4	94.7	109.8	1.7	8.3	1.9	15.9	6.7	<1	96.0	1.0	.9	.3	111	1.3	53.3	8.0	10.8	22.6	2.78	11.9	3.1	.84	2.49	.29	1.79	.33	.77	.12	.74	.06
RE 27010	96.4	116.2	1.5	8.3	1.7	15.2	6.3	1	97.5	.9	.5	.5	118	2.8	56.0	8.8	10.7	22.8	2.93	11.8	2.5	.94	2.18	.31	1.70	.33	.87	.09	.75	.10
27011 A2	4654.5	62.6	4.4	30.2	15.1	169.0	56.8	4	1339.1	10.4	13.6	3.8	399	2.3	628.3	41.0	138.7	269.3	31.70	114.2	23.6	6.02	13.62	1.76	8.50	1.51	3.30	.46	2.93	.38
27012 A2	76298.7	13.7	1.6	7.3	2.2	17.9	88.2	<1	1814.5	1.3	2.0	.6	80	3.7	74.7	10.8	19.6	33.8	4.13	14.8	3.8	1.22	3.67	.47	3.22	.40	.96	.11	.99	.09
27013 A3	704.9	20.3	11.6	8.0	2.6	40.5	53.3	1	726.9	1.4	5.4	1.1	82	2.2	109.1	18.2	53.5	97.4	11.12	40.0	7.8	1.98	5.05	.68	4.05	.63	1.78	.20	1.79	.19
27014 A13	894.8	11.0	7.7	62.1	14.3	145.6	148.1	1	1347.9	5.4	83.2	43.2	56	7.0	827.9	5.9	44.6	80.6	7.92	20.4	2.0	.55	1.09	.22	.95	.18	.49	.07	.68	.11
27015 A1	222.6	25.3	.4	9.4	3.9	41.0	10.9	2	261.4	2.2	4.8	2.7	121	7.5	163.0	21.4	42.3	91.3	12.38	50.8	10.9	3.45	8.60	1.10	5.12	.73	1.44	.22	1.44	.13
27016 A3	4643.2	36.7	11.5	19.7	3.9	62.6	24.9	2	783.1	2.8	7.6	2.3	201	3.6	145.1	29.2	97.0	180.2	20.82	74.5	14.6	3.98	10.43	1.27	6.57	1.19	2.55	.31	2.15	.24
27017 A13	1155.9	55.5	2.8	20.6	10.8	110.8	29.9	3	447.8	6.7	6.9	7.5	266	3.0	371.4	36.7	72.4	139.4	16.61	63.1	12.3	4.13	9.80	1.37	7.40	1.22	3.41	.42	3.49	.32
27018 A13	1281.8	60.0	2.3	21.1	9.8	98.2	25.9	2	540.0	5.8	6.5	7.1	299	2.8	349.6	33.8	74.6	141.0	17.58	68.0	14.4	4.00	11.01	1.46	7.49	1.26	3.18	.38	3.00	.27
27019 2	525.6	3.7	3.4	11.0	8.3	11.2	59.8	2	84.0	.9	11.1	4.6	101	4.4	266.3	34.4	25.1	48.3	6.13	25.2	6.1	1.42	7.47	1.12	5.07	1.02	3.17	.40	3.84	.46
STANDARD	430.3	19.0	3.8	19.1	11.9	26.0	23.1	11	299.4	4.4	11.2	11.5	128	11.5	358.5	27.2	11.3	24.2	2.97	14.1	3.3	1.01	3.94	.68	4.33	.96	2.77	.46	2.90	.46

Standard is STANDARD SO-17.

GROUP 48 - REE - LIBO2 FUSION, ICP/MS FINISHED.

- SAMPLE TYPE: P1 ROCK P2 ROCK

Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

DATE RECEIVED: OCT 28 2002 DATE REPORT MAILED: Nov 13/02 SIGNED BY: C. L. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS

Appendix #7



GEOCHEMICAL ANALYSIS CERTIFICATE



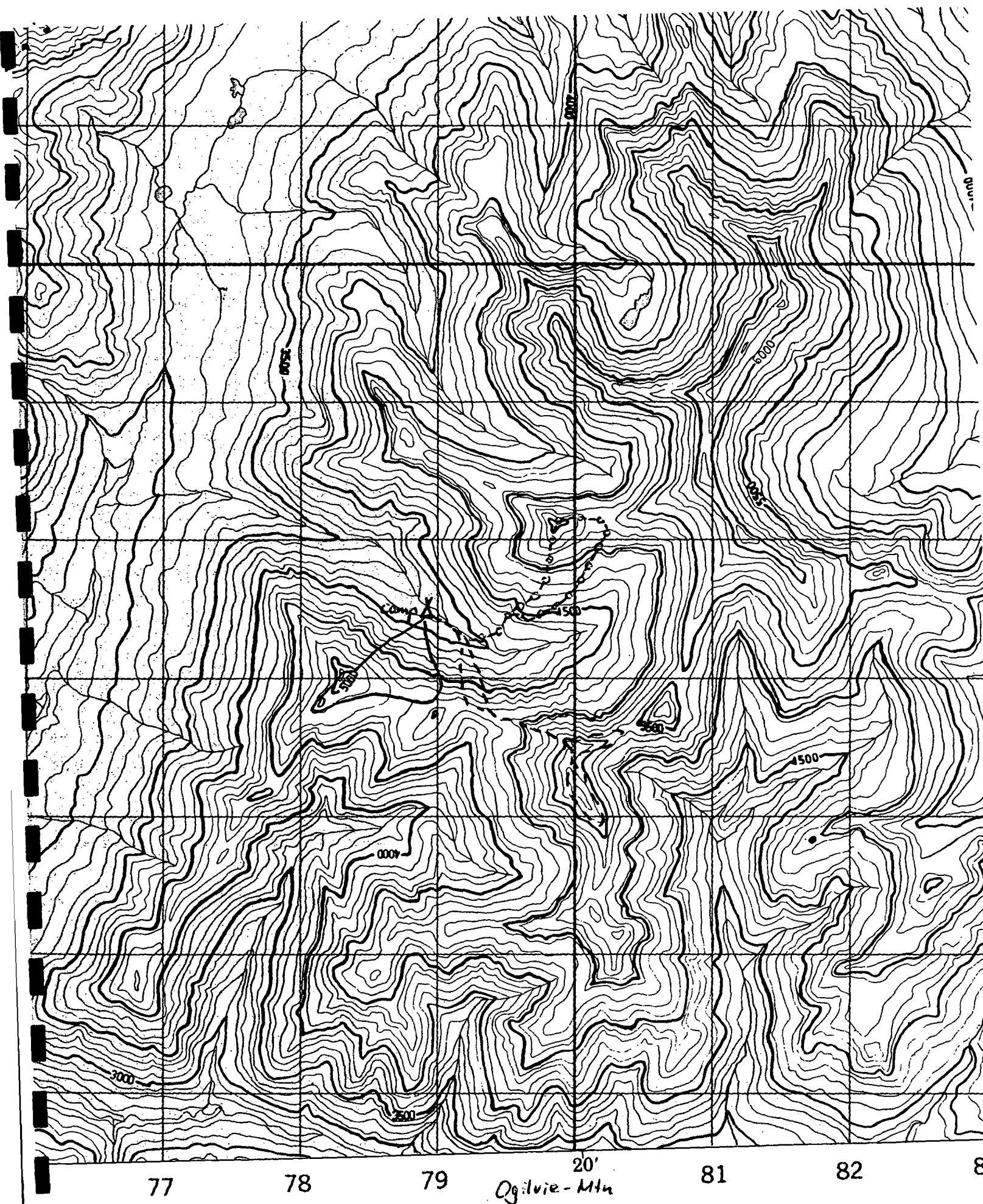
Mueller, Heiko PROJECT 02-001Y File # A204748 Page 1 (b)

Box 30014, Whitehorse YT Y1A 5H2 Submitted by: Heiko Mueller

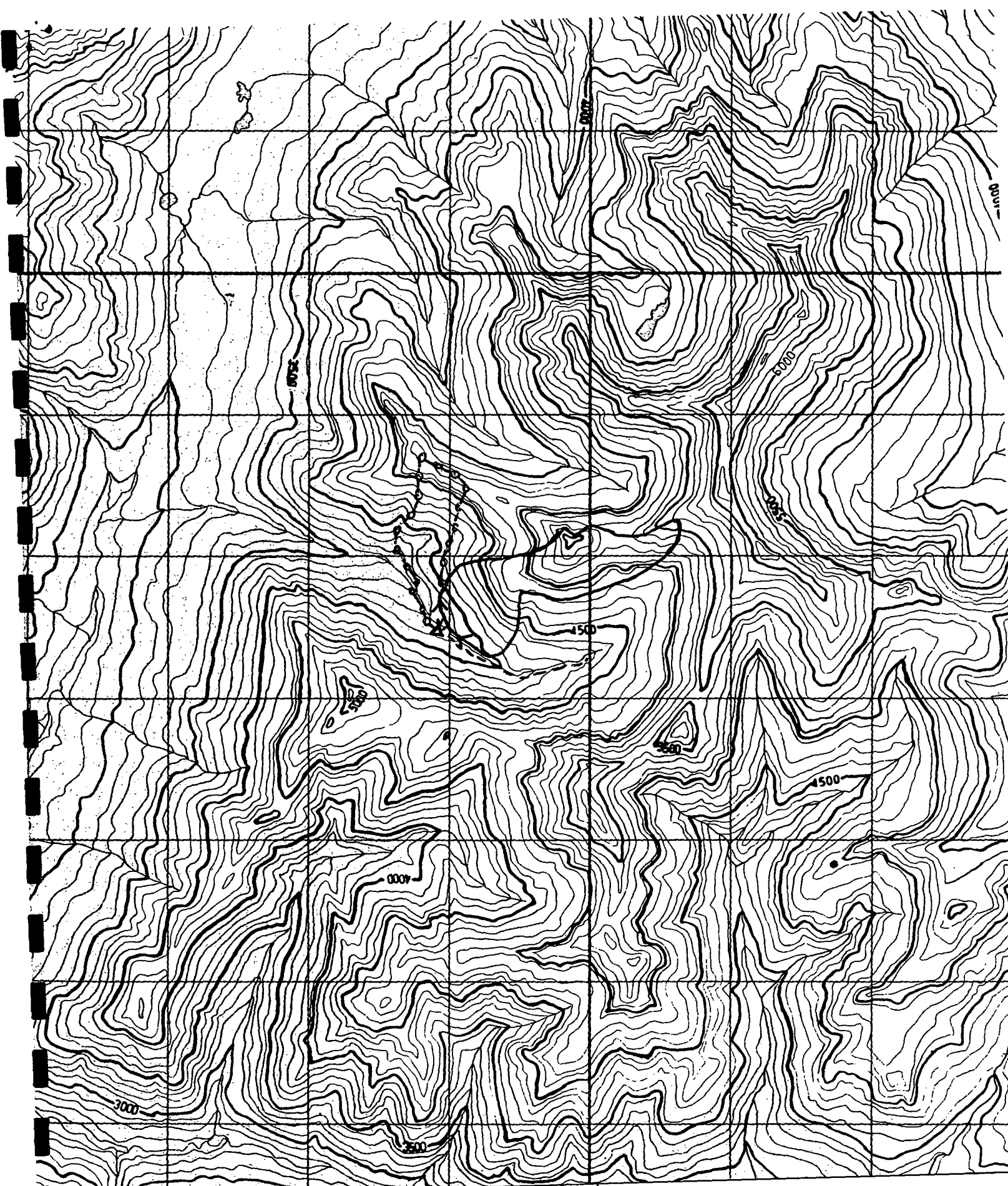
SAMPLE#	Mo ppm	Cu ppm	Pb ppm	Zn ppm	Ni ppm	As ppm	Cd ppm	Sb ppm	Bi ppm	Ag ppm	Au ppb	Hg ppm	Tl ppm	Pd ppb	Pt ppb
27001 4	1.9	8.1	20.4	49	7.8	322.0	.3	7.3	1.1	.4	4.0	.01	.4	<30	8
27002 20	1.5	75.3	7.3	81	7.9	47.6	.5	.9	16.6	.2	2.6	.01	.2	<30	<6
27003 n.a.	3.0	1556.0	>9999	42473	2.0	123.6	57.7	65.3	.7	47.0	428.1	8.03	3.3	<30	<6
27004 18	2.6	10.8	94.7	93	4.0	28.8	.2	3.6	<1	.2	3.4	.03	<1	<30	<6
27005 6	7.6	323.0	584.4	492	39.7	18.9	.7	3.8	2.0	1.0	2.4	.11	.1	<30	<6
27006 30	1.2	98.5	4151.9	19	21.5	>9999	.1	>2000	5.9	9.4	521.6	.05	<1	<30	<6
27007 23	1.7	51.8	82.1	68	33.2	224.1	.3	9.7	.3	.4	4.6	.02	.2	<30	<6
27008 23	15.5	44.6	156.7	131	17.3	78.8	.8	12.2	.2	.8	2.0	.02	.2	<30	<6
27009 15	2.0	31.0	10.8	56	13.9	11.8	.6	.9	.1	.1	2.1	.01	.1	<30	<6
27010 A14	.6	27.8	72.5	48	817.1	1007.6	.1	23.9	.1	.2	8.8	.01	<1	<30	<6
RE 27010	.6	27.7	74.4	44	801.2	1005.4	<1	24.1	.1	.2	7.8	.01	<1	<30	<6
27011 A2	2.1	36.8	5.7	183	82.0	29.7	.2	.6	<1	.1	3.9	.01	.2	<30	<6
27012 A22	16.8	24.5	5311.6	3826	32.9	13.7	13.8	13.7	<1	2.6	5.3	.58	.2	<30	<6
27013 A3	9.3	26.3	44.7	33	74.7	121.3	.1	5.2	.1	.1	3.7	.03	.1	<30	<6
27014 A19	3.2	107.0	1723.0	940	11.5	7.3	3.6	.9	17.4	.9	5.8	.02	1.9	81	<6
27015 A1	2.0	27.7	13.8	134	33.4	74.3	.3	4.0	.1	<1	1.9	.04	<1	<30	<6
27016 A9	1.8	52.1	27.1	116	33.3	3.2	.2	.1	.1	.2	.5	.01	.3	<30	<6
27017 A18	3.2	92.4	8.1	84	145.0	12.7	.1	.7	.2	.2	3.8	<.01	.2	<30	<6
27018 A18	3.0	104.6	11.0	87	136.0	3.7	.2	.3	.2	.2	4.6	<.01	.2	<30	<6
27019 2	4.8	93.4	11.6	89	19.5	44.0	.1	1.6	.1	.2	1.4	.03	.1	<30	<6
STANDARD DS4	7.2	129.7	32.1	161	33.6	23.6	5.1	4.5	5.1	.3	27.6	.29	1.2	518	178

GROUP 10X - 0.50 GM SAMPLE LEACHED WITH 3 ML 2-2-2 HCL-HNO3-H2O AT 95 DEG. C FOR ONE HOUR, DILUTED TO 10 ML, ANALYSED BY ICP-MS.
UPPER LIMITS - AG, AU, HG, W = 100 PPM; MO, CO, CD, SB, BI, TH, U & B = 2,000 PPM; CU, PB, ZN, NI, MN, AS, V, LA, CR = 10,000 PPM.
- SAMPLE TYPE: P1 ROCK P2 ROCK Samples beginning 'RE' are Reruns and 'RRE' are Reject Reruns.

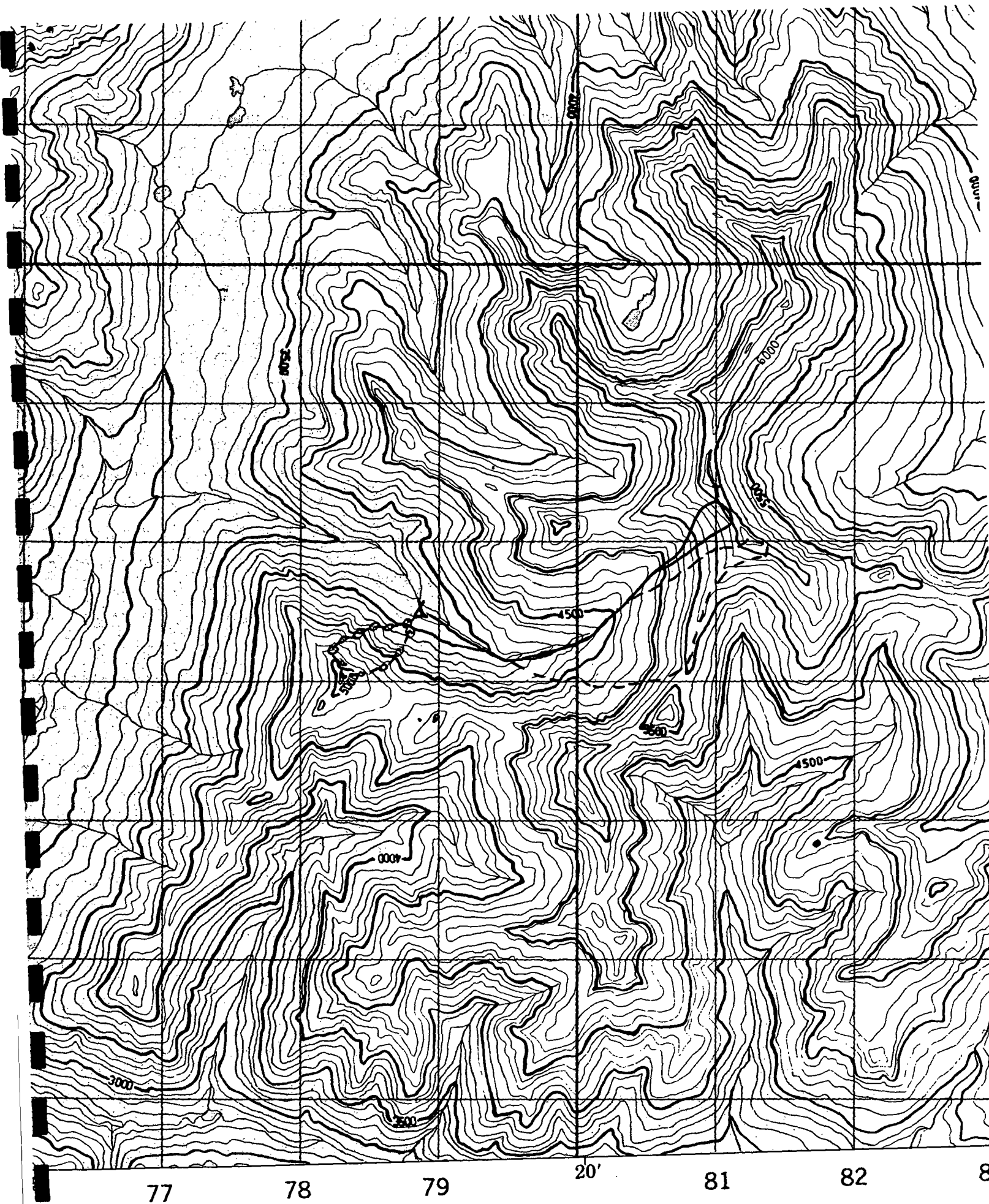
DATE RECEIVED: OCT 28 2002 DATE REPORT MAILED: Nov 13/02 SIGNED BY: C. Leong D. TOYE, C. LEONG, J. WANG; CERTIFIED B.C. ASSAYERS



Appendix # 8 traverses
Sept. 13th — Sept. 14th — — Sept. 15th a-o-o

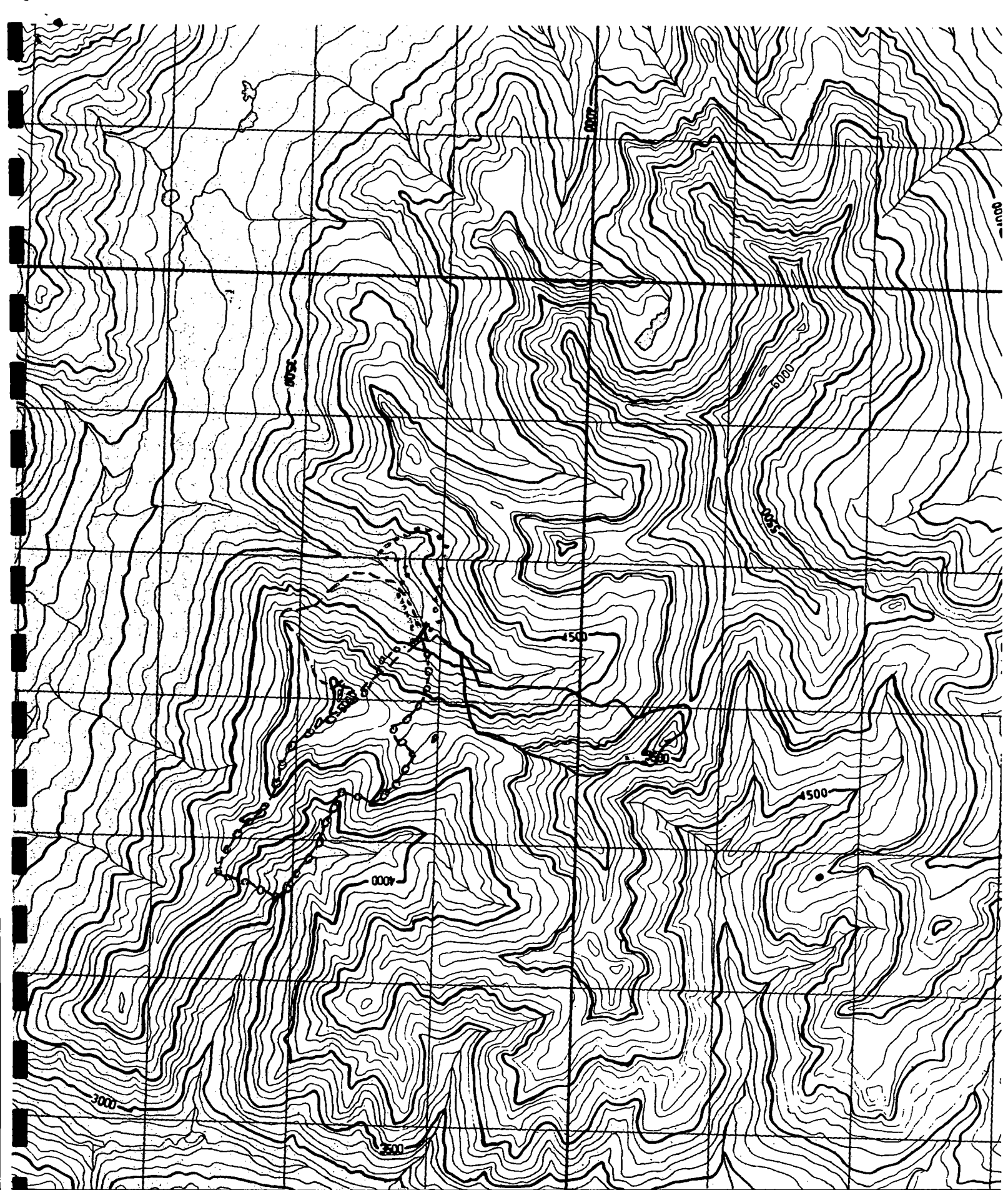


77 78 79 80' 81 82 83
Ogilvie Mts.
Appendix # 9
traverses Sept. 16th — Sept. 17th --- Sept. 18th o-o-o

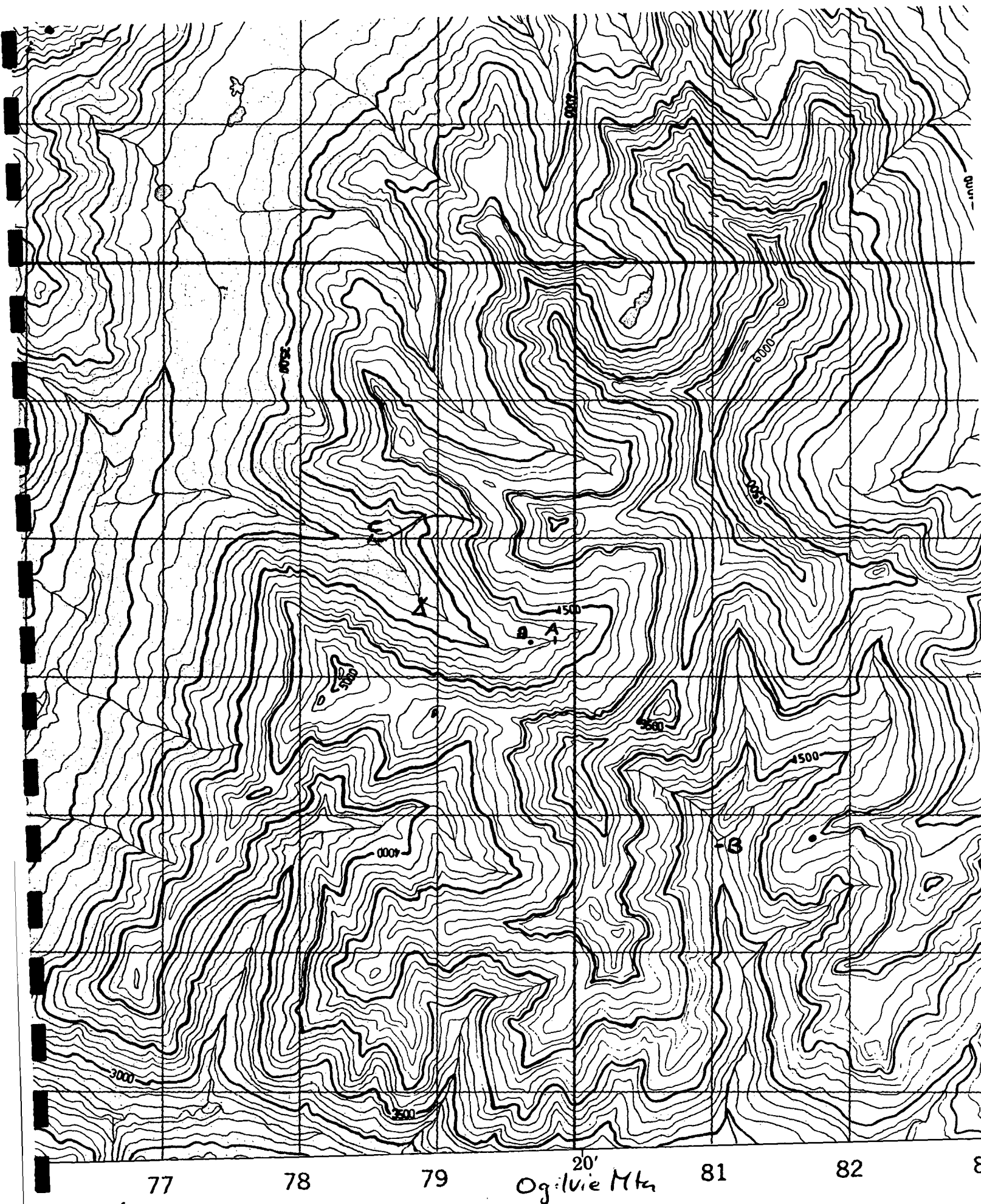


Appendix # 10

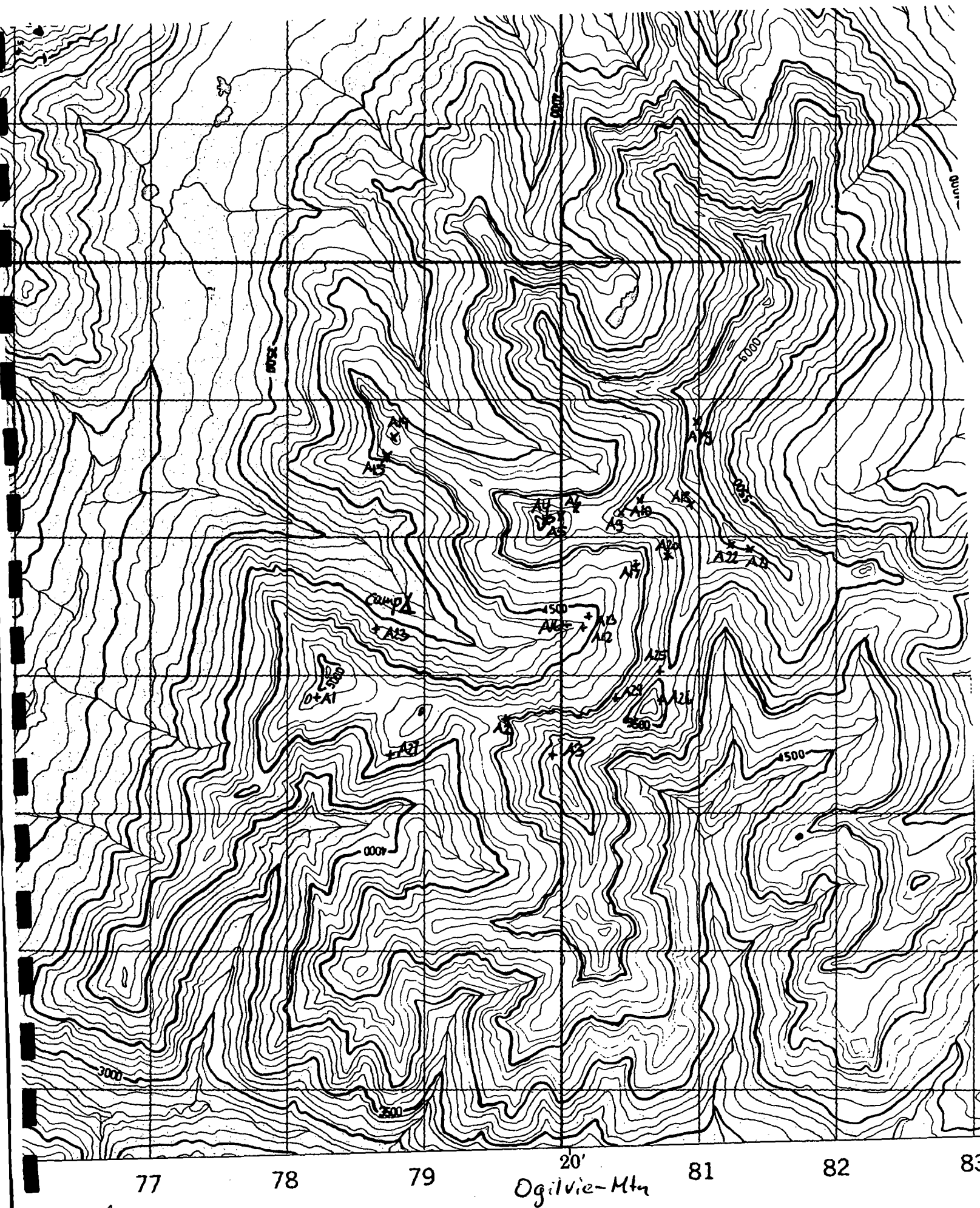
traverses Sept. 19th — Sept 20th --- Sept 21st ooo



77 78 79 80 81 82 83
 Ogilvie-Mtn.
 20'
 Appendix II
 traverses Sept. 22nd - Sept 25th 02
 Cont 22nd Cont 22nd Cont 24th Cont 25th



appendix # 12
stream sediment samples



Appendix # B
rock samples